SUBSTATION ENGINEERING COMPANY



AC Transmission New York Public Policy Transmission Need

Technical Review Report

Public Version

Preliminary Draft 3/15/2018

Revision 1 3/22/2018

Revision 2 3/27/2018

Revision 3 3/29/2018

Revision 4 4/23/2018

Revision 5 5/01/2018

Revision 6 5/25/2018



Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

The independent consultant project team (alternately, "review team," "consultant," "reviewer," or "reviewers") includes:

Project Lead: <u>Joseph W. Allen</u>, <u>SECo Vice President</u>

Lead Contributors:

Barry Hart, SECo Principal Transmission Engineer
Prakash Pradhan, SECo Sr. Transmission Engineer
Tracy Hollands, SECo Manager of New York Operations
Todd Smith, SECo Lead Substation Designer
Jack Holodak, SECo VP Senior Project Manager
Joe Simone, GEI Consultants Senior Consulting Engineer
Curtis Compton, Kenny Construction Vice President
Thomas Bell, Kenny Construction Estimator
Jason Petersen, Kenny Construction Field Construction Manager

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEE	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Table of Contents

l.	. Intro	oduction	3
2.	Exec	cutive Summary	5
3.		ussion of Proposals	
	3.1.	T018 - NGRID/Transco – New Energy Solution Segment A	
	3.2.	T021 – NextEra – Enterprise Line - Segment A	
	3.3.	T025 – NAT/NYPA - Segment A – A + 765 KV	12
	3.4.	T026 – NAT/NYPA - Segment A - Base	12
	3.5.	T027 – NAT/NYPA Segment A - Double Circuit	13
	3.6.	T028 – NAT/NYPA Segment A - Enhanced	13
	3.7.	T031 – ITC Segment A - 16NYPP1-1A	14
	3.8.	T019 – NGRID/Transco – New Energy Solution Segment B	14
	3.9.	T022 – NextEra – Enterprise Line - Segment B	14
	3.10.	T023 – NextEra– Enterprise Line Segment B	15
	3.11.	T029 – NAT/NYPA Segment B - Base	15
	3.12.	T030 – NAT/NYPA Segment B - Enhanced	15
	3.13.	T032 – ITC Segment B - 16NYPP1-1B	16
1.	Eval	uation	16
	4.1.	Schedule	16
	4.2.	Cost	26
	4.3.	Risk	47
	4.4.	Expandability	86
	4.5.	Site Control and Real Estate	94
	4.6.	Operational Plan	99
	4.7.	Field Reviews	. 101
	4.8.	Work Plans	. 101
	4.9.	Environmental	. 102
	4.10.	Replacement of Aging Infrastructure	. 111
	4.11.	General Design Verifications	. 114
5.	Atta	chments	. 137
	5.3.	Attachment A –Schedule Gantt Charts	. 137
	5.4.	Attachment B –Independent Estimates	. 137

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

1. Introduction

This report documents the technical evaluation of the thirteen proposals submitted to the New York State Independent System Operator, Inc. ("NYISO") to satisfy the AC Transmission Public Policy Transmission Needs (AC Transmission PPTN) that the New York Public Service Commission ("NYPSC") identified in December 2015. In its October 27, 2016 Viability and Sufficiency Assessment Report, the NYISO reported that the thirteen proposals were viable and sufficient and would be able to satisfy the public policy transmission need criteria. Four Developers submitted proposals including National Grid/Transco ("NGRID"), NextEra Energy Transmission New York ("NextEra"), North American Transmission ("NAT") and New York Power Authority ("NYPA") collectively ("NAT/NYPA"), and ITC. The thirteen proposals evaluated are:

SEGMENT A

Proposal Number	Developer	Description
T018	National Grid/Transco (NGRID)	Base proposal
T021	NextEra Energy Transmission New York	Base Proposal
T025	North America Transmission/New York Power Authority (NAT/NYPA)	765 kV Proposal
T026	North America Transmission/New York Power Authority (NAT/NYPA)	Base Proposal
T027	North America Transmission/New York Power Authority (NAT/NYPA)	Double Circuit
T028	North America Transmission/New York Power Authority (NAT/NYPA)	Enhanced
T031	ITC	Base Proposal

SEGMENT B

Proposal Number	Developer	Description
T019	National Grid/Transco (NGRID)	Base Proposal
T022	NextEra Energy Transmission New York	Base Proposal
T023	NextEra Energy Transmission New York	Alternative
T029	North America Transmission/New York Power Authority (NAT/NYPA)	Base Proposal
T030	North America Transmission/New York Power Authority (NAT/NYPA)	Enhanced
T032	ITC	Base Proposal

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

The primary scope and requirements of the AC Transmission PPTN, as identified and described in the NYPSC Order issued on December 17, 2015, is development and construction of the following facilities:

SEGMENT A: Edic/Marcy to New Scotland; Princetown to Rotterdam

Construction of new 345 kV line from Edic or Marcy to New Scotland on existing right-of-way (primarily using Edic to Rotterdam right-of-way west of Princetown); construction of two new 345 kV lines or two new 230 kV lines from Princetown to Rotterdam on existing Edic to Rotterdam right-of-way; decommissioning of two 230 kV lines from Edic to Rotterdam; related switching or substation work at Edic or Marcy, Princetown, Rotterdam and New Scotland.

SEGMENT B: Knickerbocker to Pleasant Valley

Construction of a new double circuit 345 kV/115 kV line from Knickerbocker to Churchtown on existing Greenbush to Pleasant Valley right-of-way; construction of a new double circuit 345 kV/115 kV line or triple circuit 345 kV/115 kV line from Churchtown to Pleasant Valley on existing Greenbush to Pleasant Valley right-of-way; decommissioning of a double-circuit 115 kV line from Knickerbocker to Churchtown; decommissioning of one or two double-circuit 115 kV lines from Knickerbocker to Pleasant Valley; construction of a new tap of the New-Scotland-Alps 345 kV line and new Knickerbocker switching station; related switching or substation work at Greenbush, Knickerbocker, Churchtown and Pleasant Valley substations.

In addition to the Segment A and Segment B, the NYPSC also identified in the AC Transmission PPTN, upgrades to the Rock Tavern 345 kV Substation and the rebuild of the Shoemaker to Sugarloaf 138 kV line with a new double circuit 138 kV line and related substation work at Shoemaker, Hartley, South Goshen, Chester, and Sugarloaf.

The evaluation conducted by the review team included review of the thirteen proposals received from the NYISO, as well as responses to the Requests For Information (RFIs) issued to the Developers in June, September, and November 2017.

The review team's evaluation focused on the following areas:

• Site review and "walk down" of proposed sites and routes to evaluate their constructability and identify potential issues with the proposed design, siting and routing;

Client:	NYISO		•
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

- Review of the environmental and permitting requirements for the project as proposed by
 Developers and identify gaps and issues, which were completed predominately using "desktop"
 analysis supplemented with occasional field review;
- Evaluate completeness and reasonableness of the proposed project schedules and sequencing
 plans, including identification of potential issues associated with delay in obtaining permits for
 and construction of the proposed project;
- Evaluate the Developers' cost estimates by preparing independent cost estimates for each project;
- Review, identify and estimate real estate requirements;
- Identify risks associated with the projects;
- Determine expandability of proposed project;
- Assess the Developers' plans for site control; and
- Evaluate the Developers' operating plan.

The review team's evaluation did not include further evaluation of Developers' qualifications or credentials beyond the screening performed earlier in the process.

2. Executive Summary

This technical review focused primarily on schedule, cost, identifiable risks, the ability to expand on the project in the future, site control plan and availability of Rights of Way ("ROW"), and the operating plan provided by each Developer. Below is a brief summary of our findings. Please see the remainder of the report for further detail.

2.1. Schedule

Each Developer's schedule for permitting and construction of its project was evaluated based on the review team's collective experience with transmission projects sited by the New York State Public Service Commission ("NYPSC") under Article VII of the New York State Public Service Law and constructed in New York State. A review of recent Article VII electric transmission project timelines was completed to identify comparable schedules for obtaining permits and approvals needed to begin construction. The review team also estimated the amount of time required to procure equipment, construct the facilities, and test and commission the facilities in order to be placed into service. A summary of the expected durations for each Developer's proposed scope is detailed in the table below:

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Segment A Proposals	Developer Proposed Total Duration	Estimated Minimum Duration (Note #1 and #2)
T018 NGRID/Transco Segment A	48 Months	48 Months
T021 NextEra Segment A	29 Months	48 Months
T025 NAT/NYPA Segment A + 765 kV	44 Months	50 Months
T026 NAT/NYPA Segment A Base	44 Months	48 Months
T027 NAT/NYPA Segment A Double	48 Months	51 Months
Circuit		
T028 NAT/NYPA Segment A Enhanced	44 Months	48 Months
T031 ITC Segment A	39 Months	48 Months
Segment B Proposals	Developer Proposed	Estimated Minimum
Segment B Proposals	Total Duration	Duration (Note #1)
T019 NGRID/Transco Segment B	48 Months	45 Months
T022 NextEra Segment B	28 Months	43 Months
T023 NextEra Segment B – Alt	29 Months	45 Months
T029 NAT/NYPA Segment B Base	40 Months	45 Months
T030 NAT/NYPA Segment B Enhanced	41 Months	45 Months
T032 ITC Segment B	53 Months	47 Months

Note #1: "Estimated Minimum Duration" is calculated using the anticipated time for Article VII application preparation, the anticipated time for the Article VII approval process, ROW procurement where significant and the anticipated time for construction of the project. The review team also assumed that the Environmental Management and Construction Plan (EM&CP) preparation is completed and ready for submission when the Article VII certificate is received. All of these components will depend on the experience and the level of resources of the developer and the complexity of the project which is further discussed in the risk register. In order to establish a reasonable normal schedule for the purpose of establishing an in-service date an additional four months should be added to the estimated minimum duration.

Note #2: For the Edic to Princetown portion of Segment A, all Developers are proposing to use existing NYPA-owned transmission line structures for about 12.5 miles of their proposed projects. If detailed engineering indicates that the existing structures are inadequate and need to be replaced, the construction schedule may increase by about 4 months, however; this would be consistent across all proposed projects.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

2.2. **Cost**

In evaluating the construction cost of each proposal, Kenny Construction (Kenny) prepared independent cost estimates for each proposal. Kenny reviewed the Developers' proposals with the Developers' cost estimates redacted. GEI Consultants, Inc. estimated the environmental licensing and permitting costs. The results are shown below:

SEGMENT A (SUMMARY OF ESTIMATES COMPARISON WITH 30% CONTINGENCY)

Developer	Independent Estimate (2018 \$)
T018 National Grid/ NY Transco	\$520,156,065
T021 NextEra Energy	\$497,652,781
T025 NYPA / NAT (Base+765 kV)	\$862,968,398
T026 NYPA / NAT (Base)	\$490,654,542
T027 NYPA / NAT (Double Ckt)	\$749,744,787
T028 NYPA / NAT (Enhanced)	\$513,977,889
T031 ITC	\$570,008,025

SEGMENT B (SUMMARY OF ESTIMATES COMPARISON WITH 30% CONTINGENCY)

<u> </u>	· · · · · · · · · · · · · · · · · · ·
Developer	Independent Estimate (2018 \$)
T019 National Grid/ NY Transco	\$445,051,522
T022 NextEra Energy	\$338,308,963
T023 NextEra Energy (Alternate)	\$389,645,078
T029 NYPA / NAT (Base)	\$387,476,622
T030 NYPA / NAT (Enhanced)	\$406,320,971
T032 ITC	\$501,856,268

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

SEGMENT B (SUMMARY OF ESTIMATES COMPARISON WITH 30% CONTINGENCY and Global Addition of \$113M)

Developer	Independent Estimate (2018 \$)
T019 National Grid/ NY Transco	\$558,051,522
T022 NextEra Energy	\$451,308,963
T023 NextEra Energy (Alternate)	\$502,645,078
T029 NYPA / NAT (Base)	\$500,476,622
T030 NYPA / NAT (Enhanced)	\$519,320,971
T032 ITC	\$614,856,268

Notes:

- Independent Estimates are adjusted to 2018 U.S. Dollars.
- The estimates includes the contingency rate of 30% referenced in the PSC "Order Finding Transmission Needs
 Driven by Public Policy Requirements" (December 17, 2015) and the Department of Public Service Staff report.
 The review team agrees that level of contingency is sufficient to allow for unanticipated costs and estimating
 accuracy to forecast a reasonable worst case cost.
- The Global Additions includes upgrades to the Rock Tavern 345 kV Substation and the rebuild of the Shoemaker to Sugarloaf 138 kV line with a new double circuit 138 kV line and related substation work at Shoemaker, Hartley, South Goshen, Chester, and Sugarloaf at the cost identified by the NYPSC in the AC Transmission Proceedings.

2.3. **Risk**

- 2.3.1. The review team completed a review of the potential risks associated with the proposals' schedules and costs, focusing on the most significant drivers, which include:
 - Article VII review approval process and potential environmental issues
 - Procurement of major equipment
 - Construction
 - Site Control and procurement of real estate
 - Operational Plan
- 2.3.2. The proposals share many risks in common such as potential delays in preparation and approval of regulatory licenses and permits.
- 2.3.3. The most significant risks associated with the proposals are identified as follows:

Client:	NYISO		•
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

SEGMENT A

- Need to obtain additional easements for exceedance of EMF levels. The existing corridor between Princetown Junction and New Scotland Substation (that has 345 kV line #14 and line #18, and 115 kV line #13) is currently estimated to exceed NYS PSC guidelines for EMF levels. The proposed designs improve the condition, but EMF levels are still estimated to exceed the guidelines for all proposals except T027 (NAT/NYPA Double Circuit). EMF levels will have to be confirmed during detailed engineering and may result in purchasing EMF easements from property owners along the ROW between Princetown and New Scotland. See Section 4.11.2.4 for more detail.
- For proposal T025 (NAT/NYPA proposal to convert the existing 345 kV line to 765 kV operation) there is a significant risk to the project's cost and schedule due to (i) potential public opposition, (ii) the potential need to replace the transmission line hardware due to potential corona issues and (iii) additional EMF concerns due to the higher operating voltage of the facility. An allowance was added to the independent cost estimate to account for the potential cost of mitigating corona and EMF issues.

SEGMENT B

• The NYPSC encouraged that new structures have minimal increase in height and concluded that height increases of less than 25 feet over exisiting structures will not create a significant adverse visual impact of a regional nature (December 12, 2015 Order at p. 35). All else being equal, the construction of new structures even with minimal increase in height may increase the risk of public opposition due to their potential local visual impact. The PSC determined that the local visual impacts will be addressed in the Article VII siting proceedings.

2.4. Expandability

- 2.4.1. The review team evaluated the potential for future expansion of the proposed transmission solutions to increase their capacity. Many of the more common design approaches that could be employed on a transmission project to afford future expandability are not applicable since the objective of this project is to utilize existing transmission rights-of-way (ROW) and property. Much of the existing transmission ROW will be fully utilized in construction of this project but there is some opportunity for expansion as described below.
 - 2.4.1.1. All proposals for Segment A involve replacement of the existing Porter-Rotterdam 230 kV circuits #30 and #31 with a new Edic to New Scotland 345 kV line. This will provide the space for future use of the existing ROW and may allow the addition of another circuit from Edic/Porter to Princetown Junction.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

During detailed engineering the placement of structures should be optimized to maximize the remaining ROW.

2.4.1.2. The proposed new substations provide the potential for future line terminal and transformer additions.

2.5. Site Control and Real Estate

- 2.5.1. In all of the proposals, the following is common for the property rights acquisition process:
 - All Developers propose to use existing ROW for their transmission facilities.
 - Some additional real estate is required for new substation construction at Princetown Junction
 - NextEra's project (T021) proposes a new greenfield site located between
 Princetown Junction and Rotterdam, and has an option to purchase the real estate for the substation
 - ITC's project (T031) proposes a larger substation at Princetown Junction than the substations proposed by other projects, and will require additional property acquisition
 - All Developers have completed preliminary routing of their proposed lines.
 - All Developers have documented plans to obtain site control
- 2.5.2. The non-incumbent Developers all claim common rights in obtaining real property:
 - The Developers cite the NYPSC's December 17, 2015 Order in the AC Transmission proceedings (Case Nos. 12-T-0502, et al.) as requiring incumbent utilities to engage in non-discriminatory, good faith negotiation of terms in obtaining the right to use an incumbent utility's ROW. The Order further stated that "incumbent utilities should offer competitors the same terms they offer Transco; there should be no bias shown to Transco."

2.6. Operational Plan

- 2.6.1. The review team conducted a review of the Developers' operations and maintenance plans associated with the proposals. The review team did not identify any major flaws with the Developers' plans and the plans are essentially the same.
- 2.6.2. For the non-incumbent Developer proposals, the following aspects are common:
 - The Developers stated that all O&M activities will comply with required NERC regulations.
 - Proposed facilities will have real-time reporting of operating data.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

- 2.6.3. The non-incumbent Developers proposed the following arrangements for Control Center services:
 - ITC proposes to use their Control Center in Novi MI. to provide control center services.
 - NextEra proposes to construct a physical control center in New York to provide control center services.
 - NAT/NYPA proposed to utilize the NYPA Control Center for control center services.

3. Discussion of Proposals

Brief descriptions of the proposed projects are provided below.

SEGMENT A

3.1. T018 - NGRID/Transco - New Energy Solution Segment A

National Grid/Transco's NYES Segment A Proposal includes the following components:

- A new 345 kV line of approximately 87 miles from the existing Edic 345 kV substation to the
 existing New Scotland 345 kV substation. The New Scotland 345 kV Substation will be upgraded
 and expanded
- Two new 345 kV lines of approximately 5 miles single-circuit looping the existing 345 kV Edic to New Scotland #14 line into and out of a new Rotterdam 345 kV Substation. The Rotterdam 230 kV substation will be retired
- Two new 345/115 kV autotransformers connecting the existing Rotterdam 115 kV switchyard to the new 345 kV switchyard
- One new 345/230 kV autotransformer connecting the existing 230 kV Rotterdam to Eastover Road #38 line to the new Rotterdam 345 kV switchyard
- One new 135 MVAR capacitor bank connected to the new Rotterdam 345 kV switchyard
- Decommissioning of the Porter to Rotterdam 230 kV lines #30 and #31

3.2. T021 - NextEra - Enterprise Line - Segment A

NextEra's Enterprise Segment A Proposal includes the following components:

- A new 345 kV line of approximately 86 miles (83.4 miles 345 kV line and 2.6 miles double circuit 345/115 kV line) from the existing Edic 345 kV substation to the existing New Scotland 345 kV substation
- Rebuild 2.6 miles of existing Rotterdam-New Scotland 115 kV line circuit #13
- A new breaker-and-a-half 345/230 kV Princetown Substation, located near the existing Rotterdam 230 kV substation. The substation will include two 345/230 kV auto-transformers

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

- Two new 345 kV circuits each approximately 4 miles in length to loop the existing Marcy New Scotland 345 kV circuit #18 into Princetown 345/230 kV substation
- Two new 1 mile 230 kV lines from Princetown-Rotterdam
- Decommissioning of the Porter to Rotterdam 230 kV lines #30 and #31

3.3. T025 – NAT/NYPA - Segment A – A + 765 KV

The NAT/NYPA Segment A +765 kV Proposal consists of the following components:

- A new 345 kV line of approximately 86 miles from the existing Edic 345 kV substation to the existing New Scotland 345 kV substation
- Two new 345 kV lines of approximately 5 miles single-circuit looping the existing 345 kV Edic to New Scotland #14 line into and out of a new Rotterdam 345 kV Substation. The Rotterdam 230 kV substation will be retired
- Two new 345/115 kV lower impedance transformers connecting the existing Rotterdam 115 kV switchyard to the new 345 kV switchyard. One new 345/230 kV transformer connecting the existing 230 kV Rotterdam to Eastover Road #38 line to the new Rotterdam 345 kV switchyard
- A new Princetown 345 kV switchyard by tapping the newly proposed Edic-New Scotland lines and Rotterdam-New Scotland transmission lines
- Convert the Marcy New Scotland and New Scotland Knickerbocker 345 kV transmission lines to 765 kV operation as Marcy – Knickerbocker 765 kV (with no connection at New Scotland)
- Switching station or substation work at Knickerbocker with two new 2000 MVA 765/345 kV transformers at Knickerbocker
- Terminal upgrades at Edic and Marcy 345 kV substations
- Decommissioning of the Porter to Rotterdam 230 kV lines #30 and #31

3.4. T026 - NAT/NYPA - Segment A - Base

NAT/NYPA Segment A Base Proposal consists of the following components:

- A new 345 kV line of approximately 86 miles from the existing Edic 345 kV substation to the existing New Scotland 345 kV substation
- Two new 345 kV lines of approximately 5 miles single-circuit looping the existing 345 kV Edic to New Scotland #14 line into and out of a new Rotterdam 345 kV Substation. The Rotterdam 230 kV substation will be retired
- Two new 345/115 kV transformers connecting the existing Rotterdam 115 kV switchyard to the new 345 kV switchyard. One new 345/230 kV transformer connecting the existing 230 kV Rotterdam to Eastover Road #38 line to the new Rotterdam 345 kV switchyard
- Terminal upgrades at Edic and Marcy 345 kV substations

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Decommissioning of the Porter to Rotterdam 230 kV lines #30 and #31

3.5. T027 - NAT/NYPA Segment A - Double Circuit

NAT/NYPA Segment A Double Circuit Proposal consists of the following components:

- A new 345 kV double circuit line of approximately 86 miles from the existing Edic 345 kV substation to the existing New Scotland 345 kV substation
- Two new 345 kV lines of approximately 5 miles single-circuit looping the existing 345 kV Edic to New Scotland #14 line into and out of a new Rotterdam 345 kV Substation. The Rotterdam 230 kV substation will be retired
- Two new 345/115 kV lower impedance transformers connecting the existing Rotterdam 115 kV switchyard to the new 345 kV switchyard. One new 345/230 kV transformer connecting the existing 230 kV Rotterdam to Eastover Road #38 line to the new Rotterdam 345 kV switchyard
- Rebuild approximately 6 miles of the Rotterdam to New Scotland 345 kV transmission line to accommodate the new double-circuit line beginning from Princetown junction
- Remove the Rotterdam to New Scotland 115 kV transmission line
- A new Princetown 345 kV switchyard by tapping the newly proposed Edic-New Scotland lines and Rotterdam-New Scotland transmission lines
- Terminal upgrades at Edic and Marcy 345 kV substations
- Decommissioning of the Porter to Rotterdam 230 kV lines #30 and #31

3.6. T028 - NAT/NYPA Segment A - Enhanced

The NAT/NYPA - Segment A Enhanced Proposal consists of the following components:

- A new 345 kV line of approximately 86 miles from the existing Edic 345 kV substation to the existing New Scotland 345 kV substation
- Two new 345 kV lines of approximately 5 miles single-circuit looping the existing 345 kV Edic to New Scotland #14 line into and out of a new Rotterdam 345 kV Substation. The Rotterdam 230 kV substation will be retired
- Two new 345/115 kV lower impedance transformers connecting the existing Rotterdam 115 kV switchyard to the new 345 kV switchyard. One new 345/230 kV transformer connecting the existing 230 kV Rotterdam to Eastover Road #38 line to the new Rotterdam 345 kV switchyard
- A new Princetown 345 kV switchyard by tapping the newly proposed Edic-New Scotland lines and Rotterdam-New Scotland transmission lines
- Terminal upgrades at Edic and Marcy 345 kV substations
- Decommissioning of the Porter to Rotterdam 230 kV lines #30 and #31

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

3.7. T031 - ITC Segment A - 16NYPP1-1A

The ITC Segment A Proposal consists of the following components:

- A new Princetown 345 kV switching station tapping the existing Marcy to New Scotland 345 kV
 #18 line and Edic to New Scotland 345 kV #14 line
- A new Edic Princetown New Scotland 345 kV line, rebuilding line #14 between Princetown and New Scotland and sharing the common tower structures with the new line
- A new Rotterdam 345 kV substation with two new 345/230 kV transformers
- Two new Princetown to Rotterdam 345 kV lines of approximately 5.2 miles single circuit
- Decommissioning of the Porter to Rotterdam 230 kV lines #30 and #31

SEGMENT B

All Segment B projects include terminal upgrades for Coopers Corners – Rock Tavern 345 kV lines to be performed by Central Hudson, and upgrades on Shoemaker – Sugarloaf 138 kV line to be performed by Orange & Rockland.

3.8. T019 – NGRID/Transco – New Energy Solution Segment B

National Grid/Transco-NYES Segment B proposal consists of the following components:

- A new double-circuit 345/115 kV line from a new Knickerbocker 345 kV Switching Station to the
 existing Pleasant Valley Substation, including a rebuild of the Churchtown 115 kV Switching
 Station and an upgrade of the existing Pleasant Valley 345/115 kV Substation, and 50% series
 compensation on Knickerbocker to Pleasant Valley 345 kV line
- Two new 135 MVAR 345 kV capacitor banks connected to the Pleasant Valley 345 kV Substation
- Terminal upgrades to the existing Roseton 345 kV Substation and Transition Station to upgrade the thermal ratings on the 345 kV Roseton to East Fishkill #305 line
- Terminal upgrades to the existing New Scotland 345 kV Substation to upgrade the thermal ratings on the 345 kV New Scotland to Knickerbocker #2A line
- Retirement of aging infrastructure including multiple existing 115 kV lines between Greenbush
 115 kV Substation and Pleasant Valley 115 kV Substation345 kV

3.9. T022 - NextEra - Enterprise Line - Segment B

NextEra Enterprise Line Segment B proposal consists of the following components:

- Multiple retirements and reconfigurations on 115 kV lines between Greenbush Pleasant Valley
- New Knickerbocker 345 kV Switchyard, approximately 13 miles southeast of New Scotland along the New Scotland - Alps 345 kV line

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

- Loop New Scotland Alps 345 kV line circuit #2 into Knickerbocker Switchyard
- New North Churchtown 115 kV Switchyard, just north of NYSEG's existing Churchtown 115 kV switchyard
- A new 345 kV line from a new Knickerbocker 345 kV switching station to the existing Pleasant Valley 345 kV substation (double-circuit 345/115 kV line between Knickerbocker and Churchtown, and single-circuit 345 kV line between Churchtown and Pleasant Valley)

3.10. T023 - NextEra- Enterprise Line Segment B

NextEra Enterprise Line Segment B-Alt proposal consists of the following components:

- Multiple retirements and reconfigurations on 115 kV lines between Greenbush Pleasant Valley
- New Knickerbocker 345 kV Switchyard, approximately 13 miles southeast of New Scotland along the New Scotland - Alps 345 kV line
- Loop New Scotland Alps 345 kV line circuit #2 into Knickerbocker Switchyard
- New North Churchtown 115 kV Switchyard, just north of NYSEG's existing Churchtown 115 kV switchyard
- A new double-circuit 345/115 kV line from a new Knickerbocker 345 kV switching station to the existing Pleasant Valley 345 kV substation

3.11. T029 – NAT/NYPA Segment B - Base

NAT/NYPA Segment B Base Proposal consists of the following components:

- Multiple retirements and reconfigurations on 115 kV lines between Greenbush Pleasant Valley
- A new 345 kV Knickerbocker switchyard along the New Scotland Alps 345 kV line
- Loop the existing 345 kV New Scotland to Alps transmission line into Knickerbocker Switchyard
- A new double-circuit 345/115 kV line from a new Knickerbocker 345 kV switching station to Pleasant Valley 345 kV Substation (double-bundled 345 kV line)
- A new Churchtown 115 kV substation
- Shoemaker Shoemaker Tap Middletown 345/138 kV transformer and 138 kV facilities upgrades

3.12. T030 - NAT/NYPA Segment B - Enhanced

NAT/NYPA Segment B Enhanced Proposal consists of the components included with the Segment B Base Proposal with use of a triple bundle (instead of double bundle) conductor for the Knickerbocker – Pleasant Valley 345 kV transmission line.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

3.13. T032 - ITC Segment B - 16NYPP1-1B

ITC Segment B Proposal consists of the following components:

- Multiple retirements and reconfigurations on 115 kV lines between Greenbush and Pleasant Valley
- A new Knickerbocker 345 kV Substation and a new Knickerbocker 115 kV Substation by tapping the existing 345 kV New Scotland to Alps circuit and Greenbush to Pleasant Valley 115 kV line respectively
- A new 345/115 kV double-circuit line from the Knickerbocker station to Churchtown station on existing Greenbush to Pleasant Valley right-of-way
- A new 345/115/115 kV triple-circuit line from Churchtown to Pleasant Valley on existing Greenbush to Pleasant Valley right-of-way

4. Evaluation

4.1. Schedule

In evaluating the schedule for the proposed projects, the NYISO OATT section 31.4.8.1.7 provides the following evaluation criteria: "The potential issues associated with delay in constructing the proposed regulated Public Policy Transmission Project consistent with the major milestone schedule and the schedule for obtaining any permits and other certifications as required to timely meet the need."

The review team has completed an evaluation of the schedules submitted with each proposal. In its evaluation of the proposals, the review team leveraged its collective experience with the development, construction and maintenance of transmission line and substation projects in New York State, and compared the proposed schedules to actual Article VII electric transmission projects completed in the State of New York.

Several Developers appear to assume that the selected project or projects could be subject to an expedited Article VII process. In Case Nos. 12-T-0502, et al., Proceeding on Motion to Examine Alternating Current Transmission Upgrades, Order Authorizing Modification of the Process to Allow for Consideration of Alternative Proposals (February 21, 2014), the NYPSC determined that the expedited process proposed in the 2014 State of the State address was not directly applicable to its proceedings and would not be employed.¹

¹ *Id.* at pp 3-4 (finding that the proposed expedited process "would apply only to projects that do not require permanent expansion of the right-of-way 'envelope' with wider corridors or taller towers" and, thus, "is not directly applicable to this proceeding and will not be employed").

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Accordingly, the review team's analysis is based on standard historical durations for siting review. Our conclusion for the Article VII process minimum durations based upon "best case" assumptions is as follows:

Article VII Process Minimum Durations

Task	Duration based on construction primarily on Existing ROW
Prepare and submit complete Article VII application (estimate)	6 mo.
PSC issue Certificate (minimum based on past comparable Article VII projects)	12 mo.
Prepare and submit EM&CP (best case: assumes no major changes to design required in Certificate, and prepared during Article VII proceedings)	0 mo.
DPS review and approve EM&CP (based on past comparable Article VII projects)	6 mo.
Total: Best Case Submit Article VII application until Start Construction	18 mo.
Total: Best Case Prepare Article VII application until Start Construction	24 mo.

The main drivers to the project schedule durations considered were:

- Article VII licensing process
- Procurement of major equipment
- Real Estate requirements
- Construction requirements.

The project minimum durations discussed in this evaluation assume that preparation of the Article VII application and real estate procurement negotiations will begin at the time the project is awarded to the Developer and that any preliminary work required has already been completed by the Developer prior to that date. Likewise, the review team assumes that work to

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

file the first EM&CP segment is complete prior to receipt of Article VII Certificate and there are no major changes to the projects' designs required in the Article VII Certificate.

The review team developed Gantt chart schedules for each project to show a reasonable time line for each proposal, and appended them to this report as Attachment A.

An evaluation of the construction component of the proposals was completed by Kenny Construction.

Considering that the evaluation focused on establishing reasonable minimum schedule durations, the review team also recommended that some float be added to the schedule to establish a reasonable schedule recognizing the potential for minor delays for the purpose of determining the in-service date once a project is selected. The review team recommends adding 4 months total to each minimum schedule to account for the following float:

- Two months to the construction schedule for each proposal to account for typical slippage
 of construction activities (i.e., potential weather events, delays if construction crews are
 needed to respond and provide storm support, unanticipated material and equipment
 issues, and inability to obtain outages on a timely basis); and
- Two months to the schedule for licensing and permitting activities between the NYPSC issuing the Article VII Certificate and the submittal of the EM&CP to account for possible delays in submitting the EMCP should the PSC require changes to the plan submitted in the application.

Summarized below are the review team's findings for Segment A:

4.1.1. National Grid/Transco Proposal T018 – Segment A

- The Developer included 5 months for Article VII application preparation. Based on experience the review team allocated six months.
- Overall Article VII process schedule is adequate.
- Time for procurement of major equipment is adequate.
- The project is to utilize ROW owned by National Grid and some additional easement to satisfy EMF requirements. The review team believes the Developer has adequate time in its schedule to acquire ROW.
- Overall Construction schedule is adequate.
- The proposed project duration is 48 months. The review team believes that is adequate for this project.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.1.2. NextEra Proposal T021 – Segment A

- The Developer included six months for Article VII application preparation. Based on experience the review team believes that to be adequate.
- The Developer included nine months for the overall Article VII process (from submission of Article VII application to EM&CP approval). Based on comparable Article VII projects the review team believes that process will take at least 18 months.
- NextEra's schedule is showing that it expects substation EM&CP approval in about 3
 months to allow for an earlier start on substation construction. Approval is unlikely to
 be granted that quickly and the review team believes that approval will take a
 minimum of six months.
- Time for procurement of major equipment is adequate.
- The project is to utilize existing ROW owned by National Grid and some additional
 easement to satisfy EMF requirements. The review team believes the Developer has
 adequate time in its schedule to acquire ROW.
- Overall Construction schedule includes 14 months. Based on experience with similar work the review team believes the work will take at least 24 months.
- Their proposed project duration is 29 months. The review team believes that at least 48 months will be required to complete this project.

4.1.3. NAT/NYPA Segment A

4.1.3.1. Proposal T025 – Segment A + 765 kV Proposal

- The Developer included six months for Article VII application preparation.

 Based on experience the review team believes that to be adequate.
- The Developer included 13 months for the overall Article VII process (from submission of Article VII application to EM&CP approval). Based on comparable Article VII projects the review team believes that process will take at least 20 months. (Two additional months were added to the estimated minimum time period to account for anticipated additional issues associated with the 765 kV line.) The Developer's schedule is showing start construction at receipt of Article VII Certificate. At least six months will be required for EM&CP approval.
- Time for procurement of major equipment is adequate.
- The project is to utilize existing ROW owned by National Grid and some owned by NYPA as well as some additional easement to satisfy EMF requirements. The review team believes the Developer has adequate time in its schedule to acquire ROW.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	<i>34477</i> <u>5</u> 2
Document No.:	AC Transmission Report 05 25 18	Revision:	6

- Overall Construction schedule is adequate.
- Their proposed project duration is 44 months. The review team believes that at least 50 months will be required to complete this project.

4.1.3.2. Proposal T026 – Segment A Base Proposal

- The Developer has included six months for Article VII application preparation.

 Based on experience the review team believes that to be adequate.
- The Developer has included 13 months for the overall Article VII process (from submission of Article VII application to EM&CP approval). Based on comparable Article VII projects the review team believes that process will take at least 18 months. The Developer's schedule is showing start construction at receipt of Article VII Certificate. At least six months will be required for EM&CP approval.
- Time for procurement of major equipment is adequate.
- The project is to utilize existing ROW owned by National Grid and some additional easement to satisfy EMF requirements. The review team believes the Developer has adequate time in its schedule to acquire ROW.
- Overall Construction schedule is adequate.
- The Developer's proposed project duration is 44 months. The review team believes that at least 48 months will be required to complete this project.

4.1.3.3. Proposal T027 – Segment A Double Circuit

- The Developer has included six months for Article VII application preparation.

 Based on experience the review team believes that to be adequate.
- The Developer has included 13 months for the overall Article VII process (from submission of Article VII application to EM&CP approval). Based on comparable Article VII projects the review team believes that process will take at least 18 months. The Developer's schedule is showing start construction at receipt of Article VII Certificate. At least six months will be required for EM&CP approval.
- Time for procurement of major equipment is adequate.
- The project is to utilize existing ROW owned by National Grid. The review team believes the Developer has adequate time in its schedule to acquire ROW.
- The Developer's overall Construction schedule of 29 months is adequate. The review team believes that a minimum of 27 months will be required.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

• The Developer's proposed project duration is 48 months. The review team believes that at least 51 months will be required to complete this project.

4.1.3.4. Proposal T028 – Segment A Enhanced Proposal

- The Developer has included six months for Article VII application preparation.

 Based on experience the review team believes that to be adequate.
- The Developer has have included 13 months for the overall Article VII process
 (from submission of Article VII application to EM&CP approval). Based on
 comparable Article VII projects the review team believes that process will take
 at least 18 months. The Developer's schedule is showing start construction at
 receipt of Article VII Certificate. At least six months will be required for
 EM&CP approval.
- Time for procurement of major equipment is adequate.
- The project is to utilize existing ROW owned by National Grid and some additional easement to satisfy EMF requirements. The review team believes the Developer has adequate time in its schedule to acquire ROW.
- Overall Construction schedule is adequate.
- The Developer's proposed project duration is 44 months. The review team believes that at least 48 months will be required to complete this project.

4.1.4. ITC Proposal T031 Segment A

- Inconsistencies exist between ITC's Milestone Schedule Table, Text in Attachment B, and their Gantt Chart which show different dates and durations for their schedule.
 Attachment C Milestone Schedule Table was used to document the developer proposed durations.
- The Developer has included seven months for Article VII application preparation.

 Based on experience the review team believes that to be adequate
- The Developer has included 10 months for the overall Article VII process (from submission of Article VII application to EM&CP approval). Based on comparable Article VII projects the review team believes that process will take at least 18 months.
- Time for procurement of major equipment is adequate.
- The project is to utilize existing ROW owned by National Grid and some additional
 easement to satisfy EMF requirements. The review team believes the Developer has
 adequate time in its schedule to acquire ROW.
- Overall Construction schedule includes 22 months. Based on experience with similar work the review team believes the work will take at least 24 months.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	<i>34477</i> <u>5</u> 2
Document No.:	AC Transmission Report 05 25 18	Revision:	6

• The Developer's proposed project duration is 39 months. The review team believes that at least 48 months will be required for this project.

Summarized below are the review team's findings for Segment B:

- 4.1.5. National Grid/Transco Proposal T019 Segment B
 - The Developer has included five months for Article VII application preparation. Based on experience the review team would allocate six months.
 - Overall Article VII process schedule is adequate.
 - Time for procurement of major equipment is adequate.
 - The project is to utilize ROW owned by National Grid.
 - Overall Construction schedule of 24 months is adequate. The review team estimates that a minimum of 21 months will be required.
 - The Developer's proposed project duration is 48 months. The review team believes that is adequate for this project.

4.1.6. NextEra Segment B Proposals

- 4.1.6.1. NextEra Proposal T022 Segment B
 - The Developer has included six months for Article VII application preparation.

 Based on experience the review team believes that to be adequate.
 - They have included 9 months for the overall Article VII process (from submission of Article VII application to EM&CP approval). Based on comparable Article VII projects the review team believes that process will take at least 18 months.
 - NextEra's schedule is showing that it expects substation EM&CP approval in about three months to allow for an earlier start on substation construction.
 The review team believes that it is unlikely for approval to be granted that quickly and believe that approval will take a minimum of six months.
 - Time for procurement of major equipment is adequate.
 - The project is to utilize existing ROW owned by National Grid. The review team believes the Developer has adequate time in its schedule to obtain a lease.
 - Overall Construction schedule includes 13 months. Based on experience with similar work the review team believes the work will take at least 19 months.
 - The Developer's proposed project duration is 28 months. The review team believes that at least 43 months will be required to complete this project.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.1.6.2. NextEra Proposal T023 – Segment B Alt

- The Developer has included six months for Article VII application preparation.

 Based on experience the review team believes that to be adequate.
- The Developer has included nine months for the overall Article VII process
 (from submission of Article VII application to EM&CP approval). Based on
 comparable Article VII projects the review team believes that process will take
 at least 18 months.
- NextEra's schedule is showing that it expects substation EM&CP approval in about three months to allow for an earlier start on substation construction.
 The review team believes that it is unlikely for approval to be granted that quickly and believe that approval will take a minimum of six months.
- Time for procurement of major equipment is adequate.
- The project is to utilize existing ROW owned by National Grid. The review team believes the Developer has adequate time in its schedule to transfer ownership.
- Overall Construction schedule includes 14 months. Based on experience with similar work the review team believes the work will take at least 21 months.
- The Developer's proposed project duration is 29 months. The review team believes that at least 45 months will be required to complete this project.

4.1.7. NAT/NYPA Segment B Proposals

4.1.7.1. NAT/NYPA Proposal T029 - Segment B Base

- The Developer has included six months for Article VII application preparation.

 Based on experience the review team believes that to be adequate.
- The Developer has included 13 months for the overall Article VII process
 (from submission of Article VII application to EM&CP approval). Based on
 comparable Article VII projects the review team believes that process will take
 at least 18 months. The Developer's schedule is showing start construction at
 receipt of Article VII certificate. At least six months will be required for
 EM&CP approval.
- Time for procurement of major equipment is adequate.
- The project is to utilize existing ROW owned by National Grid. The review team believes the Developer has adequate time in its schedule to obtain a lease.
- Overall Construction schedule is adequate.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

• The Developer's proposed project duration is 40 months. The review team believes that at least 45 months will be required for this project.

4.1.7.2. NAT/NYPA Proposal T030 – Segment B Enhanced

- The Developer has included six months for Article VII application preparation. Based on experience the review team believes that to be adequate.
- The Developer has included 13 months for the overall Article VII process
 (from submission of Article VII application to EM&CP approval). Based on
 comparable Article VII projects the review team believes that process will
 take at least 18 months. The Developer's schedule is showing start
 construction at receipt of Article VII certificate. At least six months will be
 required for EM&CP approval.
- Time for procurement of major equipment is adequate.
- The project is to utilize existing ROW owned by National Grid. The review team believe the Developer has adequate time in its schedule to obtain a lease.
- Overall Construction schedule is adequate.
- The Developer's proposed project duration is 41 months. The review team believes that at least 45 months will be required for this project.

4.1.8. ITC Proposal T032 - Segment B

- Inconsistencies exist between ITC's Milestone Schedule Table, Text in Attachment B, and their Gantt Chart which show different dates and durations for their schedule.
 Attachment C Milestone Schedule Table was used to document the developer proposed durations.
- ITC's schedule assumes that Segment A is to be constructed first followed by Segment B and that both segments cannot be constructed at the same time due to outage constraints. The Developer states that if that is not the case, its construction schedule for Segment B could be moved back by one year.
- The Developer has included seven months for Article VII application preparation.

 Based on experience the review team believes that to be adequate
- Overall Article VII process schedule is adequate.
- Time for procurement of major equipment is adequate.
- The project is to utilize existing ROW owned by National Grid. The review team believes the Developer has adequate time in their schedule to obtain a lease.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

• Overall Construction schedule includes 19 months. Based on experience with similar work the review team believes the work will take at least 23 months.

The Developer's proposed project duration is 53 months. The review team believes that 47 months is adequate for this project.

Conclusion

Based on its review, the review team estimates the following total project durations:

Segment A Proposals	Developer Proposed Total Duration	Estimated Minimum Duration (Note #1 and #2)
T018 NGRID/Transco Segment A	48 Months	48 Months
T021 NextEra Segment A	29 Months	48 Months
T025 NAT/NYPA Segment A + 765 kV	44 Months	50 Months
T026 NAT/NYPA Segment A Base	44 Months	48 Months
T027 NAT/NYPA Segment A Double Circuit	48 Months	51 Months
T028 NAT/NYPA Segment A Enhanced	44 Months	48 Months
T031 ITC Segment A	39 Months	48 Months

Segment B Proposals	Developer Proposed Total Duration	Estimated Minimum Duration (Note #1)
T019 NGRID/Transco Segment B	48 Months	45 Months
T022 NextEra Segment B	28 Months	43 Months
T023 NextEra Segment B - Alt	29 Months	45 Months
T029 NAT/NYPA Segment B Base	40 Months	45 Months
T030 NAT/NYPA Segment B Enhanced	41 Months	45 Months
T032 ITC Segment B	53 Months	47 Months

Note #1: "Estimated Minimum Duration" is calculated using the anticipated time for Article VII application preparation, the anticipated time for the Article VII approval process, ROW procurement where significant and the anticipated time for construction of the project. The review team also assumed that the EM&CP preparation is completed and ready for submission when the Article VII Certificate is received. All of these components will depend on the experience and the level of resources of the developer and the complexity of the project which is further discussed in the risk register. In order to establish a reasonable normal schedule for the purpose of establishing an inservice date, an additional four months should be added to the estimated minimum duration.

Note #2: For the Edic to Princetown portion of segment A, all developers are proposing to reuse existing NYPA owned transmission line structures for about 12.5 miles. If detailed engineering indicates that the structures are not adequate and need to be replaced the construction schedule may increase by about 4 months however, this would be consistent across all proposed projects.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECON SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	<i>34477</i> <u>5</u> 2
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.2. **Cost**

In evaluating the cost of a proposed Public Policy Transmission Project, the NYISO OATT section 31.4.8.1.1 specifies the following criteria: "The capital cost estimates for the proposed regulated Public Policy Transmission Project, including the accuracy of the proposed estimates. For this evaluation, the Developer shall provide the ISO with credible capital cost estimates for its proposed project, with itemized supporting work sheets that identify all material and labor cost assumptions, and related drawings to the extent applicable and available. The work sheets should include an estimated quantification of cost variance, providing an assumed plus/minus range around the capital cost estimate. The estimate shall include all components that are needed to meet the Public Policy Transmission Need. To the extent information is available, the Developer should itemize: material and labor cost by equipment, engineering and design work, permitting, site acquisition, procurement and construction work, and commissioning needed for the proposed project, all in accordance with Good Utility Practice. For each of these cost categories, the Developer should specify the nature and estimated cost of all major project components and estimate the cost of the work to be done at each substation and/or on each feeder to physically and electrically connect each facility to the existing system. The work sheets should itemize to the extent applicable and available all equipment for: (i) the proposed project, (ii) interconnection facilities (including Attachment Facilities and Direct Assignment Facilities), and (iii) Network Upgrade Facilities, System Upgrade Facilities, System Deliverability Upgrades, Network Upgrades, and Distribution Upgrades."

4.2.1. Estimate Methodology

Development of the independent cost estimates for the AC Transmission Project was an iterative process utilizing the collective expertise and experience of the review team, and augmented by vendor budgetary quotations. Kenny Construction (Kenny)prepared the independent cost estimates.

A copy of each Developer's proposals was provided to Kenny with all pricing information redacted. Kenny familiarized itself with the proposals and, in conjunction with SECo, completed field reviews of the impacted facilities.

SECo solicited budgetary quotations from vendors for major equipment including transformers, circuit breakers, GIS equipment, and Series Compensation System. Kenny Construction solicited budgetary quotations for concrete and steel poles, insulators and conductor. Kenny Construction also used historical data from projects it had completed to develop unit pricing for the material supply rates and labor and equipment rates for equipment such as switches, instrument transformers, station service transformers,

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

transmission structures, conductors, grounding and hardware. Kenny purchases large volumes of transmission and substation materials annually.

The Preliminary designs provided by each Developer were used as the basis for the cost estimates. SECo provided engineering input as required to assist Kenny in determining specific technical requirements and verifying the Developers' preliminary designs. Developers' designs were checked for general compliance with standard industry requirements but they were not optimized.

Indirect cost percentages were derived by Kenny Construction from historical project data. Licensing and environmental cost estimates were developed for each project by SECo's subcontractor GEI Consultants, Inc..

The draft cost estimates from Kenny were reviewed by SECo for completeness and accuracy. SECo also compared the independent draft cost estimates for the proposals against each other for consistency across the proposals. Lastly, SECo compared each proposal's draft cost estimates against the Developer's cost estimates as a check for their reasonableness. If large differences were observed between the independent cost estimate and the Developer's cost estimate, SECo investigated and determined whether the differences were justified or they were erroneous. If the differences in the cost estimates resulted from errors, they were corrected by Kenny.

The cost estimates were prepared in accordance with the Association for the Advancement of Cost Engineering International Recommended Practice for Class 4 Accuracy. The expected accuracy range typically varies from a low of (-15% to -30%) and high of (+20% to +50%).

Association for the Advancement of Cost Engineering Criteria for Class 4 Accuracy

ESTIMATE CLASS	MATURITY LEVEL OF PROJECT DEFINITION DELIVERABLES Expressed as % of complete definition	END USAGE Typical purpose of estimate	METHODOLOGY Typical estimating method	EXPECTED ACCURACY RANGE Typical variation in low and high ranges
		Ctudy or	Equipment factored or	L: -15% to -30%
Class 4	1% to 15%	Study or feasibility	parametric	H: +20%
		- 7	models	to +50%

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

The final cost estimates include the contingency rate of 30% referenced in the NYPSC "Order Finding Transmission Needs Driven by Public Policy Requirements" (Case No. 12-T-0502, et al.) December 17, 2015, and the Staff report. The review team agrees that level of contingency is sufficient to allow for unanticipated costs and estimating accuracy to forecast a reasonable worst case cost.

Segment B projects include Global Upgrades to the Rock Tavern 345 kV Substation and the rebuild of the Shoemaker to Sugarloaf 138 kV line with a new double circuit 138 kV line and related substation work at Shoemaker, Hartley, South Goshen, Chester, and Sugarloaf at the cost identified by the NYPSC in the AC Transmission Proceedings ³.

4.2.2.Potential Synergy Cost Savings

The review team calculated potential cost savings should one Developer be awarded both Segment A and Segment B projects. The savings were derived by evaluating the average cost of individual cost components of the projects to estimate potential cost savings assuming one Developer was awarded both Segment A and Segment B projects. These individual cost components included project shared cost items such as Labor & Equipment, Matting, Materials, Contractor Mobilization/Demobilization, Project Management, Field Construction Management and Inspection Staffing, Incumbent Utility Project Management and Project Oversite, Site Facilities, Material Handling & Storage, Design Engineering, Light Detection and Ranging survey (LiDAR), Geotechechnical investigations, Licensing and Permiting, Testing & Commissioning of Transmission Line and Equipment, Contractor Warranties, Legal Fees, and Contractor Markup (Overhead & Profit). Each of these items were assessed for economy of scale; utilization of resources, equipment and materials; duplication of services; and

_

² Item # 14 in Appendix B of the "NYPSC Order Finding Transmission Needs Driven by Public Policy Requirements" dated 12-17-2015 states: The percentage rates applied to account for contingencies and revenue requirement should all be treated uniformly across all estimates so that those factors are not manipulated by the bidders to confuse or artificially skew the results. The selection process shall not use the percentage rates applied to account for contingencies and revenue requirement as a distinguishing factor between bids. For the purposes of bids, all developers should account for contingencies and revenue requirement at the percentage rates provided in the Trial Staff report as a placeholder for the actual rates.

³ Item # 6 in Appendix B of the December 17, 2015 NYPSC Order Finding Transmission Needs Driven by Public Policy Requirements states: "The selection process for transmission solutions for Segment B shall not use the costs of upgrades to the Rock Tavern Substation and upgrades to the Shoemaker to Sugarloaf transmission lines as a distinguishing factor between bids. The developers shall include the upgrade costs in their bids at the same level using the cost estimates for the upgrades provided in the Trial Staff report as a placeholder for the actual costs.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

replication of engineering designs to estimate the potential savings. Based on experience with prior transmission construction projects Kenny and SECo estimated a potential synergy savings of five percent (5%).

4.2.3. Summary of Costs

A summary of the results are shown below:

SEGMENT A (SUMMARY OF ESTIMATE COMPARISON)

Developer	Independent Estimate (2018 \$)
·	· · · · · · · · · · · · · · · · · · ·
T018 National Grid/ NY Transco	\$400,120,050
T021 NextEra Energy	\$382,809,831
T025 NYPA / NAT (Base+765 kV)	\$663,821,844
T026 NYPA / NAT (Base)	\$377,426,571
T027 NYPA / NAT (Double Ckt)	\$576,726,759
T028 NYPA / NAT (Enhanced)	\$395,367,607
T031 ITC	\$438,467,712

SEGMENT A (SUMMARY OF ESTIMATES COMPARISON WITH 30% CONTINGENCY)

Developer	Independent Estimate (2018 \$)
T018 National Grid/ NY Transco	\$520,156,065
T021 NextEra Energy	\$497,652,781
T025 NYPA / NAT (Base+765 kV)	\$862,968,398
T026 NYPA / NAT (Base)	\$490,654,542
T027 NYPA / NAT (Double Ckt)	\$749,744,787
T028 NYPA / NAT (Enhanced)	\$513,977,889
T031 ITC	\$570,008,025

Client:	NYISO		•
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

SEGMENT B (SUMMARY OF ESTIMATE COMPARISON)

Developer	Independent Estimate (2018 \$)
T019 National Grid/ NY Transco	\$342,347,324
T022 NextEra Energy	\$260,237,664
T023 NextEra Energy (Alternate)	\$299,726,983
T029 NYPA / NAT (Base)	\$298,058,940
T030 NYPA / NAT (Enhanced)	\$312,554,593
T032 ITC	\$386,043,283

SEGMENT B (SUMMARY OF ESTIMATES COMPARISON WITH 30% CONTINGENCY)

Developer	Independent Estimate (2018 \$)
T019 National Grid/ NY Transco	\$445,051,522
T022 NextEra Energy	\$338,308,963
T023 NextEra Energy (Alternate)	\$389,645,078
T029 NYPA / NAT (Base)	\$387,476,622
T030 NYPA / NAT (Enhanced)	\$406,320,971
T032 ITC	\$501,856,268

SEGMENT B (SUMMARY OF ESTIMATES COMPARISON WITH 30% CONTINGENCY and Global Addition of \$113M)

Developer	Independent Estimate (2018 \$)
T019 National Grid/ NY Transco	\$558,051,522
T022 NextEra Energy	\$451,308,963
T023 NextEra Energy (Alternate)	\$502,645,078
T029 NYPA / NAT (Base)	\$500,476,622
T030 NYPA / NAT (Enhanced)	\$519,320,971
T032 ITC	\$614,856,268

Notes:

• Independent Estimates are adjusted to 2018 U.S. Dollars.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

- The estimates include the contingency rate of 30% referenced in the PSC "Order Finding
 Transmission Needs Driven by Public Policy Requirements" (December 17, 2015) and the
 Department of Public Service Staff report.. The review team agrees that level of the contingency is
 sufficient to allow for unanticipated costs and estimating accuracy to forecast a reasonable worst
 case cost.
- The Global Addition includes upgrades to the Rock Tavern 345 kV Substation and the rebuild of the Shoemaker to Sugarloaf 138 kV Substation with a new double circuit 138 kV line and related substation work at Shoemaker, Hartley, South Goshen, Chester, and Sugarloaf at the cost identified by the NYPSC in the AC Transmission Proceedings.

Client:	NYISO	SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

The following tables highlight the significant technical differences between the proposals that drive the differences in estimated costs. Items shown in red would tend to increase costs while those shown in green tend to lower costs.

Comparison of Significant Technical Differences Between Proposals for Segment A						
		Major Technical Differences in Proposals				
Developer	Project	Princetown Substation	Rotterdam Substation	Transmission Lines	Other	
NGRID/Transco	T018 Base	No	Rebuilds with GIS and includes 345 kV Capacitor	Proposed heavier structures than NAT/NYPA, which has a similar design. Concrete foundations on all structures other than H-pole tangent structures.		
NextEra	T021 Base	Includes Princetown at new site. Includes (2) 345-230kV transformers and 230kV yard	No, retains existing Rotterdam	Monopole Design - less ROW required. Concrete Poles		
	T025 765kV	Yes	Rebuilds, no capacitor	Direct embedded tangent structures	765 kV line (converted from 345 kV) and new Knickerbocker 765 kV Substation	
NAT/NYPA	T026 Base	No	Rebuilds, no capacitor			
	T027 Dbl circuit	Yes, is GIS	Rebuilds, no capacitor	Double Circuit Edic to NS		
	T028 Enhanced	Yes	Rebuilds, no capacitor	Same as T026, but adds Princetown Sub		
ITC	T031 Base	Yes -with all 8 lines terminated.	Adds new 345/230 Transformers and retains existing station	Rebuilds #14 line from Princetown to New Scotland. Has approx. 15% more transmission structures		

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO.	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Developer	Project	Major Technical Differences in Proposals			
		Churchtown	Other	Transmission Lines	Other
		Substation	Substations		
NGRID/Transco	T019	Complete	Includes 345 kV	Proposed heavier structures	
	Base	Rebuild	Series Comp. at	than NAT/NYPA. Concrete	
			Knickerbocker,	foundations on all structures	
			Capacitors at		
			P.V., Breakers at		
			Schodak 115 kV		
NextEra	T022	New "North"		Monopole Design - less ROW	
	Base	Churchtown		required. Concrete Poles.	
		and retains		Does not include	
		existing		replacement of 32 miles of	
		Churchtown		Circuits 12 and 13.	
	T000	SS.			
	T023	Similar to T022		Includes replacement of 32	
		but has one less line		miles of 115 kV Churchtown to PV	
		terminal		lopv	
NAT/NYPA	T029	Complete	Breakers at		
NAI/IVIFA	Base	Rebuild	Schodak		
	T030	Complete	Breakers at	Same as T029 but triple	
	1030	Rebuild	Schodak	bundled 345 kV conductor	
		Rebuild	Schouak	barrarea 3 13 KV corradetor	
ITC	T032	Adds breaker		Has approx. 15% more	
	Base	at existing		transmission structures	
		station, and			
		builds new			
		Knickerbocker			
		115 kV			

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO.	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

A summary of the independent cost estimates (raw costs - not including contingency or Global Additions - in \$1,000's) for each Developer's proposal follows:

Segment A Proposals

4.2.4. T018 National Grid/Transco Segment A

	National Grid and NY Transco (T018)					
		Description	Total Amount (In thousand \$)			
	1	Transmission Lines				
	1.1	Clearing & Access	\$52,139			
	1.2	Foundations	\$38,037			
	1.3	Structures	\$67,033			
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$35,990			
	1.5	Insulators, Fitting and Hardwares	\$10,840			
		Subtotal (1)	\$204,039			
	2	Substations				
ب	2.1	Rotterdam Substation	\$48,141			
Cos	2.2	Edic Substation	\$2,117			
Direct Cost	2.3	Princetown Substation	\$0			
Ω	2.4	New Scotland Substation	\$7,037			
	2.5	Porter Substation	\$546			
	2.6	Knickerbocker Substation	\$0			
	2.7	Marcy Substation	\$0			
	2.8	Substation Interconnections	\$8,459			
		Subtotal (2)	\$66,301			
		Total (1+2)	\$270,340			
		Contractors Mark-up (15% of Total 1+2)	\$40,551			
		Total Direct Cost (A)	\$310,891			
	3	Technical Services Costs				
	3.1	Contractor Mobilization / Demobilization	\$2,711			
	3.2	Project Management, Material Handling & Amenities	\$18,402			
Cost	3.3	Engineering	\$18,121			
Indirect Cost	3.4	Testing & Commissioning	\$1,559			
Indir	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$20,144			
	3.6	Compensation for use of NYPA Structures (1 Circuit)	\$8,919			
	3.7	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,719			
		Total Indirect Cost (3)	\$77,575			
		Subtotal Project Cost (B=A+3) 2017 \$	\$388,466			
	4	Network Upgrade Facilities (NUF)				
	4.1	NUF proposed as element of the Project	\$0			
	4.2	NUF identified during Evaluation	\$0			
		Subtotal NUF Cost (C)	\$0			
		Total Project Cost (B+C) 2017 \$	\$388,466			
	Total Project Cost 2018 \$					

Client:	NYISO	SECO.	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.2.5 T021 NextEra Segment A

	NextEra Energy (T021)				
		Description	Total Amount (In thousand \$)		
	1	Transmission Lines			
	1.1	Clearing & Access	\$55,279		
	1.2	Foundations	\$18,318		
	1.3	Structures	\$74,701		
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$38,661		
	1.5	Insulators, Fitting and Hardwares	\$18,280		
		Subtotal (1)	\$205,239		
	2	Substations			
۰	2.1	Rotterdam Substation	\$850		
Cos	2.2	Edic Substation	\$2,153		
Direct Cost	2.3	Princetown Substation	\$40,296		
Ö	2.4	New Scotland Substation	\$6,883		
	2.5	Porter Substation	\$546		
	2.6	Knickerbocker Substation	\$0		
	2.7	Marcy Substation	\$0		
	2.8	Substation Interconnections	\$4,378		
		Subtotal (2)	\$55,107		
		Total (1+2)	\$260,346		
		Contractors Mark-up (15% of Total 1+2)	\$39,052		
		Total Direct Cost (A)	\$299,398		
	3	Technical Services Costs			
	3.1	Contractor Mobilization / Demobilization	\$2,603		
	3.2	Project Management, Material Handling & Amenities	\$18,440		
ost	3.3	Engineering	\$17,327		
ect (3.4	Testing & Commissioning	\$1,435		
Indirect Cost	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$15,672		
=	3.6	Compensation for use of NYPA Structures (1 Circuit)	\$8,919		
	3.7	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,865		
		Total Indirect Cost (3)	\$72,262		
		Subtotal Project Cost (B=A+3) 2017 \$	\$371,660		
	4	Network Upgrade Facilities (NUF)			
	4.1	NUF proposed as element of the Project	\$0		
	4.2	NUF identified during Evaluation	\$0		
		Subtotal NUF Cost (C)	\$0		
		Total Project Cost (B+C) 2017 \$	\$371,660		
		Total Project Cost 2018 \$	\$382,810		

Client:	NYISO	SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.2.6 **T025 NAT/NYPA Segment A + 765 kV**

	NY Power Authority and North American Transmission (T025)				
		Description	Total Amount (In thousand \$)		
	1	Transmission Lines			
	1.1	Clearing & Access	\$54,770		
	1.2	Foundations	\$35,794		
	1.3	Structures	\$67,800		
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$37,454		
	1.5	Insulators, Fitting and Hardwares	\$13,068		
		Subtotal (1)	\$208,887		
	2	Substations			
	2.1	Rotterdam Substation	\$47,629		
Š	2.2	Edic Substation	\$2,153		
Direct Cost	2.3	Princetown Substation	\$12,713		
ä	2.4	New Scotland Substation	\$0		
	2.5	Porter Substation	\$546		
	2.6	Knickerbocker Substation	\$67,167		
	2.7	Marcy Substation	\$17,553		
	2.8	Substation Interconnections	\$8,301		
		Subtotal (2)	\$156,062		
		Total (1+2)	\$364,949		
		Contractors Mark-up (15% of Total 1+2)	\$54,742		
		Total Direct Cost (A)	\$419,691		
	3	Technical Services Costs			
	3.1	Contractor Mobilization / Demobilization	\$3,649		
	3.2	Project Management, Material Handling & Amenities	\$20,483		
Cost	3.3	Engineering	\$26,265		
Indirect Cost	3.4	Testing & Commissioning	\$3,851		
ndir	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$28,307		
_	3.6	Compensation for use of NYPA Structures (1 Circuit)	\$8,919		
	3.7	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$9,589		
		Total Indirect Cost (3)	\$101,064		
		Subtotal Project Cost (B=A+3) 2017 \$	\$520,756		
	4	Network Upgrade Facilities (NUF)			
	4.1	NUF proposed as element of the Project (Marcy and Edic Terminals)	\$7,727		
	4.2	NUF identified during Evaluation (765kV Corona Mitigation)	\$116,005		
		Subtotal NUF Cost (C)	\$123,731		
		Total Project Cost (B+C) 2017 \$	\$644,487		
			, , , , ,		
		Total Project Cost 2018 \$	\$663,822		

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.2.7 T026 NAT/NYPA Segment A Base

		NY Power Authority and North American Transmission (T026)	ı
		Description	Total Amount (In thousand \$)
	1	Transmission Lines	
	1.1	Clearing & Access	\$50,021
	1.2	Foundations	\$23,713
	1.3	Structures	\$60,645
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$35,492
	1.5	Insulators, Fitting and Hardwares	\$11,907
		Subtotal (1)	\$181,777
	2	Substations	
<u></u>	2.1	Rotterdam Substation	\$48,340
Direct Cost	2.2	Edic Substation	\$2,153
irect	2.3	Princetown Substation	\$0
D	2.4	New Scotland Substation	\$5,264
	2.5	Porter Substation	\$546
	2.6	Knickerbocker Substation	\$0
	2.7	Marcy Substation	\$0
	2.8	Substation Interconnections	\$8,301
		Subtotal (2)	\$64,603
		Total (1+2)	\$246,381
		Contractors Mark-up (15% of Total 1+2)	\$36,957
		Total Direct Cost (A)	\$283,338
	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$2,464
	3.2	Project Management, Material Handling & Amenities	\$18,148
Cost	3.3	Engineering	\$16,643
Indirect Cost	3.4	Testing & Commissioning	\$1,523
Indir	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$19,753
	3.6	Compensation for use of NYPA Structures (1 Circuit)	\$8,919
	3.7	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,920
		Total Indirect Cost (3)	\$75,369
		Subtotal Project Cost (B=A+3) 2017 \$	\$358,707
	4	Network Upgrade Facilities (NUF)	
	4.1	NUF proposed as element of the Project (Marcy and Edic Terminals)	\$7,727
	4.2	NUF identified during Evaluation	\$0
		Subtotal NUF Cost (C)	\$7,727
		Total Project Cost (B+C) 2017 \$	\$366,434
		Total Project Cost 2018 \$	\$377,427

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.2.8.**T027 NAT/NYPA Segment A Double Circuit**

	NY Power Authority and North American Transmission (T027)			
		Description	Total Amount (In thousand \$)	
	1	Transmission Lines		
	1.1	Clearing & Access	\$56,801	
	1.2	Foundations	\$31,116	
	1.3	Structures	\$106,166	
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$62,279	
	1.5	Insulators, Fitting and Hardwares	\$26,553	
		Subtotal (1)	\$282,915	
	2	Substations		
t;	2.1	Rotterdam Substation	\$48,340	
COS	2.2	Edic Substation	\$5,333	
Direct Cost	2.3	Princetown Substation	\$29,872	
	2.4	New Scotland Substation	\$7,717	
	2.5	Porter Substation	\$546	
	2.6	Knickerbocker Substation	\$0	
	2.7	Marcy Substation	\$0	
	2.8	Substation Interconnections	\$8,301	
		Subtotal (2)	\$100,109	
		Total (1+2)	\$383,023	
		Contractors Mark-up (15% of Total 1+2)	\$57,453	
		Total Direct Cost (A)	\$440,477	
	3	Technical Services Costs		
	3.1	Contractor Mobilization / Demobilization	\$3,830	
	3.2	Project Management, Material Handling & Amenities	\$22,218	
Cost	3.3	Engineering	\$25,799	
Indirect Cost	3.4	Testing & Commissioning	\$2,557	
Indii	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$26,204	
	3.6	Compensation for use of NYPA Structures (2 Circuit)	\$17,838	
	3.7	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$8,278	
		Total Indirect Cost (3)	\$106,725	
		Subtotal Project Cost (B=A+3) 2017 \$	\$547,201	
	4	Network Upgrade Facilities (NUF)		
	4.1	NUF proposed as element of the Project (Marcy and Edic Terminals)	\$7,727	
	4.2	NUF identified during Evaluation (Everett - Wolf Road 115kV Upgrade)	\$5,000	
		Subtotal NUF Cost (C)	\$12,727	
		Total Project Cost (B+C) 2017 \$	\$559,928	
		Total Project Cost 2018 \$	\$576,726	

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.2.9. T028 NAT/NYPA Segment A Enhanced

	NY Power Authority and North American Transmission (T028)		
		Description	Total Amount (In thousand \$)
	1	Transmission Lines	
	1.1	Clearing & Access	\$50,021
	1.2	Foundations	\$23,713
	1.3	Structures	\$60,645
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$35,494
	1.5	Insulators, Fitting and Hardwares	\$11,907
		Subtotal (1)	\$181,780
	2	Substations	
+	2.1	Rotterdam Substation	\$48,340
Cos	2.2	Edic Substation	\$2,153
Direct Cost	2.3	Princetown Substation	\$12,718
Ö	2.4	New Scotland Substation	\$5,264
	2.5	Porter Substation	\$546
	2.6	Knickerbocker Substation	\$0
	2.7	Marcy Substation	\$0
	2.8	Substation Interconnections	\$8,301
		Subtotal (2)	\$77,322
		Total (1+2)	\$259,101
		Contractors Mark-up (15% of Total 1+2)	\$38,865
		Total Direct Cost (A)	\$297,967
	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$2,591
	3.2	Project Management, Material Handling & Amenities	\$18,417
Cost	3.3	Engineering	\$17,763
ect (3.4	Testing & Commissioning	\$1,840
ndirect Cost	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$20,533
_	3.6	Compensation for use of NYPA Structures (1 Circuit)	\$8,919
	3.7	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$8,096
		Total Indirect Cost (3)	\$78,159
		Subtotal Project Cost (B=A+3) 2017 \$	\$376,125
	4	Network Upgrade Facilities (NUF)	
	4.1	Network upgrade facility proposed as element of the Project (Marcy and Edic Terminals)	\$7,727
	4.2	Network upgrade facility identified during Evaluation	\$0
		Subtotal NUF Cost (C)	\$7,727
		Total Project Cost (B+C) 2017 \$	\$383,852
		Total Project Cost 2018 \$	\$395,368

Client:	NYISO	SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.2.10. **T031 ITC Segment A**

	ITC (T031)			
	Description (
	1	Transmission Lines		
	1.1	Clearing & Access	\$53,084	
	1.2	Foundations	\$43,503	
	1.3	Structures	\$80,620	
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$41,525	
	1.5	Insulators, Fitting and Hardwares	\$18,615	
		Subtotal (1)	\$237,347	
	2	Substations		
±.	2.1	Rotterdam Substation	\$19,805	
Direct Cost	2.2	Edic Substation	\$2,185	
irect	2.3	Princetown Substation	\$27,974	
Ω	2.4	New Scotland Substation	\$3,615	
	2.5	Porter Substation	\$546	
	2.6	Knickerbocker Substation	\$0	
	2.7	Marcy Substation	\$0	
	2.8	Substation Interconnections	\$8,383	
		Subtotal (2)	\$62,507	
		Total (1+2)	\$299,855	
		Contractors Mark-up (15% of Total 1+2)	\$44,978	
		Total Direct Cost (A)	\$344,833	
	3	Technical Services Costs		
	3.1	Contractor Mobilization / Demobilization	\$2,999	
	3.2	Project Management, Material Handling & Amenities	\$18,925	
Cost	3.3	Engineering	\$19,832	
ect (3.4	Testing & Commissioning	\$1,560	
Indirect Cost	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$20,688	
	3.6	Compensation for use of NYPA Structures (1 Circuit)	\$8,919	
	3.7	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,941	
		Total Indirect Cost (3)	\$80,864	
	ı	\$425,697		
	4			
	4.1	NUF proposed as element of the Project	\$0	
	4.2	NUF identified during Evaluation	\$0 \$0	
	Subtotal NUF Cost (C)			
		Total Project Cost (B+C) 2017 \$	\$425,697	
		Total Project Cost 2018 \$	\$438,468	

Client:	NYISO	SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Segment B Proposals

4.2.11. T019 NGRID/Transco Segment B

	National Grid and NY Transco (T019)			
		Description	Total Amount (In thousand \$)	
	1	Transmission Lines		
	1.1	Clearing & Access	\$34,641	
	1.2	Foundations	\$44,405	
	1.3	Structures	\$56,279	
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$30,070	
	1.5	Insulators, Fitting and Hardwares	\$11,200	
		Subtotal (1)	\$176,595	
_ ا	2	Substations		
Direct Cost	2.1	Knickerbocker Substation	\$26,306	
rect	2.2	East Greenbush Substation	\$61	
Θ	2.3	Schodack Substation	\$2,226	
	2.4	Churchtown Substation	\$14,616	
	2.5	Pleasant Valley Substation	\$6,939	
	2.6	Substation Interconnections	\$5,534	
		Subtotal (2)	\$55,682	
		Total (1+2)	\$232,277	
		Contractors Mark-up (15% of Total 1+2)	\$34,842	
		Total Direct Cost (A)	\$267,118	
	3	Technical Services Costs		
	3.1	Contractor Mobilization / Demobilization	\$2,323	
با	3.2	Project Management, Material Handling & Amenities	\$16,172	
Indirect Cost	3.3	Engineering	\$15,527	
rect	3.4	Testing & Commissioning	\$1,324	
Indi	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$16,982	
	3.6	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,428	
		Total Indirect Cost (3)	\$59,755	
		Subtotal Project Cost (B=A+3) 2017 \$	\$326,874	
	4			
	4.1	NUF proposed as element of the Project (Fishkill and New Scotland Terminals)	\$1,085	
	4.2	NUF identified by System Impact Study (Cricket Valley Line Upgrade)	\$4,417	
	Subtotal NUF Cost (C)			
			\$5,502	
		Total Project Cost (B+C) 2017 \$	\$332,376	
		Total Project Cost 2018 \$	\$342,347	

Client:	NYISO	SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.2.12. T022 NextEra Segment B

Transmission Lines		NextEra Energy (T022)			
1.1 Clearing & Access \$333, 1.2 Foundations \$177, 1.3 Structures \$49,6 1.4 Conductor, Shiedwire and Optical Ground Wire \$25,5 1.5 Insulators, Fitting and Hardwares \$9,6 1.5 Insulators, Fitting and Hardwares \$9,6 2.1 Knickerbocker Substation \$15,5 2.2 East Greenbush Substation \$15,6 2.3 Schodack Substation \$14,6 2.5 Pleasant Valley Substation \$2,7 2.6 Substation Interconnections \$6,6 2.7 Contractors Mark-up (15% of Total 1+2) \$26,6 Total (1+2) \$175,5 Contractors Mark-up (15% of Total 1+2) \$26,7 Total Direct Cost (A) \$201,5 3.1 Contractor Mobilization \$14,6 3.2 Project Management, Material Handling & Amenities \$14,6 3.3 Engineering \$11,6 3.4 Testing & Commissioning \$1,5 3.5 Permitting, Real Estate, Sales Tax and Additional Costs \$10,3 3.6 Mitigation \$57,6 Subtotal Project Cost (B=A+3) 2017 \$ \$248,6 4 Network Upgrade Facilities (NUF) \$4,6 NUF proposed as element of the Project \$4,6 Subtotal NUF Cost (C) \$4,6 Subtotal NUF Cos			Description	Total Amount (In thousand \$)	
1.2 Foundations S17,		1	Transmission Lines		
1.3 Structures \$49,0		1.1	Clearing & Access	\$33,783	
1.4 Conductor, Shiedwire and Optical Ground Wire 1.5 Insulators, Fitting and Hardwares Subtotal (1) Substations 2.1 Knickerbocker Substation 2.2 East Greenbush Substation 2.3 Schodack Substation 2.4 Churchtown Substation 2.5 Pleasant Valley Substation 2.6 Substation Interconnections Subtotal (2) Contractors Mark-up (15% of Total 1+2) Contractors Mark-up (15% of Total 1+2) Contractors Mark-up (15% of Total 1+2) Contractor Mobilization \$14,8 3.1 Contractor Mobilization / Demobilization 3.2 Project Management, Material Handling & Amenities 3.3 Engineering 3.4 Testing & Commissioning 3.5 Permitting, Real Estate, Sales Tax and Additional Costs 3.6 Mitigation Total Indirect Cost (3) Subtotal Project Cost (B=A+3) 2017 \$ \$24,6 Subtotal NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,6 Subtotal NUF Cost (C) \$4,6 Subtotal NUF Cost (C)		1.2	Foundations	\$17,271	
1.5 Insulators, Fitting and Hardwares Subtotal (1) \$135,0 2 Substations 2.1 Knickerbocker Substation \$15,0 2.2 East Greenbush Substation \$15,0 2.3 Schodack Substation \$14,0 2.4 Churchtown Substation \$14,0 2.5 Pleasant Valley Substation \$2,0 2.6 Substation Interconnections \$5,0 Total (1+2) \$175,0 Contractors Mark-up (15% of Total 1+2) \$26,0 Total Direct Cost (A) \$201,5 3.1 Contractor Mobilization / Demobilization \$1,1 3.2 Project Management, Material Handling & Amenities \$14,0 3.3 Engineering \$11,0 3.4 Testing & Commissioning \$5,0 3.5 Permitting, Real Estate, Sales Tax and Additional Costs \$10,0 3.6 Mitigation \$57,0 Subtotal Project Cost (B=A+3) 2017 \$ \$248,0 4.1 NUF proposed as element of the Project \$4,0 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,0 Subtotal NUF Cost (C) \$4,0 Substation \$1,0 Substation \$		1.3	Structures	\$49,013	
Subtotal (1) \$135,6 2 Substations 2.1 Knickerbocker Substation \$15,5 2.2 East Greenbush Substation \$15,5 2.3 Schodack Substation \$14,6 2.4 Churchtown Substation \$2,7 2.6 Substation Interconnections \$6,7 Subtotal (2) \$39,6 Total (1+2) \$175,7 Contractors Mark-up (15% of Total 1+2) \$26,7 Total Direct Cost (A) \$201,5 3.1 Contractor Mobilization / Demobilization \$1,1 3.2 Project Management, Material Handling & Amenities \$14,6 3.3 Engineering \$1,1 3.4 Testing & Commissioning \$1,1 3.5 Permitting, Real Estate, Sales Tax and Additional Costs \$10,5 Subtotal Project Cost (B=A+3) 2017 \$ \$248,6 Value of the Project Cost (B=A+3) 2017 \$ \$248,6 Subtotal NUF proposed as element of the Project \$4,2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,4 Subtotal NUF Cost (C) \$4,4 Subtotal NUF Cost (C) \$4,4		1.4	Conductor, Shiedwire and Optical Ground Wire	\$25,925	
2 Substations 2.1 Knickerbocker Substation 2.2 East Greenbush Substation 2.3 Schodack Substation 2.4 Churchtown Substation 2.5 Pleasant Valley Substation 2.6 Substation Interconnections 3 Subtotal (2) 3 Substation Interconnections 4 Subtotal (2) 5 Substation Interconnections 5 Subtotal (1+2) 5 Substation Interconnections 5 Subtotal Interconnections 5 Substation In		1.5	Insulators, Fitting and Hardwares	\$9,609	
2.1 Knickerbocker Substation \$15,0 2.2 East Greenbush Substation \$2.3 Schodack Substation \$2.4 Churchtown Substation \$314,8 2.5 Pleasant Valley Substation \$52,7 2.6 Substation Interconnections \$56,7 Contractors Mark-up (15% of Total 1+2) \$175,2 Contractors Mark-up (15% of Total 1+2) \$26,3 Total Direct Cost (A) \$201,5 3.1 Contractor Mobilization / Demobilization \$1,1 3.2 Project Management, Material Handling & Amenities \$14,3 3.3 Engineering \$11,6 3.4 Testing & Commissioning \$5,1 3.5 Permitting, Real Estate, Sales Tax and Additional Costs \$10,3 3.6 Mitigation \$7,6 Subtotal Project Cost (B=A+3) 2017 \$ \$248,7 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,6 Subtotal NUF Cost (C) \$4,6 Subtotal			Subtotal (1)	\$135,602	
2.3 Schodack Substation 2.4 Churchtown Substation 2.5 Pleasant Valley Substation 2.6 Substation Interconnections Subtotal (2) Subtotal (2) Subtotal (2) Subtotal (1+2) Contractors Mark-up (15% of Total 1+2) Contractors Mark-up (15% of Total 1+2) Total Direct Cost (A) 3.1 Contractor Mobilization / Demobilization 3.2 Project Management, Material Handling & Amenities 3.3 Engineering 3.4 Testing & Commissioning 3.5 Permitting, Real Estate, Sales Tax and Additional Costs 3.6 Mitigation Total Indirect Cost (3) Subtotal Project Cost (B=A+3) 2017 \$ 4.1 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) Subtotal NUF Cost (C) \$4,4		2	Substations		
2.3 Schodack Substation 2.4 Churchtown Substation 2.5 Pleasant Valley Substation 2.6 Substation Interconnections Subtotal (2) Subtotal (2) Subtotal (2) Subtotal (1+2) Contractors Mark-up (15% of Total 1+2) Contractors Mark-up (15% of Total 1+2) Total Direct Cost (A) 3.1 Contractor Mobilization / Demobilization 3.2 Project Management, Material Handling & Amenities 3.3 Engineering 3.4 Testing & Commissioning 3.5 Permitting, Real Estate, Sales Tax and Additional Costs 3.6 Mitigation Total Indirect Cost (3) Subtotal Project Cost (B=A+3) 2017 \$ 4.1 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) Subtotal NUF Cost (C) \$4,4	Cos	2.1	Knickerbocker Substation	\$15,110	
2.3 Schodack Substation 2.4 Churchtown Substation 2.5 Pleasant Valley Substation 2.6 Substation Interconnections Subtotal (2) Subtotal (2) Subtotal (2) Subtotal (1+2) Contractors Mark-up (15% of Total 1+2) Contractors Mark-up (15% of Total 1+2) Total Direct Cost (A) 3.1 Contractor Mobilization / Demobilization 3.2 Project Management, Material Handling & Amenities 3.3 Engineering 3.4 Testing & Commissioning 3.5 Permitting, Real Estate, Sales Tax and Additional Costs 3.6 Mitigation Total Indirect Cost (3) Subtotal Project Cost (B=A+3) 2017 \$ 4.1 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) Subtotal NUF Cost (C) \$4,4	rect	2.2	East Greenbush Substation	\$61	
2.5 Pleasant Valley Substation 2.6 Substation Interconnections Subtotal (2) \$39,6 Total (1+2) \$175,2 Contractors Mark-up (15% of Total 1+2) \$26,2 Total Direct Cost (A) \$201,5 3.1 Contractor Mobilization / Demobilization 3.2 Project Management, Material Handling & Amenities \$14,2 3.3 Engineering \$11,6 3.4 Testing & Commissioning \$50,0 3.5 Permitting, Real Estate, Sales Tax and Additional Costs \$10,3 3.6 Mitigation Total Indirect Cost (3) \$46,7 Subtotal Project Cost (B=A+3) 2017 \$ \$28,7 \$4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,6 Subtotal NUF Cost (C) \$4,6	Ö	2.3	Schodack Substation	\$0	
2.6 Substation Interconnections \$6,5 Subtotal (2) \$39,6 Total (1+2) \$175,7 Contractors Mark-up (15% of Total 1+2) \$26,7 Total Direct Cost (A) \$201,8 3 Technical Services Costs 3.1 Contractor Mobilization / Demobilization \$1,7 3.2 Project Management, Material Handling & Amenities \$14,6 3.3 Engineering \$11,6 3.4 Testing & Commissioning \$9,0 3.5 Permitting, Real Estate, Sales Tax and Additional Costs \$10,6 3.6 Mitigation \$57,6 Subtotal Project Cost (B=A+3) 2017 \$ \$248,7 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project \$4,6 Subtotal NUF Cost (C) \$4,6		2.4	Churchtown Substation	\$14,897	
Subtotal (2) \$39,6 Total (1+2) \$175,7 Contractors Mark-up (15% of Total 1+2) \$26,7 Total Direct Cost (A) \$201,9 3 Technical Services Costs 3.1 Contractor Mobilization / Demobilization \$1,7 3.2 Project Management, Material Handling & Amenities \$14,3 3.3 Engineering \$11,6 3.4 Testing & Commissioning \$9 3.5 Permitting, Real Estate, Sales Tax and Additional Costs \$10,3 3.6 Mitigation \$7,6 Subtotal Project Cost (B=A+3) 2017 \$ \$248,7 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project \$4,4 Subtotal NUF Cost (C) \$4,6 Subtotal NUF Cost (C) \$4,6 Subtotal NUF Cost (C) \$4,6		2.5	Pleasant Valley Substation	\$2,798	
Total (1+2) \$175,2 Contractors Mark-up (15% of Total 1+2) \$26,2 Total Direct Cost (A) \$201,2 3 Technical Services Costs 3.1 Contractor Mobilization / Demobilization \$1,7 3.2 Project Management, Material Handling & Amenities \$14,3 3.3 Engineering \$11,6 3.4 Testing & Commissioning \$5 3.5 Permitting, Real Estate, Sales Tax and Additional Costs \$10,3 3.6 Mitigation \$77,6 Total Indirect Cost (3) \$46,7 Subtotal Project Cost (B=A+3) 2017 \$ \$248,2 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,4 Subtotal NUF Cost (C) \$4,4		2.6	Substation Interconnections	\$6,769	
Contractors Mark-up (15% of Total 1+2) \$26,2 Total Direct Cost (A) \$201,2 3 Technical Services Costs 3.1 Contractor Mobilization / Demobilization \$1,7 3.2 Project Management, Material Handling & Amenities \$14,3 3.3 Engineering \$11,6 3.4 Testing & Commissioning \$50 3.5 Permitting, Real Estate, Sales Tax and Additional Costs \$10,3 3.6 Mitigation \$7,6 Total Indirect Cost (3) \$46,7 Subtotal Project Cost (B=A+3) 2017 \$ \$248,3 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,4 Subtotal NUF Cost (C) \$4,4			Subtotal (2)	\$39,635	
Total Direct Cost (A) \$201,5 3 Technical Services Costs 3.1 Contractor Mobilization / Demobilization \$1,7 3.2 Project Management, Material Handling & Amenities \$14,8 3.3 Engineering \$11,6 3.4 Testing & Commissioning \$5 3.5 Permitting, Real Estate, Sales Tax and Additional Costs \$10,3 3.6 Mitigation \$7,6 Total Indirect Cost (3) \$46,7 Subtotal Project Cost (B=A+3) 2017 \$ \$248,2 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project \$4,2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,4 Subtotal NUF Cost (C) \$4,4			Total (1+2)	\$175,237	
3. Technical Services Costs 3.1 Contractor Mobilization / Demobilization 3.2 Project Management, Material Handling & Amenities 3.3 Engineering 3.4 Testing & Commissioning 3.5 Permitting, Real Estate, Sales Tax and Additional Costs 3.6 Mitigation 57,6 Subtotal Project Cost (B=A+3) 2017 \$ \$248,2 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,4 Subtotal NUF Cost (C) \$4,4			Contractors Mark-up (15% of Total 1+2)	\$26,286	
3.1 Contractor Mobilization / Demobilization 3.2 Project Management, Material Handling & Amenities 3.3 Engineering 3.4 Testing & Commissioning 3.5 Permitting, Real Estate, Sales Tax and Additional Costs 3.6 Mitigation Total Indirect Cost (3) \$46,7 Subtotal Project Cost (B=A+3) 2017 \$ \$248,7 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,4 Subtotal NUF Cost (C) \$4,4			Total Direct Cost (A)	\$201,523	
3.2 Project Management, Material Handling & Amenities 3.3 Engineering 3.4 Testing & Commissioning 3.5 Permitting, Real Estate, Sales Tax and Additional Costs 3.6 Mitigation Subtotal Project Cost (B=A+3) 2017 \$ 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) Subtotal NUF Cost (C) \$4,4		3	Technical Services Costs		
3.3 Engineering \$11,6 3.4 Testing & Commissioning \$51,6 3.5 Permitting, Real Estate, Sales Tax and Additional Costs \$10,3 3.6 Mitigation \$7,6 Subtotal Project Cost (B=A+3) 2017 \$ \$248,2 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,4 Subtotal NUF Cost (C) \$4,4		3.1	Contractor Mobilization / Demobilization	\$1,752	
3.6 Mitigation \$7,6 Total Indirect Cost (3) \$46,7 Subtotal Project Cost (B=A+3) 2017 \$ \$248,2 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,4 Subtotal NUF Cost (C) \$4,4	+:	3.2	Project Management, Material Handling & Amenities	\$14,399	
3.6 Mitigation \$7,6 Total Indirect Cost (3) \$46,7 Subtotal Project Cost (B=A+3) 2017 \$ \$248,2 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,4 Subtotal NUF Cost (C) \$4,4	Ç	3.3	Engineering	\$11,654	
3.6 Mitigation \$7,6 Total Indirect Cost (3) \$46,7 Subtotal Project Cost (B=A+3) 2017 \$ \$248,2 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,4 Subtotal NUF Cost (C) \$4,4	irec	3.4	Testing & Commissioning	\$920	
Subtotal Project Cost (B=A+3) 2017 \$ \$248,2 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,4 Subtotal NUF Cost (C) \$4,4	lud	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$10,365	
Subtotal Project Cost (B=A+3) 2017 \$ \$248,2 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,4 Subtotal NUF Cost (C) \$4,4		3.6	Mitigation	\$7,628	
4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) Subtotal NUF Cost (C) \$4,4			Total Indirect Cost (3)	\$46,718	
4.1 NUF proposed as element of the Project 4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,4 Subtotal NUF Cost (C) \$4,4		Subtotal Project Cost (B=A+3) 2017 \$ \$248			
4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) \$4,4 Subtotal NUF Cost (C) \$4,4		4	Network Upgrade Facilities (NUF)		
Subtotal NUF Cost (C) \$4,4		4.1	NUF proposed as element of the Project	\$0	
		4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade)			
Total Project Cost (B+C) 2017 \$ \$252,6			Subtotal NUF Cost (C)	\$4,417	
		Total Project Cost (B+C) 2017 \$			
Total Project Cost 2018 \$ \$260,2			Total Project Cost 2018 \$	\$260,238	

Client:	NYISO	SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.2.13. T023 NextEra Segment B – Alt

	NextEra Energy (T023)				
		Description	Total Amount (In thousand \$)		
	1	Transmission Lines			
	1.1	Clearing & Access	\$34,215		
	1.2	Foundations	\$21,257		
	1.3	Structures	\$67,904		
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$30,529		
	1.5	Insulators, Fitting and Hardwares	\$11,349		
		Subtotal (1)	\$165,255		
4	2	Substations			
Direct Cost	2.1	Knickerbocker Substation	\$15,110		
rect	2.2	East Greenbush Substation	\$61		
Ö	2.3	Schodack Substation	\$0		
	2.4	Churchtown Substation	\$13,040		
	2.5	Pleasant Valley Substation	\$2,798		
	2.6	Substation Interconnections	\$6,473		
		Subtotal (2)	\$37,482		
		Total (1+2)	\$202,736		
		Contractors Mark-up (15% of Total 1+2)	\$30,410		
		Total Direct Cost (A)	\$233,147		
	3	Technical Services Costs			
	3.1	Contractor Mobilization / Demobilization	\$2,027		
, t	3.2	Project Management, Material Handling & Amenities	\$16,697		
Indirect Cost	3.3	Engineering	\$13,253		
irec	3.4	Testing & Commissioning	\$874		
lnd	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$12,954		
	3.6	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,628		
		Total Indirect Cost (3)	\$53,433		
		Subtotal Project Cost (B=A+3) 2017 \$	\$286,580		
	4 Network Upgrade Facilities (NUF)				
	4.1 NUF proposed as element of the Project				
	4.2	\$4,417			
	4.2 NUF identified by System Impact Study (Cricket Valley Line Upgrade) Subtotal NUF Cost (C)				
		Total Project Cost (B+C) 2017 \$	\$290,997		
		Total Project Cost 2018 \$	\$299,727		

Client:	NYISO	SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.2.14. T029 NAT/NYPA Segment B Base

	NY Power Authority and North American Transmission (T029)			
		Description	Total Amount (In thousand \$)	
	1	Transmission Lines		
	1.1	Clearing & Access	\$34,313	
	1.2	Foundations	\$17,769	
	1.3	Structures	\$52,916	
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$30,069	
	1.5	Insulators, Fitting and Hardwares	\$11,442	
		Subtotal (1)	\$146,509	
_ ا	2	Substations		
Direct Cost	2.1	Knickerbocker Substation	\$14,982	
rect	2.2	East Greenbush Substation	\$61	
Ö	2.3	Schodack Substation	\$2,226	
	2.4	Churchtown Substation	\$15,925	
	2.5	Pleasant Valley Substation	\$2,798	
	2.6	Substation Interconnections	\$5,495	
		Subtotal (2)	\$41,487	
		Total (1+2)	\$187,996	
		Contractors Mark-up (15% of Total 1+2)	\$28,199	
		Total Direct Cost (A)	\$216,196	
	3	Technical Services Costs		
	3.1	Contractor Mobilization / Demobilization	\$1,880	
+:	3.2	Project Management, Material Handling & Amenities	\$15,363	
Indirect Cost	3.3	Engineering	\$12,524	
irect	3.4	Testing & Commissioning	\$973	
lnd	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$14,136	
	3.6	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,628	
		Total Indirect Cost (3)	\$52,504	
		Subtotal Project Cost (B=A+3) 2017 \$	\$268,700	
	4	Network Upgrade Facilities (NUF)		
	4.1	NUF proposed as element of the Project (Middletown Line and Terminal)	\$16,261	
	4.2	\$4,417		
		NUF identified by System Impact Study (Cricket Valley Line Upgrade) Subtotal NUF Cost (C)	\$20,678	
		Total Project Cost (B+C) 2017 \$	\$289,378	
		Total Project Cost 2018 \$	\$298,059	

Client:	NYISO	SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.2.15. T030 NAT/NYPA Segment B Enhanced

	NY Power Authority and North American Transmission (T030)				
		Description	Total Amount (In thousand \$)		
	1	Transmission Lines			
	1.1	Clearing & Access	\$34,378		
	1.2	Foundations	\$18,131		
	1.3	Structures	\$56,775		
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$35,969		
	1.5	Insulators, Fitting and Hardwares	\$11,553		
		Subtotal (1)	\$156,807		
ید	2	Substations			
Direct Cost	2.1	Knickerbocker Substation	\$14,982		
irect	2.2	East Greenbush Substation	\$61		
Δ	2.3	Schodack Substation	\$2,226		
	2.4	Churchtown Substation	\$16,010		
	2.5	Pleasant Valley Substation	\$2,778		
	2.6	Substation Interconnections	\$6,312		
		Subtotal (2)	\$42,369		
		Total (1+2)	\$199,176		
		Contractors Mark-up (15% of Total 1+2)	\$29,876		
		Total Direct Cost (A)	\$229,052		
	3	Technical Services Costs			
	3.1	Contractor Mobilization / Demobilization	\$1,992		
st	3.2	Project Management, Material Handling & Amenities	\$15,576		
Š	3.3	Engineering	\$13,164		
ndirect Cost	3.4	Testing & Commissioning	\$972		
n Pi	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$14,389		
	3.6	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,628		
		Total Indirect Cost (3)	\$53,721		
		Subtotal Project Cost (B=A+3) 2017 \$	\$282,773		
	4	Network Upgrade Facilities (NUF)			
	4.1	NUF proposed as element of the Project (Middletown Line and Terminal)	\$16,261		
	4.2	NUF identified by System Impact Study (Cricket Valley Line Upgrade)	\$4,417		
		Subtotal NUF Cost (C)	\$20,678		
		Total Project Cost (B+C) 2017 \$	\$303,451		
		Total Project Cost 2018 \$	\$312,555		

Client:	NYISO	SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.2.16. **T032 ITC Segment B**

	ITC (T032)			
		Description	Total Amount (In thousand \$)	
	1	Transmission Lines		
	1.1	Clearing & Access	\$35,253	
	1.2	Foundations	\$82,888	
	1.3	Structures	\$67,205	
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$33,769	
	1.5	Insulators, Fitting and Hardwares	\$16,154	
		Subtotal (1)	\$235,269	
st	2	Substations		
Direct Cost	2.1	Knickerbocker Substation	\$21,112	
rect	2.2	East Greenbush Substation	\$0	
ä	2.3	Schodack Substation	\$0	
	2.4	Churchtown Substation	\$1,977	
	2.5	Pleasant Valley Substation	\$3,101	
	2.6	Substation Interconnections	\$5,764	
		Subtotal (2)	\$31,954	
		Total (1+2)	\$267,224	
		Contractors Mark-up (15% of Total 1+2)	\$40,084	
		Total Direct Cost (A)	\$307,307	
	3	Technical Services Costs		
	3.1	Contractor Mobilization / Demobilization	\$2,672	
st	3.2	Project Management, Material Handling & Amenities	\$18,202	
ndirect Cost	3.3	Engineering	\$16,986	
rec	3.4	Testing & Commissioning	\$755	
ndi	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$16,833	
	3.6	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,628	
		Total Indirect Cost (3)	\$63,075	
		Subtotal Project Cost (B=A+3) 2017 \$	\$370,382	
	4 Network Upgrade Facilities (NUF)			
	4.1	NUF proposed as element of the Project	\$0	
	4.2	NUF identified by System Impact Study (Cricket Valley Line Upgrade)	\$4,417	
		Subtotal NUF Cost (C)	\$4,417	
			4074 700	
		Total Project Cost (B+C) 2017 \$	\$374,799	
		Total Project Cost 2018 \$	\$386,043	

Client:	NYISO	SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.3. **Risk**

The review team completed an evaluation of the potential risks associated with the proposals and has summarized the significant risks, including those previously identified by each Developer. The review team's evaluation was based on the team's collective experience with transmission line and substation projects in New York State.

The significant drivers to the project risks considered were:

- Article VII review approval process and potential environmental issues
- Procurement of major equipment
- Real Estate acquisition
- Construction

The most significant risks are summarized below. The review team also recommends that a Risk Management Program be implemented in the execution of the project or projects selected by the NYISO. A Risk Management Program will highlight items such as safety management, materials management, construction operations, outage planning, QA/QC program, field inspection, and environmental controls that are critical in identifying both risk areas and specific mitigation strategies. It is also important that Risk Management become a living project component that is constantly monitored and updated as the project progresses.

4.3.1. Common Risks

The risks common to all proposals are summarized below. The costs for these risks are adequately covered by the project contingency.

Common Risks to all Proposals

#	Risk Title	Description	Comment
1	Article VII	Article VII review approval process	Developer needs early
	Certificate	could take longer than estimated in	outreach with all stakeholders
		schedule for a variety of reasons	and to prepare a
		(i.e., additional special studies	comprehensive application.
		requested by involved agencies,	Developer's experience with
		lack of stakeholder consensus).	Article VII process will be
			essential.

Client:	NYISO			
Project:	roject: AC Transmission Project Evaluation		SECO SUBSTATION ENGINEERING	
Subject:	COMPA			
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

2	Other	Federal agency and other	Developer needs early
2		,	· · · · · · · · · · · · · · · · · · ·
	environmental	approvals could take longer than	outreach with Federal agencies
	approvals	the state Article VII process. This	and others to prepare
		could become more likely if	comprehensive applications
		cutbacks of funding to regulatory	and obtain approvals in parallel
		agencies affect employee staffing.	with Article VII process.
3	Public Opposition	If local groups or citizens oppose	Developer needs early
		the project, it could cause	outreach to solicit public
		significant delays especially if	involvement, incorporate
		opposition results in litigation.	public concerns during
			planning stage before project
			execution, build mitigation into
			design, and foster community
			buy-in.
			·
4	EM&CP Approval	EM&CP approval process could	Developer needs to prepare a
		take longer than estimated by the	comprehensive EM&CP that
		Developer in schedule.	will meet regulatory agency
			requirements. Developer's
			experience with DPS, DEC, Ag.
			& Markets, and other agency
			requirements will be essential.
5	Environmental	Environmental studies could find	Studies need to be scheduled
	Study Findings	critical habitat, wetlands,	and conducted early in the
		agricultural lands, rare, threatened	process to ensure design and
		or endangered species, cultural or	the EM&CP adequately
		archeological sites, etc. that could	minimizes, mitigates or avoids
		require re-routing of lines or	environmental impacts.
		special conditions such as seasonal	
		restriction on construction. The	
		time of year when studies can be	
		conducted could also affect project	
		schedule. Access to structures in	
		Black Creek Marsh may require	
		design or construction	

Client:	NYISO		
Project: AC Transmission Project Evaluation		SECO SUBSTATION ENGINEERING	
		COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

		modifications.	
6	Unknown environmental conditions discovered during construction	During construction, the Developer could encounter previously unidentified issues, such as contaminated soil, archeological remains, rare, threatened or endangered species, unidentified utilities, etc.	Environmental monitor will be on-site during construction. Such findings could require relocating and redesigning structures resulting in construction delays.
7	Violation of environmental requirements during construction	Construction activities could result in violations of environmental permits/approvals due to inadequate control measures or not following plans (i.e., storm water discharges) resulting in stop work notice.	The risk can be mitigated by following Best Management Practices and ensure crews are adequately trained to implement EM&CP and other environmental permit/approval requirements.
8	Gas pipeline mitigation	Transmission line crossings and paralleling of natural gas pipelines may require grounding or other mitigation, and natural gas pipeline entities are increasingly aware of this issue and demanding mitigation to be installed by transmission utilities.	The cost of gas pipeline mitigation studies and mitigation requirements are relatively small compared to the overall project cost. The risk can be mitigated by a study to determine the exact location of gas pipeline(s) and recommend mitigation requirements.
9	Transmission line crossings	Crossing of other transmission and distribution lines: creates additional schedule risk, to the extent an outage needs to be scheduled; creates additional operating risk, to the extent a single event could remove both	This risk is mitigated by early identification of all necessary crossings. For example, this risk is best minimized during construction through frequent coordination with the existing transmission line owner and installation of protective netting and other protection

Client:	NYISO			
Project:	roject: AC Transmission Project Evaluation		SECO SUBSTATION ENGINEERING	
Subject:	COMPA			
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

		elements from services; and creates cost risk to the extent unexpected costs such as raising, lowering, or relocating an existing line is required.	prior to pulling sock line and conductor. This risk can be mitigated through the development of High Risk Evolution Plans for transmission crossings, which include, at a minimum, coordination with all involved utility owners, contractors, construction and project management planning sessions and a detailed schedule of events for crossing.
10	Highway, Rail Road & Navigable Waterway crossings	Crossing of Highways, Rail Roads, and Navigable Waterways creates additional risk to the project schedule and cost, depending on the requirements imposed during construction.	The risks can be mitigated by early identification of all necessary crossings. Prior to and during construction this risk is best minimized through frequent coordination with those responsible for the operation of the facilities being crossed. Develop High Risk Evolution Plans for all major highway, RR or waterway crossings which include at a minimum coordination with RR, flaggers, contractors, Local and state police / highway patrol, construction and project management planning sessions and a detailed schedule of events for crossing.
11	Material Shortages	Material and equipment shortages and delayed shipments.	The risks can be mitigated by proper quality assurance during engineering to insure adequate

Client:	NYISO		
Project: AC Transmission Project Evaluation		SECO SUBSTATION ENGINEERING	
Subject: Report Draft		COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

			quantities ordered. Procurement with sufficient period of float between scheduled deliveries from suppliers and when material is needed for construction and proactive monitoring and expediting.
12	Operational Issues	Need to maintain resources for emergency response for the life of the facility.	This risk can be mitigated by maintaining a local staff, contracting with emergency restoration provider in the project area, and entering into mutual assistance agreements with neighboring utilities.
13	Need for additional System Upgrade Facilities	Completion of the detailed studies, such as fault studies and protection coordination for the project, will normally be completed during the SIS, the Facilities Study and detailed engineering.	The system modifications proposed by the Developers may require replacement of breakers and protection equipment on the existing system. Additional thermal overloads may be identified.
14	Catastrophic HSE / Safety Event	High voltage transmission and substation work is inherently dangerous. Accidents that occur on projects of this nature frequently result in serious injury or fatality. Catastrophic safety events such as loss of life can result in extended work stoppages across all stages of the project.	This risk can be mitigated through a robust Project and Site Safety Program implementation. Project Orientations which verify training of ALL project personnel. Extensive Health, Safety and Environmental (HSE)management presence during construction to ensure compliance.

Client:	NYISO			
Project:	roject: AC Transmission Project Evaluation		SECO SUBSTATION ENGINEERING	
Subject:	COMPA			
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

15	Construction	Compliance with project	This risk can be mitigated by
	Quality Control	specifications and quality can be	detailed Quality
		compromised if installations are	Control/Quality Assurance
		not properly monitored. Structure	Plans during early planning
		misalignments, improper structure	stages and in a detailed Project
		framing, use of incorrect materials,	Execution Plan; ensuring
		etc. can result in re-work,	inspection processes are in
		unnecessary delays and project	place for all components of
		overruns. Larger and complex	construction; and considering
		projects that require greater	the utilization of third-party
		resources are more susceptible to	inspectors to ensure
		Quality Control Issues. If the	compliance.
		NYPSC cited a contractor as being	
		in non-compliance, the result can	
		be extended work stoppages.	
16	Change Order	Unresolved Change Orders may	This risk can be mitigated by
	Management -	result in delays to construction and	including detailed Change
	Construction	impact the schedule.	Order Management Plan and
	Impacts		process in the Project
			Execution Plan in order to
			mitigate potential delays.

4.3.2. Project-Specific Risks

Client:	NYISO		
Project: AC Transmission Project Evaluation		SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Summarized below are the review team's most significant risk findings specific to each proposal. This is not all inclusive but is intended to highlight those items that pose the most critical risks to the completion of the projects.

4.3.2.1. **SEGMENT A**:

T018	018 – New York Energy Solution Segment A - National Grid/Transco			
#	Risk Title	Description	Comment	
1	Design Concern - New Scotland Substation (National Grid Owned)	A significant issue is the lack of space in Control House #3 i.e., the most up-to-date building of the three existing control houses.	To keep the new 345 kV panels with the existing panel line up will likely require expanding the building to the east where the cable trench entrances and a communication tower is located. (While the Developer did not include expanding the control house in its estimate, the review team's independent cost estimate includes this scope of work.)	
2	Obtaining Site Control and Property Acquisition	National Grid owns all property required for new facilities. De minimis property may need to be acquired for access and construction marshalling yards.	National Grid's control of the property obviates any significant issue. Property will ultimately be transferred to the NY Transco.	
3	Design Concern - EMF	The existing corridor (345 kV Lines #14 and #18, and 115 kV Line #13) between Princetown Junction and New Scotland Substation is currently estimated to exceed NPSC guidelines for EMF levels. The proposed design improves the condition, but EMF levels are still estimated to exceed the	EMF levels will have to be addressed during detailed engineering and may result in purchasing EMF easements from property owners along the ROW between Princetown and New Scotland. (The review team's independent cost estimate includes the cost for	

Client:	NYISO	SECO.	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4	Re-use of existing structures	During construction the Developer could discover that structures originally planned for re-use are in worse condition than expected or inadequate and require repair or replacement.	This is considered a critical risk for all Segment A proposals with the exception of T027 (NAT/NYPA double circuit proposal) due to the elctromagnitic fields from the new circuit configuration interacting with the existing circuits which is anticipated to reduce the EMF levels at the edge of the ROW due to the EMF cancelling effect of that design. The Developer proposes reusing 92 structures on the double circuit Edic/Fraser and 230 kV line # 30 beginning at Edic/Porter and continuing east for 12.6 miles. A cursory visual inspection indicate the structures are in good physical condition. Thorough inspection and analysis of existing structures is advisable prior to completing final design.
T021		Segment A – NextEra	
#	Risk Title	Description	Comment
1	Design Concern - New Scotland Substation (National Grid Owned)	A significant issue is the lack of space in Control House #3-i.e., the most up-to-date building of the three existing control houses.	To keep the new 345 kV panels with the existing panel line up will likely require expanding the building to the east where the cable trench entrances and a communication tower is

Client:	NYISO		
Project: AC Transmission Project Evaluation		SECO SUBSTATION ENGINEERING	
Subject: Report Draft		COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

2	Obtaining Site Control and Property Acquisition	Proposal utilizes existing ROW owned by National Grid. De minimis property may need to be acquired for access and construction marshalling yards. Additionally, Developer must procure property for Princetown substation.	located. (While the Developer did not include expanding the control house in its estimate, the review team's independent cost estimate includes this scope of work.) Negotiations with the incumbent utility could result in potential cost and schedule implications. The review team's schedule provides two years for negotiation and procurement of ROW beginning with the notice to proceed. This should be sufficient time making this a potential but low risk. The estimate contingency should be sufficient to cover potential increased costs which is considered a low probability. For Princetown Substation, Developer has already obtained a purchase option on property for its proposed location.
3	Construction Concern – Use of Concrete Poles	Developer proposes using concrete poles for the majority of transmission line structures and has considered some of the concerns associated with transportation, public protection and community impact.	Developer needs to evaluate each proposed structure location during detailed engineering to verify delivery and installation feasibility, and develop a robust risk mitigation plan taking account of the project risks, planning and clear mitigation for problem areas.

Client:	NYISO	SECO.	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft	COMPANY	<i>3000</i> - 2
Document No.:	AC Transmission Report 05 25 18	Revision:	6

			Issues encountered with delivery or installation of these poles may result in schedule delays and increased costs.
4	Design Concern - EMF	The existing corridor (345 kV Lines #14 and #18, and 115 kV Line #13) between Princetown Junction and New Scotland Substation is currently estimated to exceed NPSC guidelines for EMF levels. The proposed design improves the condition, but EMF levels are still estimated to exceed the guidelines.	EMF levels will have to be addressed during detailed engineering and may result in purchasing EMF easements from property owners along the right-of-way between Princetown and New Scotland. (The review team's independent cost estimate includes the cost for additional EMF easements.) This is considered a critical risk for all Segment A proposals with the exception of T027 (NAT/NYPA double circuit proposal) due to the elctromagnitic fields from the new circuit configuration interacting with the existing circuits which is anticipated to reduce the EMF levels at the edge of the ROW due to the EMF cancelling effect of that design.
5	Re-use of existing structures	During construction, the Developer could discover that structures originally planned for re-use are in worse condition than expected or inadequate and	The Developer proposes reusing 92 structures on the double circuit Edic/Fraser and 230 kV line #30 beginning at Edic/Porter and continuing east
		require repair or replacement.	for 12.6 miles. A cursory visual inspection indicates the structures are in good physical

Client:	NYISO			
Project:	Project: AC Transmission Project Evaluation		SECO.	
Subject:	Report Draft	C O M P A N Y		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

	condition. Thorough inspection
	and analysis of existing
	structures is advisable prior to
	completing final design.

T025	T025 – Segment A + 765 kV Proposal - North American Transmission/NYPA			
#	Risk Title	Description	Comment	
1	Design Concern - Rotterdam Substation (National Grid Owned)	Proposed substation layout is directly over two existing gas transmission lines and is likely to be resisted by the owner of that facility.	Relocation of the existing gas transmission lines is likely necessary and the review team's analysis indicates that the lines could be relocated within the National Grid property. There is a risk that the new substation may need to be moved to an alternate location within the existing National Grid property or de minimis additional easement be acquired. (The review team's independent cost estimate includes the cost for relocating these gas transmission lines.)	
2	Property Acquisition Concern - Princetown Substation	NAT/NYPA's proposed design for Princetown Substation appears to just fit within the existing National Grid ROW.	If the final design requires purchasing additional property it will likely be difficult and increase cost. (The review team's independent cost estimate does not include the cost for additional property/easements.) This is considered one of the highest risks for this proposal	

Client:	NYISO	SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

3	Design Concern –	Proposed substation is located	Public opposition to this site
3	Princetown	close to existing homes and	may result in delays associated
	Substation	_	· · · · · · · · · · · · · · · · · · ·
		buildings. These property owners	with obtaining regulatory
	location (on	may oppose the siting of a	approvals and increased costs.
	National Grid	substation near their property due	The risks include: 1. the
	Owned ROW)	to concerns with visual impact,	potential need for an
		noise, security lights, etc.	alternative design such as GIS
		Construction on ROW with	or alternative site may need to
		existing lines will require	be identified, such as a location
		coordination with incumbent	midway between the Junction
		utility to maintain clearances.	and Rotterdam which has
			adequate space and would not
			be as close to existing buildings
			or roads; and 2.short term
			outages and/or temporary
			bypasses of existing lines may
			be required during
			construction.
4	Design Concern -	As proposed, the Developer's	A dropped conductor could trip
	Marcy 765 kV	layout has a single span of	out the south main bus as well
	Substation (NYPA	conductors crossing the bus	as the bus between the new
	Owned)	between the new 765 kV breaker	breaker and breaker 7202.
	·	and the south main bus, and	
		between the new breaker and	
		breaker 7202.	
5	Design Concern -	A significant issue is the lack of	To keep the new 345 kV panels
	New Scotland	space in Control House #3—i.e.,	with the existing panel line up
	Substation	the most up-to-date building of	will likely require expanding the
	(National Grid	the three existing control houses.	building to the east where the
	Owned)		cable trench entrances and a
			communication tower are
			located. (While the Developer
			did not include expanding the
			control house in its estimate,
			the review team's independent
			cost estimate includes this

Client:	NYISO	SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

			scope of work.)
6	Obtaining Site Control and Property Acquisition	Proposal utilizes existing ROW owned by National Grid. De minimis property may need to be acquired for access and construction marshalling yards.	Negotiations with the incumbent utility could result in potential cost and schedule implications. The review team's schedule provides two years for negotiation and procurement of ROW beginning with the notice to proceed. This should be sufficient time making this a potential but low risk. The estimate contingency should be sufficient to cover potential increased costs which is considered a low probability.
7	Design Concern - EMF	The existing corridor (345 kV Lines #14 and #18, and 115 kV Line #13) between Princetown Junction and New Scotland Substation is currently estimated to exceed NYS PSC guidelines for EMF levels. Additionally, conversion of the 345 kV line between Marcy substation and proposed Knickerbocker substation to 765 kV is estimated to likely increase EMF levels beyond NYPSC guidelines.	EMF levels will have to be addressed during detailed engineering and may result in purchasing EMF easements totaling approximately 76 acres from property owners along the ROW between Marcy and New Scotland. (The review team's independent cost estimate includes the cost for additional EMF easements.) This is considered a critical risk for all Segment A proposals with the exception of T027 (NAT/NYPA double circuit proposal) due to the

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO.	
Subject:	Report Draft	COMPANY	<i>3000</i> - 2
Document No.:	AC Transmission Report 05 25 18	Revision:	6

		new circuit configuration interacting with the existing circuits which is anticipated to reduce the EMF levels at the edge of the ROW due to the EMF cancelling effect of that design.
- 765 kV Transmission Line	New York State's only 765 kV transmission line between Massena and Marcy was completed in 1975 amidst heavy public opposition. As such, it is highly likely that converting the 345 kV line between Marcy substation and the proposed Knickerbocker substation will be controversial due to increased EMF, noise from corona and increased structure heights, and result in delays associated with obtaining regulatory approvals and EMF easements likely based on public opposition. New structures in the 2.5 mile section of 765 kV line range in height from 130 to 165 feet. In the section of the line where there is the existing 115 kV transmission line, the four new structures will be approximately 80 feet taller than the existing structures.	This risk could be mitigated with a targeted and well-planned public outreach effort. However, negative public opposition may result in delays associated with the project's schedule and affect the project's cost and the ability to obtain required EMF easements.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO.	
Subject:	Report Draft	COMPANY	<i>3000</i> - 2
Document No.:	AC Transmission Report 05 25 18	Revision:	6

9	Design Concern -	The 345 kV line between Marcy	Design clearances will have to
	765 kV	substation and the proposed	be verified against current
	Transmission	Knickerbocker substation was	standards during detailed
	Line	designed and constructed to 765	design. Also, the condition of
		kV standards over 40 years ago.	insulators and hardware will
		, ,	have to be evaluated due to
			age. Changing out hardware
			due to age or modifications to
			reduce corona could have
			significant cost and schedule
			implications. (The review
			team's independent cost
			estimate includes an allowance
			for potential remedial work
			that may be identified.)
10	Re-use of existing	During construction the Developer	The Developer proposes re-
	structures	could discover that structures	using 92 structures on the
		originally planned for re-use are in	double circuit Edic/Fraser and
		worse condition than expected or	230 kV line #30 beginning at
		inadequate and require repair or	Edic/Porter and continuing east
		replacement.	for 12.6 miles. A cursory visual
			inspection indicate the
			structures are in good physical
			condition. Thorough inspection
			and analysis of existing
			structures is advisable prior to
			completing final design.

T026 – Segment A Base Proposal - North American Transmission/NYPA			
#	# Risk Title Description Comment		Comment
1	Design Concern - Rotterdam	Proposed substation layout is directly over two existing gas	Relocation of the existing gas transmission lines is likely
	Substation (National Grid	transmission lines and is likely to be resisted by the owner of that	necessary, and the review team's analysis indicates that

Client:	NYISO		•
Project:	AC Transmission Project Evaluation	SECO.	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

	Owned)	facility.	the lines could be relocated within the National Grid property. There is a risk that the new substation may need to be moved to an alternate location within the existing National Grid property or de minimis additional easement be acquired. (The review team's independent cost estimate includes the cost for relocating these gas transmission lines.)
2	Design Concern - New Scotland Substation (National Grid Owned)	A significant issue is the lack of space in Control House #3 i.e., the most up-to-date building of the three existing control houses.	To keep the new 345 kV panels with the existing panel line up will likely require expanding the building to the east where the cable trench entrances and a communication tower are located. (While the Developer did not include expanding the control house in its estimate, the review team's independent cost estimate includes this scope of work.)
3	Obtaining Site Control and Property Acquisition	Proposal utilizes existing ROW owned by National Grid. De minimis property may need to be acquired for access and construction marshalling yards.	Negotiations with the incumbent utility could result in potential cost and schedule implications. The review team's schedule provides two years for negotiation and procurement of ROW beginning with the notice to proceed. This should be sufficient time making this a potential but low risk. The

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO.	
Subject:	Report Draft	COMPANY	<i>3000</i> - 2
Document No.:	AC Transmission Report 05 25 18	Revision:	6

			estimated contingency should be sufficient to cover potential increased costs which is considered a low probability.
4	Design Concern - EMF	The existing corridor (345 kV Lines #14 and #18, and 115 kV line #13) between Princetown Junction and New Scotland Substation is currently estimated to exceed NYS PSC guidelines for EMF levels. The proposed design improves the condition, but EMF levels are still estimated to exceed the guidelines.	EMF levels will have to be addressed during detailed engineering and may result in purchasing EMF easements from property owners along the right-of-way between Princetown and New Scotland. (The review team's independent cost estimate includes the cost for additional EMF easements.) This is considered a critical risk for all Segment A proposals with the exception of T027 (NAT/NYPA double circuit proposal) due to the elctromagnitic fields from the new circuit configuration interacting with the existing circuits which is anticipated to reduce the EMF levels at the edge of the ROW due to the EMF cancelling effect of that design.
5	Re-use of existing structures	During construction the Developer could discover that structures originally planned for re-use are in worse condition than expected or inadequate and require repair or replacement.	The Developer proposes reusing 92 structures on the double circuit Edic/Fraser and 230 kV Line 30 beginning at Edic/Porter and continuing east for 12.6 miles. A cursory visual inspection indicate the structures are in good physical

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

	condition. Thorough inspection
	and analysis of existing
	structures is advisable prior to
	completing final design.

	T027 – Segment A	Nouble Circuit Proposal - North Amo	erican Transmission/NYPA
#	Risk Title	Description	Comment
1	Design Concern - Rotterdam Substation (National Grid Owned)	Proposed substation layout is directly over two existing gas transmission lines and is likely to be resisted by the owner of that facility.	Relocation of the existing gas transmission lines is likely necessary, and the review team's analysis indicates that the lines could be relocated within the National Grid property. There is a risk that the substation may need to be moved to an alternate location within the existing National Grid property or de minimis additional easement be acquired. (The review team's independent cost estimate includes the cost for relocating these gas transmission lines.)
2	Property Acquisition Concern - Princetown Substation	NAT/NYPA's proposed design for Princetown Substation appears to just fit within the existing National Grid ROW.	If required by the final design purchasing additional property will likely be difficult and increase cost. (The review team's independent cost estimate does not include the cost for additional property/easements.)

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	<i>5000</i> - 2
Document No.:	AC Transmission Report 05 25 18	Revision:	6

ſ	3	Design Concern –	Proposed GIS substation is located	Public opposition to this site
	3	Princetown	close to existing homes and	may result in delays associated
		Substation	buildings. These property owners	with obtaining regulatory
				approvals and increased costs.
		location (on	may oppose the siting of a	• •
		National Grid	substation near their property due	An alternative site may need to
		Owned ROW)	to concerns with visual impact,	be identified such as a location
			noise, security lights, etc.	midway between the Junction
			Construction on BOM with	and Rotterdam which has
			Construction on ROW with	adequate space and would not
			existing lines will require	be as close to existing buildings
			coordination with incumbent	or roads, minimizing the visual
			utility to maintain clearances.	impact and possible opposition.
				The risk for this proposal is
				somewhat minimized by the
				proposed GIS design which has
				a smaller footprint and less
				visual impact. Short term
				outages and/or temporary
				bypasses of existing lines may
				be required during
L				construction.
	4	Design Concern -	A significant issue is the lack of	To keep the new 345 kV panels
		New Scotland	space in Control House #3—i.e.,	with the existing panel line up
		Substation	the most up-to-date building of	will likely require expanding the
		(National Grid	the three existing control houses.	building to the east where the
		Owned)		cable trench entrances and a
				communication tower are
				located. (While the Developer
				did not include expanding the
				control house in its estimate,
				the review team's independent
				cost estimate includes this
				scope of work.)
				Scope of workly
L			1	

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

5	Obtaining Site	Proposal utilizes existing ROW	Negotiations with the
	Control and	owned by National Grid.	incumbent utility could result in
		owned by National Grid.	· ·
	Property	De minimis property may need to	potential cost and schedule
	Acquisition	be acquired for access and	implications.
		construction marshalling yards.	The review team's schedule
			provides two years for
			negotiation and procurement
			of ROW beginning with the
			notice to proceed. This should
			be sufficient time making this a
			potential but low risk. The
			estimate contingency should be
			sufficient to cover potential
			increased costs which is
			considered a low probability.
6	Design Concern -	Based on preliminary calculations	EMF levels will have to be
	EMF	provided by the Developer, it is	confirmed during detailed
	LIVII	possible that EMF design levels	engineering. It is anticipated
		will be within NYPSC guidelines.	that the double circuit
		will be within ivil be guidelines.	alternative will reduce EMF
			levels to below NYS PSC
			guideline levels on the
			Princetown Junction to New
			Scotland corridor. There is a
			risk that the EMF levels will
			exceed NYS PSC levels after
			final studies and may result in
			purchasing EMF easements
			from property owners along
			the right-of-way between
			Princetown and New Scotland
			octoviii and ivew scotland
7	Re-use of existing	During construction the Developer	The Developer proposes re-
	structures	could discover that structures	using 92 structures on the
		originally planned for re-use are in	double circuit Edic/Fraser and
		worse condition than expected or	230 kV line #30 beginning at

Client:	NYISO	SECO.	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft	COMPANY	<i>3000</i> - 2
Document No.:	AC Transmission Report 05 25 18	Revision:	6

inadequate and require repair or	Edic/Porter and continuing east
replacement.	for 12.6 miles. A cursory visual
	inspection indicate the
	structures are in good physical
	condition. Thorough inspection
	and analysis of existing
	structures is advisable prior to
	completing final design.

#	Risk Title	Description	Comment
1	Design Concern -	Proposed substation layout is	Relocation of the existing gas
	Rotterdam	directly over two existing gas	transmission lines is likely, and
	Substation	transmission lines and is likely to	the review team's analysis
	(National Grid	be resisted by the owner of that	indicates that the lines could be
	Owned)	facility.	relocated within the National
			Grid property. There is a risk
			that the substation may need
			to be moved to an alternate
			location within the existing
			National Grid propertyor de
			minimis additional easement be
			acquired. (The review team's
			independent cost estimate
			includes the cost for relocating
			these gas transmission lines.)
2	Property	NAT/NYPA's proposed design for	If required by the final design
	Acquisition	Princetown Substation appears to	purchasing additional property
	Concern -	just fit within the existing National	will likely be difficult and
	Princetown	Grid rights-of-way.	increase cost. (The review
	Substation		team's independent cost
			estimate does not include the
			cost for additional

Client:	NYISO	SECO.	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft	COMPANY	<i>3000</i> - 2
Document No.:	AC Transmission Report 05 25 18	Revision:	6

			property/easements.)
3	Design Concern – Princetown Substation location (on National Grid Owned ROW)	Proposed substation is located close to existing homes and buildings. These property owners may oppose the siting of a substation near their property due to concerns with visual impact, noise, security lights, etc. Construction on ROW with existing lines will require coordination with incumbent utility to maintain clearances.	Public opposition to this site may result in delays associated with obtaining regulatory approvals and increased costs. An alternative design such as GIS or an alternative site may need to be identified such as a location midway between the Junction and Rotterdam, which has adequate space and would not be as close to existing buildings or roads minimizing the visual impact and possible opposition. Short term outages and/or temporary bypasses of existing lines may be required during construction.
4	Design Concern - New Scotland Substation (National Grid Owned)	A significant issue is the lack of space in Control House #3, the most up-to-date building of the three existing control houses.	To keep the new 345 kV panels with the existing panel line up will likely require expanding the building to the east where the cable trench entrances and a communication tower are located. (While the Developer did not include expanding the control house in its estimate, the review team's independent cost estimate will include this scope of work.)
5	Obtaining Site Control and Property Acquisition	Proposal utilizes existing ROW owned by National Grid. De minimis property may need to be acquired for access and	Negotiations with the incumbent utility could result in potential cost and schedule implications.

Client:	NYISO	SECO.	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

		construction marshalling yards.	The review team's schedule provides two years for negotiation and procurement of ROW beginning with the notice to proceed. This should be sufficient time making this a potential but low risk. The estimate contingency should be sufficient to cover potential increased costs which is considered a low probability.
6	Design Concern - EMF	The existing corridor (which has 345 kV lines #14 and #18, and 115 kV line #13) between Princetown Junction and New Scotland Substation is currently estimated to exceed NYS PSC guidelines for EMF levels. The proposed design improves the condition, but EMF levels are still estimated to exceed the guidelines.	EMF levels will have to be addressed during detailed engineering and may result in purchasing EMF easements from property owners along the right-of-way between Princetown and New Scotland. (The review team's independent cost estimate includes the cost for additional EMF easements.) This is considered a critical risk for all Segment A proposals with the exception of T027 (NAT/NYPA double circuit proposal) due to the elctromagnitic fields from the new circuit configuration interacting with the existing circuits which is anticipated to reduce the EMF levels at the edge of the ROW due to the EMF cancelling effect of that design.
7	Re-use of existing	During construction the Developer	The Developer proposes re-

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

structures	could discover that structures	using 92 structures on the
	originally planned for re-use are in	double circuit Edic/Fraser and
	worse condition than expected or	230 kV line #30 beginning at
	inadequate and require repair or	Edic/Porter and continuing east
	replacement.	for 12.6 miles. A cursory visual
		inspection indicate the
		structures are in good physical
		condition. Thorough inspection
		and analysis of existing
		structures is advisable prior to
		completing final design.

T031	T031 – 16NYPP1-1A AC Transmission – ITC			
#	Risk Title	Description	Comment	
1	Reliability Concern - New Scotland Substation (National Grid Owned)	ITC proposes connecting a new 345 kV transmission line into New Scotland by adding a 345 kV terminal structure, circuit breaker with disconnect switches connected to the main bus.	While this may be the simplest arrangement, it also provides the least amount of reliability. With this configuration, a failed breaker or a bus fault will cause a loss of the following: New 345 kV line to Princetown (formally line14 to Edic), 345 kV Line 93 to Leeds, 345 kV Line 2 to Alps, Bank #2, Capacitor Banks #1 and #3. The review team recognizes that a failed breaker on any of the existing lines, capacitor banks or Bank #2 will also cause a similar loss to those stated. However, the proposed arrangement does not improve the reliability and will	

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

			exacerbate the situation.
2	Design Concern - New Scotland Substation (National Grid Owned)	A significant issue is the lack of space in Control House #3, the most up-to-date building of the three existing control houses.	To keep the new 345 kV panels with the existing panel line up will likely require expanding the building to the east where the cable trench entrances and a communication tower are located. (While the Developer did not include expanding the control house in its estimate, the review team's independent cost estimate includes this scope of work.)
3	Design Concern - Rotterdam Substation (National Grid Owned)	Proposed substation layout is directly over an existing gas transmission line and is likely to be resisted by the owner of that facility.	Relocation of the existing gas transmission line is likely, and the review team's analysis indicates that the lines could be relocated within the National Grid property. There is a risk that the substation location may need to be moved within the existing National Grid property or de minimis additional easement be acquired. (The review team's independent cost estimate includes the cost for relocating this gas transmission line.)
4	Reliability Concern - Rotterdam Substation (National Grid Owned)	ITC proposes a straight bus arrangement by installing two new 345 kV T-line terminals with circuit breakers, disconnect switches, a 345 kV tie breaker, and two 345 kV – 230 kV transformers. Each transformer will have a 230 kV	With this configuration, and because the 230 kV lines #30 and #31 are eliminated, a failed 230 kV breaker or a 230 kV bus fault will cause a loss of the entire 230 kV yard.

Client:	NYISO			
Project:	Project: AC Transmission Project Evaluation		SECO SUBSTATION ENGINEERING	
		COMPANY		
Document No.: AC Transmission Report 05 25 18		Revision:	6	

		circuit breaker connected to the 230 kV main bus.	
5	Property Acquisition Concern - Princetown Substation	ITC's proposed design for Princetown Substation will not fit within the existing National Grid ROW.	Purchasing additional property will likely be difficult and increase the cost of the project. (The review team's independent cost estimate includes the cost for additional property/easements.)
6	Design Concern – Princetown Substation location (on National Grid Owned ROW)	Proposed substation is located close to existing homes and buildings. These property owners may oppose the siting of a substation near their property due to concerns with visual impact, noise, security lights, etc. Construction on ROW with existing lines will require coordination with incumbent utility to maintain clearances.	Public opposition to this site may result in delays associated with obtaining regulatory approvals and increased costs. An alternative design such as GIS or alternative site may need to be identified, such as a location midway between the Junction and Rotterdam which has adequate space and would not be as close to existing buildings or roads Short term outages and/or temporary bypasses of existing lines will be required during construction.
7	Obtaining Site Control and Property Acquisition	Proposal utilizes existing ROW owned by National Grid. De minimis property may need to be acquired for access and construction marshalling yards.	Negotiations with the incumbent utility could result in potential cost and schedule implications. The review team's schedule provides two years for negotiation and procurement of ROW beginning with the notice to proceed. This should be sufficient time making this a

Client:	NYISO			
Project:	Project: AC Transmission Project Evaluation		SECO SUBSTATION ENGINEERING	
Subject: Report Draft		COMPANY	<i>3000</i> - 2	
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

			potential but low risk. The estimate contingency should be sufficient to cover potential increased costs which is considered a low probability.
8	Design Concern - EMF	The Developer's calculations for EMF are currently estimated to exceed NYPSC guidelines for entire section.	EMF calculations will need to be confirmed during detail engineering. It is possible that EMF easements will need to be purchased for the entire ROW between Edic and New Scotland. At a minimum, easements will likely be required between Princetown and New Scotland. (The review team's independent cost estimate includes the cost for additional EMF easements.) This is considered a critical risk for all Segment A proposals with the exception of T027 (NAT/NYPA double circuit proposal) due to the elctromagnitic fields from the new circuit configuration interacting with the existing circuits which is anticipated to reduce the EMF levels at the edge of the ROW due to the EMF cancelling effect of that design.
9	Re-use of existing structures	During construction the Developer could discover that structures originally planned for re-use are in worse condition than expected or	The Developer proposes re- using 92 structures on the double circuit Edic/Fraser and 230 kV line #30 beginning at

Client:	NYISO		
Project:	Project: AC Transmission Project Evaluation		
Subject:	COMPANY		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

inadequate and require repair or	Edic/Porter and continuing east
replacement.	for 12.6 miles. A cursory visual
	inspection indicate the
	structures are in good physical
	condition. Thorough inspection
	and analysis of existing
	structures is advisable prior to
	completing final design.

Client:	NYISO		
Project:	Project: AC Transmission Project Evaluation		
Subject:	COMPANY		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

SEGMENT B

T019	T019 – New York Energy Solution Segment B - National Grid/Transco			
#	Risk Title	Description	Comment	
1	FAA requirements	Additional requirements may be required to accommodate air traffic.	Green Acres Airport is located about 700 feet east of the proposed ROW. The risks are mitigated by early and frequent coordination with the FAA and the local airport.	
2	Design Concern - Pleasant Valley Substation (Con Ed Owned)	The Developer proposes terminating the new 345 kV line from Knickerbocker Substation in Bay #2 of Pleasant Valley Substation, which could require Network Upgrade Facilities to expand the Pleasant Valley Substation depending on the outcome of the NYISO's 2017 Class Year Study.	This will likely require adding two 345 kV breakers with disconnect switches to Bay #1. The Cricket Valley line will be moved from Bay #2 to Bay #1. Bay #2 will then be available for the new line from Knickerbocker. Depending on the outcome of the 2017 Class Year Study, the substation yard may have to be expanded to the southwest to accommodate one of the proposed 345 kV capacitor banks. (This additional work is not included in the independent estimates.)	
3	Design Concern - Pleasant Valley Substation (Con Ed Owned)	Lack of space for additional panels in the control house.	The control house will need to be expanded to accommodate the additional panels. This is more apparent with the additional line for the Cricket Valley Project. (Expansion of the control house is included in the independent estimates.)	

Client:	NYISO			
Project:	oject: AC Transmission Project Evaluation		SECO.	
Subject: Report Draft		COMPANY		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

4	Construction Concern - Churchtown Substation (NYSEG Owned)	Developer proposes constructing a new 115 kV, three-bay, breaker-and-a-half substation on the same property currently occupied by NYSEG's Churchtown Substation, eventually demolishing the entire existing substation.	The existing Churchtown substation feeds a radial 115 kV line to NYSEG's Craryville and Klinekill Substations. Construction sequencing will have to be developed to maintain service to this line
			during construction of the new Churchtown substation.
5	Visual Concern – Proposed Transmission Lines	Potential of public opposition due to visual impact. NYPSC has encouraged that new structures have minimal increase in height.	Need to address during detail engineering. The Developer's proposal has the same number of structures as the existing line but 48% of them have an increase in height between 5 ft. and 20 ft. and 5% have a height increase of more than 20 ft. This increases the siting risk of this proposal.
6	Obtaining Site Control and Property Acquisition	National Grid owns all property required for new facilities. De minimis property may need to be acquired for access and construction marshalling yards.	National Grid's control of the property obviates any significant issue. Property will ultimately be transferred to the NY Transco.

Client:	NYISO	SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject: Report Draft		COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

T022	2 – Enterprise Line: S	Segment B – NextEra	
#	Risk Title	Description	Comment
1	FAA requirements	Additional requirements may be required to accommodate air traffic.	Green Acres Airport is located about 700 feet east of the proposed ROW. The risks are mitigated by early and frequent coordination with the FAA and the local airport.
2	Construction Concern – Use of Concrete Poles	Developer proposes using concrete poles for the majority of transmission line structures and has considered some of the concerns associated with transportation, public protection and community impact.	Developer needs to evaluate each proposed structure location during detailed engineering to verify delivery and installation feasibility, and develop a robust risk mitigation plan taking account of the project risks, planning and clear mitigation for problem areas.
3	Design Concern - Pleasant Valley Substation (Con Ed Owned)	The Developer proposes terminating the new 345 kV line from Knickerbocker Substation in Bay #2 of Pleasant Valley Substation, which could require Network Upgrade Facilities to expand the Pleasant Valley Substation depending on the outcome of the NYISO's 2017 Class Year Study.	This will likely require adding two 345 kV breakers with disconnect switches to Bay #1. The Cricket Valley line will be moved from Bay #2 to Bay #1. Bay #2 will then be available for the new line from Knickerbocker. (This additional work is not included in the independent estimates.)
4	Design Concern - Pleasant Valley Substation (Con Ed Owned)	Lack of space for additional panels in the control house.	The control house will need to be expanded to accommodate the additional panels. This is more apparent with the additional line for the Cricket Valley Project. (Expansion of

Client:	NYISO			
Project:	t: AC Transmission Project Evaluation			
Subject:	Report Draft	C O M P A N Y		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

			the control house is included in the independent estimates.)
5	Construction Concern - Churchtown Substation (NYSEG Owned)	Developer proposes constructing a new 115 kV, two-bay, breaker-and-a-half substation north of NYSEG's Churchtown Substation. NYSEG's substation will remain in service upon completion of the AC Transmission Project.	Additional property may be required to accommodate storm water management system.
6	Visual Concern – Proposed Transmission Lines	Potential of public opposition due to visual impact. NYPSC has encouraged that new structures have minimal increase in height.	Need to address during detail engineering. The Developer's proposal has the same number of structures as the existing line but 73% of them have an increase in height between 5 ft. and 20 ft. This increases the siting risk of this proposal.
7	Obtaining Site Control and Property Acquisition	Proposal utilizes existing ROW owned by National Grid. De minimis property may need to be acquired for access and construction marshalling yards.	Negotiations with the incumbent utility could result in potential cost and schedule implications. The review team's schedule provides two years for negotiation and procurement of ROW beginning with the notice to proceed. This should be sufficient time making this a potential but low risk. The estimate contingency should be sufficient to cover potential increased costs which is considered a low probability.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

	-	Segment B Alt. – NextEra	
#	Risk Title	Description	Comment
1	FAA requirements	Additional requirements may be required to accommodate air traffic	Green Acres Airport is located about 700 feet east of the proposed ROW. The risks are mitigated by early and frequent coordination with the FAA and the local airport.
2	Construction Concern – Use of Concrete Poles	Developer proposes using concrete poles for the majority of transmission line structures and has considered some of the concerns associated with transportation, public protection and community impact.	Developer needs to evaluate each proposed structure location during detailed engineering to verify delivery and installation feasibility, and develop a robust risk mitigation plan taking account of the project risks, planning and clear mitigation for problem areas.
3	Design Concern - Pleasant Valley Substation (Con Ed Owned)	The Developer proposes terminating the new 345 kV line from Knickerbocker Substation in Bay #2 of Pleasant Valley Substation, which could require Network Upgrade Facilities to expand the Pleasant Valley Substation depending on the outcome of the NYISO's 2017 Class Year Study.	This will likely require adding two 345 kV breakers with disconnect switches to Bay #1. The Cricket Valley line will be moved from Bay #2 to Bay #1. Bay #2 will then be available for the new line from Knickerbocker. (This additional work is not included in the independent estimates.)
4	Design Concern - Pleasant Valley Substation (Con Ed Owned)	Lack of space for additional panels in the control house.	The control house will need to be expanded to accommodate the additional panels. This is more apparent with the additional line for the Cricket Valley Project. (Expansion of

Client:	NYISO			
Project:	Project: AC Transmission Project Evaluation		SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	C O M P A N Y		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

			the control house is included in the independent estimates.)
5	Construction Concern - Churchtown Substation (NYSEG Owned)	Developer proposes constructing a new 115 kV, two-bay, breaker-and-a-half substation north of NYSEG's Churchtown Substation. NYSEG's substation will remain in service upon completion of the AC Transmission Project.	Additional property may be required to accommodate storm water management system.
6	Visual Concern – Proposed Transmission Lines	Potential of public opposition due to visual impact. NYS PSC has encouraged that new structures have minimal increase in height.	Need to address during detail engineering. The Developer's proposal has the same number of structures as the existing line but 83% of them have an increase in height between 5-ft. and 20-ft. This increases the siting risk of this proposal.
7	Obtaining Site Control and Property Acquisition	Proposal utilizes existing ROW owned by National Grid. De minimis property may need to be acquired for access and construction marshalling yards.	Negotiations with the incumbent utility could result in potential cost and schedule implications. The review team's schedule provides two years for negotiation and procurement of ROW beginning with the notice to proceed. This should be sufficient time making this a potential but low risk. The estimate contingency should be sufficient to cover potential increased costs which is considered a low probability.

Client:	NYISO			
Project:	Project: AC Transmission Project Evaluation		SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	C O M P A N Y		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

#	Risk Title	Description	Comment
1	FAA requirements	Additional requirements may be required to accommodate air traffic	Green Acres Airport is located about 700 feet east of the proposed ROW. The risks are mitigated by early and frequent coordination with the FAA and the local airport.
2	Design Concern - Pleasant Valley Substation (Con Ed Owned)	The Developer proposes terminating the new 345 kV line from Knickerbocker Substation in Bay #2 of Pleasant Valley Substation, which could require Network Upgrade Facilities to expand the Pleasant Valley Substation depending on the outcome of the NYISO's 2017 Class Year Study.	This will likely require adding two 345 kV breakers with disconnect switches to Bay #1. The Cricket Valley line will be moved from Bay #2 to Bay #1. Bay #2 will then be available for the new line from Knickerbocker. (This additional work is not included in the independent estimates.)
3	Design Concern - Pleasant Valley Substation (Con Ed Owned)	Lack of space for additional panels in the control house.	The control house will need to be expanded to accommodate the additional panels. This is more apparent with the additional line for the Cricket Valley Project. (Expansion of the control house is included in the independent estimates.)
4	Visual Concern – Proposed Transmission Lines	Potential of public opposition due to visual impact. NYS PSC has encouraged that new structures have minimal increase in height.	Need to address during detail engineering. The Developer's proposal has the same number of structures as the existing line but 14% of them have an increase in height between 5-ft. and 20-ft. This increases the

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO.	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

			siting risk of this proposal.
5	Obtaining Site Control and Property Acquisition	Proposal utilizes existing ROW owned by National Grid. De minimis property may need to be acquired for access and construction marshalling yards.	Negotiations with the incumbent utility could result in potential cost and schedule implications. The review team's schedule provides two years for negotiation and procurement of ROW beginning with the notice to proceed. This should be sufficient time making this a potential but low risk. The estimate contingency should be sufficient to cover potential increased costs which is considered a low probability.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

T030	T030 – Segment B Enhanced Base Proposal - North American Transmission/NYPA			
#	Risk Title	Description	Comment	
1	FAA requirements	Additional requirements may be required to accommodate air traffic	Green Acres Airport is located about 700 feet east of the proposed ROW. The risks are mitigated by early and frequent coordination with the FAA and the local airport.	
2	Design Concern - Pleasant Valley Substation (Con Ed Owned)	The Developer proposes terminating the new 345 kV line from Knickerbocker Substation in Bay #2 of Pleasant Valley Substation, which could require Network Upgrade Facilities to expand the Pleasant Valley Substation depending on the outcome of the NYISO's 2017 Class Year Study.	This will likely require adding two 345 kV breakers with disconnect switches to Bay #1. The Cricket Valley line will be moved from Bay #2 to Bay #1. Bay #2 will then be available for the new line from Knickerbocker. (This additional work is not included in the independent estimates.)	
3	Design Concern - Pleasant Valley Substation (Con Ed Owned)	Lack of space for additional panels in the control house.	The control house will need to be expanded to accommodate the additional panels. This is more apparent with the additional line for the Cricket Valley Project. (Expansion of the control house is included in the independent estimates.)	
4	Visual Concern – Proposed Transmission Lines	Potential of public opposition due to visual impact. NYS PSC has encouraged that new structures have minimal increase in height.	Need to address during detail engineering. The Developer's proposal has the same number of structures as the existing line but 14% of them have an increase in height between 5-ft.	

Client:	NYISO	SECO		
Project:	AC Transmission Project Evaluation			
Subject:	Report Draft			
Document No.: AC Transmission Report 05 25 18		Revision:	6	

			and 20-ft. This increases the siting risk of this proposal.
5	Obtaining Site Control and Property Acquisition	Proposal utilizes existing ROW owned by National Grid. De minimis property may need to be acquired for access and construction marshalling yards.	Negotiations with the incumbent utility could result in potential cost and schedule implications. The review team's schedule provides two years for negotiation and procurement of ROW beginning with the notice to proceed. This should be sufficient time making this a potential but low risk. The estimate contingency should be sufficient to cover potential increased costs which is considered a low probability.

T032 – 16NYPP1-1B AC Transmission - ITC						
#	Risk Title	Description	Comment			
1	FAA requirements	Additional requirements may be required to accommodate air traffic	Green Acres Airport is located about 700 feet east of the proposed ROW. The risks are mitigated by early and frequent coordination with the FAA and the local airport.			
2	Design Concern - Pleasant Valley Substation (Con Ed Owned)	The Developer proposes terminating the new 345 kV line from Knickerbocker Substation in Bay #2 of Pleasant Valley Substation, which could require Network Upgrade Facilities to	This will likely require adding two 345 kV breakers with disconnect switches to Bay #1. The Cricket Valley line will be moved from Bay #2 to Bay #1. Bay #2 will then be available for			

Client:	NYISO			
Project:	AC Transmission Project Evaluation		SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY		
Document No.:	AC Transmission Report 05 25 18	Revision: 6		

		expand the Pleasant Valley Substation depending on the	the new line from Knickerbocker. (This additional
		outcome of the NYISO's 2017 Class	work is not included in the
		Year Study.	independent estimates.)
		-	,
3	Design Concern -	Lack of space for additional panels	The control house will need to
	Pleasant Valley	in the control house.	be expanded to accommodate
	Substation (Con		the additional panels. This is
	Ed Owned)		more apparent with the
			additional line for the Cricket
			Valley Project. (Expansion of the control house is included in
			the independent estimates.)
4	Visual Concern –	Potential of public opposition due	ITC's proposal has a less
	Proposed	to visual impact. NYS PSC has	significant structure height
	Transmission	encouraged that new structures	increase than other developer
	Lines	have minimal increase in height.	proposals (46% with 5-ft. or less
			increase and only 1% with 5-ft.
			to 10-ft. increase) but increases
			the total number of structures
			by 15%. The increase in the
			total number of structures
			could increase the risk of
			adverse impact on visual and
			agricultural resources. Impact
			of structure placement will
			have to be determined during
			detailed engineering.
			This is considered one of the
5	Obtaining Site	Proposal utilizes existing ROW	highest risks for this proposal. Negotiations with the
	Control and	owned by National Grid.	incumbent utility could result in
	Property	owned by National Olid.	potential cost and schedule
	Acquisition	De minimis property may need to	implications.
		be acquired for access and	
		construction marshalling yards.	The review team's schedule
			provides two years for

Client:	NYISO	SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft	COMPANY	
Document No.:	Occument No.: AC Transmission Report 05 25 18		6

			negotiation and procurement of ROW beginning with the notice to proceed. This should be sufficient time making this a potential but low risk. The estimate contingency should be sufficient to cover potential increased costs which is considered a low probability.
Con	nsmission	Developer proposes using triple circuit structures between Churchtown Substation and Pleasant Valley Substation. The proposed structures are in a two-pole configuration with one 345 kV circuit attached horizontally to an upper crossarm and two 115 kV circuits attached side by side horizontally to a lower crossarm.	The proposed compact design conserves space within the transmission corridor but creates an operations concern. Future maintenance of the transmission circuits and associated structures may depend on the outage availability of all the circuits attached. A maintenance plan must be developed prior to putting this configuration into service.

4.4. Expandability

In evaluating the expandability of a proposed regulated Public Policy Transmission Project, the NYISO OATT section 31.4.8.1.3 prescribed the following: "The ISO will consider the impact of the proposed project on future construction. The ISO will also consider the extent to which any subsequent expansion will continue to use this proposed project within the context of system expansion."

The review team conducted an initial review of the expansion capability of the Developers' proposals. The review centered predominately on the Developers' claimed expandability as presented in their proposals:

Client:	NYISO			
Project:	ACTIONS IN TOJECT Evaluation		CO	
Subject:	Report Draft	COMPANY		
Document No.:	AC Transmission Report 05 25 18	Revision: 6		

4.4.1. Items that may be considered common to all proposals:

Many of the more common design approaches that could be employed on a transmission project to afford future expandability are not applicable since the objective of this project is to utilize existing rights-of-way (ROW). Much of the existing transmission ROW will be fully utilized in construction of this project but there is some opportunity for expansion.

Potential transmission expansion includes the following:

- All proposals for Segment A involve replacement of the existing Porter-Rotterdam 230 kV circuits, line #30 and line #31, with an Edic to New Scotland 345 kV line. This will provide space for future use of the existing ROW and may allow for the addition of another circuit from Edic/Porter to Princetown Junction within the existing ROW, based on current electrical clearance requirements. Any proposal to construct an additional circuit is subject to the applicable permitting and regulatory requirements, such as public acceptance of visual impact, EMF compliance, compatibility with existing gas facilities and regulatory approvals.
 - For the base proposals, NextEra affords the most efficient use of the ROW by utilizing 100 ft. single-pole delta structures. National Grid/Transco, NAT/NYPA and ITC propose using 65-85 ft. H-pole structures, which requires the use of more space within the ROW. In all base proposals, there may be adequate space in the ROW remaining for an additional 345 kV line. However, a compact transmission line configuration may be required to fit a future 345 kV line in the remaining ROW.
 - All alternative proposals may also provide adequate space within the ROW for a future line with the exception of NAT/NYPA T027. The NAT/NYPA T027 double circuit line proposal utilizes all 4 existing circuit positions for the first 12 miles out of Edic.
 - During detailed engineering the placement of structures should be optimized to maximize the remaining ROW.
 - Refer to the table below for summary of the ROW requirements for each Developer's projects in the Edic to Princetown Junction corridor.

Client:	NYISO	SECO SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft	COMPANY	
Document No.: AC Transmission Report 05 25 18		Revision:	6

Sun	Summary of ROW Requirements for Segment-A Projects From Edic to Princetown Junction						
Sector	Corridor Width (ft.)	Developer	Proposal	Proposed Structure Configuration	ROW Reqd. (ft.)	ROW Corridor Remaining (ft.)	Remarks
		NGRID/ Transco	T018	1 Ckt – 345 kV H-pole Horizontal	120	80	Sufficient reserved ROW for expansion utilizing Compact Vertical Configuration
Edic		NextEra	T021	1 Ckt – 345 kV Single Pole Delta	80	120	Sufficient reserved ROW for expansion utilizing H-pole Horizontal Configuration
SS to Prince -town Jct	200	NAT/NYPA	T026 & T028	1 Ckt – 345 kV H-pole Horizontal	140	60	Sufficient reserved ROW for expansion utilizing Compact Vertical Configuration
		NAT/NYPA	T027	2 Ckt – 345 kV Single Pole Vertical	105	95	Sufficient reserved ROW for expansion utilizing Single Pole Delta Configuration with exception of the first 12.6 miles out of Edic
		ITC	T031	1 Ckt – 345 kV H-pole Horizontal	100	100	Sufficient reserved ROW for expansion utilizing Single Pole Delta Configuration

- The new Edic to New Scotland line for Segment A could be designed for double circuit capability similar to the NAT/NYPA T027 double circuit line proposal.
- Transmission lines could be constructed with higher ampacity conductor or reconductored in the future.
- Most proposals provide for future expansion of substations or could be expanded to provide for additional line terminals and transformers in the new substations.

4.4.2. Items specific to each proposal:

Potential transmission expansion for each Developer's specific proposal is discussed in the summary table below.

Client:	NYISO	SECO SUBSTATION ENGINEERING	
Project:	AC Transmission Project Evaluation		
Subject:	Report Draft	COMPANY	
Document No.: AC Transmission Report 05 25 18		Revision:	6

Significant i	Significant items specific to each developer: Potential Transmission Expansion for Segment A					
Proposal	Segment	Developer	Transmission Line Expandability	Substation Expandability		
T018 - New York Energy Solution Segment A	A	National Grid/Transco	No significant expandability to NGRID's proposal beyond the common items mentioned above.	At Rotterdam Substation, the 345 kV gas-insulated substation design provides one open 345 kV bay position and room for additional 345 kV bays. Design also provides ability to connect one additional 345 kV/115 kV transformer to support the local transmission system. Lastly, the design allows for the rebuilding of the 115 kV straight bus configuration into a breaker-and-a-half configuration.		
T021 - Enterprise Line: Segment A	A	NextEra	No significant expandability to NextEra's proposal beyond the common items mentioned above.	NextEra is proposing a "Princetown" substation approximately 3 miles east of the junction and 2 miles west of Rotterdam Substation on a new greenfield site. The design provides two open 345 kV bay positions and room on the property for adding bays. NextEra's proposal maintains the existing and aging Rotterdam 230 kV yard intact.		
T025 - Segment A + 765 kV Proposal	A	NYPA/North American Transmission	Including the common items above, the Developer states that converting the	At Rotterdam, rebuilding and relocating the 345 kV substation allows for the rebuilding of the 115 kV straight bus configuration		

Client:	NYISO			
Project:	AC Transmission Project Evaluation	SECO.		
Subject:	Report Draft	COMPANY	<i>3000</i> - 2	
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

			Marcy-New Scotland- Knickerbocker 345 kV transmission lines to 765 kV could significantly increase Central East transfer capability. (Note that T025 includes this conversion.)	into a breaker-and-a-half configuration. A new Princetown Substation is proposed at the junction of the 345 kV Edic-New Scotland line and the 230 kV Porter to Rotterdam lines. Due to the proximity to the neighboring properties,
				constructing or expanding the substation will be difficult. At New Scotland, proposal T025 eliminates the 345 kV line to Alps thus creating an open line terminal position.
T026 - Segment A Base Proposal	А	NYPA/North American Transmission	No significant expandability to NAT/NYPA's proposal beyond the common items mentioned above.	At Rotterdam, rebuilding and relocating the 345 kV substation allows for the rebuilding of the 115 kV straight bus configuration into a breaker-and-a-half configuration.
T027 - Segment A Double Circuit Proposal	A	NYPA/North American Transmission	No significant expandability to NAT/NYPA's proposal beyond the common items mentioned above.	At Rotterdam, rebuilding and relocating the 345 kV substation allows for the rebuilding of the 115 kV straight bus configuration into a breaker-and-a-half configuration. A new Princetown Substation is proposed at the junction of the 345 kV Edic-New Scotland line and the 230 kV Porter to Rotterdam lines. Due to the proximity to the neighboring properties, constructing or

Client:	NYISO		•
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

		1		
				expanding the substation will be difficult.
T020		NIVDA /NI outle	No cignificant	At Edic, it should be noted that a potential spare terminal position (shown on the Developer's drawings) in the proposed bay north of Bay #1 is already occupied by a 345 kV capacitor bank.
T028 -	Α	NYPA/North	No significant	At Rotterdam, rebuilding
Segment A Enhanced Proposal		American Transmission	expandability to NAT/NYPA's proposal beyond the common items mentioned above.	and relocating the 345 kV substation allows for the rebuilding of the 115 kV straight bus configuration into a breaker-and-a-half configuration.
				A new Princetown Substation is proposed at the junction of the 345 kV Edic-New Scotland line and the 230 kV Porter to Rotterdam lines. Due to the proximity to the neighboring properties, constructing or, if constructed, expanding the substation will be difficult.
T031 - 16NYPP1-1A AC Transmission	A	ITC	No significant expandability to ITC's proposal beyond the common items mentioned above.	ITC's proposal does not provide any additional bays at Princetown or Rotterdam Substations. ITC's proposal maintains the existing and aging Rotterdam 230 kV yard intact. Additionally, physical limitations at these properties may preclude future

Client:	NYISO			
Project:	AC Transmission Project Evaluation	SECO.		
Subject:	Report Draft	COMPANY	<i>3000</i> - 2	
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

				expansions without purchasing additional property.
Proposal	Segment	Developer	Transmission Line Expandability	Substation Expandability
T019 - New York Energy Solution Segment B	В	National Grid/Transco	No significant expandability to NGRID's proposal beyond the common items mentioned above.	At Knickerbocker Substation, the proposed design provides one open 345 kV bay position. The Knickerbocker design also allows the 345 kV ring bus configuration to be converted to a breaker- and-a-half configuration with room on the property for adding bays. At Churchtown Substation, design provides one open 115 kV bay position. Additional breaker-and-a- half bays can be added in the future.
T022 - Enterprise Line: Segment B	В	NextEra	No significant expandability to NextEra's proposal beyond the common items mentioned above.	At North Churchtown Substation, the proposed design provides one open 115 kV bay position and with room on the property for adding bays. The southern-most bay could also be built out to a breaker-and-a-half configuration. At Knickerbocker Substation, the proposed design provides one open 345 kV bay position. The Knickerbocker design also

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO.	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

T023 - Enterprise Line: Segment B- Alt	В	NextEra	No significant expandability to NextEra's proposal beyond the common items mentioned above.	allows the 345 kV ring bus configuration to be converted to a breaker-and-a-half configuration with room on the property for adding bays. Same comments as stated for T022 also apply to T023.
T029 - Segment B Base Proposal	В	NYPA/North American Transmission	No significant expandability to NAT/NYPA's proposal beyond the common items mentioned above.	The Developer proposes a new 115 kV breaker-and-a-half substation and eliminates the existing NYSEG Churchtown substation. The three-bay substation is proposed for south of the existing substation and north of Orchard Road. This location will permit future expansion of the proposed substation to the north. At Knickerbocker, the Developer's design allows the 345 kV ring bus configuration to be converted to a breaker-and-a-half configuration with room on the property for adding bays.
T030 - Segment B Enhanced Proposal	В	NYPA/North American Transmission	No significant expandability to NAT/NYPA's proposal beyond the common items mentioned above.	The Developer proposes a new 115 kV breaker-and-a-half substation and eliminates the existing NYSEG Churchtown substation. The three-bay substation is proposed for south of the

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO.	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

				ovieting substation and
				existing substation and
				north of Orchard Road.
				This location will permit
				future expansion of the
				substation to the north.
				At Knickerbocker, the
				Developer's design allows
				the 345 kV ring bus
				configuration to be
				converted to a breaker-
				and-a-half configuration
				with room on the
				property for adding bays.
T032 -	В	ITC	No significant	At Knickerbocker
16NYPP1-1B			expandability to ITC's	Substation, the design
AC			proposal beyond the	provides one open 345
Transmission			common items	kV bay position and one
			mentioned above.	open 115 kV bay position.
				The Knickerbocker design
				also allows the 345 kV
				and 115 kV ring bus
				configurations to be
				converted to a breaker-
				and-a-half configuration.
				The detailed design could
				also optimize the physical
				layout on the property
				possibly providing room
				for additional bays.
				Additionally, during
				detailed design, the
				ability to connect up to
				two 345 kV – 115 kV
				transformers to support
				the local transmission
				system could be
				provided.

4.5. Site Control and Real Estate

4.5.1. Site Control

Client:	NYISO		
Project:	AC Transmission Project Evaluation	n SECO	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

In evaluating site control of a proposed regulated Public Policy Transmission Project, The NYISO OATT section 31.4.8.1.6 specifies that the evaluation will assess the following: "The extent to which the Developer of a proposed regulated Public Policy Transmission Project has the property rights, or ability to obtain the property rights, required to implement the project. The ISO will consider whether the Developer: (i) already possesses the rights of way necessary to implement the project; (ii) has completed a transmission routing study, which (a) identifies a specific routing plan with alternatives, (b) includes a schedule indicating the timing for obtaining siting and permitting, and (c) provides specific attention to sensitive areas (e.g., wetlands, river crossings, protected areas, and schools); or (iii) has specified a plan or approach for determining routing and acquiring property rights."

The review team conducted a review of the Developers' property rights acquisition plans contained in their proposals. The review centered on the Developers' information and plans presented in their proposals and additional information provided in response to NYISO RFIs.

In all proposals, the following is common for the property rights acquisition process:

- The NYPSC prescribed specific requirements in Appendix B of its Order Finding Transmission Needs Driven by Public Policy Requirements, dated December 17, 2015.
 - No transmission solution shall be selected that requires the acquisition of new permanent transmission ROW, except for *De-minimis* acquisitions that cannot be avoided due to unique circumstances. The NYPSC specified that for the purposes of meeting this criterion, the transfer or lease of existing transmission ROW property or access rights from a current utility company owner to a Developer shall not be considered such an acquisition.
 - The selection process for transmission solutions shall favor transmission solutions that minimize the acquisition of property rights for new substations and substation expansions. The NYPSC specified that for the purposes of this criterion, the transfer or lease of existing property rights from a current utility company owner to a Developer shall not be considered such an acquisition.
 - No transmission solution shall be selected that includes a crossing of the Hudson River, either overhead, underwater, in riverbed, or underground, or in any other way, by any component of the transmission facility.

The non-incumbent Developers all claim two common rights in obtaining property:

• The Developers cite the NYPSC's "Order Finding Transmission Needs Driven by Public Policy Requirements" as requiring incumbent utilities to engage in non-

Client:	NYISO		
Project:	AC Transmission Project Evaluation	n SECO	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

discriminatory, good faith negotiation of terms in obtaining rights to use an incumbent utility's ROW. The NYPSC's order specifically stated that the "Commission expects the utility company owner to bargain in good faith to reach an agreement with the developer of the transmission solution as to property access and compensation as it would for other linear project developers that seek to colocate on utility property." Further, the NYPSC stated that "incumbent utilities should offer competitors the same terms they offer Transco; there should be no bias shown to Transco."

• If negotiations with private land owners are unsuccessful, the Developers believe that under New York State Law, they will have eminent domain authority after certification of a route by the NYPSC.

Below is a summary of the teams' review:

#	Developer	Property Rights Acquisition
T018	National	NGRID completed a routing study and states that "the ROW
T019	Grid/Transco	targeted for this project is either fee-owned by, or under the
		control (via easement or permit)," of NGRID.
		NGRID will transfer ownership of all assets to the Transco.
T025	NYPA/North	The proposed project's route would use existing ROW owned
T026	American	by the incumbent utility (National Grid).
T027	Transmission	
T028		NAT/NYPA lays out a plan in their proposal (Attachment
T029		C.2AProperty Right Acquisition Plan) for obtaining site control.
T030		They would rely on NYPA, which has extensive experience in
		negotiating and obtaining easements, including from other
		incumbent utilities, to lead negotiations with the other New
		York Transmission Owners.
		NAT/NYPA does not yet possess the required ROWs. However,
		they have a documented plan to obtain the real property.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

T021	NextEra	The proposed project's route would use existing ROW owned
T022		by the incumbent utility (National Grid) with the exception of
T023		property to be acquired for the Princetown Junction
		substation. NextEra has already obtained an option to
		purchase the real estate for the proposed substation site.
		NextEra lays out a plan for obtaining site control in their
		proposal (Attachment B Requirement #7).
		NextEra does not yet possess the required ROWs. However, it
		has a documented plan to obtain the necessary real property.
T031	ITC	Their route would use existing ROW owned by the incumbent
T032		utility (National Grid). It is likely that some additional property
		will be required to construct their proposed Princetown
		Junction Substation.
		ITC lays out a plan for obtaining site control in their proposal (
		A++
		Attachment C.2A)
		·
		ITC does not yet possess the required ROWs. However, they
		·

4.5.2. Real Estate Analysis

A review of the proposed routing for the transmission lines and substations was completed to identify property that each Developer would need to obtain for their proposed project. Cost estimates for the property were derived by obtaining recent comparable sales and tax assessments from municipal tax records in the town and county where the property is located and commercially available software. The estimated cost of the required property was included in the independent estimates.

All Developers propose to utilize existing incumbent-owned property and ROW with the following exceptions:

All proposals for Segment A with the exception of NAT/NYPA Double Circuit
 Alternative T027 proposal will likely require the acquisition of easements to meet
 EMF guidelines in the Princetown Junction to New Scotland corridor. NAT/NYPA's

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

T025 765 kV line conversion also requires additional easements to meet EMF guidelines.

- *De minimis* property rights may be required for construction laydown area and access, tree trimming or danger tree clearing.
- Development of a new substation at the Princetown Junction may require additional property or easements.
 - o Proposals T018 and T026 do not include a substation at Princetown Junction.
 - NextEra proposal T021 proposes to build the substation at Princetown Junction on a new greenfield site for which they have obtained an option to acquire.
 - Proposal T031 proposes to tie all seven lines into a substation at Princetown Junction, which will require additional property.
 - Proposals T025, T027, and T028 propose smaller substations at Princetown Junction with four breaker ring bus arrangements or GIS equipment that may fit in the existing property. Although it appears that placing these stations on the site is possible, the review team has identified this as a potential risk that will need to be carefully considered and potentially mitigated during detailed engineering and licensing development.
 - A summary of substation property requirements for Segment A is shown below.
 The amount of property required for each proposal is listed by the acreage within exiting utility owned property and the amount that needs to be acquired from a non-utility owner.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Substation Property Requirements for Segment A

AL		SUBSTATION		OWNER NAME	
PROPOSAL	DEVELOPER		COUNTY	NATIONAL GRID/ NIAGARA MOHAWK (ACRES)	NON-UTILITY (ACRES)
T018	National Grid / NY Transco	Rotterdam Substation (Extension)	Schenectady	2.60	
T021	NextEra Energy	Princetown Substation (New)	Schenectady		24.0
		Knickerbocker Substation (New)	Rensselaer	30.00	
T025	NYPA / NAT	Princetown Substation (New)	Schenectady	3.00	
		Rotterdam Substation (New)	Schenectady	7.50	
T026	NYPA / NAT	Rotterdam Substation (New)	Schenectady	7.50	
		Edic Substation (Extension)	Oneida	1.25	
T027	NYPA / NAT	Princetown Substation (New)	Schenectady	3.00	
		Rotterdam Substation (New)	Schenectady	7.50	
T028	NVDA / NAT	Princetown Substation (New)	Schenectady	3.00	
1028	NYPA / NAT	Rotterdam Substation (New)	Schenectady	7.50	
T031	LTC.	Princetown Substation (New)	Schenectady	5.50	2.6
1031	ITC	Rotterdam Substation (Extension)	Schenectady	2.50	

4.6. Operational Plan

The review team conducted an evaluation of the Developers' operations and maintenance (O&M) plans detailed in their proposals. The review centered on the Developers' proposals and additional information provided in response to a NYISO RFI submitted to Developers in November 2017. The following are common elements of the Developers O&M plans.:

- All O&M activities will comply with NERC regulations.
- Real time system operations will be conducted by the NYISO.
- Control center schedules will be 24-7-365.

Below is a summary of the teams' review of the proposed O&M plans . The review team did not identify any major flaw with any Developers' O&M plans. With the exception of ITC, all Developers propose to operate their facilities from an in-state control center.

Summary Proposed of O&M Plans

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

#	Developer	Operations	Maintenance
T018 T019	National Grid / TRANSCO	NGRID/TRANSCO did not provide an O&M plan with its proposal. However, the review team recognizes that as a New York Transmission Owner, NGRID has a demonstrated history of operating and maintaining its transmission and distribution systems.	See comment under Operations.
T021 T022 T023	NextEra	NextEra will build and operate a primary and backup control center within New York State. Multi-site EMS with redundant servers and telecommunication will interface real-time situational awareness with the NYISO and neighboring control areas. Power Delivery and Support Center in Florida provides added backup. Policies and training program for operators to meet NERC, Transmission Owner's and System Operator standards.	Transmission line and substation maintenance activities will be managed and performed by NextEra staff supplemented with third-party contractors. NextEra has experience maintaining transmission systems in other areas of the country and provided a detailed maintenance plan.
T025 T026	North American	Developer states real-time system monitoring and control	Transmission line and substation maintenance will be managed
T027	Transmission/	center services will be provided	by local NYPA staff.
T028 T029	New York Power	by NYPA from their Blenheim Gilboa Facility.	Maintenance activities will be performed by third-party
T030	Authority	Shood racinty.	contractors. NYPA has
	,		experience maintaining 1,400
			miles of transmission with an
			in-house staff of engineers, operators, planners, electricians
			and line engineers.
T031	ITC	ITC Holdings currently operates	ITC uses dedicated O&M
T032		and maintains 15,000 miles of	contractors under exclusive
		transmission and 557	contract for storm restoration.
		substations from a control center in Novi, Michigan and	ITC Holdings in-house staff of engineer's designers, P&C,
		center in Novi, Michigan and	engineer suesigners, rac,

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

proposes to operate the proposed facilities from that center.	SCADA and construction supervisors are available to assist after the project is put in- service. ITC has Line Outage Guidelines and an Emergency Operations Plan that
	incorporates use of a local utility's workforce with whom
	they would partner to provide O&M services.

4.7. Field Reviews

Field review of proposed transmission line routes and substations was completed by the review team. The results of those field reviews are documented in a report supplemented with checklists and maps marked with comments and observations. The review team used the results to develop the project scheduling and cost estimates and identify potential issues and risks with the proposed design, siting and routing.

4.8. Work Plans

The Developers' work plans should provide a detailed description of the overall work plan from start to finish; should list items to be done by in-house staff; and list services that will be performed by consultants or contractors. No significant deficiencies were found in the work plans and processes proposed by any of the Developers. A high-level summary of work plans follows:

- All qualified Developers have a history of managing successful transmission and substation design and construction projects. There was variation in the degree of self-performance of work versus using third-party contractors. All Developers propose to manage internal and external resources.
- All Developers include work plan activities in their estimates and schedules. More detailed
 analysis of the construction work plans is discussed in the Schedule analysis section of this
 report.
- All Developers propose Permitting and Regulatory activities to be performed by a mix of inhouse staff and outside consultants.
- All Developers propose to contract for a portion of the engineering and self-perform the remainder of the engineering work.
- All Developers propose to contract transmission line and substation surveying.
- All Developers propose to contract for site work and construction. National Grid plans to contract out or self-perform above grade/structures and electrical construction.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

- NextEra and ITC indicate that they would share public outreach efforts with public relations firms. All Developers signal the importance of early and careful attention to public outreach.
- It was not possible to evaluate external team members at this stage, as they are expected to be selected competitively after award from among leading engineering, geo-technical, environmental and construction firms.

4.9. Environmental

All of the Developers' proposals recognize the need for environmental studies, permits and approvals from various federal and state government agencies. Standard permit requirements include: transmission approval from the NYPSC under Article VII; wetland delineation and protection; archeological studies; storm water pollution prevention requirements; stream protection; invasive species management; agricultural land protection; and rare, threatened and endangered species surveys and protection. The Developers acknowledge the possibility that their proposals could require modification to address additional permit conditions. At this point in the project planning process, it is difficult to ascertain what those permit conditions would be. Based on available information, there do not appear to be any environmental issues that would prevent the projects from being constructed. The following is a general discussion of the most significant environmental issues and factors that could affect each of the proposals.

4.9.1.Transmission Lines

All the projects propose utilizing the same existing ROW for the transmission lines, except for the additional 765 kV line proposed in T025 proposal. Any additional clearing of the ROW to accommodate the proposed transmission lines is expected to proportionally increase the environmental impacts and risks. These impacts and risks are further described below.

4.9.1.1. Clearing of ROW

The tables below present the estimated acreage that would need to be cleared of trees to accommodate the transmission lines for each proposed project. The ROW being cleared will require environmental and archeological studies. These studies could discover sensitive areas that may require re-routing of the transmission line or relocating structures to avoid area impacts. The projects will also require vegetative mowing within existing ROWs, which is typically considered a slight environmental impact, and has not been included in the tables below.

AC TRANSMISSION PROJECT SEGMENT A:

Estimate of Heavy Clearing (Acres)

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

T018	T021	T025	T026	T027	T028	T031
19	0	132	34	0	34	38

A	AC TRANSMISSION PROJECT SEGMENT B: Estimate of Heavy Clearing (Acres)									
T019 T022 T023 T029 T030 T032										
40	40 10 19 28 34 19									

4.9.1.2. ROW Access, Clearing, and New Structures in Wetlands

The projects, including the substation footprint and/or the new transmission structures, could have a permanent impact on regulated wetlands. The table below presents the estimated acreage of wetland impacts including permanent wetland loss from the new structure footprints, and the estimated acreage of forested wetlands that will likely be cleared by each project due to the proposed transmission lines. Forested wetlands are a very valuable ecological resource in New York, and proposed tree clearing will require mitigation of impacts, including possible replacement offsite. While an estimate of these mitigation costs has been provided, there is the potential that project regulatory approval could take additional time, and an alternate structure location or construction access may be required to avoid the wetland entirely.

Access through wetlands and locating structures in wetlands will need to be avoided to the greatest extent practical. Black Creek Marsh State Wildlife Management Area, located on the Princetown-New Scotland section of Segment A, will present some difficult access issues that will have to be approved by the New York State Department of Environmental Conservation (NYSDEC). This could require the use of specialized equipment or possible relocation of the transmission line.

Additionally, temporary wetland impacts are anticipated to allow construction access and the placement of temporary matting will be required to minimize surface damages to wetlands. Post-construction restoration efforts may also be required depending on the severity of these construction impacts (e.g., soil disturbance, vegetation dieback).

Client:	NYISO			
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING		
Subject:	Report Draft	COMPANY	<i>3000</i> - 2	
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

Regarding permanent impacts to wetlands, loss of wooded wetlands due to ROW clearing, and loss of any wetlands due to proposed structure installations (assuming 60 square feet for each pole footprint) are estimated in the tables below. If on-site mitigation is not possible due to required ROW maintenance, then offsite mitigation may be necessary.

AC TRANSMISSION PROJECT A:								
Estimate of Impacted Wetlands (Acres)								
T018	T021	T027	T028	T031				
0.456								

	AC TRANSMISSION PROJECT SEGMENT B: Estimate of Impacted Wetlands (Acres)								
T019	T019 T022 T023 T029 T030 T032								
0.055 0.064 0.064 0.064 0.064 0.072									

For the project to be approved under the United States Army Corps of Engineers (USACE) Nationwide Permit Program (NWP 12 Utility Line Activities), the actions required for the construction, maintenance, repair, and removal of utility lines and associated facilities (including the construction of access roads) in waters of the United States (i.e. wetlands) cannot result in the loss of greater than ½ acre of non-tidal waters for a single and complete project. If the project does not qualify for the Nationwide Permit, an Individual Permit will be required, which may involve a longer review timeframe.

4.9.1.3. Clearing of Protected Species Habitat

The project area may include critical habitats for rare, threatened or endangered plant or animal species, such as the Northern Long Eared Bat, Bog Turtle, Karner Blue Butterfly and/or Dwarf Wedgemussel. If such habitat is identified, agency review and response times are likely to increase along with timeframe for obtaining project approvals, and an alternate route may be required to protect the critical habitat. Seasonal restrictions may also be imposed to control ROW mowing or clearing, which could further delay the project construction timeline.

4.9.1.4. Visual Impacts

Client:	NYISO			
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING		
Subject:	Report Draft	COMPANY		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

Typically, visual impacts are categorized as minor, moderate or significant/major with regards to how project structures may be seen from sensitive receptors (i.e., parks, trails, scenic roads, historic sites) and overall community/neighborhood character. Visual assessments of the proposed transmission lines may also be required, which would include visual simulations and viewshed maps. Many factors affect the visibility and visual impact of the proposed lines, including surrounding vegetation, presence of existing lines, topography, land use, structure design and the number of structures. If the line is determined to impact scenic resources or is not compatible with the character of the community, the line configuration could require modifications during final design to reduce the visual impact. The type of structure will affect its visibility with lattice type towers having the highest potential visual impact. No lattice towers are proposed for this project and most of the structures being removed are lattice towers. All Developers have proposed the use of steel or concrete monopole and H frame structures. Since all of the proposed projects are essentially using the same existing ROW, with the exception of the 765 kV portion of T025 proposal, the remaining variable for evaluating potential visual impact is the structure height and number of structures.

In its December 17, 2015 Order, the NYPSC noted that it "will not mandate criteria to be applied by the NYISO, but all proposers of transmission solutions should be aware as they prepare their submissions that minimizing structure heights will be an important issue in the siting review process so applicants should be careful to not lock themselves into designs that could not later be approved. All applicants are encouraged to minimize the heights of the proposed structures while keeping them within the context of their 2015 proposals. In making this statement, the Commission is not in any way suggesting that it would be suitable for applicants to appropriate the structure designs of other applicants." The NYPSC concluded that height increases of less than 25 feet over exisiting structures will not create a significant adverse visual impact of a regional nature (December 12, 2015 Order at p. 35). The construction of new structures even with minimal increase in height may result in public opposition due to their potential local visual impact. The PSC determined that the local visual impacts will be addressed in the Article VII siting proceedings.

Segment A

The height of the structure may increase its visibility and, therefore, potentially increase the visual impact. The following tables summarize the estimated difference in height of the existing structures being removed and proposed structures for the Segment A projects. The comparison demonstrates the relative height differences for the proposed projects. It should be noted that the proposed lines parallel the existing line #18, between Princetown Junction and New Scotland, which is constructed for 765 kV operation and has structures

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO.	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

ranging in height from 135 feet to 195 feet where the proposed structures range in height from 60 to 145 ft. This may reduce the visual impact of the proposed line. Green highlights in the table below indicates that no visual impacts are expected due to the height of the proposed structures. When structures are replaced, height increases over 10 feet are typically classified as "severe" visual impacts, absent a viewshed analysis.

Client:	NYISO			
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING		
Subject:	Report Draft	COMPANY		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

		Number of Structures					
	T018	T021	T025	T026/T028	T027	T031	
1. Less than 0 ft.	62	0	269	269	19	28	
2. Same Ht.	9	0	7	7	11	581	
3. From 0.1ft to 5 ft.	30	3	51	51	76	69	
4. From 5.1 ft to 10 ft.	56	5	33	33	5	10	
5. From 10.1 ft to 15 ft.	72	45	35	34	47	0	
6. From 15.1 ft to 20 ft.	97	72	65	66	40	2	
7. From 20.1 ft to 25 ft.	74	490	38	38	69	1	
8. From 25.1 ft to 30 ft.	68	67	9	9	204	0	
9. From 30.1 ft to 40 ft.	52	67	18	18	95	0	
10. From 40.1 ft to 50 ft.	21	21	10	9	34	0	
11. From 50.1 ft to 60 ft.	23	4	6	1	22	0	
12. From 60.1 to 70 ft.	8	1	1	0	1	0	
13. From 70.1 to 80 ft.	2	1	1	1	4	0	
14. From 80.1 to 90 ft.	0	0	5	0	4	0	
15. From 90.1 to 100 ft.	1	0	3	1	0	0	
16. From 100.1 to 110 ft.	0	0	0	0	0	0	
17. From 110.1 to 120 ft.	0	0	2	0	0	0	
Total	575	776	553	537	631	691	

			Percent of S	Structures		
	T018	T021	T025	T026/T028	T027	T031
1. Less than 0 ft.	10.8%	0.0%	48.6%	50.1%	3.0%	4.1%
2. Same Ht.	1.6%	0.0%	1.3%	1.3%	1.7%	84.1%
3. From 0.1ft to 5 ft.	5.2%	0.4%	9.2%	9.5%	12.0%	10.0%
4. From 5.1 ft to 10 ft.	9.7%	0.6%	6.0%	6.1%	0.8%	1.4%
5. From 10.1 ft to 15 ft.	12.5%	5.8%	6.3%	6.3%	7.4%	0.0%
6. From 15.1 ft to 20 ft.	16.9%	9.3%	11.8%	12.3%	6.3%	0.3%
7. From 20.1 ft to 25 ft.	12.9%	63.1%	6.9%	7.1%	10.9%	0.1%
8. From 25.1 ft to 30 ft.	11.8%	8.6%	1.6%	1.7%	32.3%	0.0%
9. From 30.1 ft to 40 ft.	9.0%	8.6%	3.3%	3.4%	15.1%	0.0%
10. From 40.1 ft to 50 ft.	3.7%	2.7%	1.8%	1.7%	5.4%	0.0%
11. From 50.1 ft to 60 ft.	4.0%	0.5%	1.1%	0.2%	3.5%	0.0%
12. From 60.1 to 70 ft.	1.4%	0.1%	0.2%	0.0%	0.2%	0.0%
13. From 70.1 to 80 ft.	0.3%	0.1%	0.2%	0.2%	0.6%	0.0%
14. From 80.1 to 90 ft.	0.0%	0.0%	0.9%	0.0%	0.6%	0.0%
15. From 90.1 to 100 ft.	0.2%	0.0%	0.5%	0.2%	0.0%	0.0%
16. From 100.1 to 110 ft.	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
17. From 110.1 to 120 ft.	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Based upon the height increase comparison estimates above, proposal T031 would have the least potential visual impacts by a considerable margin, although it does use more structures than all other proposals, except proposal T021. Proposal T031 is also removing 20 additional miles of lattice structures along Princetown Junction to New Scotland (circuit 14), which none of the other proposed projects are removing except for 6.3 mile being removed by T027. Using the 10-foot height increase as the basis for ranking the potential visual impacts, proposals T026 and T028 would have the second lowest visual impact, with about a third of the structures having a height increase of 10 feet or more. Proposal T018 would be fourth followed by proposal T027. Proposal T021 would have the most potential visual impact with 99% of the structures having a height increase of more than 10 feet. In addition, proposal T021 is proposing the greatest number of structures.

Proposal T025 would have the third lowest overall potential visual impact based upon the table and method discussed above. However, the most significant potential visual impacts for proposal T025 are due to the proposed height increase for the 2.5 miles of new 765 kV transmission line structures. This will involve 16 new two and three pole structures that range in height from 130 to 165 feet. In the section of the line where there is the existing 115 kV transmission line, the four new structures will be approximately 80 feet taller than the existing structures. On the other sections, the height increase will be approximately 40 feet or more.

Segment B

The following tables summarize the estimated difference in height of existing structures being removed and proposed structures for Segment B projects. The comparision demonstrates the relative height differences for the proposed projects. Green highlights in the table below indicates no visual impact due to height of the proposed structures. When structures are replaced, height increases over 10 feet are typically classified as "severe" visual impacts, absent a viewshed analysis.

Client:	NYISO			
Project:	AC Transmission Project Evaluation	SECO.		
Subject:	Report Draft	C O M P A N Y		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

		Number of Structures					
	T019	T022	T023	T029/T030	T032		
1. Less than 0 ft.	87	49	6	222	240		
2. Same Ht.	3	1	2	77	6		
3. From 0.1ft to 5 ft.	97	58	60	44	218		
4. From 5.1 ft to 10 ft.	108	181	114	44	6		
5. From 10.1 ft to 15 ft.	66	116	227	12	0		
6. From 15.1 ft to 20 ft.	20	0	0	3	0		
7. From 20.1 ft to 25 ft.	12	0	0	1	0		
8. From 25.1 ft to 30 ft.	4	0	0	0	0		
9. From 30.1 ft to 40 ft.	4	0	0	0	0		
10. From 60.1 ft to 70 ft.	0	0	0	2	0		
Total	401	405	409	405	470		

		Percent of Structures						
	T019	T022	T023	T029/T030	T032			
1. Less than 0 ft.	21.7%	12.1%	1.5%	54.8%	51.1%			
2. Same Ht.	0.7%	0.2%	0.5%	19.0%	1.3%			
3. From 0.1ft to 5 ft.	24.2%	14.3%	14.7%	10.9%	46.4%			
4. From 5.1 ft to 10 ft.	26.9%	44.7%	27.9%	10.9%	1.3%			
5. From 10.1 ft to 15 ft.	16.5%	28.6%	55.5%	3.0%	0.0%			
6. From 15.1 ft to 20 ft.	5.0%	0.0%	0.0%	0.7%	0.0%			
7. From 20.1 ft to 25 ft.	3.0%	0.0%	0.0%	0.2%	0.0%			
8. From 25.1 ft to 30 ft.	1.0%	0.0%	0.0%	0.0%	0.0%			
9. From 30.1 ft to 40 ft.	1.0%	0.0%	0.0%	0.0%	0.0%			
10. From 60.1 ft to 70 ft.	0.0%	0.0%	0.0%	0.5%	0.0%			

Based upon the estimates and criteria described above, proposal T032 would have the least significant potential visual impact due to height increase; however, it adds 61 (15%) more structures than any other proposed project which could have additional potential visual impacts. Proposal T029 and T030 would have the second least potential visual impact with only 5% of the structures increasing in height by more than 10 feet. Proposals T019 and T022 would have comparable potential visual impacts, with 26% and 29% of the structures increasing in height by more than 10 feet, respectively. However, proposal T022 is proposing to remove 32.3 less miles of lattice structures along Churchtown to Pleasant Valley (circuits 12 and 13) than all the other proposed projects. Proposal T023 would have the most significant potential visual impact, if only the height increase is considered, with 56% of the structures increasing in height by 10 to 15 feet.

Client:	NYISO			
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING		
Subject:	Report Draft	C O M P A N Y		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

4.9.1.5. Agricultural Impacts

Early coordination with agricultural landowners, and consideration of potential impacts to farmland will be needed for the proposed project. Siting and construction coordination will be needed to minimize impacts on prime agricultural lands and to limit loss of crop production. Site restoration of disturbed and compacted soils will be required. Herbicide use may be restricted during construction and long-term ROW maintenance operations. Transmission line siting near Certified Organic Farms may require additional planning and consideration for compliance with organic certification. If the proposed transmission line would cross properties within an Agricultural Conservation Easement Program or Land Trust, then additional agency coordination will be needed.

The estimated acreage of agricultural land that will be temporarily impacted by each proposed project within their respective segments is nearly equivalent. Assuming 20-foot-wide matting is used where the ROW is adjacent to Agricultural Districts or crop land, the estimated temporary impact to Segment A would be 94.5 acres, and the estimated temporary impact to Segment B would be 24.75 acres.

4.9.2. Substations and Switching Stations

Proposed projects do vary in the number, size and location of new or expanded substations or switching stations. Both temporary and permanent environmental impacts could result from the construction and installation of the proposed stations, including: visual, noise, tree clearing, and increased stormwater run-off (which will likely require construction of stormwater retention). Fewer or smaller stations would have less environmental impact. The table below provides the total estimated area required for the new or expanded stations, including the estimated area for stormwater retention basins, and the total number of stations.

AC TRANSMISSION PROJECT SEGMENT A: Estimated Station Area (Acres/(number))						
T018	T021	T025	T026	T027	T028	T031
2.6	24.0	40.5	7.5	11.8	10.5	10.6
(1)	(1)	(3)	(1)	(3)	(2)	(2)

Client:	NYISO			
Project:	AC Transmission Project Evaluation	SECO.		
Subject:	Report Draft	C O M P A N Y		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

AC TRANSMISSION PROJECT SEGMENT B: Estimated Station Area (Acres/(number))						
T019	T022	T023	T029	T030	T032	
26.8	19.5	19.5	25.4	25.4	20.3	
(3)	(2)	(2)	(2)	(2)	(2)	

4.10. Replacement of Aging Infrastructure

In Appendix B of the December 17, 2015 Order Finding Transmission Needs Driven by Public Policy Requirements, the NYPSC stated: "The selection process for transmission solutions shall favor transmission solutions that result in upgrades to aging infrastructure." All of the proposed projects include upgrades to aging transmission line infrastructure.

4.10.1. Replacement of Aging Infrastructure – Transmission Lines (Segment A)
The following table is a summary of the transmission line mileages to be replaced for each
Segment A proposal. All proposals intend to utilize existing double circuit structures for the first
12.6 miles heading east out of Edic/Porter. These structures are approximately 30 years old.
They appear well maintained and in very good physical condition. It would not be prudent to
replace those structures at this time. The table below shows that ITC's proposal T031 and
NAT/NYPA's proposal T027 would replace more miles of existing infrastructure than the other
proposals. ITC intends to rebuild the Princetown to New Scotland section of existing circuit #14.
NAT/NYPA (T027) proposes to rebuild 6.3 miles of line# 14 from Princetown Junction where the
ROW is only 370 feet wide. The replacement of 6.3 miles of lattice structures with single steel
pole vertical structure is to accommodate the proposed double circuit 345 kV line.

Client:	NYISO			
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING		
Subject:	Report Draft	C O M P A N Y		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

Replacement of Aging Transmission Line Infrastructure -Segment A

SEGMENT A	CIRCUIT NUMBER	T018 (NGRI D/NY TRAN SCO)	T021 (NEXT ERA)	T025 (NAT/N YPA)	T026 (NAT/ NYPA)	T027 (NAT/N YPA)	T028 (NAT/ NYPA)	T031 (ITC)
Marcy - New Scotland	18	0	0	2.66	0	0	0	0
Princetown Junction - New Scotland	14 ¹	0	0	0	0	6.3	0	20
Miles of 345 kV Removed		0	0	2.66	0	6.3	0	20
Edic - Princetown Junction	30 ²	66.8	66.8	66.8	66.8	66.8	66.8	66.8
Edic - Princetown Junction	31 ³	54.2	54.2	54.2	54.2	66.8	54.2	54.2
Princetown Junction - Rotterdam	30	5	5	5	5	5	5	5
Princetown Junction - Rotterdam	31	5	5	5	5	5	5	5
Miles of 230 kV Removed		131	131	131	131	143.6	131	131
Princetown Junction - New Scotland	13 ⁴	2.5	2.5	2.5	2.5	13.4	2.5	0
Miles of 115 kV Removed		2.5	2.5	2.5	2.5	13.4	2.5	0
Total Miles of Line Removed		133.5	133.5	136.16	133.5	163.3	133.5	151

- 1 T027 (NAT/NYPA) proposing to replace 6.3 miles of lattice structure with single pole structure and T031 (ITC) proposing to replace entire 20 miles of lattice structure with single pole double circuit lines.
- 2 All developers are proposing to reuse existing double circuit poles of line #30 to replace existing 230 kV for the first 12.6 miles east out of Edic/Porter. Therefore 12.6 miles of removal shown includes wire, insulators and hardwares only. Removal total 66.8 miles is sum of 12.6 miles from NYPA Structures and 54.2 miles of NG Line.
- 3 T027 (NAT/NYPA), double circuit proposal, proposing to reuse existing double circuit poles of line #31 to replace 230 kV for the first 12.6 miles east out of Edic/Porter. Therefore 12.6 miles of removal shown includes wire, insulators and hardwares only. Removal total 66.8 miles is sum from 12.6 miles on NYPA Structures and 54.2 miles of NG Line. For rest of the proposals, line#31 from Porter to 12.6 miles is being de-energized, retired in place.
- 4 T027 (NYPA/ NAT), double circuit proposal, 115 kV line#13 from a point 6.3miles South of Princetown Jct. to Rotterdam Substation, approximately 4.5 miles is being de-energized, retired in place.

4.10.2. Replacement of Aging Infrastructure – Substations (Segment A)

- The Segment A proposals predominately affect four existing substations: National Grid's Edic, New Scotland, Porter and Rotterdam substations. Additionally, NAT/NYPA proposal T025 also affects the NYPA's Marcy 765 kV station.
- At Edic, NAT/NYPA T025, T026, T027, and T028 are replacing two 345 kV circuit breakers due to loading. At Marcy they are replacing three 345 kV circuit breakers.
- At New Scotland, NGrid proposal T018 proposes to replace the existing R81 and R82
 (oil) tie breakers with new SF6 units. In addition, the review team identified the
 need to replace these breakers for NextEra proposal T021 due to physical limitations

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO.	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

with proposal T021. None of the remaining proposals replace any existing equipment.

- At Porter, all proposals retire 230 kV circuit breakers R300, R320 for line #30 and breaker R310 for line #31.
- At Rotterdam, NGrid proposal T018 and the NAT/NYPA proposals T025, T026, T027, and T028 remove the 230 kV yard from service. ITC proposal T031 does not replace any existing equipment. NextEra proposal T021 does not affect or replace any existing equipment at Rotterdam substation.

4.10.3. Replacement of Aging Infrastructure – Transmission Lines (Segment B)
The following table summarizes the transmission line mileage to be replaced by each project for each Segment B proposal. The table below shows that NextEra proposal T022 would replace about 65 less miles of existing infrastructure than the other proposals.

Transmission Line Replaced For Segment B

SEGMENT B	CIRCUIT NUMBER	T019 (NGRID/NY TRANSCO)	T022 (NEXTERA)	T023 (NEXTERA)	T029 (NYPA/NAT)	T030 (NYPA/NAT)	ТОЗ2 (ІТС)
Knickerbocker - Churchtown	14	21.9	21.9	21.9	21.9	21.9	21.9
Knickerbocker - Churchtown	15	21.9	21.9	21.9	21.9	21.9	21.9
Churchtown - Pleasant Valley	8	32.6	32.6	32.6	32.6	32.6	32.6
Churchtown - Pleasant Valley	10	32.6	32.6	32.6	32.6	32.6	32.6
Churchtown - Pleasant Valley	12	32.6	0	32.6	32.6	32.6	32.6
Churchtown - Pleasant Valley	13	32.6	0	32.6	32.6	32.6	32.6
Blue Stores Tap - Blue Stores	8	2.1	2.1	2.1	2.1	2.1	2.1
Total Miles of 115kV Removed		176.3	111.1	176.3	176.3	176.3	176.3

4.10.4. Replacement of Aging Infrastructure – Substations (Segment A)

The Segment B proposals predominantly affect NYSEG's Churchtown substation and Con Ed's Pleasant Valley substation with minor work at multiple National Grid substations.

- Churchtown Substation
 - National Grid proposal T019 and NAT/NYPA proposals T029 and T030 will replace the existing NYSEG Churchtown 115 kV Substation.
 - NextEra proposals T022 and T023 and ITC' proposal T032 retain the existing Churchtown 115 kV Substation.
- No significant aging infrastructure is replaced by any proposal at Pleasant Valley.
- No significant aging infrastructure is replaced by any proposal in the National Grid's substations.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.11. General Design Verifications

4.11.1. Substation Design and Arrangements

The review team compared the proposed bus arrangement for the substations proposed by the projects. Below are summary tables of the bus arrangement, number of lines, number of transformers and breakers for each substation.

Segment A

4.11.1.1. Edic 345 kV Substation

Base Proposals

Developer	# of new Lines	# of new Transformers	Total new elements	Proposed Breaker Arrangement	# of Breakers
T018 NGrid/Transco	1	0	1	Breaker & Half	16 (1 new)
T021 NextEra	1	0	1	Breaker & Half	16 (1 new)
T026 NAT/NYPA	1	0	1	Breaker & Half	16 (1 new)
T031 ITC	1	0	1	Breaker & Half	16 (1 new)

Discussion

The bus arrangements are comparable for all base proposals. A 345 kV breaker is added to Bay #3 to create a new line terminal. All proposals, except proposal T031, shift the 345 kV line to Fraser from Bay #4 to Bay #3 making Bay #4 available for a new 345 kV line. For proposals T018, T021, and T026, the new 345 kV line is to New Scotland. For proposal T031, the new 345 kV line is to the proposed Princetown substation and will terminate in Bay #3.

Expandability

None of the base proposals provide any built-in expandability.

For proposal T027, it should be noted that a potential spare terminal position at Edic (shown on the Developer's drawings) in the proposed bay north of Bay #1 is already occupied by a 345 kV capacitor bank. Therefore, there is no built-in expandability.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Replacement of Aging Infrastructure

NAT/NYPA T026 replaces two 345 kV circuit breakers at Edic due to loading. At Marcy they are replacing three 345 kV circuit breakers. It should be noted that National Grid has an extensive ongoing project to replace the existing control house, protection and control equipment, cabling, conduit and trench system, 345 kV breakers, and 345 kV-115 kV transformers.

Alternate Proposals

Developer	# of new Lines	# of new Transformers	Total new elements	Proposed Breaker Arrangement	# of Breakers
T025 NAT/NYPA	1	0	1	Breaker & Half	16 (1 new)
T027 NAT/NYPA	2	0	2	Breaker & Half	18 (3 new)
T028 NAT/NYPA	1	0	1	Breaker & Half	16(1 new)

Discussion

Like the base proposals, except for ITC proposal T031, the alternate proposals shift the 345 kV line to Fraser from Bay #4 to Bay #3 making Bay #4 available for a new 345 kV line. For proposal T027, the Developer adds a bay north of Bay #1 for a new 345 kV line to Princetown.

Expandability

Like the base proposals, none of the alternate proposals provide any built-in expandability.

Replacement of Aging Infrastructure

At Edic, NAT/NYPA T025, T027, and T028 are replacing two 345 kV circuit breakers due to loading. At Marcy they are replacing three 345 kV circuit breakers.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	<i>34477</i> <u>5</u> 3
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.11.1.2. New Scotland 345 kV Substation

Base Proposals

Developer	# of new Lines	# of new Transformers	Total new elements	Proposed Breaker Arrangement	# of Breakers
T018 NGrid/Transco	1	0	1	Sectionalized Bus (3 sections)	16 (5 new)
T021 NextEra	1	0	1	Sectionalized Bus (3 sections)	16 (3 new)
T026 NAT/NYPA	1	0	1	Sectionalized Bus (3 sections)	16 (3 new)
T031 ITC	1	0	1	Sectionalized Bus (2 sections)	14 (1 new)

Discussion

The 345 kV yard at New Scotland has a sectionalized bus. The north main bus is the 99 bus and the south main bus is the 77 bus. The main bus is split by a redundant (back-to-back) tie breaker arrangement, which are breakers R81 and R82.

For all base proposals, one new 345 kV line terminal is added. The Developers place the new line terminal at various locations on the main bus. Proposals T018 and T021 place the new line terminal between tie breakers R81 and R82. Proposals T026 and T031 place the new line terminal on the south main bus (77 bus).

Proposals T018, T021, and T026 increase reliability and operability by adding a second arrangement of redundant tie breakers to further sectionalize the bus creating a third main bus section (88 bus). Proposals T018 and T021 create an 88 bus by adding redundant tie breakers between R81 and R82. Proposal T026 creates an 88 bus by adding redundant tie breakers south of the existing Leeds 93 line terminal.

For proposal T031, a new line terminal is added with no changes to the main bus.

Expandability

None of the base proposals provide any built-in expandability.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	<i>34477</i> <u>5</u> 3
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Replacement of Aging Infrastructure

Proposal T018 replaces the existing R81 and R82 (oil) tie circuit breakers with new SF6 breakers. Proposal T021 has the same electrical arrangement as T018, but the Developer does not propose replacing R81 and R82. Based on the review team's field review, these breakers will have to be relocated because there is insufficient room for the proposed arrangement. Thus, from a practical standpoint, R81 and R82 need to be replaced for proposal T021.

Proposals T026 and T031 do not replace any existing equipment.

Alternate Proposals

Developer	# of new Lines	# of new Transformers	Total new elements	Proposed Breaker Arrangement	# of Breakers
T025 NAT/NYPA	0	0	0	Sectionalized Bus	13 (0 new)
T027 NAT/NYPA	2	0	2	Sectionalized Bus	17 (4 new)
T028 NAT/NYPA	1	0	1	Sectionalized Bus	16 (3 new)

Discussion

Proposal T025 does not add any new line terminals or circuit breakers. Proposals T027 and T028 create an 88 bus by adding redundant tie breakers south of the existing Leeds 93 line terminal. For proposal T027, two new 345 kV line terminals are added to the 77 bus. Proposal T028 adds one new line terminal to the 77 bus.

Expandability

Proposal T025 provides some future expandability by creating one open 345 kV line terminal through the retirement of the 345 kV line to Alps. Proposals T027 and T028 do not provide any built-in expandability.

Replacement of Aging Infrastructure

None of the alternate proposals replace any existing equipment.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.11.1.3. Princetown Substation

Base Proposals

Developer	# of new Lines	# of new Transformers	Total new elements	Proposed Breaker	# of Breakers
				Arrangement	Di Ganero
T018	No Princeto	own Substation p	proposed.		
NGrid/Transco					
T021 NextEra	2 – 345	2	6	Breaker & Half	7 – 345 kV
	kV				6 – 230 kV
	2 – 230				
	kV				
T026	No Princeto	own Substation p	proposed.		
NAT/NYPA					
T031 ITC	8	0	8	Breaker & Half	12

Discussion

For proposals T021 and T031, a breaker-and-a-half configuration is proposed. Proposal T021 has three bays and proposal T031 has four bays. Refer to Risk Analysis section of the report for discussions on the potential issues with siting and constructing the Princetown substation .

Expandability

Proposal T021 provides two vacant line terminal positions by adding breakers to complete the breaker-and-a-half configuration. There is also sufficient land available at the proposed site for future expansion.

Proposal T031 does not provide any built-in expandability.

Replacement of Aging Infrastructure

There is no replacement of aging infrastructure, as Princetown would be a new substation on a greenfield site.

Alternate Proposals

Developer	# of new Lines	# of new Transformers	Total new elements	Proposed Breaker Arrangement	# of Breakers
T025 NAT/NYPA	4	0	4	Ring Bus	4

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	<i>3000</i> - 2
Document No.:	AC Transmission Report 05 25 18	Revision:	6

T027 NAT/NYPA	6	0	6	Breaker & Half	9
T028 NAT/NYPA	4	0	4	Ring Bus	4

Discussion

For alternate proposals T025 and T028, a four-breaker ring-bus configuration is proposed. For alternate proposal T027, NAT/NYPA propose a gas-insulated three-bay breaker-and-a-half configuration. Refer to Risk Analysis section of the report for discussions on the potential issues with siting and constructing the Princetown substation.

Expandability

None of the proposals provide any built-in expandability.

Replacement of Aging Infrastructure

There is no replacement of aging infrastructure, as Princetown would be a new substation on a greenfield site.

4.11.1.4. Rotterdam Substation

Base Proposals

Developer	# of new	# of new	Total new	Proposed Breaker	# of
	Lines	Transformers	elements	Arrangement	Breakers
T018	2 – 345 kV	1 – 345 kV-230 kV	8	Breaker & Half	9 – 345 kV
NGrid/Transco	1 – 230 kV	2 – 345 kV-115 kV		(Gas-Insulated)	1 – 230 kV
	2 – 115 kV*				
T021 NextEra	No changes to	Rotterdam proposed.			
T026	2 – 345 kV	1 – 345 kV-230 kV	8	Breaker & Half	8 – 345 kV
NAT/NYPA	1 – 230 kV	2 – 345 kV-115 kV			1 – 230 kV
	2 – 115 kV*				
T031 ITC	2 – 345 kV	2 – 345 kV-230 kV	4	Sectionalized Bus	3 – 345 kV
					1 – 230 kV

^{*}These are tie lines to the existing 115 kV yard at Rotterdam.

Discussion

Proposals T018 and T026 propose new 345 kV breaker-and-a-half substations at Rotterdam. These proposals also add two 345 kV-115 kV transformers and one 345 kV-230 kV transformer.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO.	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Proposal T031 proposes adding a 345 kV sectionalized bus yard to the north side of the existing Rotterdam 230 kV yard.

Proposal T021 makes no changes to the existing Rotterdam bus arrangement.

It should be noted that NGrid's proposal T018 is the only one which does not impact the two existing natural gas transmission pipelines that share the National Grid electric transmission line ROW.

Expandability

Both proposals T018 and T026 provide one vacant line terminal position by adding a breaker to complete the breaker-and-a-half configuration. Proposal T031 does not provide any built-in expandability.

Replacement of Aging Infrastructure

For proposal T018, the new station replaces the existing north 230 kV yard and allows for the retirement of the south 230 kV yard. This provides an area to potentially reconstruct the 115 kV yard as a full breaker-and-a-half station in the future.

For proposal T026, the new station removes the existing north and south 230 kV yards from service, providing an area to potentially reconstruct the 115 kV yard as a full breaker-and-a-half station in the future.

For proposal T031, all existing 230 kV equipment remains in service. New equipment is added to the existing arrangement.

Alternate Proposals

Developer	# of	# of new	Total new	Proposed	# of	
	new	Transformers	elements	Breaker	Breakers	
	Lines			Arrangement		
T025 NAT/NYPA	Same as	Same as T026.				
T027 NAT/NYPA	Same as	Same as T026.				
T028 NAT/NYPA	Same as	Same as T026.				

Discussion

No further discussion beyond proposal T026 above.

Expandability

No further discussion beyond proposal T026 above.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Replacement of Aging Infrastructure

No further discussion beyond proposal T026 above.

4.11.1.5. Remote Terminal Substations

Protection settings and minor equipment changes will be required at remote stations due to system re-configuration. Alps, Marcy, Porter, and Leeds substations are among the substations likely to be affected.

4.11.1.6. Terminal Upgrades

Various terminal upgrades are likely at project related substations and may result in the replacement of some equipment. The scope of work will be determined during the Facilities Study and detailed engineering.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Segment B

4.11.1.7. Knickerbocker Substation

Base Proposals

Developer	# of new Lines	# of new Transformers	Total new elements	Proposed Breaker Arrangement	# of Breakers
T019 NGrid/Tra nsco	3	0	3 (also includes Series Compensation)	Ring Bus (built for future Breaker & Half)	3
T022 NextEra	3	0	3	Ring Bus (built for future Breaker & Half)	3
T029 NAT/NYPA	3	0	3	Ring Bus (built for future Breaker & Half)	3
T032 ITC	3 – 345 kV 3 – 115 kV	0	6	345 kV - Ring Bus 115 kV – Ring Bus	3 – 345 kV 3 – 115 kV

Discussion

All Developers propose a new Knickerbocker Substation with similar 345 kV ring bus arrangements. Proposal T019 includes Series Compensation on the line terminal to Pleasant Valley. Proposal T032 adds an independent 115 kV ring bus yard.

Expandability

Proposals T019, T022, and T029 all provide one vacant line terminal position by adding one breaker to the ring bus, or by adding breakers to complete the breaker-and-a-half configuration.

Although proposal T032 does not provide any built-in expandability, ITC's layouts for both the 345 kV and 115 kV yards could easily be modified to provide a vacant line terminal position(s).

Replacement of Aging Infrastructure

There is no replacement of aging infrastructure, as Knickerbocker would be a new substation on a greenfield site.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Alternate Proposals.

Developer	# of new Lines	# of new Transformers	Total new elements	Proposed Breaker	# of Breakers
				Arrangement	
T023 NextEra	Same as TO	22.			
T025	1 – 765	2	5	765 kV – Ring	3 – 765 kV
NAT/NYPA	kV			Bus	4 – 345 kV
	2 – 345			345 kV – Ring	
	kV			Bus	
T030	Same as TO	29.	_		
NAT/NYPA					

Discussion

Proposal T025 proposes a 765 kV ring bus yard and a 345 kV ring bus yard with two 765 kV – 345 kV transformers. Proposal T025 is a Segment A alternative proposal discussed in this section to keep with other Knickerbocker substation arrangements. Proposal T025 will also require the installation of a new 765 kV breaker and associated equipment at the Marcy Substation.

Expandability

Proposal T025 does not provide any built-in expandability.

Replacement of Aging Infrastructure

There is no replacement of aging infrastructure, as Knickerbocker would be a new substation on a greenfield site.

4.11.1.8. Churchtown Substation

Base Proposals.

Developer	# of new	# of new	Total new	Proposed	# of
	Lines	Transformers	elements	Breaker	Breakers
				Arrangement	
T019	5	0	5	Breaker & Half	8
NGrid/Transco					
T022 NextEra	5	0	5	Ring Bus	5
				(built for future	
				Breaker & Half)	
T029	5	0	5	Breaker & Half	8
NAT/NYPA					
T032 ITC	1	0	1	Straight Bus	4 (1 new)

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO.	
Subject:	Report Draft	C O M P A N Y	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Discussion

Except for proposal T032, all Developers propose constructing new 115 kV substation at Churchtown. Proposals T019 and T029 will replace the existing NYSEG 115 kV Churchtown substation. Proposal T022 retains and connects to the existing NYSEG Churchtown substation.

Proposal T032 adds a line terminal to the existing NYSEG substation.

Expandability

Proposals T019 and T029 provide one vacant line terminal position by adding a breaker to complete the breaker-and-a-half configuration.

Proposal T022 provides one vacant line terminal position by adding a breaker to the ring bus.

Proposal T032 does not provide any built-in expandability.

Replacement of Aging Infrastructure

National Grid proposal T019 and NAT/NYPA proposal T029 will replace the existing NYSEG Churchtown 115 kV Substation. NextEra proposal T022 and ITC proposal T032 retains the existing Churchtown Substation.

Alternate Proposals.

Developer	# of new	# of new	Total new	Proposed	# of
	Lines	Transformers	elements	Breaker	Breakers
				Arrangement	
T023	4	0	4	Ring Bus	4
NextEra				(built for future	
				Breaker & Half)	
T030	Same as TO	29.			
NAT/NYPA					

Discussion

Similar to proposal T022, proposal T023 retains and connects to the existing NYSEG Churchtown 115 kV substation. It differs from proposal T022 in that itremoves one line terminal for the connection to Pleasant Valley substation.

Expandability

Proposal T023 does not provide any built-in expandability. However, there are provisions for future disconnect switches and breakers to convert the ring bus to a breaker-and-a-half configuration. This will allow a third bay to be added to the north side of the substation.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	Report Draft	COMPANY	<i>34477</i> <u>5</u> 3
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Replacement of Aging Infrastructure

NAT/NYPA proposal T030 will replace the existing NYSEG Churchtown substation. NextEra proposal T023 retains the existing Churchtown Substation.

4.11.1.9. Pleasant Valley Substation

Base Proposals.

Developer	# of new Lines	# of new Transformers	Total new elements	Proposed Breaker Arrangement	# of Breakers
T019 NGrid/Transco	1	0	1 (Also includes (2) capacitor banks)	Breaker & Half	11 (1 new)
T022 NextEra	1	0	1	Breaker & Half	11 (1 new)
T029 NAT/NYPA	1	0	1	Breaker & Half	11 (1 new)
T032 ITC	1	0	1	Breaker & Half	11 (1 new)

Discussion

Proposals T019, T022 and T029 add a 345 kV breaker to Bay #2 to complete the breaker-and-a-half configuration. This provides a new terminal for relocation of the 345 kV Long Mountain line to Bay #2. The vacant terminal in Bay #3 is then available for the proposed 345 kV line from Knickerbocker. This solution eliminates the new Knickerbocker line crossing the Long Mountain line.

Similarly, proposal T032 adds a 345 kV breaker to Bay #2 to complete the breaker-and-a-half configuration. The Bay #2 terminal is then available for the proposed 345 kV line from Knickerbocker. This solution makes it necessary for the new Knickerbocker line to cross the Long Mountain line.

Expandability

The proposals do not provide any built-in expandability.

Replacement of Aging Infrastructure

The proposal does not replace any existing equipment.

Client:	NYISO			
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING		
Subject:	Report Draft	COMPANY		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

Potential Additional Upgrade Required for Proposals to Connect to Pleasant Valley Substation

As stated above, all of the proposals for Segment B propose to occupy Bay #2 at the Pleasant Valley Substation. However, based upon the current NYISO interconnection queue, the Cricket Valley Energy Center (CVEC) project—an over 1,000 MW natural gas fired generator located in Dover, New York-- also proposes to interconnect at the Pleasant Valley substation by adding a breaker to Bay #2 completing the breaker-and-a-half configuration.

Currently, the CVEC project is being studied in the NYISO's 2017 Class Year. In the event that the CVEC project accepts its cost allocation from the 2017 Class Year, the proposed project selected by the NYISO will be required to expand the Pleasant Valley Substation to interconnect. Given that such potential upgrades will be similar across all of the proposals, the cost of these potential upgrades has not been included in the independent cost estimates.

Alternate Proposals.

Developer	# of new	# of new	Total new	Proposed	# of
	Lines Transformers elements		Breaker	Breakers	
				Arrangement	
T023	Same as TO	22.			
NextEra					
T030	Same as TO	129.		_	
NAT/NYPA					

Discussion, Expandability and Replacement of Aging Equipment: Refer to paragraphs under Base Proposal.

4.11.1.10. Schodak Substation

Proposals T019, T029 and T030 add 115 kV line breakers. The other proposals do not propose changes at the Schodak substation.

4.11.1.11. Remote Terminal Substations

Protection settings and minor equipment changes will be required at remote substations due to system re-configuration. Greenbush, Milan, Lafarge, North Catskill, Hudson, and Pleasant Valley 115 kV substations are among the substations likely affected.

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEER	
Subject:	ject: Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision:	6

4.11.1.12. Terminal Upgrades

Various terminal upgrades are likely at project-related substations and may result in the replacement of some equipment. The scope of work will be determined during the Facilities Study and detailed engineering.

4.11.2. Transmission Line Design Comparisons

4.11.2.1. Proposed Line Design

The following tables show the Transmission Line Designs proposed by each Developer:

Transmission Line Design Information for Segment A

						CONDUCTOR		TOTAL	STRUCT	URE TYPE	
PROPOSAL	DEVELOPER	SECTOR	LINE LENGTH (Miles)	VOLTAGE (KV)	OF CIRCUIT	ТУРЕ	NO/PH	STEEL MONO POLE	STEEL H-POLE	CONCRETE MONO POLE	COMMENTS
		Edic SS to Princetown Jct.	66.8	345	1	954kcmil CARDINAL ACSS	2	45	316		Edic SS to 12.6 miles - 1 Ckt Reconductoring only
T018	National Grid and NYTransco	Princetown Jct. to New Scotland SS	19.7	345	1	954kcmil CARDINAL ACSS	2	59	70		2.5 Miles-2 Ckts, 345kV & 115kV Line#13
		Princetown Jct. to Rotterdam SS	5.0	345/345	2	954 kcmil CARDINAL ACSS	2	85			
		Edic SS to Princetown Jct.	66.8	345	1	1033.5kcmil CURLEW ACSS	2	10		515	Edic SS to 12.6 miles - 1 Ckt Reconductoring only
T021	NextEra	Princetown Jct. to New Scotland SS	19.9	345	1	1033.5kcmil CURLEW ACSS	2	7		130	2.5 Miles-2 Ckts, 345kV & 115kV Line#13
.021		Princetown Jct. to Rotterdam SS	4.2	345/345	2	1033.5kcmil CURLEW ACSS	2	8		72	
		Princetown Jct. to Rotterdam SS	0.8	230/230	2	1033.5kcmil CURLEW ACSS	1	34			
		Marcy to Church Rd and New Scotland Bypass	2.7	765	1	1351.5kcmil DIPPER ACSR	4	6	10		Edic SS to 12.6 miles - 1 Ckt Reconductoring only
T025	NYPA and NAT	Edic SS to Princetown Jct.	66.8	345	1	954kcmil CARDINAL ACSS	2	62	274		2.5 Miles-2 Ckts, 345kV & 115kV Line#13
		Princetown Jct. to New Scotland SS	19.7	345	1	954kcmil CARDINAL ACSS	2	66	61		
		Princetown Jct. to Rotterdam SS	5.0	345/345	2	954kcmil CARDINAL ACSS	2	74			
		Edic SS to Princetown Jct.	66.8	345	1	954kcmil CARDINAL ACSS	2	62	274		Edic SS to 12.6 miles - 1 Ckt Reconductoring only
T026	NYPA and NAT	Princetown Jct. to New Scotland SS	19.7	345	1	954kcmil CARDINAL ACSS	2	66	61		
		Princetown Jct. to Rotterdam SS	5.0	345/345	2	954kcmil CARDINAL ACSS	2	74			
		Edic SS to Princetown Jct.	78.6	345/345	2	954kcmil CARDINAL ACSS	2	391			Edic SS to 12.6 miles - 1 Ckt Reconductoring only
T027	NYPA and NAT	Princetown Jct. to New Scotland SS	19.7	345/345	2	954kcmil CARDINAL ACSS	2	128			2.5 Miles-2 Ckts, 345kV & 115kV Line#13
		Princetown Jct. to New Scotland SS	6.3	345	1	954kcmil CARDINAL ACSS	2	38			
		Princetown Jct. to Rotterdam SS	5.0	345/345	2	954kcmil CARDINAL ACSS	2	74			
		Edic SS to Princetown Jct.	66.8	345	1	954kcmil CARDINAL ACSS	2	62	274		Edic SS to 12.6 miles - 1 Ckt Reconductoring only
T028	28 NYPA and NAT	Princetown Jct. to New Scotland SS	19.7	345	1	954kcmil CARDINAL ACSS	2	66	61		2.5 Miles-2 Ckts, 345kV & 115kV Line#13
		Princetown Jct. to Rotterdam SS	5.0	345/345	2	954kcmil CARDINAL ACSS	2	74			
		Edic SS to Princetown Jct.	67.2	345	1	954kcmil CARDINAL ACSR	2	42	403		Edic SS to 12.6 miles - 1 Ckt Reconductoring only
T031	ITC	Princetown Jct. to New Scotland SS	19.7	345/345	2	954kcmil CARDINAL ACSR	2	145			
		Princetown Jct. to Rotterdam SS	5.0	345/345	2	954kcmil CARDINAL ACSR	2	8	93		

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

Transmission Line Design Information for Segment B

1L			LINE		NUMBER	CONDUCTOR		TOTAL	STRUCTU	JRE TYPE	
PROPOSAL	DEVELOPER	SECTOR		VOLTAGE (KV)	OF CIRCUIT	ТҮРЕ	NO/ PH	STEEL MONO POLE	STEEL H-POLE	CONCRETE MONO POLE	COMMENTS
	National Grid	Knickerbocker to Churchtown SS	21.9	115/345	2	954kcmil CARDINAL ACSS	2	163	7		
T019	and	Churchtown SS to Pleasant Valley SS	32.3	115/345	2	954kcmil CARDINAL ACSS	2	231			
	NYTransco	Blue Stores Jct to Blue Stores SS	2.1	115	1	795kcmil DRAKE ACSR	1		24		
		Knickerbocker to Churchtown SS	21.9	115/345	2	1033.5kcmil CURLEW ACSS	2	14		145	
T022	NextEra	Churchtown SS to Pleasant Valley SS	32.3	345	1	1033.5kcmil CURLEW ACSS	2	17		229	
		Blue Stores Jct to Blue Stores SS	2.1	115	1	795kcmil DRAKE ACSR	1		24		
		Knickerbocker to Churchtown SS	21.9	115/345	2	1033.5kcmil CURLEW ACSS	2	14		145	
T023	NextEra	Churchtown SS to Pleasant Valley SS	32.3	115/345	2	1033.5kcmil CURLEW ACSS	2	21		229	
		Blue Stores Jct to Blue Stores SS	2.1	115	1	795kcmil DRAKE ACSR	1		24		
		Knickerbocker to Churchtown SS	21.9	115/345	2	954kcmil CARDINAL ACSS	2	161			
T029	NYPA and NAT	Churchtown SS to Pleasant Valley SS	32.3	115/345	2	954kcmil CARDINAL ACSS	2	244			
		Blue Stores Jct to Blue Stores SS	2.1	115	1	795kcmil DRAKE ACSR	1		24		
		Knickerbocker to Churchtown SS	21.9	115/345	2	477kcmil HAWK ACSS	3	161			
T030	NYPA and NAT	Churchtown SS to Pleasant Valley SS	32.3	115/345	2	477kcmil HAWK ACSS	3	244			
		Blue Stores Jct to Blue Stores SS	2.1	115	1	795kcmil DRAKE ACSR	1		24		
		Knickerbocker to Churchtown SS	21.9	115/345	2	954kcmil CARDINAL ACSR	2	158	14		
T032	ITC	Churchtown SS to Pleasant Valley SS	32.1	115/345	3	954kcmil CARDINAL ACSR	2	19	279	_	2x115 kV and 1X345kV Circuits
		Blue Stores Jct to Blue Stores SS	2.1	115	1	795kcmil DRAKE ACSR	1		24		

4.11.2.2. Proposed ROW

All of the transmission line proposals were evaluated to verify that they adequately fit within existing ROW corridors. The evaluation was based on conductor swingout using maximum blow out at 6 psf wind, maximum deflection and electrical clearance requirements. All proposals were found to be adequate.

4.11.2.3. Clearances

Electrical clearance to ground was checked to ensure compliance with NESC requirements. All proposed designs exceed NESC minimum clearances with a two to three foot margin. Including at least a two foot additional buffer in the design is good utility practice for construction tolerances and survey adjustments/errors.

4.11.2.4. **EMF**

NY State Public Service Commission policy limits the electrical and magnetic fields produced by a transmission line. The maximum limits at the edge of the right of way for the electrical field is 1.6

Client:	NYISO		
Project:	AC Transmission Project Evaluation	SECO SUBSTATION ENGINEERING	
Subject:	Report Draft	COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

kilovolts per meter (kV/m)⁴ and for the magnetic field is 200 milligauss (mG)⁵. The existing transmission line corridor (345 kV Lines #14 and #18, and 115 kV Line #13 are located on that corridor) between Princetown Junction and New Scotland Substation is currently estimated to exceed NYPSC standards for EMF levels. The designs for proposals T018, T021, T026, and T028 improve the EMF exceedance condition, but EMF levels are still estimated to exceed the standards. Although the proposed designs may actually improve existing levels on this transmission corridor, current NYPSC Article VII regulations will require that any project proposing upgrades on the corridor need to correct the exceedance to comply with current standards. Calculations provided by the Developers are preliminary in nature and will have to be confirmed during detailed engineering design. The findings might result in purchasing of new EMF easements from property owners along the ROW between Princetown and New Scotland.

Additionally, proposal T025 proposed conversion of the 345 kV line between Marcy substation and the proposed Knickerbocker substation to 765 kV will likely increase EMF levels beyond NYPSC standards and would also require acquisition of additional easements.

The double circuit 345 kV line construction for Proposal T027 appears to mitigate the EMF exceedance. The physical configuration and phasing of this new line may have the effect of interacting with the electric fields from the existing line #14 to reduce the net EMF effect to acceptable levels.

It should be noted that SECo did not perform independent EMF calculations. Developers provided calculations that were checked for their reasonableness within the context of the PSC EMF standards. The calculations provided by all Developers have a reasonable correlation to one another for similar arrangements and appear to be a good preliminary indication of the potential EMF levels. The additional ROW requirements shown in this report are estimates based on information provided by the Developers and subject to round off and preliminary nature of the design. The exact ROW requirements will need to be determined once the final design is complete. An allowance was included in the independent cost estimate to allow for the purchase of additional easements associated with EMF mitigation.

⁴ The applicable electric field strength standards established by the PSC are set forth in Opinion No. 78-13 (issued June 19, 1978).

⁵ The magnetic field standards established by the PSC are set forth in the PSC's Interim Policy Statement on Magnetic Fields, issued September 11, 1990. This statement also reaffirmed the electric field strength standards set in Opinion No. 78-13.

Client:	NYISO		•	
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING		
Subject:	Report Draft	COMPANY		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

The following table summarizes the EMF results provided by the developers and the estimated additional ROW that is likely to be required to mitigate the EMF levels.

EMF Results Provided by the Developers and Estimated Additional ROW

			LINE				EN	ИF			
PROPOSAL	Developer						@ Edge of DW	Estimated ROW Req			
PRC		Sector	Voltage (kV)	Length (miles)	Corridor Width (ft.)	Max. Electric Field (kV/m)	Max. Magnetic Field (mG)	Width (ft.)	Area (Acres)		
			345	6.3	370	1.9	94.6	10	7.6		
∞	National Grid and	Princetown Jct. to New	345	4.3	590	1.9	59.2	10	5.2		
T018	NYTransco	Scotland SS	345/115	2.5	450	1.9	83.4	10	3.0		
'	NT TTAIISCO	Scolatia 33	345	6.6	590	1.9	59.2	10	8.0		
				19.7					23.9		
			345	6.5	370	1.7	140.0	10	7.9		
Σ.		Princetown Jct. to New	345	4.3	590	1.8	150.0	10	5.2		
T021	NextEra Energy	Scotland SS	345/115	2.5	450	1.8	150.0	10	3.0		
			345	6.6	590	1.8	170.0	10	8.0		
				19.9	4=0				24.1		
			765	0.4	470	0.3	50.0		0.0		
			765	1.3	675	2.7	125.0	25	4.0		
	NYPA / NAT	Marcy SS to Knickerbocker	765	33.7	360-380	-	-	23	93.8		
			765	2.0	570	2.6	161.0	23	5.5		
			765	27.7	345-380	- 0.7	- 040.0	23	77.2		
			765	6.3	370	2.7	212.0	25	19.1		
10			765	4.3	590	2.6	148.0	23	11.9		
T025			765 765	2.5	450 590	2.7	188.0 148.0	25	7.6 17.1		
-			765	6.1 1.0	615	2.6 1.4	119.0	23	0.0		
			765	1.0	615	0.2	27.0		0.0		
			765	1.1	400	0.2	232.0		0.0		
			765	1.5	400	1.9	100.0	9	1.6		
			765	5.1	250	1.7	92.0	8	5.0		
			765	3.0	750	0.4	187.0	0	0.0		
			703	97.9	730	0.4	107.0		242.9		
			345	6.3	370	1.8	208.0	10	7.6		
T026 & T028			345	4.3	590	1.9	150.0	10	5.2		
∞	NYPA / NAT	Princetown Jct. to New	345/115	2.5	450	1.9	188.0	10	3.0		
26		Scotland SS	345	6.6	590	1.8	185.0	10	8.0		
10			340	19.7	330	1.0	100.0	10	23.9		
		1	345	6.3	370	1.3	123.0		0.0		
١.		Director of the M	345	4.3	590	1.2	122.0		0.0		
T027	NYPA / NAT	Princetown Jct. to New	345	2.5	450	1.2	124.0		0.0		
Ē		Scotland SS	345	6.6	590	1.2	122.0		0.0		
				19.7					0.0		
			345	6.3	370	<1.0	<100	10	7.6		
l _		Dringotourn let to Name	345	4.3	590	-	-	10	5.2		
T031	ITC	Princetown Jct. to New	345/115	2.5	450	-	-	10	3.0		
-		Scotland SS	345	6.6	590	-	-	10	8.0		
				19.7					23.9		
	l	Ĭ.		13.1					20.5		

4.11.2.5. Transmission Line Conductor Ampacity Ratings

Client:	NYISO			
Project:	AC Transmission Project Evaluation	SUBSTATION ENGINEERING		
Subject:	Report Draft	C O M P A N Y		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

The following tables show a summary of the proposed line lengths, conductor types and conductor ratings for each proposal. No concerns were identified with the proposed conductor types and sizes.

Segment A Transmission Line Conductor Ampacity Ratings

Segment A								SECO CA	ALCULATED	
SAL			Line			CONDUCTOR		STEADY STATE		
PROPOSAL	DEVELOPER	SECTOR	Length (Miles)	VOLTAGE (KV)	NUMBER OF LINE	ТҮРЕ	NO/ PH	THERMAL RATING (AMPS)	CONDUCTOR RATING (MVA)	
		Edic SS to Rotterdam SS	71.8	345	1	954kcmil CARDINAL ACSS	2	4072.8	2433.7	
T018	National Grid and NYTransco	Edic SS to New Scotland SS	86.5	345	1	954kcmil CARDINAL ACSS	2	4072.8	2433.7	
		Rotterdam SS to New Scotland SS	24.7	345	1	954kcmil CARDINAL ACSS	2	4072.8	2433.7	
		Edic SS to Princetown SS	71.0	345	1	1033.5kcmil CURLEW ACSS	2	4293.2	2565.4	
T021	NextEra	Edic SS to New Scotland SS	86.7	345	1	1033.5kcmil CURLEW ACSS	2	4293.2	2565.4	
1021	Nextera	Princetown SS to Rotterdam SS	0.8	230	1	1033.5kcmil CURLEW ACSS	1	2147.0	855.3	
		Princetown SS to Rotterdam SS #2	0.8	230	1	1033.5kcmil CURLEW ACSS	1	2147.0	855.3	
		Edic SS to Rotterdam SS	71.8	345	1	954kcmil CARDINAL ACSS	2	3678.2	2197.9	
T025	NYPA and NAT	Edic SS to New Scotland SS	86.5	345	1	954kcmil CARDINAL ACSS	2	3678.2	2197.9	
1025	NYPA and NAI	Rotterdam SS to New Scotland SS	24.7	345	1	954kcmil CARDINAL ACSS	2	3678.2	2197.9	
		Marcy to New Scotland SS	85.7	765	1	1351.5kcmil DIPPER ACSR	4	3210.0	4253.3	
		Edic SS to Rotterdam SS	71.8	345	1	954kcmil CARDINAL ACSS	2	3678.2	2197.9	
T026 & T028	NYPA and NAT	Edic SS to New Scotland SS	86.5	345	1	954kcmil CARDINAL ACSS	2	3678.2	2197.9	
		Rotterdam SS to New Scotland SS	24.7	345	1	954kcmil CARDINAL ACSS	2	3678.2	2197.9	
		Edic SS to Rotterdam SS	71.8	345	1	954kcmil CARDINAL ACSS	2	3678.2	2197.9	
T027	NYPA and NAT	Edic SS to New Scotland SS	86.5	345	1	954kcmil CARDINAL ACSS	2	3678.2	2197.9	
1027	NIPA and NAI	Edic SS to New Scotland SS #2	86.5	345	1	954kcmil CARDINAL ACSS	2	3678.2	2197.9	
		Rotterdam SS to New Scotland SS	24.7	345	1	954kcmil CARDINAL ACSS	2	3678.2	2197.9	
		Edic SS to Rotterdam SS	72.2	345	1	954kcmil CARDINAL ACSR	2	3162.0	1889.5	
T031	ITC	Edic SS to New Scotland SS	86.9	345	1	954kcmil CARDINAL ACSR	2	3162.0	1889.5	
		Rotterdam SS to New Scotland SS	24.7	345	1	954kcmil CARDINAL ACSR	2	3162.0	1889.5	

Client:	NYISO		•
Project: AC Transmission Project Evaluation		SEED SUBSTATION ENGINEERING	
Subject: Report Draft		COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision: 6	

Segment B Transmission Line Conductor Ampacity Ratings

Segn	nent B							SECO CA	LCULATED
1F			1			CONDUCTOR		STEADY STATE	
PROPOSAL	DEVELOPER	SECTOR	Line Length (Miles)	VOLTAGE (KV)	NUMBER OF LINE	ТҮРЕ	NO/ PH	THERMAL RATING (AMPS)	CONDUCTOR RATING (MVA)
		Knickerbocker to Pleasant Valley	54.2	345	1	954kcmil CARDINAL ACSS	2	3910.0	2336.4
T019	National Grid and NYTransco	Knickerbocker to Pleasant Valley	54.2	115	1	954kcmil CARDINAL ACSS	1	1955.0	389.4
		Blue Stores Jct to Blue Stores SS	2.1	115	1	795kcmil DRAKE ACSR	1	1364.5	271.8
T022	NextEra	Knickerbocker to Pleasant Valley	54.2	345	1	1033.5 CURLEW ACSS	2	3440.0	2055.6
1022	Nextera	Knickerbocker to Churchtown	21.9	115	1	795kcmil DRAKE ACSS	1	1495.0	297.8
T023	NextEra	Knickerbocker to Pleasant Valley	54.2	345	1	1033.5 CURLEW ACSS	2	3440.0	2055.6
1023	Nextera	Knickerbocker to Pleasant Valley	54.2	115	1	795kcmil DRAKE ACSS	1	1495.0	297.8
T029	NYPA and NAT	Knickerbocker to Pleasant Valley	54.2	345	1	954kcmil CARDINAL ACSS	2	3882.8	2320.2
1029	NTPA dilu NAT	Knickerbocker to Pleasant Valley	54.2	115	1	954kcmil CARDINAL ACSS	1	1941.4	386.7
T030	NYPA and NAT	Knickerbocker to Pleasant Valley	54.2	345	1	477kcmil HAWK ACSS	3	4195.8	2507.2
1030	NYPA and NAT	Knickerbocker to Pleasant Valley	54.2	115	1	954kcmil CARDINAL ACSS	1	2126.1	423.5
		Knickerbocker to Pleasant Valley	54.0	345	1	954kcmil CARDINAL ACSR	2	3162.0	1889.5
T032	ITC	Knickerbocker to Pleasant Valley	54.0	115	1	954kcmil CARDINAL ACSR	1	1581.0	314.9
		Churchtown to Pleasant Valley	32.1	115	1	954kcmil CARDINAL ACSR	1	1581.0	314.9

Results based on Conductor Maximum temperature and Ambient temperature as shown in table above, Absorptivity and Emissivity 0.6 and Wind 3 ft/s

4.11.2.6. Structure Heights

Tables summarizing the structure height increase for each proposal is shown in the Environmental Section 4.9. The heights were derived from each Devlopers proposed designs and PLSCadd models provided.

4.11.2.7. Structural Design Criteria

The transmission line structural design criteria were evaluated for all of the proposals.

The following table summarizes the criteria used. All proposals meet minimum standards as defined by the 2017 version of the National Electric Safety Code Section 25 for this region of the country and are within the guidelines of the Third Edition of ASCE's Manual 74 "Guidelines for Electrical Transmission Line Structural Loading".

Client:	NYISO		•
Project: AC Transmission Project Evaluation		SEED SUBSTATION ENGINEERING	
Subject: Report Draft		COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision: 6	

DESIGN CRITERIA REQUIREMENT COMPARISON FOR THE TRANSMISSION LINE DESIGNS

			STANDARD	REQIRE	MENTS
Case No.	Case Description	Wind Load (mph)	Radial Thickness of ice (inches)	Temp (°F)	Standard
1	NESC Heavy	39.5	0.5	0	NESC - 250B
2	Extreme Wind 1	90	0	60	NESC - 250C
3	Extreme Ice and Wind	40	0.75	15	NESC - 250D
4	Extreme Ice				Not Required by NESC or ASCE Loading Guideline 74

COMPARISON WITH DEVELOPER'S DESIGN CRITERIA			
National Grid/ NY Transco	NextEra	NYPA/NAT	ITC
Ok	Ok	Ok	Ok
Ok 1	Ok 1	Exceeds (100MPH)	Exceeds (100MPH)
Ok	Ok	Ok	Ok
1.5" Ice & 2psf Wind (structure overload factor of 1.1)	1.5" Ice & 0psf Wind (structure overload factor of 1.0)	1" Ice & 0psf Wind (structure overload factor of 1.0)	1" Ice & 0psf Wind (structure overload factor of 1.0)

¹ Columbia County & <u>Dutchess</u> County are in the "Special Wind Region" as defined by the NESC. NYPA/NAT & ITC address this by exceeding the requirements of 250C. It is likely that the NESC 250D load case and/or the Extreme Ice case will control the design for National Grid & <u>Nextera</u> which will adequately address any special wind concerns.

The National Grid/Transco proposals T018 and T019 include noticeably heavier duty structures and foundations than other similar proposals. As stated in their proposal, their design "uses significantly heavier ice loadings than required by code and implements several techniques to mitigate cascading structure failures." Use of these more stringent design criteria does result in higher transmission line structure and foundation costs.

It was also observed that National Grid's proposal uses more concrete foundations as compared to NAT/NYPA proposals. To ensure that NAT/NYPA were not under designing their foundations, SECo completed a spot check of the NAT/NYPA foundation designs using the geotechnical data that they provided. SECo found that NAT/NYPA's proposed foundations were adequate.

4.11.2.8. Potential Issues with Conversion of Line to 765 kV

A preliminary assessment was completed of the feasibility of the NAT/NYPA 765 KV option T025 proposal. The assessment is based on data provided in NAT/NYPA's proposal and as obtained from Developer and National Grid responses to RFIs. SECo

concludes that the conversion of the line is technically feasible. However, as suggested in the NAT/NYPA's "765 kV Conversion Feasibility Study" document, additional detailed engineering study, survey and field testing must be performed prior to implementation of the project. The review team also believe that the final cost of this conversion may vary widely depending on the potential remedial work recommended as the result of more detailed study. NAT/NYPA have provided rough estimates to indicate possible range of costs.

Client:	NYISO		
Project: AC Transmission Project Evaluation		SEED SUBSTATION ENGINEERING	
Subject:	Subject: Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision: 6	

The assessment focused on the following technical criteria:

- Condition of Existing Transmission Line The existing transmission line is approximately 40 years old and has been operated at 345 kV since its construction.
 Based on visual observation of portions of the line it appears that the line has been well maintained and is in very good physical condition.
- Clearances NAT/NYPA has obtained Light Detection and Ranging survey (Lidar) data for roughly 1/3 of the existing line length to be converted to 765 kV operation. They state that they have evaluated that data and determined that their proposal will meet current day clearance standards. SECo also reviewed the Lidar data and concurs with NAT/NYPA's conclusion. SECo has obtained PLSCadd files for the proposed line from NAT/NYPA and found the design line to ground clearance on the line is 44ft. The minimum calculated ground clearance requirement for 765 kV line based on NESC 2012- Rule 232C1a and Table 232-1 is 33.2 feet. The maximum operating temperature of the line as proposed by the Developer will be less than the original design operating temperature of the line. Based on the information put forth by NAT/NYPA and our own evaluation of the partial data received from National Grid, we agree that ground clearance should not be an issue, with the exception of one span between Smith Hill Road and Newport Road. Our independent cost estimate does not include any costs to correct clearance issues.
- Insulation NAT/NYPA has evaluated the insulation of the existing line and documented their findings in their 765 kV conversion feasibility study report. They show that the insulation level and air gaps are adequate for 765 kV operation and plan to confirm their findings by performing a system transient analysis study. Our independent cost estimate doesn't include any dollars to correct insulation issues.
- EMF NAT/NYPA has provided an assessment regarding EMF requirements and has
 calculated the amount of additional easement required to address EMF needs. Our
 independent cost estimate includes the cost of the additional easements required
 to mitigate EMF.
- Corona There is concern that corona may likely be an issue with the existing line construction. SECo has contacted a major conductor hardware supplier and learned that some improvements have been made to the corona performance of transmission line hardware since the existing line was constructed. SECo does not have drawings that show the hardware used in the existing construction. Based on photos, taken at several locations throughout the line, it does not appear that the line was constructed with corona rings. Remedial work may be required to correct corona issues on the existing line. A rough cost estimate needed to potentially mitigate corona issues if detailed engineering study confirms the need, was included

Client:	NYISO			
Project:	ject: AC Transmission Project Evaluation		SEED SUBSTATION ENGINEERING	
Subject: Report Draft		COMPANY		
Document No.:	AC Transmission Report 05 25 18	Revision:	6	

in the cost estimates. The additional cost estimate is to replace hardware (not including insulators) on 83 miles of the existing line and completely rebuild approximately 13-mile of the existing line north of Knickerbocker. The rebuild of the 13 mile section might be required since that section was originally constructed with a bundle of three conductors per phase while the remaining line was constructed with a 4 bundle per phase. These costs have been included as a Network Upgrade Facilities costs in the independent cost estimate.

4.11.2.9. Use of Concrete Poles

NextEra proposes to use concrete poles. Due to the length and weight of concrete poles careful planning during detailed engineering will be required to develop delivery and construction plans for each pole site. NextEra has provided documentation demonstrating that they and the proposed supplier have investigated the logistics of the pole delivery and installations. This investigation includes field reviews, production schedules; as well as delivery methods and routes. In general, the review team determined that the preliminary field review process and planning has considered many of the issues/obstacles that may be confronted during delivery and construction. The Developer's plan has considered some of the concerns associated with transport, public protection and community impacts. And the option to utilize multi-piece steel poles provides a clear mitigation for problem areas. But as with all project risks, early detection, planning and mitigation are key to avoiding unexpected and untimely schedule and financial impacts. The review team recommends that a more detailed and robust plan and risk mitigation be developed during detailed engineering.

Additionally, the installation of full length concrete poles as opposed to multi-piece steel poles requires significantly more equipment and labor to install. The concrete poles range in length up to 135 feet and weigh up to 62,000 pounds vs. steel pole sections (steel poles typically include three sections) up to 50 feet long and 16,000 pounds. Larger capacity cranes for offloading and setting the poles, heavy duty trucks to move poles on the right of way, larger work pad areas a with additional and thicker matting, heavier duty construction access roads with wider turning radius, and additional labor to rig and maneuver the poles is required.

These incremental installation costs were considered in the estimates.

4.11.2.10. Operations Concerns

4.11.2.10.1. Transmission Line Crossings

Overhead Transmission line wire crossings could be an area of risk due to the possibility of an upper circuit failing and falling into a lower circuit (or circuits) below.

Client:	NYISO	1SECO	•
Project:	AC Transmission Project Evaluation		RING
Subject: Report Draft		COMPANY	
Document No.:	AC Transmission Report 05 25 18	Revision:	6

- At Edic all Developers, except for ITC, have proposed to relocate the existing Fraser line into a new bay and terminate the new line in the vacated Fraser terminal. ITC (T031) instead terminates the new line into the new terminal and crosses the Fraser line.
- A similar situation applies to the Pleasant Valley substation, where all Developers
 except ITC propose to relocate the existing Long Mountain line to a new bay allowing
 the new line to terminate without a crossing.
- At the New Scotland substation, National Grid/Transco and NextEra propose to cross the existing Blenheim Gilboa to New Scotland (Line #672) and New Scotland to Leeds (Line# 686) 345 kV lines to terminate at the New Scotland substation

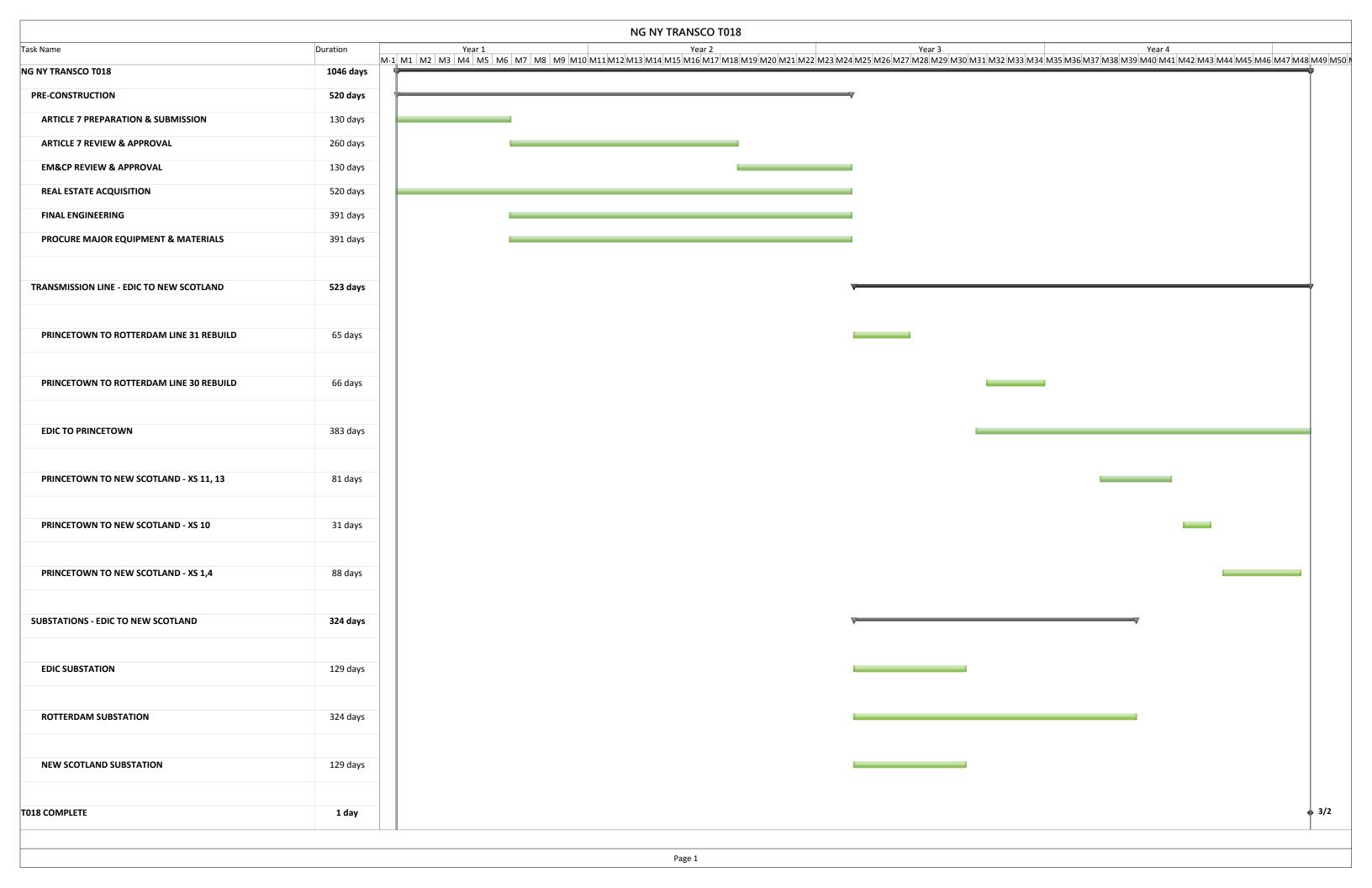
4.11.2.10.2. Triple Circuit Concerns

ITC's Segment B proposal T032 proposes using triple circuit structures between Churchtown Substation and Pleasant Valley Substation. The proposed structures are in a two-pole configuration with one 345 kV circuit attached horizontally to an upper crossarm and two 115 kV circuits attached side by side horizontally to a lower crossarm. The proposed compact design conserves space within the transmission corridor but creates an operational concern. Future maintenance of the transmission circuits and associated structures may depend on the outage availability of all the circuits attached. A maintenance plan must be developed prior to putting this configuration into service.

Client:	NYISO		
Project: AC Transmission Project Evaluation		SECO SUBSTATION ENGINEERING	
Subject:	Subject: Report Draft		
Document No.:	AC Transmission Report 05 25 18	Revision: 6	

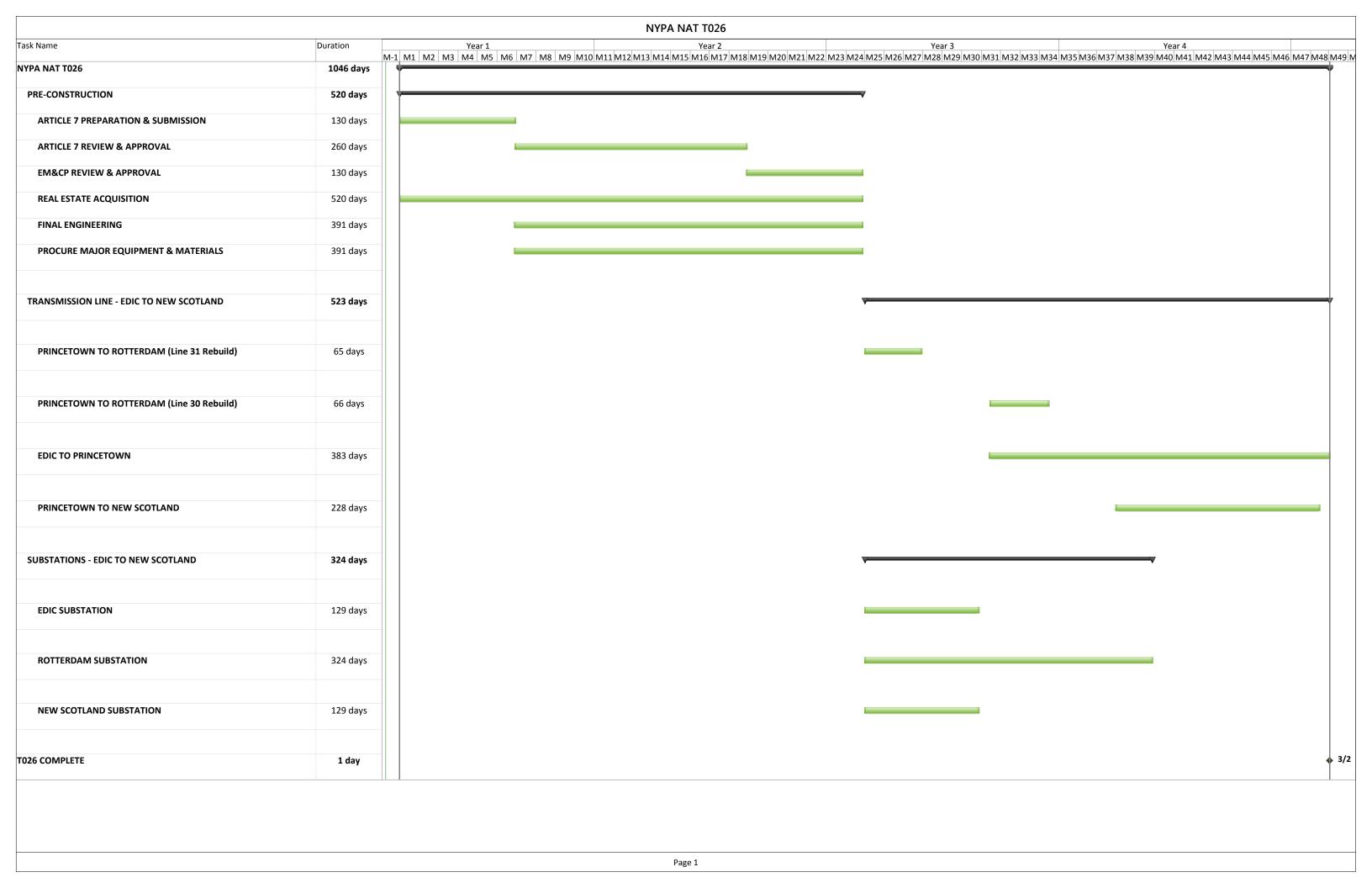
5. Attachments

- 5.1. Attachment A Schedule Gantt Charts
- **5.2.Attachment B -Independent Estimates**
 - 5.2.1.National Grid (NGRID) (T018)
 - 5.2.2.NextEra Energy Transmission New York (T021)
 - 5.2.3.North America Transmission/New York Power Authority (NAT/NYPA) 765 kV Proposal #1 (T025)
 - 5.2.4.North America Transmission/New York Power Authority (NAT/NYPA) Base Proposal (T026)
 - 5.2.5.North America Transmission/New York Power Authority (NAT/NYPA) Double Circuit (T027)
 - 5.2.6.North America Transmission/New York Power Authority (NAT/NYPA) Enhanced (T028)
 - 5.2.7.ITC (T031)
 - 5.2.8. National Grid (NGRID) (T019)
 - 5.2.9.NextEra Energy Transmission New York (T022)
 - 5.2.10. NextEra Energy Transmission New York Alternative (T023)
 - 5.2.11. North America Transmission/New York Power Authority (NAT/NYPA) Base (T029)
 - 5.2.12. North America Transmission/New York Power Authority (NAT/NYPA) Enhanced (T030)
 - 5.2.13. ITC (T032)

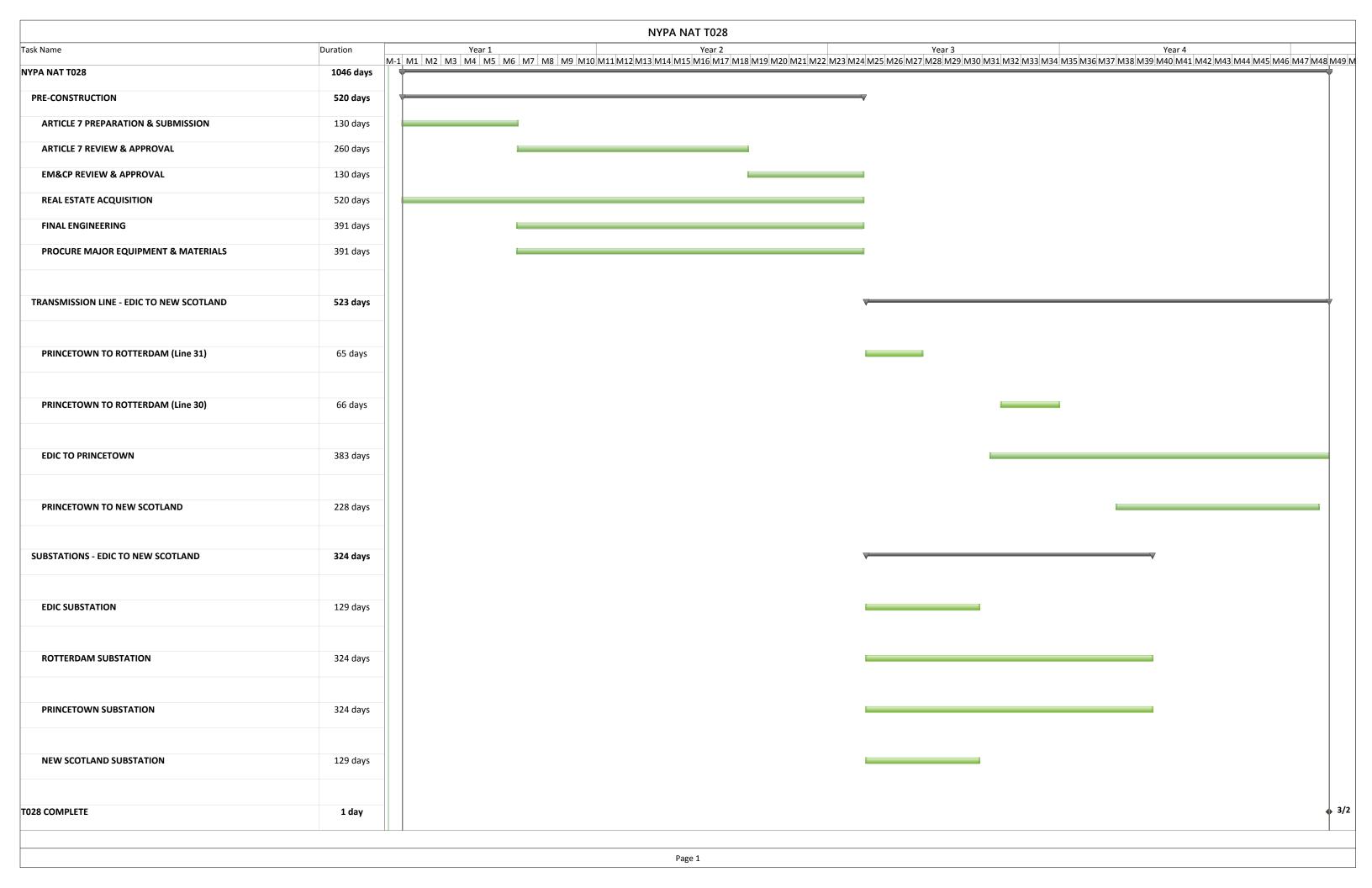


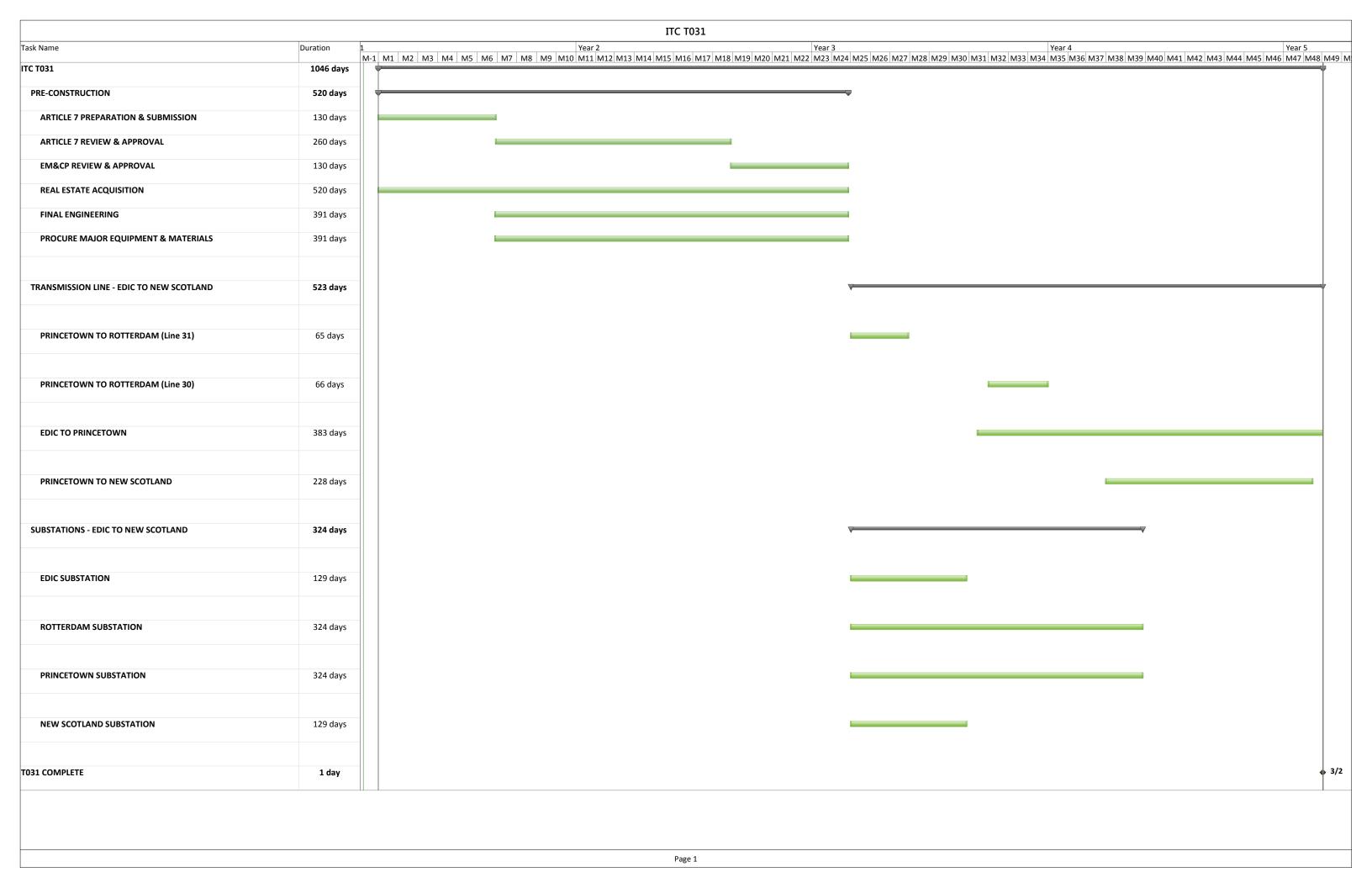
		NEXTERA T021
ask Name	Duration M-	Year 1 Year 2 Year 3 Year 4 1 M1 M2 M3 M4 M5 M6 M7 M8 M9 M10 M11 M12 M13 M14 M15 M16 M17 M18 M19 M20 M21 M22 M23 M24 M25 M26 M27 M28 M29 M30 M31 M32 M33 M34 M35 M36 M37 M38 M39 M40 M41 M42 M43 M44 M45 M46 M47
EXTERA T021	1046 days	
PRE-CONSTRUCTION	520 days	V V
ARTICLE 7 PREPARATION & SUBMISSION	130 days	
ARTICLE 7 REVIEW & APPROVAL	260 days	
EM&CP REVIEW & APPROVAL	130 days	
REAL ESTATE ACQUISITION	520 days	
FINAL ENGINEERING	391 days	
PROCURE MAJOR EQUIPMENT & MATERIALS	391 days	
TRANSMISSION LINE - EDIC TO NEW SCOTLAND	523 days	
THE POST OF THE PO	323 day3	· ·
DDINCETOWN TO DOTTERDAM (1:22.24)	GE deve	
PRINCETOWN TO ROTTERDAM (Line 31)	65 days	
PRINCETOWN TO ROTTERDAM (Line 30)	66 days	
EDIC TO PRINCETOWN	383 days	
PRINCETOWN TO NEW SCOTLAND	228 days	
SUBSTATIONS - EDIC TO NEW SCOTLAND	324 days	lacksquare
EDIC SUBSTATION	129 days	
PRINCETOWN SUBSTATION	324 days	
NEW SCOTLAND SUBSTATION	129 days	

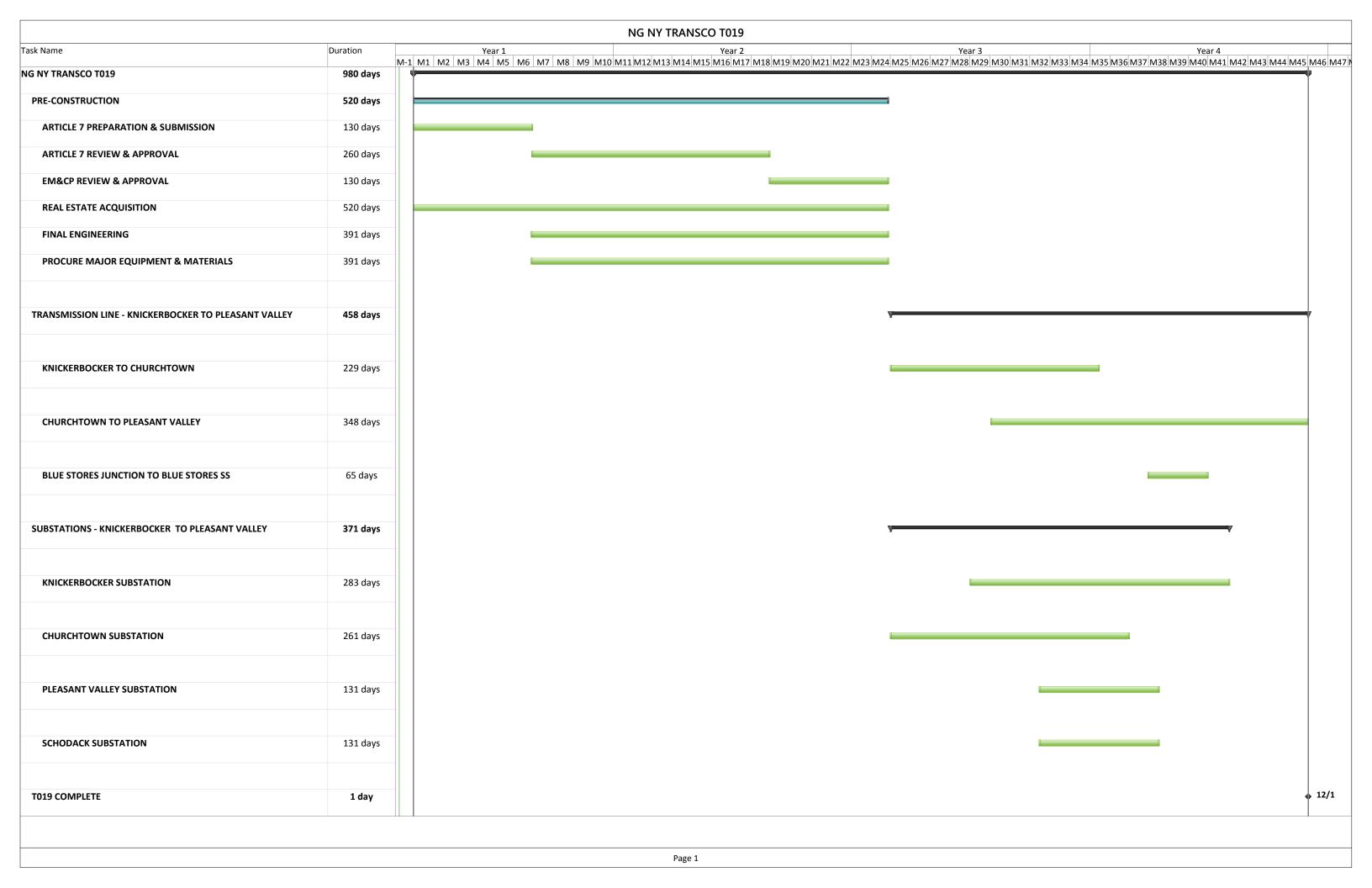
Task Name NYPA NAT T025 PRE-CONSTRUCTION ARTICLE 7 PREPARATION & SUBMISSION ARTICLE 7 REVIEW & APPROVAL	Duration M-1 1089 days 563 days	Year 1 Year 2 Year 3 Year 4 Year 4 Year 4 Year 1 Year 4 Ye
PRE-CONSTRUCTION ARTICLE 7 PREPARATION & SUBMISSION	1089 days	
ARTICLE 7 PREPARATION & SUBMISSION	563 days	
ARTICLE 7 REVIEW & APPROVAL	130 days	
	281 days	
EM&CP REVIEW & APPROVAL	152 days	
REAL ESTATE ACQUISITION	563 days	
FINAL ENGINEERING	433 days	
PROCURE MAJOR EQUIPMENT & MATERIALS	433 days	
TRANSMISSION LINE - EDIC TO NEW SCOTLAND	522 days	
PRINCETOWN TO ROTTERDAM Line 31 Rebuild	65 days	
PRINCETOWN TO ROTTERDAM Line 30 Rebuild	66 days	
EDIC TO PRINCETOWN	383 days	
MARCY TO EDIC 765kV REBUILD	68 days	
NEW SCOTLAND 765kV REBUILD	68 days	
PRINCETOWN TO NEW SCOTLAND	219 days	
SUBSTATIONS - EDIC TO NEW SCOTLAND	455 days	▼
EDIC SUBSTATION	129 days	
KNICKERBOCKER SUBSTATION	324 days	
PRINCETOWN SUBSTATION	324 days	
NEW SCOTLAND SUBSTATION	129 days	
MARCY SUBSTATION	90 days	
25 COMPLETE	1 day	

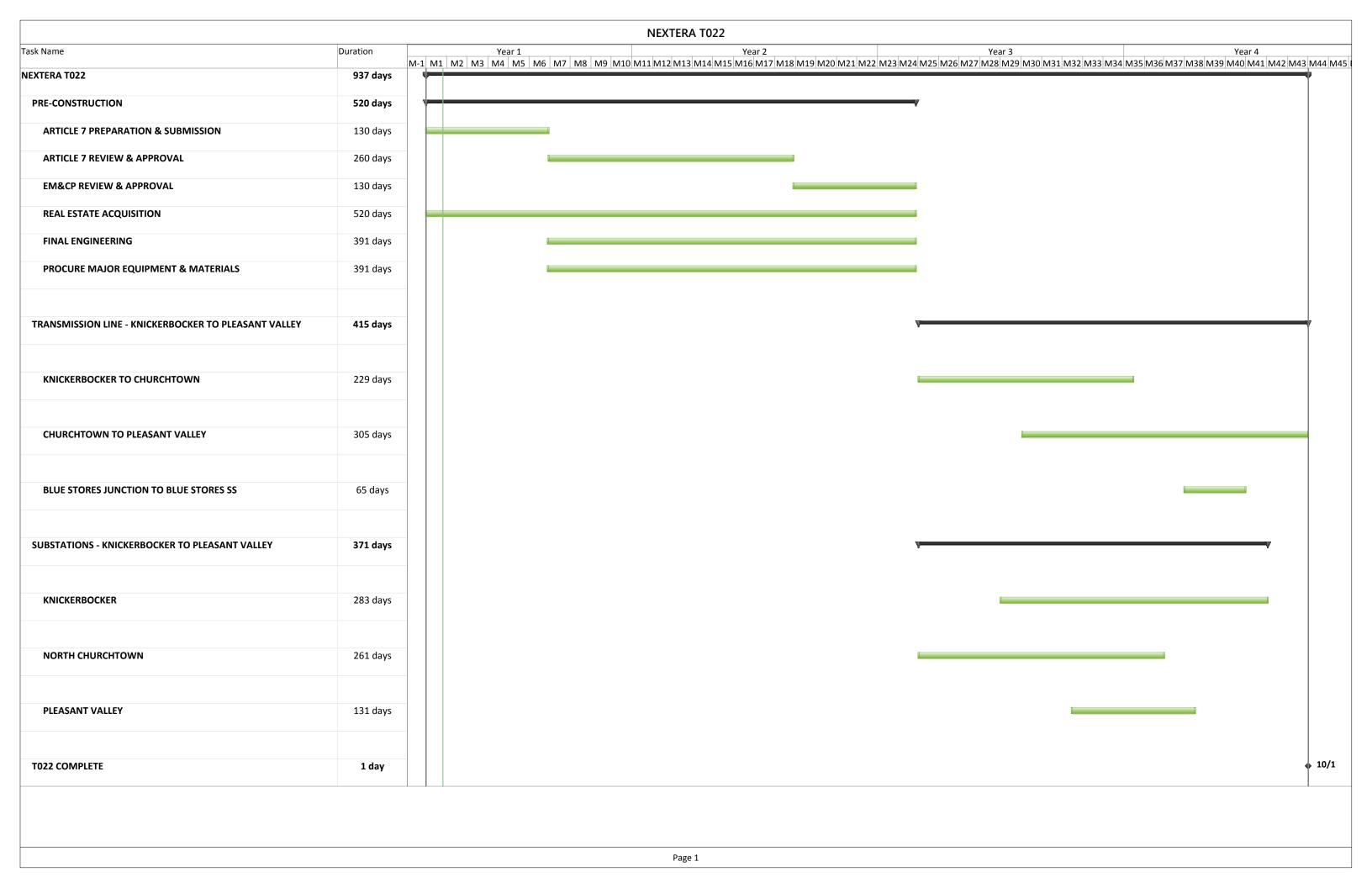


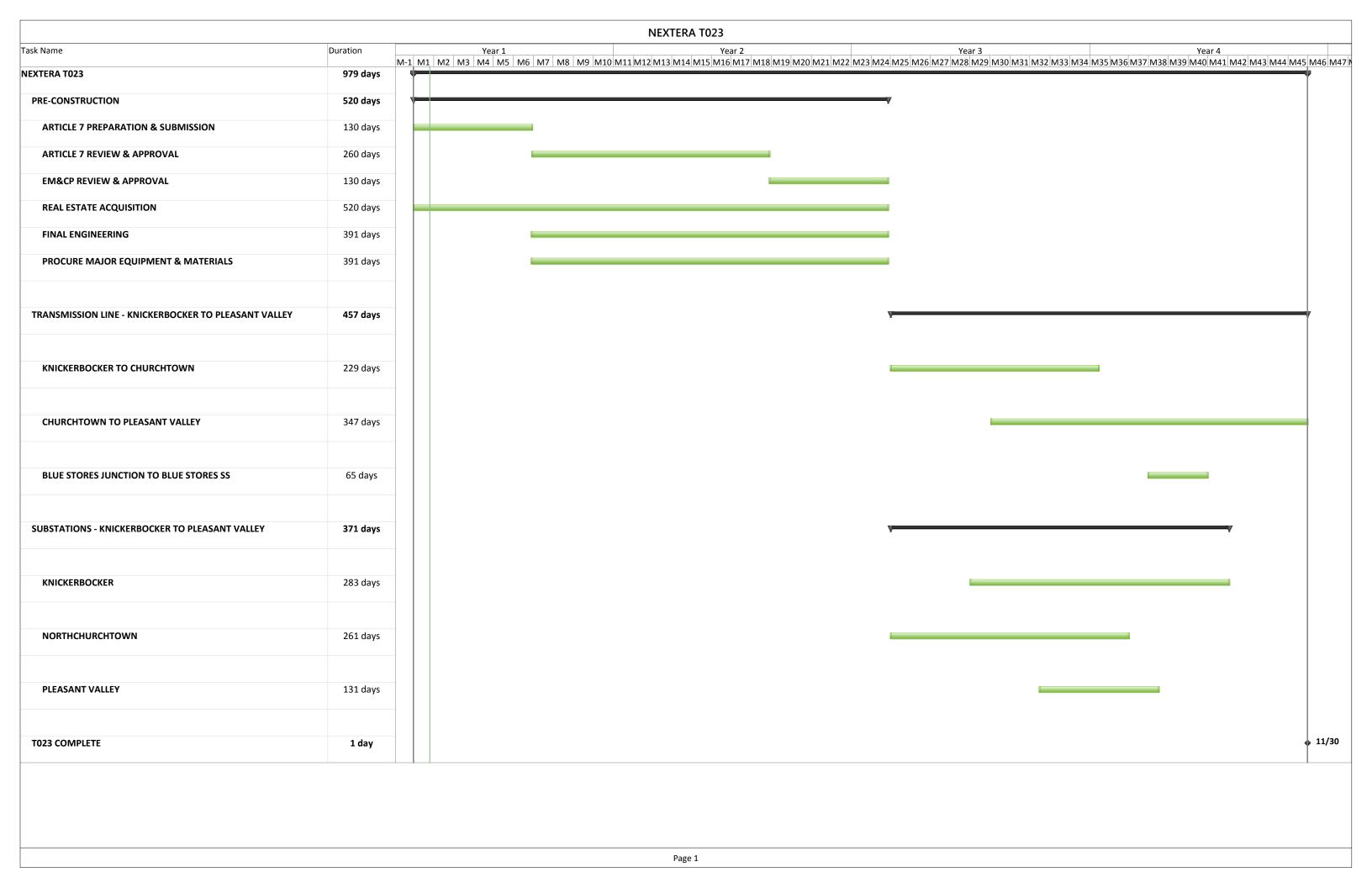












			NYPA NAT T029		
ask Name		Year 1 M1 M2 M3 M4 M5 M6 M7 M8 M9 N	Year 2 M10 M11 M12 M13 M14 M15 M16 M17 M18 M19 M20 M21 M3	Year 3 22 M23 M24 M25 M26 M27 M28 M29 M30 M31 M32 M33 M34 M3	Year 4 85 M36 M37 M38 M39 M40 M41 M42 M43 M44 M45 r
IYPA NAT T029	980 days				
PRE-CONSTRUCTION	520 days				
ARTICLE 7 PREPARATION & SUBMISSION	130 days				
ARTICLE 7 REVIEW & APPROVAL	260 days				
EM&CP REVIEW & APPROVAL	130 days				
REAL ESTATE ACQUISITION	520 days				
FINAL ENGINEERING	391 days				
PROCURE MAJOR EQUIPMENT & MATERIALS	391 days				
TRANSMISSION LINE - KNICKERBOCKER TO PLEASANT VALLEY	458 days			V	
KNICKERBOCKER TO CHURCHTOWN	229 days				
	,				
CHURCHTOWN TO PLEASANT VALLEY	348 days				
CHOREHOWN TO FEEDANT VALLET	340 day3				
BLUE STORES JUNCTION TO BLUE STORES SS	65 days				
BEDE STORES JONCHON TO BEDE STORES 33	03 days				
CURSTATIONS KNICKERROCKER TO DIFACANT VALLEY	274 days				
SUBSTATIONS - KNICKERBOCKER TO PLEASANT VALLEY	371 days			V	· ·
KNICKERBOCKER	283 days				
CHURCHTOWN	261 days				
PLEASANT VALLEY	131 days				
SCHODACK	131 days				
TO29 COMPLETE	1 day				•

Tarle Name	D	NYPA NAT T030
sk Name		Year 1 Year 2 Year 3 Year 4 M-1 M1 M2 M3 M4 M5 M6 M7 M8 M9 M10 M10
YPA NAT T030	980 days	
PRE-CONSTRUCTION	520 days	
ARTICLE 7 PREPARATION & SUBMISSION	130 days	
ARTICLE 7 REVIEW & APPROVAL	260 days	
EM&CP REVIEW & APPROVAL	130 days	
REAL ESTATE ACQUISITION	520 days	
FINAL ENGINEERING	391 days	
PROCURE MAJOR EQUIPMENT & MATERIALS	391 days	
TRANSMISSION LINE - KNICKERBOCKER TO PLEASANT VALLEY	458 days	
	-30 day3	
VALICKED DOCKED TO CHARGE TOWAR	220 1	
KNICKERBOCKER TO CHURCHTOWN	229 days	
CHURCHTOWN TO PLEASANT VALLEY	348 days	
BLUE STORES JUNCTION TO BLUE STORES SS	65 days	
SUBSTATIONS - KNICKERBOCKER TO PLEASANT VALLEY	371 days	V
KNICKERBOCKER	283 days	
CHURCHTOWN	261 days	
DI FASANT VALLEY	121 4	
PLEASANT VALLEY	131 days	
SCHODACK	131 days	
O30 COMPLETE	1 day	

l. Name		ITC T032
k Name	Duration M-1	Year 1 Year 2 Year 3 Year 3 Year 4 M1 M2 M3 M4 M5 M6 M7 M8 M9 M10 M11 M12 M13 M14 M15 M16 M17 M18 M19 M20 M21 M22 M23 M24 M25 M26 M27 M28 M29 M30 M31 M32 M33 M34 M35 M36 M37 M38 M39 M40 M41 M42 M43 M44 M45 M46 M44 M45 M46 M46 M47 M35 M36 M37 M38 M39 M30 M31 M32 M33 M34 M35 M36 M37 M38 M39 M30 M31 M32 M38 M39 M30 M31 M32 M33 M34 M35 M36 M37 M38 M39 M30 M31 M32 M33 M34 M35 M36 M37 M38 M39 M30
: Т032	1025 days	
PRE-CONSTRUCTION	520 days	
ARTICLE 7 PREPARATION & SUBMISSION	130 days	
ARTICLE 7 REVIEW & APPROVAL	260 days	
EM&CP REVIEW & APPROVAL	130 days	
REAL ESTATE ACQUISITION	520 days	
FINAL ENGINEERING	391 days	
PROCURE MAJOR EQUIPMENT & MATERIALS	391 days	
RANSMISSION LINE - KNICKERBOCKER TO PLEASANT VALLEY	503 days	V-
KNICKERBOCKER TO CHURCHTOWN	229 days	
CHURCHTOWN TO PLEASANT VALLEY	393 days	
BLUE STORES JUNCTION TO BLUE STORES SS	65 days	
IBSTATIONS - KNICKERBOCKER TO PLEASANT VALLEY	295 days	
KNICKERBOCKER	261 days	
CHURCHTOWN	261 days	
PLEASANT VALLEY	131 days	
32 COMPLETE	1 day	



		National Grid and NY Transco (T018)	
		Description	Total Amount (In thousand \$)
	1	Transmission Lines	
	1.1	Clearing & Access	\$52,139
	1.2	Foundations	\$38,037
	1.3	Structures	\$67,033
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$35,990
	1.5	Insulators, Fitting and Hardwares	\$10,840
		Subtotal (1)	\$204,039
	2	Substations	
st	2.1	Rotterdam Substation	\$48,141
t C	2.2	Edic Substation	\$2,117
Direct Cost	2.3	Princetown Substation	\$0
	2.4	New Scotland Substation	\$7,037
	2.5	Porter Substation	\$546
	2.6	Knickerbocker Substation	\$0
	2.7	Marcy Substation	\$0
	2.8	Substation Interconnections	\$8,459
		Subtotal (2)	\$66,301
		Total (1+2)	\$270,340
		Contractors Mark-up (15% of Total 1+2)	\$40,551
		Total Direct Cost (A)	\$310,891
	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$2,711
ا پر ا	3.2	Project Management, Material Handling & Amenities	\$18,402
Cos	3.3	Engineering	\$18,121
Indirect Cost	3.4	Testing & Commissioning	\$1,559
Indi	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$20,144
	3.6	Compensation for use of NYPA Structures (1 Circuit)	\$8,919
	3.7	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,719
		Total Indirect Cost (3)	\$77,575
		Subtotal Project Cost (B=A+3) 2017 \$	\$388,466
	4	Network Upgrade Facilities (NUF)	
	4.1	NUF proposed as element of the Project	\$0
	4.2	NUF identified during Evaluation	\$0
		Subtotal NUF Cost (C)	\$0
		Total Project Cost (B+C) 2017 \$	\$388,466
		Total Project Cost 2018 \$	\$400,120

5/22/2018 Page 1 of 57

Estimate Revision: 5

	NG & NY Transco - T018 - (Segment A) - Direct Costs	Т	otal Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Edic to Princetown	\$	135,362,305
Direct Labor, Material & Equipment Costs	B. Transmission Line Princetown to Rotterdam	\$	25,485,641
Direct Labor, Material & Equipment Costs	C. Transmission Line Princetown to New Scotland	\$	43,191,073
Direct Labor, Material & Equipment Costs	D. Rotterdam Substation - Install	\$	44,530,412
Direct Labor, Material & Equipment Costs	E. Rotterdam Substation - Removal	\$	3,611,030
Direct Labor, Material & Equipment Costs	F. Edic Substation - Install	\$	2,081,185
Direct Labor, Material & Equipment Costs	G. Edic Substation - Removal	\$	35,950
Direct Labor, Material & Equipment Costs	H. New Scotland Substation - Install	\$	6,878,173
Direct Labor, Material & Equipment Costs	I. New Scotland Substation - Removal	\$	159,075
Direct Labor, Material & Equipment Costs	J. Porter Substation - Install	\$	71,912
Direct Labor, Material & Equipment Costs	K. Porter Substation - Removal	\$	474,313
Direct Labor, Material & Equipment Costs	L. Interconnection Edic Station	\$	1,784,075
Direct Labor, Material & Equipment Costs	M. Interconnection New Scotland Station	\$	2,594,271
Direct Labor, Material & Equipment Costs	N. Interconnection Rotterdam Station	\$	4,080,624
Direct Labor, Material & Equipment Costs	O. System Upgrade Facilities (Various Lines for Edic to New Scotland)	\$	=
Direct Labor, Material & Equipment Costs	P. System Upgrade Facilities (Various Stations for Edic to New Scotland)	\$	-
	Labor, Material & Equipment Costs Labor, Material & Equipment Costs E. Rotterdam Substation - Removal Labor, Material & Equipment Costs E. Edic Substation - Removal Labor, Material & Equipment Costs G. Edic Substation - Removal Labor, Material & Equipment Costs H. New Scotland Substation - Install Labor, Material & Equipment Costs I. New Scotland Substation - Removal Labor, Material & Equipment Costs J. Porter Substation - Removal Labor, Material & Equipment Costs K. Porter Substation - Install Labor, Material & Equipment Costs L. Interconnection Removal Labor, Material & Equipment Costs M. Interconnection New Scotland Station Labor, Material & Equipment Costs N. Interconnection New Scotland Station Labor, Material & Equipment Costs O. System Upgrade Facilities (Various Lines for Edic to New Scotland) SU CONTRACTOR MARK-UP		270,340,040
	CONTRACTOR MARK-UP (OH&P	\$	40,551,006
	CONTINGENCY ON ENTIRE PROJECT	\$	
	TOTAL DIRECT:	\$	310,891,046

	NG & NY Transco - T018 - (Segment A) - Indirect Costs	Tota	ıl Each Segment
Indirect Costs	A. Transmission Line Edic to Princetown	\$	38,838,802
Indirect Costs	B. Transmission Line Princetown to Rotterdam	\$	5,423,881
Indirect Costs	C. Transmission Line Princetown to New Scotland	\$	9,939,957
Indirect Costs	D. Rotterdam Substation - Install	\$	11,232,064
Indirect Costs	E. Rotterdam Substation - Removal	\$	585,240
Indirect Costs	F. Edic Substation - Install	\$	506,194
Indirect Costs	G. Edic Substation - Removal	\$	5,790
Indirect Costs	H. New Scotland Substation - Install	\$	1,654,143
Indirect Costs	I. New Scotland Substation - Removal	\$	25,622
Indirect Costs	J. Porter Substation - Install	\$	15,157
Indirect Costs	K. Porter Substation - Removal	\$	83,512
Indirect Costs	L. Interconnection Edic Station	\$	337,998
Indirect Costs	M. Interconnection New Scotland Station	\$	506,933
Indirect Costs	N. Interconnection Rotterdam Station	\$	700,876
Indirect Costs	O. System Upgrade Facilities (Various Lines for Edic to New Scotland)	\$	-
Indirect Costs	P. System Upgrade Facilities (Various Stations for Edic to New Scotland)	\$	-
Indirect Costs	Legal and Permitting (Includes Legal, Envir. Lisc. & Permit., and Envir. Mitagation)	\$	7,718,854
	TOTAL INDIRE	CT: \$	77,575,022

TOTAL ESTIMATED COST: \$ 388,466,068

A. Transmission Line Edic to Princetown

NG & NY Transco - T018 - (Segment A)

Estimate Revision:

4

Total: \$ 174,201,107

NG & NY Transco - T018 - (Segment A)								
		Supply		Installation		Total		
A. Transmission Line Edic to Princetown								
1. CLEARING & ACCESS	\$	41,500	\$	36,310,876	\$	36,352,376		
2. FOUNDATIONS	\$	7,516,941	\$	13,107,490	\$	20,624,431		
3. STRUCTURES	\$	18,292,102	\$	27,319,288	\$	45,611,390		
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	4,946,158	\$	21,045,480	\$	25,991,638		
5. INSULATORS, FITTINGS, HARDWARE	\$	4,581,500	\$	2,200,970	\$	6,782,470		
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	2,830,256	\$	36,008,546	\$	38,838,802		
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-		
SUBTOTAL:	\$	38,208,458	\$	135,992,649	\$	174,201,107		
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-		
TOTAL:	Ś	38.208.458	Ś	135.992.649	Ś	174.201.107		

Description of Work:

A. Transmission Line Edic to Prin 1. CLEARING & ACCESS 1.1 Clearing the ROW - Heavy (mowing & clearing the ROW - Light (mowing)		19									
1.1 Clearing the ROW - Heavy (mowing & c	learing)	19									
	learing)	19									
1.2 Clearing the ROW - Light (mowing)		15	Acre	\$		\$ -	\$ 15,000	\$ 285,000	\$ 15,000	\$	285,000
		172	Acre			\$ -	\$ 5,000	\$ 860,000	\$ 5,000	\$	860,000
1.3 Permanent Access Road		70,540.8	LF	\$.	\$ -	\$ 45	\$ 3,174,336	\$ 45	\$	3,174,336
1.4 Silt Fence		352,704	LF	\$.	\$ -	\$ 4	\$ 1,410,816	\$ 4	\$	1,410,816
1.5 Matting - Access and ROW		282,163.2	LF	<u>'</u>	$\overline{}$	\$ -	\$ 70				19,751,424
1.6 Matting - To Work Area		27,075	LF	\$.	\$ -	\$ 70	\$ 1,895,250			1,895,250
1.7 Snow Removal		66.8	Mile	\$.	\$ -	\$ 16,000				1,068,800
1.8 ROW Restoration		66.8	Mile	\$.	\$ -	\$ 10,000	\$ 668,000	\$ 10,000	\$	668,000
1.9 Work Pads		1,805,000	SF	'		\$ -	\$ 4	-,,		\$	6,353,600
1.10 Restoration for Work Pad areas		361,000	SF	7		\$ -	\$ 0.15	\$ 54,150		\$	54,150
1.11 Temporary Access Bridge		-	EA	т		\$ -	\$ 20,035	\$ -	\$ 20,035	\$	-
1.12 Air Bridge		-	EA	\$		\$ -	\$ 14,445	\$ -	\$ 14,445	\$	-
1.13 Stabilized Construction Entrance		50	EA	\$.	\$ -	\$ 4,580	\$ 229,000	\$ 4,580	\$	229,000
1.14 Maintenance and Protection of Traffic of	on Public Roads	100	EA	7	\rightarrow	\$ -	\$ 4,130	,	\$ 4,130	_	413,000
1.15 Culverts / Misc. Access		10	EA	\$	50	\$ 7,500	\$ 1,250		\$ 2,000	\$	20,000
1.16 Gates		17	EA	\$ 2,0	000	\$ 34,000	\$ 2,500		\$ 4,500	\$	76,500
1.17 Concrete Washout Station		50	EA	\$		\$ -	\$ 1,850	\$ 92,500	\$ 1,850	\$	92,500
TOTAL - CLEARING & ACCESS:						\$ 41,500		\$ 36,310,876		\$	36,352,376
2. FOUNDATIONS											
2.1 Direct Embed - 345kV Single Circuit H-F	Pole Tangent (0-2 degree) 65'-115'	268	Structure	\$ 3,	094	\$ 829,125	\$ 21,038	\$ 5,638,050	\$ 24,131	\$	6,467,175
2.2 Drilled Pier - 345kV Single Circuit H-Pol	e Angle (15-30 degree)	9	Structure	\$ 94,	324	\$ 853,418	\$ 95,840	\$ 862,557	\$ 190,664	\$	1,715,975
2.3 Drilled Pier - 345kV Single Circuit H-Pol	e Angle (2-15 degree)	33	Structure	\$ 94,	324	\$ 3,129,198	\$ 95,840	\$ 3,162,710	\$ 190,664	\$	6,291,908
2.4 Drilled Pier - 345kV Single Circuit H-Pol	e Angle (30-60 degree)	6	Structure	\$ 94,	324	\$ 568,945	\$ 95,840	\$ 575,038	\$ 190,664	\$	1,143,983
2.5 Drilled Pier - 345kV Single Circuit Single		3	Structure	\$ 79,	376	\$ 238,129	\$ 80,226	\$ 240,679	\$ 159,603	\$	478,808
2.6 Drilled Pier - 345kV Single Circuit Single		8	Structure	\$ 100,	112	\$ 803,294		· · · · · · · · · · · · · · · · · · ·	\$ 201,899	_	1,615,191
2.7 Drilled Pier - 345kV Single Circuit Single		2	Structure	\$ 100,	112	\$ 200,823	\$ 101,487	\$ 202,974	\$ 201,899	\$	403,798
2.8 Drilled Pier - 345kV Single Circuit Single		32	Structure	\$ 27.	938	\$ 894,010			\$ 56,175	Ś	1,797,594
2.9	The langent (o 2 degree)	52	Structure			Ç 05 1,010	Ç 20)207	ŷ 303,30 ·	\$ 30,273	•	
2.10 Rock Excavation Adder		355	СҮ	\$		\$ -	\$ 2,000	\$ 710,000	\$ 2,000	\$	710,000
TOTAL - FOUNDATIONS:						\$ 7,516,941		\$ 13,107,490		\$	20,624,431
3. STRUCTURES											
3.1 345kV Single Circuit H-Pole Angle (15-30	0 degree) 60'-90'	9	Structure	\$ 97,0	13	\$ 878,521	\$ 58,568	\$ 527,112	\$ 156,181	\$	1,405,633
3.2 345kV Single Circuit H-Pole Angle (2-15		33	Structure	\$ 97,0	-	\$ 3,221,242		\$ 1,932,745		\$	5,153,988
3.3 345kV Single Circuit H-Pole Angle (30-60	_ ·	6	Structure	\$ 98,8	-	\$ 593,036		\$ 355,822		_	948,858

Item	Item Description	Estimated Quantity	Unit of Measure	Material	Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate		TOTAL
3.4	345kV Single Circuit H-Pole Tangent (0-2 degree) 65'-115'	268	Structure	\$	39,502	\$ 10,586,586	\$ 23,701	\$ 6,351,952	\$ 63,203	\$	16,938,538
3.5	345kV Single Circuit Single Pole Angle (2-15 degree) 95'-110'	3	Structure	\$	82,952	\$ 248,856	\$ 49,771	\$ 149,314	\$ 132,723	\$	398,170
3.6	345kV Single Circuit Single Pole Deadend (15-30 degree) 115'-155'	8	Structure	\$	101,691	\$ 813,526	\$ 61,014	\$ 488,116	\$ 162,705	\$	1,301,642
3.7	345kV Single Circuit Single Pole Deadend (30-60 degree) 140'-145'	2	Structure	\$	106,098	\$ 212,195	\$ 63,659	\$ 127,317	\$ 169,756	\$	339,512
3.8	345kV Single Circuit Single Pole Tangent (0-2 degree) 100'-130'	32	Structure	\$	43,612	\$ 1,395,577	\$ 26,167	\$ 837,346	\$ 69,779	\$	2,232,923
3.9							·				
3.10	Remove Existing Foundation	50	EA	\$	-	\$ -	\$ 7,500	\$ 375,000	\$ 7,500	\$	375,000
3.11	Remove Existing Structure and Accessories	994	EA	\$	-	\$ -	\$ 12,500	\$ 12,425,000	\$ 12,500	\$	12,425,000
3.12											
3.13											
3.14	Install Grounding and Grounding Accessories	677	Pole	\$	506	\$ 342,562	\$ 5,539	\$ 3,749,565	\$ 6,045	\$	4,092,127
3.15											
TOTAL - STRUC						\$ 18,292,102		\$ 27,319,288		\$	45,611,390
	R, SHIELDWIRE, OPGW					•					
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	2,228,688	LF	\$	1.90	\$ 4,234,507	\$ 5.00	\$ 11,143,440	\$ 6.90	\$	15,377,947
4.2	(1) OPGW 36 Fiber AC-33/38/571	301,594	LF	\$	1.35	\$ 407,152	\$ 5.00	\$ 1,507,970	\$ 6.35	\$	1,915,122
4.3	(1) 3/8" EHS7 Steel	301,594	LF	\$	0.47	\$ 141,749	\$ 5.00	\$ 1,507,970	\$ 5.47	\$	1,649,719
4.4	Remove Existing Conductor and Accessories	121.0	Mile	\$	-	\$ -	\$ 30,000	\$ 3,630,000	\$ 30,000.00	\$	3,630,000
4.5	Remove Existing OPGW and Accessories	108.4	Mile	\$	-	\$ -	\$ 12,000	\$ 1,300,800	\$ 12,000.00	\$	1,300,800
4.6	Remove Existing OHSW and Accessories	108.4	Mile	\$	-	\$ -	\$ 12,000	\$ 1,300,800	\$ 12,000.00	\$	1,300,800
4.7	Rider Poles (187 Locations)	93	Set	\$	1,750	\$ 162,750	\$ 3,500	\$ 325,500	\$ 5,250.00	\$	488,250
4.8	Rider Poles - Relocated	94	Set	\$	-	\$ -	\$ 3,500	\$ 329,000	\$ 3,500.00	\$	329,000
	UCTOR, SHIELDWIRE, OPGW:					\$ 4,946,158		\$ 21,045,480		\$	25,991,638
5. INSULATOR	FITTINGS, HARDWARE					· · · · ·		, ,			
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	1,113	Assembly	\$	1,800	\$ 2,003,400	\$ 720	\$ 801,360	\$ 2,520	\$	2,804,760
	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$	900	\$ -	\$ 560	\$ -	\$ 1,460	\$	-
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	375	Assembly	\$	1,800	\$ 675,000	\$ 720	\$ 270,000	\$ 2,520	\$	945,000
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)		Assembly	Ś	900	\$ -	\$ 560	\$ -	\$ 1,460	\$	-
5.5	OPGW Assembly - Tangent	336	Assembly	Ś	200	\$ 67,200	\$ 150		\$ 350	\$	117,600
5.6	OPGW Assembly - Angle / DE	50	Assembly	Ś	250	\$ 12,500	\$ 150	\$ 7,500	\$ 400	\$	20,000
5.7	OHSW Assembly - Tangent	301	Assembly	\$	200	\$ 60,200	\$ 150	, , , , , , , , , , , , , , , , , , , ,	\$ 350	\$	105,350
5.8	OHSW Assembly - Angle / DE	20	Assembly	Ś		\$ 5,000	\$ 150				8,000
5.9	OPGW Splice Boxes	41	Set	\$		\$ 71,592		\$ 93,234	\$ 4,020	\$	164,826
5.10	OPGW Splice & Test	41	EA	Ś	2,520	\$ 103,320	\$ 2,520	\$ 103,320	\$ 5,040	4	206,640
5.11	Spacer - Conductor	3,593	EA	\$	50	\$ 179,650	\$ 35		\$ 85	\$	305,405
5.12	Vibration Dampers - Conductor	2,874	EA	\$	35	\$ 100,590			\$ 70		201,180
5.13	Shield wire / OPGW Dampers, Misc. Fittings	1,356	EA	\$	27	\$ 36,612	\$ 35		\$ 62		84,072
5.14	Sincia wite / Of GW Bumpers, Misc. Fittings	1,550	EA	1	2,	ÿ 30,012	33	7 47,400	ÿ 02	7	- 04,072
5.15	Replace - Mono Pole Vertical Tangent - V-String	480	Set	\$	1,800	\$ 864,000	\$ 720	\$ 345,600	\$ 2,520	\$	1,209,600
5.16	Replace - Dead-end & Angle Insulators	195	Set	Ś	1,800	\$ 351,000	\$ 720		\$ 2,520	\$	491,400
5.17	, ,			<u> </u>	,		,		, , , , , , , , , , , , , , , , , , , ,		
5.18	Guys, Anchors, and Accessories		EA	Ś	720	\$ -	\$ 885	\$ -	\$ 1,605	\$	_
5.19	Misc. materials (Signs and Markers)	66.8	Mile	Ś	770	\$ 51,436	\$ 1,006	\$ 67,201	\$ 1,776	\$	118,637
	ATORS, FITTINGS, HARDWARE:					\$ 4,581,500	,	\$ 2,200,970	,	\$	6,782,470
A. Trans	mission Line Edic to Princetown					\$ 35,378,202		\$ 99,984,104		\$	135,362,305
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 1,353,623	\$ 1,353,623	\$ 1,353,623	\$	1,353,623
	Project Management, Material Handling & Amenities										
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 6,506,866	\$ 6,506,866	\$ 6,506,866	\$	6,506,866
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 1,353,623	\$ 1,353,623	\$ 1,353,623	¢	1,353,623
U.3	Othicy rivi and croject Oversite	1	LO	1		· -	1,555,023 ب	1,303,023 ب	1,303,023 پ	۶	1,353,623

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 1,353,623	\$ 1,353,623	\$ 1,353,623	\$ 1,353,623
	Engineering									
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 6,768,115	\$ 6,768,115	\$ 6,768,115	\$ 6,768,115
6.6	LiDAR	1	LS	\$	-	\$ -	\$ 406,087	\$ 406,087	\$ 406,087	\$ 406,087
6.7	Geotech	67	Location	\$	-	\$ -	\$ 3,500	\$ 234,500	\$ 3,500	\$ 234,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 947,536	\$ 947,536	\$ 947,536	\$ 947,536
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 406,087	\$ 406,087	\$ 406,087	\$ 406,087
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$ 7,584,000	\$ 7,584,000	\$ 7,584,000	\$ 7,584,000
6.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$
6.17	Compensation for use of 1 Ckt - NYPA Structures (92 Structures)	1	LS	\$	-	\$ -	\$ 8,919,123	\$ 8,919,123	\$ 8,919,123	\$ 8,919,123
6.18	Sales Tax on Materials	1	LS	\$	2,830,256	\$ 2,830,256	\$ -	\$ -	\$ 2,830,256	\$ 2,830,256
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 135,362	\$ 135,362	\$ 135,362	\$ 135,362
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 2,830,256		\$ 36,008,546		\$ 38,838,802

Page 5 of 57

A. TL Edic-Princetown

B. Transmission Line Princetown to Rotterdam

Estimate Revision: Total: \$ 30,909,522

NG & NY Transco - T018 - (Segment A)									
		Supply		Installation		Total			
B. Transmission Line Princetown to Rotterdam									
1. CLEARING & ACCESS	\$	6,000	\$	4,142,200	\$	4,148,200			
2. FOUNDATIONS	\$	3,178,993	\$	4,231,038	\$	7,410,031			
3. STRUCTURES	\$	4,080,173	\$	4,419,070	\$	8,499,243			
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	773,826	\$	2,903,455	\$	3,677,281			
5. INSULATORS, FITTINGS, HARDWARE	\$	1,143,953	\$	606,933	\$	1,750,886			
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	734,636	\$	4,689,245	\$	5,423,881			
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$				
SUBTOTAL:	\$	9,917,580	\$	20,991,942	\$	30,909,522			
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-			
TOTAL:	\$	9,917,580	\$	20,991,942	\$	30,909,522			

iption of	

Item	ltem Description	Estimated Quantity	Unit of Measure	Ma	iterial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
B. Trans	mission Line Princetown to Rotterdam										
1. CLEARING	& ACCESS										
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$ -	\$ 15,000	\$ -	\$ 15,000	\$	-
1.2	Clearing the ROW - Light (mowing)	24.0	Acre	\$	-	\$ -	\$ 5,000	\$ 120,000	\$ 5,000	\$	120,000
1.3	Permanent Access Road	5,280	LF	\$	-	\$ -	\$ 45	, ,	\$ 45	\$	237,600
1.4	Silt Fence	26,400	LF	\$	-	\$ -	\$ 4		\$ 4	\$	105,600
1.5	Matting - Access and ROW	21,120	LF	\$		\$ -	\$ 70		\$ 70		1,478,400
1.6	Matting - To Work Area	6,375	LF.	\$		\$ -	\$ 70				446,250
1.7	Snow Removal	5.0	Mile	\$		\$ -	\$ 16,000	, ,	\$ 16,000		80,000
1.8	ROW Restoration Work Pads	5.0 425,000	Mile SF	\$	-	\$ - \$ -	\$ 10,000 \$ 4	\$ 50,000 \$ 1,496,000	\$ 10,000 \$ 4	\$	50,000
1.10	Restoration for Work Pad areas	425,000 85,000	SF SF	Ś		\$ -	\$ 0.2			\$	1,496,000 12,750
1.10	Temporary Access Bridge	85,000	EA	Ś		\$ -	-	\$ 12,750	\$ 20,035	Ś	12,750
1.12	Air Bridge	_	EA	\$	-	\$ -		\$ -	\$ 14,445	Ġ	
1.13	Stabilized Construction Entrance	10	EA	Ś	-	\$ -	\$ 4,580		\$ 4,580	Ś	45,800
1.14	Maintenance and Protection of Traffic on Public Roads	10	LS	Ś		\$ -	\$ 4,130	·	\$ 4,130	Ś	41,300
1.15	Gates	-	EA	\$	2,000	·	\$ 2,500		\$ 4,500		-
1.16	Culverts / Misc. Access	8	EA	\$	750	\$ 6,000	\$ 1,250	\$ 10,000	\$ 2,000	\$	16,000
1.17	Concrete Washout Station	10	EA	\$	-	\$ -	\$ 1,850	\$ 18,500	\$ 1,850	\$	18,500
TOTAL - CLEA	RING & ACCESS:					\$ 6,000		\$ 4,142,200		\$	4,148,200
2. FOUNDATI	DNS										
2.1	Drilled Pier - 345kV Single Circuit Single Pole Angle	4	Structure	\$	28,102	\$ 112,409	\$ 28,403	\$ 113,612	\$ 56,505	\$	226,021
2.2	Drilled Pier - 345kV Single Circuit Single Pole Deadend	2	Structure	\$	79,376	\$ 158,752	\$ 80,226	\$ 160,453	\$ 159,603	\$	319,205
2.3	Drilled Pier - 345kV Single Circuit Single Pole Hvy Angle/DE	22	Structure	\$	79,376	\$ 1,746,277	\$ 80,226	\$ 1,764,979	\$ 159,603	\$	3,511,255
2.4	Drilled Pier - 345kV Single Circuit Single Pole Tangent Delta	57	Structure	\$	20,378	\$ 1,161,555	\$ 20,596	\$ 1,173,995	\$ 40,975	\$	2,335,550
2.5											
2.6											
2.7											
2.8	Rock Excavation Adder	509.0	CY	\$	-	\$ -	\$ 2,000	\$ 1,018,000	\$ 2,000	\$	1,018,000
TOTAL - FOUR	DATIONS:					\$ 3,178,993		\$ 4,231,038		\$	7,410,031
3. STRUCTUR	ES										
3.1	345kV Single Circuit Single Pole Angle 95'	4	Structure	\$	40,408	\$ 161,631	\$ 24,245	\$ 96,978	\$ 64,652	\$	258,609
3.2	345kV Single Circuit Single Pole Deadend 95'	2	Structure	\$	110,393	\$ 220,786	\$ 66,236	\$ 132,472	\$ 176,629	\$	353,258
3.3	345kV Single Circuit Single Pole Hvy Angle/DE 90'-95'	22	Structure	\$	83,034	\$ 1,826,747	\$ 49,820	\$ 1,096,048	\$ 132,854	\$	2,922,796
3.4	345kV Single Circuit Single Pole Tangent Delta 90'-95'	57	Structure	\$	32,070	\$ 1,827,998	\$ 19,242	\$ 1,096,799	\$ 51,312	\$	2,924,797
3.5	Remove Existing Foundation	22	EA	\$	-	\$ -	\$ 7,500	\$ 163,500	\$ 7,500	\$	163,500

Item	ltem Description	Estimated Quantity	Unit of Measure	Mat	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
3.6	Remove Existing Structure and Accessories	109	EA	\$	-	\$ -	\$ 12,500	\$ 1,362,500	\$ 12,500	\$	1,362,500
3.7											
3.8	Install Grounding and Grounding Accessories	85	Pole	\$	506	\$ 43,010	\$ 5,539	\$ 470,773	\$ 6,045	\$	513,783
3.9											
3.10											
	CTURES PRINCTOWN TO NEW SCOTLAND:					\$ 4,080,173		\$ 4,419,070		\$	8,499,243
	R, SHIELDWIRE, OPGW	220.202	15	Ś	4.00	¢ 644.657	ć 5.00	ć 1.606.46E	\$ 6.90	\$	2,341,122
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	339,293	LF	1	1.90	\$ 644,657	\$ 5.00	\$ 1,696,465	\$ 6.90		
4.2	(1) OPGW 36 Fiber AC-33/38/571	56,549	LF	\$	1.35	\$ 76,341	\$ 5.00	\$ 282,745	\$ 6.35	\$	359,086
4.3	(1) 3/8" EHS7 Steel	56,549	LF	\$	0.47	\$ 26,578	\$ 5.00	\$ 282,745	\$ 5.47	\$	309,323
4.5	Remove Existing Conductor and Accessories	10.0	Mile	\$	-	\$ -	\$ 30,000	\$ 300,000	\$ 30,000.00	\$	300,000
4.6	Remove Existing OPGW and Accessories	10.0	Mile	\$	-	\$ -	\$ 12,000	\$ 120,000	\$ 12,000.00	\$	120,000
4.7	Remove Existing OHSW and Accessories	10.0	Mile	\$	-	\$ -	\$ 12,000	\$ 120,000	\$ 12,000.00	\$	120,000
4.8	Rider Poles	15	Set	\$	1,750	\$ 26,250	\$ 3,500	\$ 52,500	\$ 5,250.00	\$	78,750
4.9	Rider Poles - Relocated	14	Set	\$	-	\$ -	\$ 3,500	\$ 49,000	\$ 3,500.00	\$	49,000
4.10											
4.11											
	UCTOR, SHIELDWIRE, OPGW:					\$ 773,826		\$ 2,903,455		\$	3,677,281
	, FITTINGS, HARDWARE										
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	366	Assembly	\$	1,800	\$ 658,800			\$ 2,520	_	922,320
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$	900	\$ -	\$ 560		\$ 1,460	\$	-
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	-	Assembly	\$	1,800	\$ -	\$ 720		\$ 2,520	\$	-
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	360	Assembly	\$	900	\$ 324,000	\$ 560		\$ 1,460	\$	525,600
5.5	OPGW Assembly - Tangent	61	Assembly	\$	200	\$ 12,200			\$ 350	\$	21,350
5.6	OPGW Assembly - Angle / DE	24	Assembly	\$	250	\$ 6,000	\$ 150		\$ 400	\$	9,600
5.7	OHSW Assembly - Tangent	61	Assembly	\$	200	\$ 12,200			\$ 350	\$	21,350
5.8	OHSW Assembly - Angle / DE	24	Assembly	\$	250	\$ 6,000	\$ 150		\$ 400	\$	9,600
5.9	OPGW Splice Boxes	8	Set	\$	1,746	\$ 13,969	. ,	\$ 18,192	\$ 4,020	\$	32,161
5.10	OPGW Splice & Test	8	EA	\$	2,520	\$ 20,160	\$ 2,520		\$ 5,040	\$	40,320
5.11	Spacer - Conductor	1,038	EA	\$	50	\$ 51,900	\$ 35		\$ 85	\$	88,230
5.12	Vibration Dampers - Conductor	830	EA	\$	35	· · · · · · · · · · · · · · · · · · ·	\$ 35		\$ 70	\$	58,100
5.13	Shieldwire / OPGW Dampers, Misc. Fittings	210	EA	\$		\$ 5,670	\$ 35		\$ 62	\$	13,020
5.14	Guys, Anchors, and Accessories	-	EA	\$	720		\$ 885		\$ 1,605	_	
5.15	Misc. materials (Signs and Markers) ATORS, FITTINGS, HARDWARE:	5.2	Mile	\$	770	\$ 4,004 \$ 1,143,953	\$ 1,006	\$ 5,231 \$ 606,933	\$ 1,776	\$	9,235 1,750,886
										,	
	mission Line Princetown to Rotterdam					\$ 9,182,945		\$ 16,302,697		\$	25,485,641
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS										
6.1	Contractor Mobilization / Demobilization Mob / Demob	1	LS	Ś	_	\$ -	\$ 254,856	\$ 254,856	\$ 254,856	Ś	254,856
0.1	Project Management, Material Handling & Amenities	1	L3	1		· -	3 234,630	\$ 254,650	\$ 234,630	,	254,850
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 1,225,095	\$ 1,225,095	\$ 1,225,095	\$	1,225,095
6.3	Utility PM and Project Oversite	1	LS	\vdash		\$ -	\$ 254,856	\$ 254,856	\$ 254,856	\$	254,856
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 254,856		\$ 254,856	\$	254,856
	Engineering										
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 1,274,282		\$ 1,274,282	\$	1,274,282
6.6	LIDAR	1	LS	\$	-	\$ -	\$ 76,457	\$ 76,457	\$ 76,457	\$	76,457
6.7	Geotech	5	Location	\$	-	\$ -	\$ 3,500	\$ 17,500	\$ 3,500	\$	17,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 178,399	\$ 178,399	\$ 178,399	\$	178,399
	Testing & Commissioning			1							
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$	40,000
	Permitting and Additional Costs			1.						L	
6.10	Environmental Licensing & Permitting Costs	-	LS	\$		\$ -			\$ -	\$	-
6.11	Environmental Mitigation Warranties / LOC's	- 1	LS LS	\$					\$ - \$ 76,457	\$	- 76,457
0.12	vvarranues / LOC S	1	LS	1 >	-	\$ -	/6,45	/6,45/	/٥,45/	, >	/6,45/

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$ 1,011,000	\$ 1,011,000	\$ 1,011,000	\$ 1,011,000
6.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 73	4,636	\$ 734,636	\$ -	\$ -	\$ 734,636	\$ 734,636
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 25,486	\$ 25,486	\$ 25,486	\$ 25,486
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 734,636		\$ 4,689,245		\$ 5,423,881

Page 8 of 57

C. Transmission Line Princetown to New Scotland

Estimate Revision:

5

Total: \$ 53,131,031

NG & NY Transco - TO:	18 - (Segment A)				
		Supply	Installation		Total
C. Transmission Line Princetown to New Scotland					
1. CLEARING & ACCESS	\$	31,000	\$ 11,607,774	\$	11,638,774
2. FOUNDATIONS	\$	4,202,127	\$ 5,800,125	\$	10,002,252
3. STRUCTURES	\$	7,218,941	\$ 5,703,110	\$	12,922,050
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	1,564,842	\$ 4,756,290	\$	6,321,132
5. INSULATORS, FITTINGS, HARDWARE	\$	1,555,610	\$ 751,255	\$	2,306,865
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,165,802	\$ 8,774,156	\$	9,939,957
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-
SUBTOTAL:	\$	15,738,322	\$ 37,392,709	\$	53,131,031
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-
TOTAL:	Ś	15.738.322	\$ 37,392,709	Ś	53.131.031

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
C. Transı	mission Line Princetown to New Scotland								
1. CLEARING &	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	54.0	Acre	\$ -	\$ -	\$ 5,000	\$ 270,000	\$ 5,000	\$ 270,000
1.3	Permanent Access Road	20,803	LF	\$ -	\$ -	\$ 45			
1.4	Silt Fence	104,016.0	LF	\$ -	\$ -	\$ 4			
1.5	Matting - Access and ROW	83,213	LF	\$ -		\$ 70	1 -7- 7		
1.6	Matting - To Work Area	9,675.0	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	20	Mile	\$ -	\$ -	\$ 16,000			
1.8	ROW Restoration	19.7	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	645,000.0	SF	\$ -	\$ -	\$ 4	, , , , , ,		\$ 2,270,400
1.10	Restoration for Work Pad areas	129,000.0	SF	\$ -	т	\$ 0.2			,
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035		\$ 20,035	
1.12	Air Bridge	2.0	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	\$ 28,890
1.13	Stabilized Construction Entrance	76.0	EA	\$ -	\$ -	\$ 4,580	\$ 348,080	\$ 4,580	\$ 348,080
1.14	Maintenance and Protection of Traffic on Public Roads	50	EA	\$ -	\$ -	\$ 4,130	\$ 206,500	\$ 4,130	\$ 206,500
1.15	Gates	11	EA	\$ 2,000	\$ 22,000	\$ 2,500	\$ 27,500	\$ 4,500	\$ 49,500
1.16	Culverts / Misc. Access	12	EA	\$ 750	\$ 9,000	\$ 1,250	\$ 15,000	\$ 2,000	
1.17	Concrete Washout Station	30	EA	\$ -	\$ -	\$ 1,850	\$ 55,500	\$ 1,850	\$ 55,500
TOTAL - CLEAR	ING & ACCESS:				\$ 31,000		\$ 11,607,774		\$ 11,638,774
2. FOUNDATIO	NS								
2.1	Direct Embed - 345kV Single Circuit H-Pole Tangent (0-2 degree) 65'-115'	56	Structure	\$ 3,094	\$ 173,250	\$ 21,038	\$ 1,178,100	\$ 24,131	\$ 1,351,350
2.2	Drilled Pier - 345kV Double Circuit Single Pole Deadend (0-30 degree)	2	Structure	\$ 124,323	\$ 248,646	\$ 125,655	\$ 251,309	\$ 249,978	\$ 499,956
2.3	Drilled Pier - 345kV Double Circuit Single Pole Tangent (0-2 degree)	15	Structure	\$ 27,856	\$ 417,834	\$ 28,154	\$ 422,309	\$ 56,010	\$ 840,144
2.4	Drilled Pier - 345kV Single Circuit H-Pole Angle (15-30 degree)	3	Structure	\$ 94,824	\$ 284,473	\$ 95,840	\$ 287,519	\$ 190,664	\$ 571,992
2.5	Drilled Pier - 345kV Single Circuit H-Pole Angle (2-15 degree)	6	Structure	\$ 94,824	\$ 568,945	\$ 95,840	\$ 575,038	\$ 190,664	\$ 1,143,983
2.6	Drilled Pier - 345kV Single Circuit H-Pole Angle (30-60 degree)	5	Structure	\$ 94,824	\$ 474,121	\$ 95,840	\$ 479,199	\$ 190,664	\$ 953,319
2.7	Drilled Pier - 345kV Single Circuit Single Pole Angle (2-15 degree)	2	Structure	\$ 79,376	\$ 158,752	\$ 80,226	\$ 160,453	\$ 159,603	\$ 319,205
2.8	Drilled Pier - 345kV Single Circuit Single Pole Deadend (15-30 degree)	6	Structure	\$ 100,412	\$ 602,470	\$ 101,487	\$ 608,923	\$ 201,899	\$ 1,211,393
2.9	Drilled Pier - 345kV Single Circuit Single Pole Deadend (30-60 degree)	2	Structure	\$ 100,412	\$ 200,823	\$ 101,487	\$ 202,974	\$ 201,899	\$ 403,798
2.10	Drilled Pier - 345kV Single Circuit Single Pole Tangent 0 (0-2 degree)	32	Structure	\$ 33,525	\$ 1,072,812	\$ 33,884	\$ 1,084,301	\$ 67,410	\$ 2,157,112
2.11									\$ -
2.12	Rock Excavation Adder	275.0	CY	\$ -	\$ -	\$ 2,000	\$ 550,000	\$ 2,000	\$ 550,000
2.13									
2.14									<u> </u>
2.15									
TOTAL - FOUN	DATIONS:				\$ 4,202,127		\$ 5,800,125		\$ 10,002,252
					, ,		, , ,		D 0 057

Item	Item Description	Estimated Oversity	Limit of Manager	Material Supply Rate	Material Supply Cost	Labor & Equipment	Labor & Equipment	Total Unit Rate	TOTAL
iteiii	item bescription	Estimated Quantity	Unit of Measure	iviaterial Supply Nate	waterial supply cost	Supply Rate	Cost	Total Unit Rate	TOTAL
3. STRUCTUR	ES								
3.1	345kV Double Circuit Single Pole Deadend (0-30 degree) 125'-140'	2	Structure	\$ 134,867		\$ 80,920			
3.2	345kV Double Circuit Single Pole Tangent (0-2 degree) 110'-140'	15	Structure	\$ 48,606	\$ 729,089	\$ 29,164	\$ 437,453		\$ 1,166,542
3.3 3.4	345kV Single Circuit H-Pole Angle (15-30 degree) 70'-90'	3 6	Structure	\$ 97,613 \$ 97.613		\$ 58,568 \$ 58,568	\$ 175,704 \$ 351,408		\$ 468,544 \$ 937,089
3.4	345kV Single Circuit H-Pole Angle (2-15 degree) 60'-75' 345kV Single Circuit H-Pole Angle (30-60 degree) 60'-75'	5	Structure Structure	\$ 97,613 \$ 99,085		\$ 59,451	\$ 351,408		
3.6	345kV Single Circuit H-Pole Tangent (0-2 degree) 70'-115'	56	Structure	\$ 39,385		\$ 23,631			
3.7	345kV Single Circuit Single Pole Angle (2-15 degree) 95'	2	Structure	\$ 82,952		\$ 49,771			
3.8	345kV Single Circuit Single Pole Deadend (15-30 degree) 115'-150'	6		\$ 101,691		\$ 61,014			
3.9	345kV Single Circuit Single Pole Deadend (30-60 degree) 135'-155'	2	Structure	\$ 106,098	\$ 212,195	\$ 63,659	\$ 127,317		
3.10	345kV Single Circuit Single Pole Tangent 0 (0-2 degree) 110'-145'	32	Structure	\$ 48,489	\$ 1,551,651	\$ 29,093	\$ 930,990	\$ 77,583	\$ 2,482,641
3.11	Remove Existing Foundation	4	EA	\$ -	\$ -	\$ 7,500	\$ 30,000	\$ 7,500	\$ 30,000
3.12	Remove Existing Structure and Accessories	24	EA	\$ -	\$ -	\$ 12,500	\$ 300,000	\$ 12,500	\$ 300,000
3.13									
3.14 3.15	Install Grounding and Grounding Accessories	199	Pole	\$ 506	\$ 100,694	\$ 5,539	\$ 1,102,162	\$ 6,045	\$ 1,202,856
TOTAL - STRU	ICTURES:				\$ 7,218,941		\$ 5,703,110		\$ 12,922,050
4. CONDUCTO	DR, SHIELDWIRE, OPGW				, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, , , , ,		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	661,954	LF	\$ 1.90	\$ 1,257,713	\$ 5.00	\$ 3,309,770	\$ 6.90	\$ 4,567,483
4.2	(1) OPGW 36 Fiber AC-33/38/571	110,326	LF	\$ 1.35	\$ 148,940	\$ 5.00	\$ 551,630	\$ 6.35	\$ 700,570
4.3	(1) 3/8" EHS7 Steel	75,398	LF	\$ 0.47	\$ 35,437	\$ 5.00	\$ 376,990	\$ 5.47	\$ 412,427
4.4	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	41,580	LF	\$ 1.90	\$ 79,002	\$ 5.00	\$ 207,900	\$ 6.90	\$ 286,902
4.5	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$ 1.35	\$ -	\$ 5.00	\$ -	\$ 6.35	\$ -
4.6	(1) 3/8" EHS7 Steel	-	LF	\$ 0.47	\$ -	\$ 5.00	\$ -	\$ 5.47	\$ -
4.7	Remove Existing Conductor and Accessories	2.5	Mile	\$ -	\$ -	\$ 30,000	\$ 75,000	\$ 30,000.00	\$ 75,000
4.8	Remove Existing OPGW and Accessories	2.5	Mile	\$ -	\$ -	\$ 12,000	\$ 30,000	\$ 12,000.00	\$ 30,000
4.9	Remove Existing OHSW and Accessories	2.5	Mile	\$ -	\$ -	\$ 12,000	\$ 30,000	\$ 12,000.00	\$ 30,000
4.10	Rider Poles	25	EA	\$ 1,750	\$ 43,750	\$ 3,500	\$ 87,500	\$ 5,250.00	\$ 131,250
4.11	Rider Poles - Relocated	25	Set	\$ -	\$ -	\$ 3,500	\$ 87,500	\$ 3,500.00	\$ 87,500
4.12									
4.13									
	DUCTOR, SHIELDWIRE, OPGW:				\$ 1,564,842		\$ 4,756,290		\$ 6,321,132
	R, FITTINGS, HARDWARE								
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	435	Assembly	\$ 1,800		\$ 720			
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	45 270	Assembly	\$ 900 \$ 1,800			\$ 25,200	\$ 1,460	\$ 65,700
5.3 5.4	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	14	Assembly Assembly	\$ 1,800 \$ 900		\$ 720 \$ 560	\$ 194,400 \$ 7,840		\$ 680,400 \$ 20,440
5.5	113KV Dead-end & Angle Insulators (1-Group or 5-bens Each Assembly)	14	Assembly	3 300	\$ 12,000	3 300	\$ 7,840	\$ -	\$ -
5.6			Assembly		š -		\$ -	\$ -	<u>\$</u> -
5.7			Assembly		\$ -		\$ -	\$ -	\$ -
5.8			Assembly		\$ -		\$ -	\$ -	\$ -
5.9			Assembly		\$ -		\$ -	\$ -	\$ -
5.10	OPGW Assembly - Tangent	111	Assembly	\$ 200		\$ 150			\$ 38,850
5.11	OPGW Assembly - Angle / DE	36	Assembly	\$ 250					\$ 14,400
5.12	OHSW Assembly - Tangent	77	Assembly	\$ 200		\$ 150			\$ 26,950
5.13	OHSW Assembly - Angle / DE	16	Assembly	\$ 250		\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.14	OPGW Splice Boxes	8	Set	\$ 1,746		. ,	\$ 18,192	\$ 4,020	\$ 32,161
5.15	OPGW Splice & Test	8	EA	\$ 2,520					
5.16	Spacer - Conductor	1,489	EA	\$ 50					
5.17 5.18	Vibration Dampers - Conductor Shieldwire / OPGW Dampers, Misc. Fittings	1,192 646	EA EA	\$ 35 \$ 27					
5.18	Guys, Anchors, and Accessories	- 546	EA EA	\$ 720		\$ 885		\$ 1,605	
5.20	Misc. materials (Signs and Markers)	19.7	Mile	\$ 770		\$ 1,006			
	LATORS, FITTINGS, HARDWARE:	25.7			\$ 1,555,610	. 2,300	\$ 751,255	. 2,,70	\$ 2,306,865
C. Trans	mission Line Princetown to New Scotland				\$ 14,572,520		\$ 28,618,553		\$ 43,191,073
6. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								Page 10 of 57

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 431,911	\$ 431,911	\$ 431,911	\$ 431,911
	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 2,076,195	\$ 2,076,195	\$ 2,076,195	\$ 2,076,195
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 431,911	\$ 431,911	\$ 431,911	\$ 431,911
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 431,911	\$ 431,911	\$ 431,911	\$ 431,911
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,159,554	\$ 2,159,554	\$ 2,159,554	\$ 2,159,554
6.6	Lidar	1	LS	\$ -	\$ -	\$ 129,573	\$ 129,573	\$ 129,573	\$ 129,573
6.7	Geotech	20	Location	\$ -	\$ -	\$ 3,500	\$ 70,000	\$ 3,500	\$ 70,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 302,338	\$ 302,338	\$ 302,338	\$ 302,338
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 129,573	\$ 129,573		
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ 215,000	\$ 215,000	\$ 215,000	\$ 215,000
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 2,313,000	\$ 2,313,000	\$ 2,313,000	\$ 2,313,000
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 1,165,802	\$ 1,165,802	\$ -	\$ -	\$ 1,165,802	\$ 1,165,802
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 43,191	\$ 43,191	\$ 43,191	\$ 43,191
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 1,165,802		\$ 8,774,156		\$ 9,939,957

D. Rotterdam Substation - Install

Estimate Revision: 5 Total: \$ 55,762,476

NG & NY Transco - T018 -	Segme	nt A)		
		Supply	Installation	Total
D. Rotterdam Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	189,745	\$ 1,156,225	\$ 1,345,970
2. SUBSTATION FOUNDATIONS	\$	2,197,240	\$ 2,353,000	\$ 4,550,240
3. SUBSTATION STRUCTURES	\$	372,220	\$ 372,220	\$ 744,440
4. MAJOR EQUIPTMENT	\$	23,285,000	\$ 6,676,670	\$ 29,961,670
5. SMALL EQUIPTMENT / MATERIALS	\$	1,164,540	\$ 675,000	\$ 1,839,540
6. CONTROL HOUSE / PANELS	\$	3,396,670	\$ 1,285,545	\$ 4,682,215
7. MISC ITEMS	\$	532,667	\$ 873,670	\$ 1,406,337
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	2,491,047	\$ 8,741,017	\$ 11,232,064
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	33,629,129	\$ 22,133,347	\$ 55,762,476
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	33,629,129	\$ 22,133,347	\$ 55,762,476

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Su	upply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
D. Rotte	rdam Substation - Install										
1. SITE PREP/	GRADING/ FENCING / CIVIL										
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	3.25	ACRES	\$	-	\$ -	\$ 230,000	\$ 747,500	\$ 230,000	\$	747,500
1.2	Station stone within substation fence.	1,385	CY	\$	27	\$ 37,395	\$ 75	\$ 103,875	\$ 102	\$	141,270
1.3	Substation Fence	1,310	LF	\$	100	\$ 131,000	\$ 100	\$ 131,000	\$ 200	\$	262,000
1.4	Retaining Wall (1065' x 13')	0		\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
1.5	Compacted Fill (124,583cy Sand)	0		\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
1.6	Permanent Access Road - 20'-Wide	610	LF	\$	35	\$ 21,350	\$ 285	\$ 173,850	\$ 320	\$	195,200
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 189,745		\$ 1,156,225		\$	1,345,970
2. SUBSTATIO	N FOUNDATIONS										
2.1	345kV										
2.1a	Circuit Breaker Foundations	0	EA	\$	14,940	\$ -	\$ 16,000	\$ -	\$ 30,940	\$	-
2.1b	Capacitor Bank Foundations	1	EA	\$	56,025	\$ 56,025	\$ 60,000	\$ 60,000	\$ 116,025	\$	116,025
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	8	EA	\$	26,145	\$ 209,160	\$ 28,000	\$ 224,000	\$ 54,145	\$	433,160
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$	-
2.1e	Switch Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$	-
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$	-
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.1h	Bus Support 1 Ph Foundations	15	EA	\$	4,482	\$ 67,230	\$ 4,800	\$ 72,000	\$ 9,282	\$	139,230
2.1j	Instrument Transformer Stand Foundations	18	EA	\$	4,482	\$ 80,676	\$ 4,800	\$ 86,400	\$ 9,282	\$	167,076
2.1k	Arrester Stand Foundations	6	EA	\$	4,482	\$ 26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$	55,692
2.1m	Wave Trap Stand Foundations	2	EA	\$	4,482	\$ 8,964	\$ 4,800	\$ 9,600	\$ 9,282	\$	18,564
2.1n	Reactor Foundations	3	EA	\$	7,470	\$ 22,410	\$ 8,000	\$ 24,000	\$ 15,470	\$	46,410
2.1p	Transformer Firewalls	3	EA	\$	65,736	\$ 197,208	\$ 70,400	\$ 211,200	\$ 136,136	\$	408,408
2.1q											
2.2	230kV										
2.2a	Circuit Breaker Foundations	1	EA	\$,	\$ 11,952			\$ 24,752	_	24,752
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820	\$ -	. ,	\$ -	\$ 92,820	\$	-
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$	22,410	\$ 89,640		\$ 96,000	\$ 46,410	\$	185,640
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$, .	\$ -	. ,	\$ -	\$ 46,410		-
2.2e	Switch Stand Foundations	4	EA	\$	-,	\$ 14,940	,	\$ 16,000	\$ 7,735		30,940
2.2f	Station Service Transformer Stand Foundation	0	EA	\$	3,735		\$ 4,000		\$ 7,735		-
2.2g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-

Item	Item Description E	Estimated Quantity	Unit of Measure	Material Su	ıpply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
2.2h	Bus Support 1 Ph Foundations	3	EA	\$	3,735	\$ 11,205	\$ 4,000	\$ 12,000	\$ 7,735	\$	23,205
2.2j	Instrument Transformer Stand Foundations	9	EA	\$	3,735	\$ 33,615	\$ 4,000	\$ 36,000	\$ 7,735	\$	69,615
2.2k	Arrester Stand Foundations	3	EA	\$	3,735	\$ 11,205	\$ 4,000	\$ 12,000	\$ 7,735	\$	23,205
2.2m	Wave Trap Stand Foundations	1	EA	\$	3,735	\$ 3,735	\$ 4,000	\$ 4,000	\$ 7,735	\$	7,735
2.2n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.2p											
2.3	115kV										
2.3a	Circuit Breaker Foundations	0	EA	\$	5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$	-
2.3b	Capacitor Bank Foundations	0	EA	\$	33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$	-
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	8	EA	\$	16,434	\$ 131,472	\$ 17,600	\$ 140,800	\$ 34,034	\$	272,272
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$	-
2.3e	Switch Stand Foundations	0	EA	\$	2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
2.3f	Fuse Stand Foundations	0	EA	\$	2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
2.3g	Bus Support 3ph Foundations	0	EA	\$	2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
2.3h	Bus Support 1 Ph Foundations	6	EA	\$	2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$	37,128
2.3j	Instrument Transformer Stand Foundations	6	EA	\$	2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$	37,128
2.3k	Arrester Stand Foundations	6	EA	\$	2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$	37,128
2.3m	Wave Trap Stand Foundations	0	EA	\$	2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
2.3n	Station Service Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.3p	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.4	Transformer Foundations										
2.4a	345-230kV Transformer Foundation w/ Oil Containment	1	EA	\$	97,110	\$ 97,110	\$ 104,000	\$ 104,000	\$ 201,110	\$	201,110
2.4b	345-115kV Transformer Foundation w/ Oil Containment	2	EA	\$	74,700	\$ 149,400	\$ 80,000	\$ 160,000	\$ 154,700	\$	309,400
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$		\$ -	\$ -	\$ -	\$ -	\$	-
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.5	Control House Foundations / Pad										
2.5	Control House Foundations / Pad										
2.5a	Control House / Pad	1	EA	\$	862,785	\$ 862,785	\$ 924,000	\$ 924,000	\$ 1,786,785	\$	1,786,785
2.5b	Generator Foundation	1	EA	\$	16,000	\$ 16,000	\$ 17,000	\$ 17,000	\$ 33,000	\$	33,000
2.6	Lightning Mast Foundations										
2.6a	70' Lightning Mast Foundation	8	EA	\$	5,229	\$ 41,832	\$ 5,600	\$ 44,800	\$ 10,829	\$	86,632
2.6b				\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.6c				\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
TOTAL - SURS	TATION FOUNDATIONS					\$ 2,197,240		\$ 2,353,000		Ś	4,550,240
	N STRUCTURES					2,137,240		2,333,000		Ÿ	.,550,240
3.1	345kV										
3.1a	Substation A-Frame Structures - Stand alone	2	EA	\$	37,000	\$ 74,000	\$ 37,000	\$ 74,000	\$ 74,000	\$	148,000
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$	37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$	
3.1c	Switch Stands	0	EA	\$	14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$	-
3.1d	Station Service Transformer Stand	0	EA	\$		\$ -	\$ 14,800	\$ -	\$ 29,600	\$	-
3.1e	Bus Support 3ph	0	EA	Ś	-	\$ -	\$ -	\$ -	\$ -	Ś	_
3.1f	Bus Support 1 Ph	15	EA	\$		\$ 55,500	\$ 3,700	\$ 55,500	\$ 7,400	\$	111,000
3.1g	Instrument Transformer Stand	18	EA	Ś		\$ 33,300	\$ 1,850	\$ 33,300	\$ 3,700	\$	66,600
3.1h	Arrester Stand	6	EA	\$		\$ 11,100	\$ 1,850	\$ 11,100	\$ 3,700	\$	22,200
3.1i	Wave Trap Stand	2					\$ 7,400	\$ 14,800		\$	29,600
3.11			EA	\$	7,400	\$ 14,800	15 /.400	5 14.800	\$ 14,800		

				Material Supply Rate	Material Supply Cost	Supply Rate	Cost	Total Unit Rate	TOTAL
	30kV								
	ubstation A-Frame Structures - Stand alone	1	EA	\$ 33,300	\$ 33,300	\$ 33,300	\$ 33,300	\$ 66,600	\$ 66,600
3.2b Sul	ubstation A-Frame Structures - Shared Column	0	EA	\$ 33,300	\$ -		\$ -	\$ 66,600	\$ -
	witch Stands	1	EA	\$ 12,025	\$ 12,025		\$ 12,025	\$ 24,050	\$ 24,050
	tation Service Transformer Stand	0	EA	\$ 12,025	\$ -	·	\$ -	\$ 24,050	\$ -
	us Support 3ph	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
	us Support 1 Ph	3	EA	\$ 2,775	\$ 8,325		\$ 8,325	\$ 5,550	\$ 16,650
	nstrument Transformer Stand	9	EA	\$ 1,295	\$ 11,655		\$ 11,655	\$ 2,590	\$ 23,310
	rrester Stand	3	EA	\$ 1,295	\$ 3,885		\$ 3,885	\$ 2,590	\$ 7,770
	Vave Trap Stand	1	EA	\$ 5,550	\$ 5,550	·	\$ 5,550	\$ 11,100	\$ 11,100
	Aisc. Structures	0	EA	\$ 6,475	\$ -		\$ -	\$ 12,950	\$ -
				7 0,	,	7 7,110	*	7 ==,000	*
3.3 11!	15kV								
	ubstation A-Frame Structures - Stand alone	2	EA	\$ 18,500	\$ 37,000	\$ 18,500	\$ 37,000	\$ 37,000	\$ 74,000
	ubstation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	·	\$ -	\$ 37,000	\$ -
	witch Stands	0	EA	\$ 7,955	\$ -	\$ 7,955	•	\$ 15,910	-
	use Stand	0	EA	\$ 7,955	\$ -	,	\$ -	\$ 15,910	
	us Support 3ph	0	EA	\$ 3,330	\$ -		\$ -	\$ 6,660	
	us Support 1 Ph	6	EA	\$ 1,850	\$ 11,100	,	\$ 11,100	\$ 3,700	\$ 22,200
	nstrument Transformer Stand	6	EA	\$ 740	\$ 4,440	·	\$ 4,440	\$ 1,480	\$ 8,880
	rrester Stand	6	EA	\$ 740	\$ 4,440	\$ 740		\$ 1,480	-
	Vave Trap Stand	0	EA	\$ 3,700	\$ -		\$ -	\$ 7,400	\$ -
 	Aisc. Structures	0	EA	\$ 6,475	\$ -	,	\$ -	\$ 12,950	-
5.5%	instructures		271	9,113	<u> </u>	φ σ,σ	•	ψ 12,550	Ť
TOTAL - SUBSTAT	TION STRUCTURES				\$ 372,220		\$ 372,220		\$ 744,440
4. MAJOR EQUIPT	TMENT				ψ 372,220		ŷ 372,220		711,110
	45kV								
4.1a Cir	ircuit Breakers	0	EA	\$ 200,000	\$ -	\$ 80,000	\$ -	\$ 280,000	\$ -
4.1b Ca	apacitor Banks with Reactors	1	EA	\$ 370,000	\$ 370,000	\$ 80,000	\$ 80,000	\$ 450,000	\$ 450,000
4.1c 34	45 kV - 230 kV Auto Transformer	1	EA	\$ 3,700,000	\$ 3,700,000	\$ 750,000	\$ 750,000	\$ 4,450,000	\$ 4,450,000
	45 kV - 115 kV Auto Transformer	2	EA	\$ 3,200,000	\$ 6,400,000		\$ 1,500,000	\$ 3,950,000	\$ 7,900,000
	45 kV (3) Bay Breaker-and-a-half GIS system with building	1	EA	\$ 12,700,000	\$ 12,700,000		\$ 4,266,670	\$ 16,966,670	\$ 16,966,670
	30kV	_				,,,	,,,	20,000,000	
	ircuit Breakers	1	EA	\$ 115,000	\$ 115,000	\$ 80,000	\$ 80,000	\$ 195,000	\$ 195,000
	apacitor Banks	0	EA	\$ -	\$ -		\$ -	\$ 80,000	\$ -
						,	·	,	
4.3 11!	15kV								
	ircuit Breakers	0	EA	\$ 52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
4.3b Ca	apacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
								-	
TOTAL - MAJOR EG	EQUIPTMENT				\$ 23,285,000		\$ 6,676,670		\$ 29,961,670
5. SMALL EQUIPTI	TMENT / MATERIALS								
	45kV								
5.1a Lin	ine Switches - 3ph w/ motor operator	2	EA	\$ 40,000	\$ 80,000	\$ 15,000	\$ 30,000	\$ 55,000	\$ 110,000
5.1b Dis	isconnect Switches - 3ph w/ manual operator	0	EA	\$ 35,000	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c VT	T'S	6	EA	\$ 13,000	\$ 78,000	\$ 12,000	\$ 72,000	\$ 25,000	\$ 150,000
5.1d CT	T'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000
$\overline{}$	CVT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000
5.1e CC				,					

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
5.1g	Wave Traps	2	EA	\$ 13,000	\$ 26,000	\$ 8,000	\$ 16,000	\$ 21,000	\$	42,000
5.1h	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000	\$ 50,000	\$ 50,000	\$ 250,000	\$	250,000
5.1j										
5.2	230kV									
5.2a	Line Switches - 3ph w/ motor operator	1	EA	\$ 35,000	\$ 35,000	\$ 15,000	\$ 15,000	\$ 50,000	\$	50,000
5.2b	Disconnect Switches - 3ph w/ manual operator	1	EA	\$ 30,000	\$ 30,000	\$ 17,500	\$ 17,500	\$ 47,500	\$	47,500
5.2c	VT'S	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$	63,000
5.2d	CT'S	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$	63,000
5.2e	CCVT'S	3	EA	\$ 10,000	\$ 30,000	\$ 6,000	\$ 18,000	\$ 16,000	\$	48,000
5.2f	Arresters	6	EA	\$ 5,000	\$ 30,000	\$ 6,000	\$ 36,000	\$ 11,000	\$	66,000
5.2g	Wave Traps	1	EA	\$ 13,000	\$ 13,000	\$ 8,000	\$ 8,000	\$ 21,000	\$	21,000
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.2j										
5.3	115kV									
5.3a	Line Switches - 3ph w/ motor operator	2	EA	\$ 33,000	\$ 66,000	\$ 15,000	\$ 30,000	\$ 48,000	\$	96,000
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000	\$ -		\$ -	\$ 45,500	\$	-
5.3c	VT'S	6	EA	\$ 13,000	\$ 78,000			\$ 21,000	_	126,000
5.3d	CT'S	6	EA	\$ 13,000	\$ 78,000		\$ 48,000	\$ 21,000		126,000
5.3e	CCVT'S	6	EA	\$ 8,000	\$ 48,000		\$ 48,000	\$ 16,000		96,000
5.3f	Arresters	12	EA	\$ 3,420	\$ 41,040		\$ 72,000	\$ 9,420	\$	113,040
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	Ś	
5.3h	Station Service Transformers	0	EA	\$ -	\$ -		\$ -	\$ -	\$	
5.3j	Fuses	0	EA	\$ -	\$ -		\$ -	\$ -	\$	-
3.3	14363		EA .	,	,	Ÿ	,	<u> </u>	_	
TOTAL - SMAI	L EQUIPTMENT / MATERIALS				\$ 1,164,540		\$ 675,000		\$	1,839,540
6. CONTROL H	OUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE (70'x135'x22')	1	EA	\$ 1,653,750	\$ 1,653,750	\$ 212,625	\$ 212,625	\$ 1,866,375	\$	1,866,375
6.2	Protection and Telecom Equipment Panels	30	EA	\$ 35,000	\$ 1,050,000	\$ 10,000	\$ 300,000	\$ 45,000	\$	1,350,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$	200,000
6.4	Control Cables	1	LS	\$ 227,920	\$ 227,920	\$ 227,920	\$ 227,920	\$ 455,840	\$	455,840
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
6.6	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$	300,000
6.7	DC Distribution System	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$	300,000
6.8	Security	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$	15,000
6.9	Fire Alarm	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$	15,000
6.10	Generator	1	EA	\$ 100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$	180,000
TOTAL - CONT	ROL HOUSE / PANELS / GENERATOR				\$ 3,396,670		\$ 1,285,545		\$	4,682,215
7. MISC ITEM							1,200,040			.,,
7.1	Conduit & Cable Trench System	200	LF	\$ 185.00	\$ 37,000	\$ 170.00	\$ 34,000	\$ 355	\$	71,000
7.2	Rigid Bus, Fittings & Insulators	100	LF	\$ 125.07	\$ 12,507	\$ 237.10	\$ 23,710	\$ 362	\$	36,217
7.3	Strain Bus, Connectors & Insulators	0	LF	\$ 39.30	\$ -	\$ 53.35	\$ -	\$ 93	\$	-
7.4	Grounding System	12,000	LF	\$ 6.93	\$ 83,160	\$ 32.58	\$ 390,960	\$ 40	\$	474,120

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
7.5	Strain Bus Insulators - 345kV	0	EA	\$	2,000	\$ -	\$ 1,050	\$ -	\$ 3,050	\$ -
7.6	Strain Bus Insulators - 230kV	0	EA	\$	1,400	\$ -	\$ 750	\$ -	\$ 2,150	\$ -
7.7	Strain Bus Insulators - 115kV	0	EA	\$	1,000	\$ -	\$ 550	\$ -	\$ 1,550	\$ -
7.8	Low Voltage AC Station Service	1	LS	\$	50,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$ 125,000
7.9	SSVT Service	1	LS	\$	45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 90,000	\$ 90,000
7.10	Control Conduits from Trench to Equipment	1	LS	\$	125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$ 250,000
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$	180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$ 360,000
TOTAL - MISC	ITEMS					\$ 532,667		\$ 873,670		\$ 1,406,337
D. Rotte	rdam Substation - Install					\$ 31,138,082		\$ 13,392,330		\$ 44,530,412
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$	-	\$ -	\$ 445,304	\$ 445,304	\$ 445,304	\$ 445,304
	Project Management, Material Handling & Amenities									
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 2,140,577	\$ 2,140,577	\$ 2,140,577	\$ 2,140,577
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 445,304	\$ 445,304	\$ 445,304	\$ 445,304
8.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 445,304	\$ 445,304	\$ 445,304	\$ 445,304
	Engineering									
8.5	Design Engineering	1	LS	\$	-	\$ -	\$ 3,562,433	\$ 3,562,433	\$ 3,562,433	\$ 3,562,433
8.6	LIDAR	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$	-	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$	-	\$ -	\$ 311,713	\$ 311,713	\$ 311,713	\$ 311,713
	Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 1,113,260	\$ 1,113,260	\$ 1,113,260	\$ 1,113,260
	Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 133,591	\$ 133,591	\$ 133,591	\$ 133,591
8.13	Real Estate Costs (New)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$	-	\$ -	\$ 85,000	\$ 85,000	\$ 85,000	\$ 85,000
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	2,491,047	\$ 2,491,047	\$ -	\$ -	\$ 2,491,047	\$ 2,491,047
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 44,530	\$ 44,530	\$ 44,530	\$ 44,530
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 2,491,047		\$ 8,741,017		\$ 11,232,064

Page 16 of 57

NG & NY Transco - T018 - (Segment A) E. Rotterdam Substation - Removal

Estimate Revision: 5 Total: \$ 4,196,270

NG & NY Transco - T018	3 - (Segment A)			
	Supply		Installation	Total
E. Rotterdam Substation - Removal				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ 1,472,750	\$ 1,472,750
2. SUBSTATION FOUNDATIONS	\$	-	\$ 617,400	\$ 617,400
3. SUBSTATION STRUCTURES	\$	-	\$ 534,900	\$ 534,900
4. MAJOR EQUIPTMENT	\$	-	\$ 147,000	\$ 147,000
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ 169,500	\$ 169,500
6. CONTROL HOUSE / PANELS	\$	-	\$ 150,000	\$ 150,000
7. MISC ITEMS	\$	-	\$ 519,480	\$ 519,480
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$ 585,240	\$ 585,240
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$
SUBTOTAL:	\$	-	\$ 4,196,270	\$ 4,196,270
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$		\$ 4,196,270	\$ 4,196,270

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
E. Rotte	rdam Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	6.25	ACRES	\$ -	\$ -	\$ 203,000	\$ 1,268,750	\$ 203,000	\$ 1,268,750
1.2	Station stone within substation fence.	2,000	CY	\$ -	\$ -	\$ 102	\$ 204,000	\$ 102	\$ 204,000
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
TOTAL - SITE F	PREP/ GRADING/ FENCING / CIVIL				\$ -		\$ 1,472,750		\$ 1,472,750
2. SUBSTATIO	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	230kV								
2.2a	Circuit Breaker Foundations	9	EA	\$ -	\$ -	\$ 7,200	\$ 64,800	\$ 7,200	\$ 64,800
2.2b	Capacitor Bank Foundations	2	EA	\$ -	\$ -	\$ 32,000	\$ 64,000	\$ 32,000	\$ 64,000
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	1	EA	\$ -	\$ -	\$ 22,000	\$ 22,000	\$ 22,000	\$ 22,000
2.2d	Caisson DE Foundations (for DE A frame str shared column)	5	EA	\$ -	\$ -	\$ 11,000	\$ 55,000	\$ 11,000	\$ 55,000
2.2e	Switch Stand Foundations	15	EA	\$ -	\$ -	\$ 5,200	\$ 78,000	\$ 5,200	\$ 78,000
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2g	Bus Support 3ph Foundations	4	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	59	EA	\$ -	\$ -	\$ 2,400	\$ 141,600	\$ 2,400	\$ 141,600
2.2j	Instrument Transformer Stand Foundations	15	EA	\$ -	\$ -	\$ 2,400	\$ 36,000	\$ 2,400	\$ 36,000
2.2k	Arrester Stand Foundations	6	EA	\$ -	\$ -	\$ 2,400	\$ 14,400	\$ 2,400	\$ 14,400
2.2m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Page 17 of 57

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e	Switch Stand Foundations	3	EA	\$ -	\$ -	\$ 5,200	\$ 15,600	\$ 5,200	\$ 15,600
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	3	EA	\$ -	\$ -	\$ 42,000	\$ 126,000	\$ 42,000	\$ 126,000
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
									-
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				,			,		
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				,			,		
TOTAL - SUBST	ATION FOUNDATIONS				\$ -		\$ 617,400		\$ 617,400
	N STRUCTURES				Ţ		\$ 017,400		\$ 017,400
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g 3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1i	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
J.1K		0	- 25	· ·	* -	· ·	-	· ·	-
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	1	EA	\$ -	\$ -	\$ 27,000	\$ 27,000	\$ 27,000	\$ 27,000
3.2b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	5	EA	\$ -	\$ -	\$ 27,000			
3.2c	Switch Stands	15	EA	\$ -	\$ -	\$ 27,000		\$ 27,000	
3.2d	Station Service Transformer Stand	0	EA	\$ -	\$ -		\$ 146,250		\$ 146,250
		4	EA					\$ 2,250	
3.2e	Bus Support 3ph Pus Support 4 Ph				-				
3.2f	Bus Support 1 Ph	59	EA	\$ -	\$ -	\$ 2,250		\$ 2,250	
3.2g	Instrument Transformer Stand	15	EA	\$ -	\$ -	\$ 1,050	\$ 15,750	\$ 1,050	\$ 15,750

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2h	Arrester Stand	6	EA	\$ -	\$ -	\$ 1,050	\$ 6,300	\$ 1,050	\$ 6,300
3.2j	Wave Trap Stand	3	EA	\$ -	\$ -	\$ 4,500	\$ 13,500	\$ 4,500	\$ 13,500
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	2	EA	\$ -	\$ -	\$ 15,000	\$ 30,000	\$ 15,000	\$ 30,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	3	EA	\$ -	\$ -	\$ 6,450	\$ 19,350	\$ 6,450	\$ 19,350
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBST	ATION STRUCTURES				\$ -		\$ 534,900		\$ 534,900
4. MAJOR EQU	IPTMENT								
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	9	EA	\$ -	\$ -	\$ 7,000	\$ 63,000	\$ 7,000	\$ 63,000
4.2b	Capacitor Banks	2	EA	\$ -	\$ -	\$ 42,000	\$ 84,000	\$ 42,000	\$ 84,000
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJO	R EQUIPTMENT				\$ -		\$ 147,000		\$ 147,000
	PTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -			\$ 5,500	
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Arresters	0	EA	\$ -	\$ -		\$ -	\$ 1,500	\$ -
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2	230kV				4	A	A		A
5.2a	Line Switches - 3ph w/ motor operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,500
	Disconnect Switches - 3ph w/ manual operator	12	EA	\$ -	\$ -				
	VT'S	0		\$ -	\$ -		\$ -		\$ -
	CT'S	0		\$ -	\$ -		\$ -	\$ -	
	CCVT'S	8	EA	\$ -		\$ 1,500			. ,
5.2f	Arresters	15		\$ -	\$ -	\$ 2,500			
5.2g	Wave Traps	3		\$ -	\$ -	\$ 2,500			
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,500
5.3c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3e	CCVT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3f	Arresters	9	EA	\$ -	\$ -	\$ 1,500	\$ 13,500	\$ 1,500	\$ 13,500
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				s -		\$ 169,500		\$ 169,500
	OUSE / PANELS / GENERATOR				7		7 200,000		7 200,000
6.1	CONTROL HOUSE	1	EA	\$ -	\$ -	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000
6.2	Protection and Telecom Equipment Panels	0	EA	\$ -	\$ -	\$ 130,000	\$ 130,000	\$ 130,000	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.8		0	EA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ -	\$ -
6.9	Security	0			\$ -	\$ - \$ -	\$ - \$ -		\$ -
	Fire Alarm	0	EA EA			\$ - \$ -		\$ - \$ -	\$ -
6.10	Generator ROL HOUSE / PANELS / GENERATOR	U	EA	\$ -	\$ -	\$ -	\$ - \$ 150,000	\$ -	\$ 150,000
7. MISC ITEMS					-		\$ 130,000		3 130,000
7.1	Conduit & Cable Trench System	1	LS	\$ -	\$ -	\$ 42,000.00	\$ 42,000	\$ 42,000	\$ 42,000
7.2	Rigid Bus, Fittings & Insulators	3,200	LF	\$ -	\$ -	\$ 126.25	\$ 404,000	\$ 126	\$ 404,000
7.3	Strain Bus, Connectors & Insulators	800	LF	\$ -	\$ -	\$ 39.35	\$ 31,480	\$ 39	\$ 31,480
7.4	Grounding System	1	LS	\$ -	\$ -	\$ 42,000.00	·	\$ 42,000	\$ 42,000
					\$ -		\$ 519,480		\$ 519,480
	rdam Substation - Removal				\$ -		\$ 3,611,030		\$ 3,611,030
8. MOB/DEM	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
8.1	Contractor Mobilization / Demobilization	1	LS	\$ -	\$ -	\$ 36.110	\$ 36,110	\$ 36,110	\$ 36,110
0.1	Mob / Demob	1	LS	\$ -	Ş -	\$ 36,110	\$ 30,110	\$ 30,110	\$ 36,110
8.2	Project Management, Material Handling & Amenities Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 173,582	\$ 173,582	\$ 173,582	\$ 173,582
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 36,110	\$ 36,110	\$ 36,110	\$ 36,110
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 36,110			
	Engineering					, :	, -		
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 288,882	\$ 288,882	\$ 288,882	\$ 288,882
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500		\$ 3,500	
8.8	Surveying/Staking	_	Site	\$ -	\$ -	\$ 25,277		\$ 25,277	
	Testing & Commissioning			ļ ·		,		, ,,	-
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 90,276	\$ -	\$ 90,276	\$ -
	Permitting and Additional Costs			<u> </u>					
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
0.20	B a r a r a r a r a r a r a r a r a r a	I		1.7	1 7	T	T		T

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 10,833	\$ 10,833	\$ 10,833	\$ 10	0,833
8.13	Real Estate Costs (New)		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	- 1
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 3,611	\$ 3,611	\$ 3,611	\$ 3	3,611
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 585,240		\$ 585	5,240

Page 21 of 57

F. Edic Substation - Install

Estimate Revision: 5 Total: \$ 2,587,379

NG & NY Transco - T018 -	(Segme	nt A)		
		Supply	Installation	Total
F. Edic Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	2,025	\$ 5,625	\$ 7,650
2. SUBSTATION FOUNDATIONS	\$	100,098	\$ 107,200	\$ 207,298
3. SUBSTATION STRUCTURES	\$	44,400	\$ 44,400	\$ 88,800
4. MAJOR EQUIPTMENT	\$	200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPTMENT / MATERIALS	\$	244,000	\$ 133,500	\$ 377,500
6. CONTROL HOUSE / PANELS	\$	173,850	\$ 98,850	\$ 272,700
7. MISC ITEMS	\$	339,357	\$ 507,880	\$ 847,237
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	88,298	\$ 417,896	\$ 506,194
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	1,192,028	\$ 1,395,351	\$ 2,587,379
CONTINGENCY ON ENTIRE PROJECT	\$		\$ -	\$ -
TOTAL:	\$	1,192,028	\$ 1,395,351	\$ 2,587,379

escrip	otion	of W	orl	k:
--------	-------	------	-----	----

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
F. Edic S	ubstation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	75	CY	\$ 27	\$ 2,025	\$ 75	\$ 5,625	\$ 102	\$ 7,650
1.3	Substation Fence	0	LF	\$ 100		\$ 100	\$ -	\$ 200	
1.4	Permanent Access Road - 20'-Wide	0	LF	\$ 35		\$ 285	\$ -	\$ 320	
	REP/ GRADING/ FENCING / CIVIL				\$ 2,025		\$ 5,625		\$ 7,650
	NFOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	1	EA	\$ 14,940	\$ 14,940		\$ 16,000	\$ 30,940	
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,025	<u> </u>	\$ 60,000		\$ 116,025	•
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 26,145		\$ 28,000		\$ 54,145	
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,145	<u> </u>	\$ 28,000		\$ 54,145	
2.1e	Switch Stand Foundations	6	EA	\$ 4,482				\$ 9,282	
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ 4,482	\$ -	\$ 4,800		\$ 9,282	
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	•
2.1j	Instrument Transformer Stand Foundations	9	EA	\$ 4,482	\$ 40,338		\$ 43,200	\$ 9,282	
2.1k	Arrester Stand Foundations	3	EA	\$ 4,482	\$ 13,446		\$ 14,400	\$ 9,282	
2.1m	Wave Trap Stand Foundations	1	EA	\$ 4,482	\$ 4,482		\$ 4,800	\$ 9,282	
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,952			\$ -	\$ 24,752	
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	<u> </u>	\$ 24,000		\$ 46,410	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410		\$ 24,000		\$ 46,410	
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	<u> </u>	\$ 4,000		\$ 7,735	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	+'	\$ 4,000	'	\$ 7,735	
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	•	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735			\$ -	\$ 7,735	
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	-	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 7,735	
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735		\$ 4,000	\$ -	\$ 7,735	
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3	115kV				_		4	4	
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229		,	\$ -	\$ 10,829	
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	1	\$ 36,000	\$ -	\$ 69,615	
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -	\$ 17,600		\$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column) Switch Stand Foundations	0	EA EA	\$ 16,434 \$ 2,988	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 34,034	\$ -
2.3e		0			<u> </u>	\$ 3,200		\$ 6,188	
2.3f	Fuse Stand Foundations	0	EA EA	\$ 2,988 \$ 2,988		\$ 3,200 \$ 3,200		\$ 6,188 \$ 6.188	
2.3g	Bus Support 3ph Foundations	0		7 -,000	<u> </u>			7	•
2.3h	Bus Support 1 Ph Foundations	0	EA FA	\$ 2,988 \$ 2,988		\$ 3,200 \$ 3,200		\$ 6,188 \$ 6,188	
2.3j	Instrument Transformer Stand Foundations	0	EA	2,988		3,200	- د	۶ b,188	D 22 057

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.3k	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
	345-230kV Transformer Foundation w/ Oil Containment	0		\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Control House Foundations / Pad				4		_		1
2.5a	Control House / Pad	0	EA	\$ 76,194	\$ -	\$ 81,600	\$ -	\$ 157,794	
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6	Lightwing Most Foundations								
	Lightning Mast Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
	70' Lightning Mast Foundation	0	EA	T	:	\$ 5,600 \$ -			
	60' Lightning Mast Foundation 50' Lightning Mast Foundation	0	EA	\$ - \$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.00	30 Lightning Wast Foundation	0	EA	-	· -	, -	Ş -	· -	-
TOTAL - SURST	TATION FOUNDATIONS				\$ 100,098		\$ 107,200		\$ 207,298
3. SUBSTATION					\$ 100,030		7 107,200		201,230
	345kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
	Switch Stands	1	EA	\$ 14,800	\$ 14,800		\$ 14,800	\$ 29,600	\$ 29,600
	Station Service Transformer Stand	0		\$ 14,800	\$ -		\$ -		\$ -
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph	0		\$ 3,700	\$ -		\$ -	\$ 7,400	
	Instrument Transformer Stand	9	EA	\$ 1,850	\$ 16,650		\$ 16,650	\$ 3,700	
	Arrester Stand	3	EA	\$ 1,850	\$ 5,550		\$ 5,550	\$ 3,700	
3.1j	Wave Trap Stand	1	EA	\$ 7,400	\$ 7,400		\$ 7,400	\$ 14,800	\$ 14,800
3.1k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
	230kV								
	Substation A-Frame Structures - Stand alone	0		\$ 33,300	\$ -		\$ -	\$ 66,600	
	Substation A-Frame Structures - Shared Column	0	EA	\$ 33,300	\$ -		\$ -	\$ 66,600	
	Switch Stands	0	EA	\$ 12,025	\$ -		\$ -	\$ 24,050	
	Station Service Transformer Stand	0		\$ 12,025	\$ -	\$ 12,025		\$ 24,050	
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
	Bus Support 1 Ph	0	EA	\$ 2,775	\$ -		\$ -	\$ 5,550	
	Instrument Transformer Stand	0	EA	\$ 1,295	\$ -		\$ -		\$ -
	Arrester Stand	0	EA	\$ 1,295	\$ -	\$ 1,295	\$ -	\$ 2,590	\$ -
	Wave Trap Stand	0	EA	\$ 5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
2.2	115kV								
	Substation A-Frame Structures - Stand alone	0	ГА	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37.000	\$ -
	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA EA	\$ 18,500	\$ -	\$ 18,500 \$ 18,500	\$ -	\$ 37,000 \$ 37,000	
	Switch Stands	0		\$ 18,500	\$ -		\$ -	\$ 37,000	
	Fuse Stand	0	EA	\$ 7,955	\$ -	\$ 7,955	\$ -		\$ -
	Bus Support 3ph	0	EA	\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 6,660	
	Bus Support 1 Ph	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	
	Instrument Transformer Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	
	Arrester Stand	0	EA	\$ 740	т	\$ 740		\$ 1,480	
	Wave Trap Stand	0	EA	\$ 3,700		\$ 3,700		\$ 7,400	
	Misc. Structures	0	EA	\$ 6,475		\$ 6,475		\$ 12,950	
				.,		.,		,	
TOTAL - SUBST	TATION STRUCTURES				\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQU	JIPTMENT				, ,		,		,
	345kV								
	Circuit Breakers	1	EA	\$ 200,000	\$ 200,000	\$ 80,000	\$ 80,000	\$ 280,000	\$ 280,000
		0		\$ -	\$ -			\$ 80,000	
4.1b	Capacitor Banks	0	L/\	- ا	'	7 00,000	ا ۲	7 00,000	7
	345 kV - 230 kV Auto Transformer	0		\$ -		\$ 750,000		\$ 750,000	

A20 Capacron Feakers	TOTAL	Total Unit Rate	bor & Equipment Cost	L	Labor & Equipment Supply Rate	Material Supply Cost	erial Supply Rate	Mai	Unit of Measure	Estimated Quantity	Item Description	Item
A 28 Caparitor Bunks											230kV	4.2
Continued Cont	000 \$ -	\$ 195,000	-	\$	\$ 80,000	\$ -	115,000	\$	EA	0	Circuit Breakers	4.2a
4.30 Circuit Sewheren 0 EA 5 5.000 5 5 60,000 5 5 5 60,000 5 60,000	000 \$ -	\$ 80,000	-	\$	\$ 80,000	\$ -	-	\$	EA	0	Capacitor Banks	4.2b
4.30 Circuit Sewheren 0 EA 5 5.000 5 5 60,000 5 5 5 60,000 5 60,000												
4.39 Coopering From Part Fig.											115kV	
TOTAL MADER COUPTINET						т	52,000	<u> </u>				
\$ 1. SMALE CONTRICTOR MATERIALS \$ 1. SMALE CONTRICTOR MATERIAL	000 \$ -	\$ 60,000	-	\$	\$ 60,000	\$ -	-	\$	EA	0	Capacitor Banks	4.3b
\$ 1. SMALE CONTRICTOR MATERIALS \$ 1. SMALE CONTRICTOR MATERIAL				١.								
3.1 3439V	\$ 280,000		80,000	\$		\$ 200,000		_				
Section Sect				+								
1	000 ¢ FF 000	ć FF 000	15.000	ć	ć 1F.000	ć 40.000	40.000	ċ	FA	1		
Size VFS												
Section Sect												
Single Course								<u> </u>				
Sail Arresters					,							
Signature Sign					· · · · · · · · · · · · · · · · · · ·							
Sample Sation Service Transformers O EA \$ 20,000 \$. \$ 5,000 \$. \$ 2,000 \$								_				
S 2 200V												
\$2.20 Une Switches-3-gh w/ motor operator 0 EA \$ 85,000 \$. \$ 115,000 \$. \$ \$ 40,000 \$ 5 . \$ 127,000 \$ 5 . \$ 47,000 \$ 5 . \$ 47,000 \$ 5 . \$ 47,000 \$ 5 . \$ 47,000 \$ 5 . \$ 47,000 \$ 5 . \$ 47,000 \$ 5 . \$ 47,000 \$ 5 . \$ 47,000 \$ 5 . \$ 47,000 \$ 5 . \$ 5 . \$ 60,000 \$. \$ 5 . \$												
S2	000 \$ -	\$ 50,000	-	\$	\$ 15,000	\$ -	35,000	\$	EA	0	Line Switches - 3ph w/ motor operator	
\$2.50 CCTS	500 \$ -	\$ 47,500	-	\$	\$ 17,500	\$ -	30,000	\$	EA	0	Disconnect Switches - 3ph w/ manual operator	5.2b
S.Z. CCVTS	000 \$ -	\$ 38,000	-	\$	\$ 8,000	\$ -	30,000	\$	EA	0	VT'S	5.2c
S.71 Arresters	000 \$ -	\$ 21,000	-	\$	\$ 8,000	\$ -	13,000	\$	EA	0	CT'S	5.2d
\$2.50 Wave Traps	000 \$ -	\$ 16,000	-	\$	\$ 6,000	\$ -	10,000	\$	EA	0	CCVT'S	5.2e
Sample S		. ,	-	\$	\$ 6,000	\$ -	5,000	\$	EA		Arresters	5.2f
Sal			-			т	13,000					
5.3a	- \$ -	\$ -	-	\$	\$ -	\$ -	-	\$	EA	0		
S.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 28,000 \$ - \$ 1,7500 \$ - \$ 36,000 \$ 5 \$ 36,000 \$ 36,												
S - S -											, ,	
S.38								_				
S.38 CVTS 0 EA \$ 8,000 \$ - \$ \$ 8,000 \$ - \$ \$ 16,000 \$ 5 \$ 5,000 \$ 5												
S.38 Arresters 0 EA S 3,420 S S 6,000 S S 9,420 S S S S S S S S S		, , , , , , , , , , , , , , , , , , , ,		_	,			<u> </u>				
S.38 Wave Traps												
Station service transformers 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$								_				
S Fuses	T	+'	-		+'	T .						
State Stat				-		т						
S.CONTROL HOUSE / PARELS / GENERATOR			133,500	- ' -	,	т		1	EA.	Ů		
6.1 CONTROL HOUSE	7 511,551		200,000	Ť		7 211,000						
6.2 Protection and Telecom Equipment Panels 3 EA \$ 35,000 \$ 105,000 \$ 30,000 \$ 45,000 \$ 6.3 125VD Batteries 0 EA \$ 75,000 \$ - \$ \$ 52,000 \$ - \$ 5 100,000 \$ 6.4 \$ 5 50,000 \$ - \$ 5 100,000 \$ 6.5 \$ 68,850 \$ 68,8	250 \$ -	\$ 636,250	-	\$	\$ 85,000	\$ -	551,250	\$	EA	0		
6.3 125VDC Batteries 0 EA \$ 75,000 \$ \$ \$ \$ \$ \$ \$ \$ \$				_								
Control Cables								_				
6.6			68,850			\$ 68,850						
Control Cont	- \$ -	\$ -	-	\$	\$ -	\$ -	-	\$	EA	0	SCADA and Communications	6.5
6.8 Security 6.8 Security 6.9 Fire Alarm 6.9 Generator 6.10 Generator 6.10 Generator 7.11 Conduit & Cable Trench System 7.2 Rigid Bus, Fittings & Insulators 7.3 Strain Bus Insulators 7.4 Grounding System 7.5 Strain Bus Insulators - 345kV 7.6 Strain Bus Insulators - 230kV 7.7 Strain Bus Insulators - 230kV 7.8 EA \$ 7,500 \$ - \$ 7,500 \$ - \$ 15,000 \$ 1,000 \$ - \$ 180,000 \$ 1,000 \$			-			\$ -						
6.9 Fire Alarm 6.9 Fire Alarm 6.10 Generator 0 EA \$ 7,500 \$ - \$ 7,500 \$ - \$ 15,000 \$ 6.10 CONTROL HOUSE / PANELS / GENERATOR 7.1 Conduit & Cable Trench System 7.2 Rigid Bus, Fittings & Insulators 7.3 Strain Bus, Connectors & Insulators 7.4 Grounding System 7.5 Strain Bus Insulators 7.6 Strain Bus Insulators - 345kV 7.7 Strain Bus Insulators - 230kV 7.7 Strain Bus Insulators - 230kV 7.7 Strain Bus Insulators - 115kV 7.8 Strain Bus Insulators - 115kV 7.9 EA \$ 1,000 \$ - \$ 500 \$ - \$ 1,000 \$ 1,050 \$				_				- ' -				
6.10 Generator												
TOTAL - CONTROL HOUSE / PANELS / GENERATOR \$ 173,850 \$ 98,850 \$ \$ 7.000 \$ 170,000 \$ 136,000 \$ 355 \$ \$ 7.2 Rigid Bus, Fittings & Insulators \$ 185,000 \$ 170,000 \$ 136,000 \$ 355 \$ \$ \$ 7.2 Rigid Bus, Fittings & Insulators \$ 0 L.S. \$ 75,042,000 \$ - \$ 142,260,000 \$ - \$ 217,302 \$ \$ 7.3 Strain Bus, Connectors & Insulators \$ 2,500 LF \$ 39.30 \$ 98,250 \$ 53.35 \$ 133,375 \$ 93 \$ \$ \$ 7.4 Grounding System \$ 1 L.S. \$ 10,395,000 \$ 10,395 \$ 73,305,000 \$ 73,305 \$ 83,700 \$ \$ 7.5 \$ Strain Bus Insulators - 345kV \$ 24 EA \$ 2,000 \$ 48,000 \$ 1,050 \$ 25,200 \$ 3,050 \$ 7.6 \$ Strain Bus Insulators - 230kV \$ 0 EA \$ 1,400 \$ - \$ 750 \$ - \$ 2,150 \$ 7.7 \$ Strain Bus Insulators - 115kV \$ 0 EA \$ 1,000 \$ - \$ 550 \$ - \$ 1,550 \$ \$ \$ 7.550 \$ \$ - \$ 1,550 \$ \$ \$ \$ \$ 7.550 \$ - \$ 1,550 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$				_				- ' -				
7. MISC ITEMS 800 LF \$ 185.00 \$ 148,000 \$ 170.00 \$ 136,000 \$ 355 \$ 7.2 Rigid Bus, Fittings & Insulators 0 L.S. \$ 75,042.00 \$ - \$ 142,260.00 \$ - \$ 217,302 \$ 7.3 Strain Bus, Connectors & Insulators 2,500 LF \$ 39.30 \$ 98,250 \$ 53.35 \$ 133,375 \$ 93 \$ 7.4 Grounding System 1 L.S. \$ 10,395.00 \$ 73,305.00 \$ 83,700 \$ 7.5 Strain Bus Insulators - 345kV 24 EA \$ 2,000 \$ 48,000 \$ 1,550 \$ 3,550 \$ 73,305.00 \$ 73,305.00 \$ 83,700 \$ 75 75,005.00 \$ 73,305.00 \$ 83,700 \$ 75 75,005.00 \$ 73,305.00 \$ 83,7	000 \$ -	\$ 180,000	-	\$	\$ 80,000	\$ -	100,000	\$	EA	0	Generator	6.10
7. MISC ITEMS 800 LF \$ 185.00 \$ 148,000 \$ 170.00 \$ 136,000 \$ 355 \$ 7.2 Rigid Bus, Fittings & Insulators 0 L.S. \$ 75,042.00 \$ - \$ 142,260.00 \$ - \$ 217,302 \$ 7.3 Strain Bus, Connectors & Insulators 2,500 LF \$ 39.30 \$ 98,250 \$ 53.35 \$ 133,375 \$ 93 \$ 7.4 Grounding System 1 L.S. \$ 10,395.00 \$ 73,305.00 \$ 83,700 \$ 7.5 Strain Bus Insulators - 345kV 24 EA \$ 2,000 \$ 48,000 \$ 1,550 \$ 3,550 \$ 73,305.00 \$ 73,305.00 \$ 83,700 \$ 7 75.00 \$ 22,000 \$ 48,000 \$ 1,550 \$ 7,500 \$ 2,500 \$ <t< td=""><td></td><td></td><td></td><td></td><td></td><td>4</td><td></td><td></td><td></td><td></td><td>TROU HOUSE / DANIELS / SENERATOR</td><td>OTAL CC:</td></t<>						4					TROU HOUSE / DANIELS / SENERATOR	OTAL CC:
7.1 Conduit & Cable Trench System 800 LF \$ 185.00 \$ 148,000 \$ 170.00 \$ 136,000 \$ 355 \$ 7.2 Rigid Bus, Fittings & Insulators 0 L.S. \$ 75,042.00 \$ - \$ 142,260.00 \$ - \$ 217,302 \$ 7.3 Strain Bus, Connectors & Insulators 2,500 LF \$ 39.30 \$ 98,250 \$ 53.35 \$ 133,375 \$ 93 \$ 7.4 Grounding System 1 L.S. \$ 10,395.00 \$ 10,395.00 \$ 73,305.00 \$ 83,700 \$ 7.5 Strain Bus Insulators - 345kV 24 EA \$ 2,000 \$ 48,000 \$ 1,550 \$ 3,550 \$ 7.50 \$ - \$ 2,520 \$ 3,050 \$ 7.50 \$ - \$ 2,500 \$ 8,000 \$ <	\$ 272,700		98,850	\$		\$ 173,850						
7.2 Rigid Bus, Fittings & Insulators 0 L.S. \$ 75,042.00 \$ - \$ 142,260.00 \$ - \$ 217,302 \$ 7.3 Strain Bus, Connectors & Insulators 2,500 LF \$ 39.30 \$ 98,250 \$ 53.35 \$ 133,375 \$ 93 \$ 7.4 Grounding System 1 L.S. \$ 10,395.00 \$ 73,305.00 \$ 73,305 \$ 83,700 \$ 7.5 Strain Bus Insulators - 345kV 24 EA \$ 2,000 \$ 48,000 \$ 1,050 \$ 25,200 \$ 3,050 \$ 7.6 Strain Bus Insulators - 230kV 0 EA \$ 1,400 \$ - \$ 750 \$ - \$ 2,150 \$ 7.7 Strain Bus Insulators - 115kV 0 EA \$ 1,000 \$ - \$ 550 \$ - \$ 1,550 \$	DEE 6 300.000	6 255	120,000	_	ć 470.00	ć 440.000	405.00	,	15	000		
7.3 Strain Bus, Connectors & Insulators 2,500 LF \$ 39.30 \$ 98,250 \$ 53.35 \$ 133,375 \$ 93 \$ 7.4 Grounding System 1 L.S. \$ 10,395.00 \$ 10,395 \$ 73,305.00 \$ 83,700 \$ 7.5 Strain Bus Insulators - 345kV 24 EA \$ 2,000 \$ 48,000 \$ 1,050 \$ 25,200 \$ 3,050 \$ 7.6 Strain Bus Insulators - 230kV 0 EA \$ 1,400 \$ - \$ 750 \$ - \$ 2,150 \$ 7.7 Strain Bus Insulators - 115kV 0 EA \$ 1,000 \$ - \$ 550 \$ - \$ 1,550 \$								\$ c				
7.4 Grounding System 1 L.S. \$ 10,395.00 \$ 73,305.00 \$ 73,305.5 \$ 83,700.5 7.5 Strain Bus Insulators - 345kV 24 EA \$ 2,000.5 48,000.5 \$ 1,050.5 \$ 25,200.5 \$ 3,050.5 7.6 Strain Bus Insulators - 230kV 0 EA \$ 1,400.5 - \$ 750.5 - \$ 2,150.5 \$ 2,150.5 7.7 Strain Bus Insulators - 115kV 0 EA \$ 1,000.5 - \$ 550.5 - \$ 1,550.5				13	142,260.00	· ·	/5,042.00		L.S.		nigiu dus, rittliigs & Ilisuidtuis	1.2
7.5 Strain Bus Insulators - 345kV 24 EA \$ 2,000 \$ 48,000 \$ 1,050 \$ 25,200 \$ 3,050 \$ 7.6 7.6 Strain Bus Insulators - 230kV 0 EA \$ 1,400 \$ - \$ 750 \$ - \$ 2,150 \$ 7.7 7.7 Strain Bus Insulators - 115kV 0 EA \$ 1,000 \$ - \$ 550 \$ - \$ 1,550 \$	93 \$ 231,625	\$ 93	133,375	\$	\$ 53.35	\$ 98,250	39.30	\$	LF	2,500	Strain Bus, Connectors & Insulators	7.3
7.5 Strain Bus Insulators - 345kV 24 EA \$ 2,000 \$ 48,000 \$ 1,050 \$ 25,200 \$ 3,050 \$ 7.6 7.6 Strain Bus Insulators - 230kV 0 EA \$ 1,400 \$ - \$ 750 \$ - \$ 2,150 \$ 7.7 7.7 Strain Bus Insulators - 115kV 0 EA \$ 1,000 \$ - \$ 550 \$ - \$ 1,550 \$	700 \$ 83,700	\$ 82 700	73 305	5	\$ 73.305.00	\$ 10.305	10 395 00	4	I S	1	Grounding System	7.4
7.6 Strain Bus Insulators - 230kV 0 EA \$ 1,400 \$ - \$ 750 \$ - \$ 2,150 \$ 7.7 Strain Bus Insulators - 115kV 0 EA \$ 1,000 \$ - \$ 550 \$ - \$ 1,550 \$												
7.7 Strain Bus Insulators - 115kV 0 EA \$ 1,000 \$ - \$ 550 \$ - \$ 1,550 \$												
								_				
, , ,												
7.9 SSVT Service 0 LS \$ 45,000 \$ - \$ 45,000 \$ - \$ 90,000 \$												
7.10 Control Conduits from Trench to Equipment												

Item	ltem Description	Estimated Quantity	Unit of Measure	Materia	al Supply Rate	Material S	upply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$	20,712	\$	20,712	\$ 70,000	\$ 70,000	\$ 90,712	\$	90,712
TOTAL - MISC	ITEMS					\$	339,357		\$ 507,880		\$	847,237
F. Edic S	ubstation - Install					\$	1,103,730		\$ 977,455		\$	2,081,185
8. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:											
	Contractor Mobilization / Demobilization											
8.1	Mob / Demob	1.0	LS	\$	-	\$	-	\$ 20,812	\$ 20,812	\$ 20,812	\$	20,812
	Project Management, Material Handling & Amenities											
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS					\$ 100,043	\$ 100,043	\$ 100,043	\$	100,043
8.3	Utility PM and Project Oversite	1	LS			\$	-	\$ 20,812	\$ 20,812	\$ 20,812	\$	20,812
8.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$	-	\$ 20,812	\$ 20,812	\$ 20,812	\$	20,812
	Engineering											
8.5	Design Engineering	1	LS	\$	-	\$	-	\$ 166,495	\$ 166,495	\$ 166,495	\$	166,495
8.6	LiDAR	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-
8.7	Geotech	4	EA	\$	-	\$	-	\$ 3,500	\$ 14,000	\$ 3,500	\$	14,000
8.8	Surveying/Staking	1	Site	\$	-	\$	-	\$ 14,568	\$ 14,568	\$ 14,568	\$	14,568
	Testing & Commissioning											
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$	-	\$ 52,030	\$ 52,030	\$ 52,030	\$	52,030
	Permitting and Additional Costs											
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-
8.11	Environmental Mitigation	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-
8.12	Warranties / LOC's	1	LS	\$	-	\$	-	\$ 6,244	\$ 6,244	\$ 6,244	\$	6,244
8.13	Real Estate Costs (New)	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-
8.15	Legal Fees	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-
8.17		-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-
8.18	Sales Tax on Materials	1	LS	\$	88,298	\$	88,298	\$ -	\$ -	\$ 88,298		88,298
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$	-	\$ 2,081	\$ 2,081	\$ 2,081	_	2,081
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$	88,298		\$ 417,896		\$	506,194

Page 25 of 57

NG & NY Transco - T018 - (Segment A) G. Edic Substation - Removal

41,740

Total: \$

NG & NY Transco - T018 - (Segment A)										
	Supp	oly		Installation		Total				
G. Edic Substation - Removal										
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$	-				
2. SUBSTATION FOUNDATIONS	\$	-	\$	14,200	\$	14,200				
3. SUBSTATION STRUCTURES	\$	-	\$	6,750	\$	6,750				
4. MAJOR EQUIPTMENT	\$	-	\$	-	\$	-				
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	4,500	\$	4,500				
6. CONTROL HOUSE / PANELS	\$	-	\$	-	\$	-				
7. MISC ITEMS	\$	-	\$	10,500	\$	10,500				
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$	5,790	\$	5,790				
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-				
SUBTOTAL:	\$	-	\$	41,740	\$	41,740				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL:	\$			41,740		41,740				

Description of Work:										
Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
G. Edic S	Substation - Removal									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1										
1.2										
1.3										
1.4										
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15							_		4	
	PREP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -	
	N FOUNDATIONS									
2.1	345kV					44.000	4 4 200	4 44 200	4 44 44	
2.1a 2.1b	Circuit Breaker Foundations	1 0	EA EA	\$ -	\$ -	\$ 14,200 \$ -	\$ 14,200 \$ -	\$ 14,200 \$ -	\$ 14,200 \$ -	
	Capacitor Bank Foundations Caisson DE Foundations (for DE A frame str stand alone)	0		·	·	7	1			
2.1c 2.1d	Caisson DE Foundations (for DE A frame str stand alone) Caisson DE Foundations (for DE A frame str shared column)	0		\$ - \$ -	\$ -	•	\$ - \$ -	\$ - \$ -	\$ - \$ -	
2.1u 2.1e	Switch Stand Foundations Switch Stand Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1e 2.1f	Station Service Transformer Stand Foundation	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1r	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1g 2.1h	Bus Support 1 Ph Foundations	0		\$ -	\$ -	\$ 2,400		\$ 2,400	<u> </u>	
2.1ii	Instrument Transformer Stand Foundations	0		\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -	
2.1j	Arrester Stand Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1m	Wave Trap Stand Foundations	0		\$ -	š -	\$ -	\$ -	\$ -	\$ -	
2.1n	Misc. Structure Foundations	0		\$ -	š -	\$ -	\$ -	\$ -	\$ -	
2.1p		·	271	Ť	,	*	,	<u> </u>	<u> </u>	
2.15										
2.2	230kV									
2.2a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200		\$ 7,200		
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000		\$ 32,000	\$ -	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0		\$ -	\$ -	\$ 22,000		\$ 22,000		
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0		\$ -	\$ -	\$ 11,000		\$ 11,000		
2.2e	Switch Stand Foundations	0		\$ -	\$ -	\$ 5,200		\$ 5,200		
2.2f	Station Service Transformer Stand Foundation	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.2g	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.2h	Bus Support 1 Ph Foundations	0		\$ -	\$ -	\$ 2,400		\$ 2,400		
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -	

Estimate Revision:

2.26 Ancester Sourd Foundations	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.20 Miss Shockers Foundations	2.2k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.50	2.2m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13 15 15 15 15 15 15 15	2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.38 Coroll Decease Foundations 0 DA \$ \$ \$ \$ \$ \$ \$ \$ \$	2.2p									
2.36 Cross Diff Decker Foundations 0 DA \$ \$ \$ \$ \$ \$ \$ \$ \$										
2.30 Captor Road Foundations 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$	2.3	115kV								
2.28 Cesson DE Foundations (or DE A Farme str stand abnor) 0 EA 5 5 5 5 5 5 5 5 5	2.3a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2,38	2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.36 Setto Stand Foundations	2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
236	2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.38 Bus Support 3 Ph Foundations	2.3e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
2.3 Nus Support IP Florendations	2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2-3 Instrument Transformer Stand Foundations	2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.38 Amerites Stand Foundations	2.3h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m Wave Trap Stand Foundations	2.3j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
23a Station Service Foundations 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$	2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p Misc. Structure Foundations			0				\$ -	\$ -	\$ -	\$ -
2.3p Miss: Structure Foundations	2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4 Transformer Foundations			0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2-4a 345-230VT Transformer Foundation w/ Oil Containment										
2-46 345-115NT Transformer Foundation w/ Oil Containment	2.4	Transformer Foundations								
2-4b 345-135NT Transformer Foundation w/ Oil Containment	2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c			0			\$ -	\$ -	\$ -	\$ -	\$ -
2.4d 115W-GNV Transformer Foundation w Oil Containment			0				\$ 42,000	\$ -		\$ -
2.5 Control House Foundations / Pad						\$ -				\$ -
2.5a Control House/ Pad		,								
2.5a Control House/ Pad	2.5	Control House Foundations / Pad								
2.5b Generator Foundation			0	FA	Ś -	\$ -	Ś -	Ś -	\$ -	\$ -
2.6 Lightning Mast Foundations										\$ -
2.6a 70 Lightning Mast Foundation 0 EA S -			-		Ť	7	*	-	-	*
2.6a 70 Lightning Mast Foundation 0 EA S -	2.6	Lightning Mast Foundations								
2.6b			0	FA	Ś -	\$ -	\$ -	Ś -	Ś -	\$ -
Company Comp							Š -			\$ -
S								\$ -		\$ -
3.10										
3.10	TOTAL - SUBSTA	ATION FOUNDATIONS				\$ -		\$ 14,200		\$ 14,200
3.1a Substation A-Frame Structures - Stand alone 0 EA \$ -										
3.1b Substation A-Frame Structures - Shared Column 0 EA S - S - S - S 3.1c Switch Stands 0 EA S - S - S - S 3.1d Station Service Transformer Stand 0 EA S - S - S 3.1e Bus Support 3ph 0 EA S - S - S 3.1f Bus Support 3ph 0 EA S - S - S 3.1f Bus Support 1Ph 3 EA S - S - S 3.1g Instrument Transformer Stand 0 EA S - S - S 3.1h Arrester Stand 0 EA S - S - S 3.1h Arrester Stand 0 EA S - S - S 3.1h Misc. Structures 0 EA S - S - S 3.1h Misc. Structures 0 EA S - S - S 3.2b Substation A-Frame Structures - Shared Column 0 EA S - S 3.2c Switch Stands 0 EA S - S 3.2d Station Service Transformer Stand 0 EA S - S 3.2e Switch Stands 0 EA S - S 3.2e Substation Transformer Stand 0 EA S - S 3.2e Bus Support 1Ph 0 EA S - S 3.2e Bus Support 1Ph 0 EA S - S 3.2e Bus Support 1Ph 0 EA S - S 3.2e Bus Support 1Ph 0 EA S - S 3.2e Bus Support 1Ph 0 EA S - S 3.2e Bus Support 1Ph 0 EA S - S 3.2e Substation Transformer Stand 0 EA S - S 3.2e Bus Support 1Ph 0 EA S - S 3.2e Bus Support 1Ph 0 EA S - S 3.2e Substation Transformer Stand 0 EA S - S 3.2e Substation Transformer Stand 0 EA S - S 3.2e Substation Transformer Stand 0 EA S - S 3.2e Substation Transformer Stand 0 EA S - S 3.2e Substation Transformer Stand 0 EA S - S 3.2e Substation Transformer Stand 0 EA S - S 3.2e Substation Transformer Stand 0 EA S - S 3.2e Substation Transformer Stand 0 EA S - S 3.2e Substation Transformer Stand 0 EA S - S 3.2e Substation Transformer Stand 0 EA S - S	3.1	345kV								
3.1b Substation A-Frame Structures - Shared Column 0 EA S - S - S - S 3.1c Switch Stands 0 EA S - S - S - S 3.1d Station Service Transformer Stand 0 EA S - S - S 3.1d Substation A-Frame Structures - Stand alone 0 EA S - S - S 3.1f Bus Support 3ph 0 EA S - S - S 3.1f Bus Support 1ph 3 EA S - S - S 3.1g Instrument Transformer Stand 0 EA S - S - S 3.1h Arrester Stand 0 EA S - S - S 3.1i Wave Trap Stand 0 EA S - S - S 3.1i Wave Trap Stand 0 EA S - S - S 3.1i Wave Trap Stand 0 EA S - S - S 3.1i Substation A-Frame Structures 0 EA S - S 3.1i Substation A-Frame Structures - Stand alone 0 EA S - S 3.2b Substation A-Frame Structures - Stand alone 0 EA S - S 3.2c Switch Stands 0 EA S - S 3.2d Station Service Transformer Stand 0 EA S - S 3.2e Substation A-Frame Structures - Stand alone 0 EA S - S 3.2e Substation Service Transformer Stand 0 EA S - S 3.2e Substands 0 EA S - S 3.2e Substa	3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1c Switch Stands						1	\$ -	\$ -		\$ -
Station Service Transformer Stand 0 EA \$ - \$ - \$ 5 - \$ \$ \$ \$ \$ \$ \$ \$ \$			0	EA		\$ -	\$ -	\$ -	\$ -	\$ -
3.1e Bus Support 3ph 0 EA \$ - \$ - \$ 5 - \$ 5 5 5 5 5 5 5 5 5			0				\$ -	\$ -		\$ -
3.1f Bus Support 1 Ph 3 EA \$ - \$ \$ 2,250 \$ 6,750 \$ 3.1g Instrument Transformer Stand 0 EA \$ - \$ - \$ 5 - \$ 5 3.1h Arrester Stand 0 EA \$ - \$ 5 - \$ 5 3.1j Wave Trap Stand 0 EA \$ - \$ 5 - \$ 5 3.1j Wave Trap Stand 0 EA \$ - \$ 5 - \$ 5 3.1k Misc. Structures 0 EA \$ - \$ 5 - \$ 5 3.2d Substation A-Frame Structures - Stand alone 0 EA \$ - \$ 5 3.2d Substation A-Frame Structures - Shared Column 0 EA \$ - \$ 5 3.2d Station Service Transformer Stand 0 EA \$ - \$ 5 3.2d Station Service Transformer Stand 0 EA \$ - \$ 5 3.2e Bus Support 3ph 0 EA \$ - \$ 5 3.2f Bus Support 1ph 0 EA \$ - \$ 5 3.2g Instrument Transformer Stand 0 EA \$ - \$ 5 3.2g Instrument Transformer Stand 0 EA \$ - \$ 5 3.2g Wave Trap Stand 0 EA \$ - \$ 5 3.2j Wave Trap Stand 0 EA \$ - \$ 5 3.2j Wave Trap Stand 0 EA \$ - \$ 5 3.2j Wave Trap Stand 0 EA \$ - \$ 5 3.2j Wave Trap Stand 0 EA \$ - \$ 5 3.2j Wave Trap Stand 0 EA \$ - \$ 5 3.2j Wave Trap Stand 0 EA \$ - \$ 5 4,500 \$ - \$ 5 4,500 \$ - \$ 5 5,500 \$ - \$ 6,750 \$ 5 7 \$ \$ \$ 8 \$ \$ \$ \$ \$ \$ 9 \$ \$ \$ \$ \$ 9 \$ \$ \$ \$ \$ 9 \$ \$ \$ \$ \$ 9 \$ \$ \$ \$ \$ \$ 9 \$ \$ \$ \$ \$ 9 \$ \$ \$ \$ 9 \$ \$ \$ \$ \$ 9 \$ \$ \$ \$ \$ 9 \$ \$ \$ \$ \$ 9 \$ \$ \$ \$ \$ \$ 9 \$ \$ \$ \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$ 10.5 \$ \$ \$			0			\$ -	\$ -	\$ -	\$ -	Ś -
3.1g Instrument Transformer Stand 0 EA \$ -			3			\$ -	\$ 2,250	\$ 6,750	\$ 2,250	\$ 6,750
3.1h Arrester Stand 0 EA \$ - \$ - \$ - \$ 5 - \$ \$ - \$ \$ - \$ \$ \$ \$		**				·				\$ -
3.1j Wave Trap Stand 0 EA \$ - \$ - \$ - \$ - \$ - \$						·	7	•		\$ -
3.1k Misc. Structures 0 EA \$ - \$ - \$ - \$ - \$ \$ - \$ \$			0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	Ś -
3.2 230kV			0			\$ -	\$ -	\$ -	\$ -	\$ -
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ - \$ 27,000 \$ - \$ 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ - \$ 27,000 \$ - \$ 3.2c Switch Stands 0 EA \$ - \$ - \$ 9,750 \$ - \$ 3.2d Station Service Transformer Stand 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$					i i					
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ - \$ 27,000 \$ - \$ 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ - \$ 27,000 \$ - \$ 3.2c Switch Stands 0 EA \$ - \$ - \$ 9,750 \$ - \$ 3.2d Station Service Transformer Stand 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	3.2	230kV								
3.2b Substation A-Frame Structures - Shared Column 0 EA \$ -			n	FA	s -	Ś -	\$ 27.000	\$ -	\$ 27,000	\$ -
3.2c Switch Stands 0 EA \$ - \$ 9,750 \$ - \$ 3.2d Station Service Transformer Stand 0 EA \$ -										\$ -
3.2d Station Service Transformer Stand 0 EA \$ - \$, ,	\$ -		\$ -
3.2e Bus Support 3ph 0 EA \$ - \$								'		\$ -
3.2f Bus Support 1 Ph 0 EA \$ - \$ 2,250 \$ - \$ 3.2g Instrument Transformer Stand 0 EA \$ - \$ - \$ 1,050 \$ - \$ 3.2h Arrester Stand 0 EA \$ - \$ - \$ - \$ - \$ 3.2j Wave Trap Stand 0 EA \$ - \$ - \$ - \$			0			·		·		
3.2g Instrument Transformer Stand 0 EA \$ - \$ - \$ 1,050 \$ - \$ 3.2h Arrester Stand 0 EA \$ - \$ - \$ 1,050 \$ - \$ 3.2j Wave Trap Stand 0 EA \$ - \$ - \$ - \$										
3.2h Arrester Stand 0 EA \$ - \$ 1,050 \$ - \$ 3.2j Wave Trap Stand 0 EA \$ - \$ - \$ 4,500 \$ - \$										
3.2j Wave Trap Stand 0 EA \$ - \$ - \$ 4,500 \$ - \$										
			0		l ·	i .		•		
3.3 115kV	3,3	115kV								
3.3a Substation A-Frame Structures - Stand alone 0 EA \$ - \$ - \$ 15,000 \$ - \$			n	FA	s -	Ś -	\$ 15.000	\$ -	\$ 15,000	\$ -
3.3b Substation A-Frame Structures - Shared Column 0 EA \$ - \$ - \$ - \$ - \$ - \$										

Itam	Now Description	Estimated Quantity	Unit of Massure	Material County Date	Material County Cost	Labor & Equipment	Labor & Equipment	Total Unit Rate	TOTAL
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Supply Rate	Cost	Total Onit Rate	IOIAL
3.3c	Switch Stands	0	EA	\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
3.3d	Fuse Stand	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBST	ATION STRUCTURES				\$ -		\$ 6,750		\$ 6,750
4. MAJOR EQU	IPTMENT								
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	
						,		,,,,,	
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Capation Bullio		27,	,	,	,	· ·	·	•
TOTAL - MAIO	R EQUIPTMENT				\$ -		\$ -		\$ -
	PTMENT / MATERIALS				7		J.		y .
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1a		0	EA	\$ -	\$ -			\$ 5,500	
5.10 5.1c	Disconnect Switches - 3ph w/ manual operator VT'S	0	EA	\$ -	\$ -			\$ 5,500	\$ -
					\$ -				
5.1d	CT'S CCVT'S	0	EA EA	\$ -		7	7	7	
5.1e	CCV15	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Arresters	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
	-					å 2.500	A	å 2.500	
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j									
	ASSALL/								
5.2	230kV			_	4		4		4
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -		\$ -	\$ 5,500	
5.2b	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -		\$ -	\$ 5,500	
5.2c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d	CT'S	0	EA	\$ -	\$ -		\$ -		\$ -
5.2e	CCVT'S	0	EA	\$ -	\$ -		\$ -	\$ 1,500	
5.2f	Arresters	0		\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	
5.2g	Wave Traps	0	EA	\$ -	\$ -		\$ -	\$ 2,500	
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -		\$ -	\$ 5,500	
5.3c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3e	CCVT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3f	Arresters	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -			\$ -		\$ -
5.3j	Fuses	0		\$ -	\$ -		\$ -		\$ -
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				\$ -		\$ 4,500		\$ 4,500
	OUSE / PANELS / GENERATOR								
	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
	Protection and Telecom Equipment Panels	0		\$ -	\$ -		\$ -	\$ -	
	The state of the s	Ū		E.S.	E.S.	1.			-

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.8	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONT	TROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEM	S								
7.1	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.2	Rigid Bus, Fittings & Insulators	1	LS	\$ -	\$ -	\$ 10,500.00	\$ 10,500	\$ 10,500	\$ 10,500
7.3	Strain Bus, Connectors & Insulators	0	EA	\$ -	\$ -	\$ 39.35	\$ -	\$ 39	\$ -
7.4	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
TOTAL - MISC	CITEMS				\$ -		\$ 10,500		\$ 10,500
G. Edic S	Substation - Removal				\$ -		\$ 35,950		\$ 35,950
8. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 360	\$ 360	\$ 360	\$ 360
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 1,728	\$ 1,728	\$ 1,728	\$ 1,728
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 360	\$ 360	\$ 360	\$ 360
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 360	\$ 360	\$ 360	\$ 360
	Engineering								
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,876	\$ 2,876	\$ 2,876	\$ 2,876
8.6	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 252	\$ -	\$ 252	\$ -
	Testing & Commissioning								
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 899	\$ -	\$ 899	\$ -
	Permitting and Additional Costs								
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 108	\$ 108	\$ 108	\$ 108
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	\$ 36	\$ -	\$ 36	\$ -
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 5,790		\$ 5,790

Page 29 of 57
G. SS Edic-Removal

H. New Scotland Substation - Install

Estimate Revision: Total: \$ 8,532,315

NG & NY Transco - T018	- (Segm	ent A)		
		Supply	Installation	Total
H. New Scotland Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	30,750	\$ 233,063	\$ 263,813
2. SUBSTATION FOUNDATIONS	\$	498,996	\$ 534,400	\$ 1,033,396
3. SUBSTATION STRUCTURES	\$	240,500	\$ 240,500	\$ 481,000
4. MAJOR EQUIPTMENT	\$	1,000,000	\$ 400,000	\$ 1,400,000
5. SMALL EQUIPTMENT / MATERIALS	\$	399,500	\$ 188,000	\$ 587,500
6. CONTROL HOUSE / PANELS	\$	749,150	\$ 372,900	\$ 1,122,050
7. MISC ITEMS	\$	897,304	\$ 1,093,110	\$ 1,990,414
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	305,296	\$ 1,348,847	\$ 1,654,143
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	4,121,496	\$ 4,410,819	\$ 8,532,315
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	4,121,496	\$ 4,410,819	\$ 8,532,315

Description of Work:	D	es	cr	ıpt	:10	n o	t W	or	k:
----------------------	---	----	----	-----	-----	-----	-----	----	----

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
H. New S	Scotland Substation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0.94	ACRES	\$ -	\$ -	\$ 203,000	\$ 190,313	\$ 203,000	\$ 190,313
1.2	Station stone within substation fence.	250	CY	\$ 27				\$ 102	
1.3	Substation Fence	240	LF	\$ 100		\$ 100		\$ 200	
1.4	Permanent Access Road - 20'-Wide	0	LF	\$ 35	\$ -	\$ 285	\$ -	\$ 320	\$ -
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ 30,750		\$ 233,063		\$ 263,813
2. SUBSTATION	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	5	EA	\$ 14,940	\$ 74,700	\$ 16,000		\$ 30,940	
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$ 26,145	\$ 104,580	\$ 28,000		\$ 54,145	
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,145		\$ 28,000		\$ 54,145	
2.1e	Switch Stand Foundations	18	EA	\$ 4,482				\$ 9,282	
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	32	EA	\$ 4,482				\$ 9,282	
2.1j	Instrument Transformer Stand Foundations	15	EA	\$ 4,482	\$ 67,230	\$ 4,800	\$ 72,000	\$ 9,282	\$ 139,230
2.1k	Arrester Stand Foundations	3	EA	\$ 4,482	\$ 13,446	\$ 4,800	\$ 14,400	\$ 9,282	\$ 27,846
2.1m	Wave Trap Stand Foundations	1	EA	\$ 4,482	\$ 4,482	\$ 4,800	\$ 4,800	\$ 9,282	\$ 9,282
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
	Circuit Breaker Foundations	0	EA	\$ 11,952	\$ -	\$ 12,800		\$ 24,752	
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410		\$ 24,000		\$ 46,410	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ 3,735		\$ 4,000	\$ -	\$ 7,735	\$ -
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
									Page 20 of 57

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3	115kV				_				1
2.3a	Circuit Breaker Foundations	0		\$ 5,229	\$ -	\$ 5,600		\$ 10,829	
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ - \$ -			\$ 34,034 \$ 34.034	•
2.3d 2.3e	Caisson DE Foundations (for DE A frame str shared column) Switch Stand Foundations	0	EA EA	\$ 16,434 \$ 2,988	\$ - \$ -		\$ - \$ -	\$ 34,034 \$ 6,188	•
2.3f	Fuse Stand Foundations	0		\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	
2.3k	Arrester Stand Foundations	0		\$ 2,988	\$ -			\$ 6,188	
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ 76,194	\$ -	\$ 81,600		\$ 157,794	
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	2		\$ 5,229	\$ 10,458			\$ 10,829	
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CURC	FATION FOUNDATIONS				¢ 400.00¢		ć 524.400		ć 1,022,20¢
	FATION FOUNDATIONS				\$ 498,996		\$ 534,400		\$ 1,033,396
3.1	N STRUCTURES 345kV								
3.1a	Substation A-Frame Structures - Stand alone	1	EA	\$ 37,000	\$ 37,000	\$ 37,000	\$ 37,000	\$ 74,000	\$ 74,000
3.1b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ 37,000	\$ 37,000	\$ 37,000	\$ 74,000	\$ 74,000
3.1c	Switch Stands	3	EA	\$ 14,800	\$ 44,400		-	\$ 29,600	•
3.1d	Station Service Transformer Stand	0	EA	\$ 14,800	\$ -		. ,	\$ 29,600	
3.1e	Bus Support 3ph	0	EA	\$ -	<u> </u>	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	32	EA	\$ 3,700	\$ 118,400	•		\$ 7,400	•
3.1g	Instrument Transformer Stand	15	EA	\$ 1,850	\$ 27,750			\$ 3,700	
3.1h	Arrester Stand	3	EA	\$ 1,850	\$ 5,550			\$ 3,700	\$ 11,100
3.1j	Wave Trap Stand	1	EA	\$ 7,400	\$ 7,400	\$ 7,400	\$ 7,400	\$ 14,800	\$ 14,800
3.1k	Lightning Masts - 70'	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
	Switch Stands	0		\$ 12,025				\$ 24,050	
	Station Service Transformer Stand	0		\$ 12,025		\$ 12,025		\$ 24,050	
3.2e	Bus Support 3ph	0		\$ -	\$ -		\$ -	\$ -	
3.2f	Bus Support 1 Ph	0		\$ 2,775		\$ 2,775		\$ 5,550	
3.2g	Instrument Transformer Stand	0		\$ 1,295	\$ -			\$ 2,590	
3.2h	Arrester Stand	0		\$ 1,295		\$ 1,295		\$ 2,590	
3.2j	Wave Trap Stand	0		\$ 5,550				\$ 11,100	
2.21.									
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -

3 Sump Search 1 1 1 1 1 1 1 1 1 1	Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2	3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
1.16 Rue Stand	3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
2.86 Box Support 20	3.3c	Switch Stands	0						\$ -		\$ -
3.13 But Squared Table									·		
3.5 District Stand											\$ -
3.30 Amended Sound 0 EA 5 740 5 - 5 740 5 - 5 740 5 - 5 740 5 - 5 740 5 - 5 740 5 - 5 740 5 - 5 - 740 5 - 5 - 740 5 - 740									1		\$ -
23.1 Work Fine Starter											·
2.34 Most Structures									•		
TOTAL-SUBSTATION STRUCTURES								,			•
ALL MANUAL COURT MATER	3.31	Wilse. Structures	0	EA	3	0,473	· -	\$ 0,473	· -	Ş 12,530	-
ALL MANUAL COURT MATER	TOTAL - SUBST	ATION STRUCTURES					\$ 240,500		\$ 240,500		\$ 481,000
A 10 Cloud Brosses S EA \$ 200,000 \$ 1,000,000 \$ 80,000 \$ 40,000 \$ 200,000 \$ 410,00							, ,,,,,,		, ,,,,,,		, ,,,,,
4.10 Capacitro Panks 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$	4.1	345kV									
\$1.00 \$1.0	4.1a	Circuit Breakers	5	EA	\$	200,000	\$ 1,000,000	\$ 80,000	\$ 400,000	\$ 280,000	\$ 1,400,000
\$1.50	4.1b	Capacitor Banks	0			-	\$ -		\$ -	\$ 80,000	\$ -
## 4.29 Grapher Parks ## 4.20 Grapher Danks ## 5											\$ -
4.20 Circuit Breakers 0 EA \$ 115,000 \$. \$ 80,000 \$. \$ 5,000 \$ \$ 80,000 \$. \$ 5,000 \$ \$ 150,000 \$ \$ \$ \$ \$ \$ \$ \$ \$			0	EA	\$	-	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.3 1154V				F.		445.000	<u>^</u>	ć 20.055	ć	A 405.055	^
4.3 STANK COUNTRY							•				
4.3 Circuit Breaters 0 EA S 5,000 S S 6,000 S S 112,000	4.20	Capacitor banks	0	EA	1>	-	ş -	ş 80,000	ş -	> 80,000	\$ -
4.3 Circuit Breaters 0 EA S 5,000 S S 6,000 S S 112,000	4.3	115kV									
4.3 Capaction Families Capacity Families			0	FA	Ś	52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
TOTAL - MAJOR EQUIPMENT											<u> </u>
S. SMALE ROUPT MET / MATERIALS			-		1				•	, ,,,,,,	
S-1	TOTAL - MAJO	R EQUIPTMENT					\$ 1,000,000		\$ 400,000		\$ 1,400,000
State Line Switchers - 3ph w/ matural operator	5. SMALL EQUI	PTMENT / MATERIALS									
S.10 Disconnect Switches - 3ph w/ manual operator 3 EA \$ 35,000 \$ 105,000 \$ 17,500 \$ 52,500 \$ 54,500 \$ 5.10 \$ \$ \$ \$ \$ \$ \$ \$ \$											
Site VTS											\$ 55,000
S.1d CTS S.2d S											\$ 157,500
S.1e CCVTS 6 EA \$ 13,000 \$ 78,000 \$ 48,000 \$ 21,000 \$ 5.1f 5.1f Arresters \$ 3 EA \$ 6,600 \$ 1,500 \$ 4,500 \$ 8,000 \$ 5.1f 5.00 \$ 5.1f										, , , , , , , , , , , , , , , , , , , ,	\$ 141,000
S.11											
S.1B					_						\$ 24,000
S.1h Station Service Transformers 0 EA S 200,000 S S S 50,000 S S 250,000 S S S 250,000 S S S S S S S S S											
S.13											
S-2a Line Switches - 3ph w/ manual operator 0 EA \$ 35,000 \$ - \$ 5,000 \$ 5.2b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 30,000 \$ - \$ 17,500 \$ - \$ 47,500 \$ 5.2c VTS 0 EA \$ 30,000 \$ - \$ 5.2b 20,000 \$ 5.2b 20					1		*	+ 55,555	- T	+ =====================================	•
S-2a Line Switches - 3ph w/ motor operator 0 EA S 35,000 S - S 15,000 S - S 50,000 S S S S S S S S S											
S.2b Disconnect Switches - 3ph w/ manual operator 0 EA S 30,000 S - S 17,500 S - S 38,000 S S S 38,000 S S S S S S S S S	5.2	230kV									
S2c					-					,	•
S.2d CTS 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$											\$ -
S.2e CCVT'S 0 EA \$ 10,000 \$ - \$ 6,000 \$ - \$ 16,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5 - 5 5,000 \$ 5 - \$ 5,000									•		\$ -
S.2f Arresters 0 EA \$ 5,000 \$ - \$ 6,000 \$ - \$ 11,000 \$ 5.2g Wave Traps 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.2h \$ 5.									·		
S.2g Wave Traps 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.2h Station Service Transformers 0 EA \$ - \$ \$ - \$ \$ \$ \$ \$											
S.2h Station Service Transformers 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 -							т		т		
S.2 S.3							т				\$ -
S.3 115kV					Ť				•		•
S.3a Line Switches - 3ph w/ motor operator S.3b Disconnect Switches - 3ph w/ manual operator S.3b Disconnect Switches - 3ph w/ manual operator S.3c VT'S S.3c VT'S S.3c											
5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 28,000 \$ - \$ 17,500 \$ - \$ 45,500 \$ 5.3c VT'S 0 EA \$ 28,000 \$ - \$ 8,000 \$ - \$ 36,000 \$ 5.3d CTS 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 8,000 \$ - \$ 16,000 \$ 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 9,420 \$ - \$ 9,420 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	5.3	115kV									
5.3c VT'S 0 EA \$ 28,000 \$ - \$ 8,000 \$ - \$ 36,000 \$ 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16,000 \$ - \$ 16,000 \$ - \$ 9,420 \$ \$ 9,420 \$ \$ 9,420 \$ \$ 9,420 \$ \$ 9,420 \$ \$ 9,420 \$ \$ 9,420 \$ \$ 9,420 \$ \$ \$ 9,420 \$ \$ \$ 9,420 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		Line Switches - 3ph w/ motor operator	0		\$	33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$ -
5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 16,000 \$ 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9,420 \$ - \$ 9,420 \$ - \$ 9,420 \$ - \$ 9,420 \$ - \$ 9,420 \$ - \$ 9,420 \$ - \$ - \$ 9,420 \$ - \$ - \$ 9,420 \$ - \$ - \$ 9,420 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -											\$ -
5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 16,000 \$ 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9,420 \$ 5.3g Wave Traps 0 EA \$ -											
5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9,420 \$ 5.3g Wave Traps 0 EA \$ - \$											
5.3g Wave Traps 0 EA \$ -											
5.3h Station Service Transformers 0 EA \$ - \$ <											
5.3j FUSES 0 EA \$ - \$											
TOTAL - SMALL EQUIPTMENT / MATERIALS \$ 399,500 \$ 188,000 \$ 6. CONTROL HOUSE / PANELS / GENERATOR											
6. CONTROL HOUSE / PANELS / GENERATOR	J.3J	1 4353	U	EA	۶		- ب	- ب	· -	- ب	-
6. CONTROL HOUSE / PANELS / GENERATOR	TOTAL - SMALL	EQUIPTMENT / MATERIALS					\$ 399 500		\$ 188,000		\$ 587,500
							- 555,500		200,000		- 357,500
6.1 CONTROL HOUSE 1 EA \$ 243,750 \$ 42,500 \$ 42,500 \$ 286,250 \$		CONTROL HOUSE	1	EA	\$	243,750	\$ 243,750	\$ 42,500	\$ 42,500	\$ 286,250	\$ 286,250

Item	Item Description	Estimated Quantity	Unit of Measure	Material Sup	ply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	т	OTAL
6.2	Protection and Telecom Equipment Panels	7	EA	\$	35,000	\$ 245,000	\$ 10,000	\$ 70,000	\$ 45,000	\$	315,000
6.3	125VDC Batteries	0	EA	\$	75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$	-
6.4	Control Cables	1	LS	\$:	260,400	\$ 260,400	\$ 260,400	\$ 260,400	\$ 520,800	\$	520,800
6.5	SCADA and Communications	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.6	Low Voltage AC Distribution	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$	-
	DC Distribution System	0	EA	\$	50,000		\$ 100,000	\$ -	\$ 150,000	\$	-
	Security	0	EA	\$	7,500		\$ 7,500	\$ -	\$ 15,000	\$	-
	Fire Alarm	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$	-
6.10	Generator	0	EA	\$	100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$	-
	OL HOUSE / PANELS / GENERATOR					\$ 749,150		\$ 372,900		\$	1,122,050
7. MISC ITEMS	0.120011710.1	2.500.0	1.5		405.00	4 452 500	470.00	4 425 000	4 255		
7.1	Conduit & Cable Trench System	2,500.0	LF	\$	185.00	\$ 462,500	\$ 170.00	\$ 425,000	\$ 355		887,500
7.2	Rigid Bus, Fittings & Insulators	700.0	LF	\$	125.07	\$ 87,549	\$ 237.10	\$ 165,970	\$ 362	\$	253,519
7.3	Strain Bus, Connectors & Insulators	200.0	LF	\$	39.30	\$ 7,860	\$ 53.35	\$ 10,670	\$ 93	\$	18,530
7.4	Grounding System	1,500.0	LF	\$	6.93				\$ 40		59,265
	Strain Bus Insulators - 345kV	12	EA	\$	-,		1 ,		\$ 3,050		36,600
	Strain Bus Insulators - 230kV	0	EA	\$	1,400		\$ 750		\$ 2,150		-
	Strain Bus Insulators - 115kV	0	EA	\$	1,000		\$ 550		\$ 1,550		-
	Low Voltage AC Station Service SSVT Service	0	LS LS	\$	50,000 45,000	\$ - \$ -	\$ 75,000 \$ 45,000	\$ - \$ -	\$ 125,000 \$ 90,000	\$	
	Control Conduits from Trench to Equipment	1	LS		125,000	\$ 125,000	\$ 45,000	\$ 125,000	\$ 250,000	\$	250,000
	Misc. Materials (Above and Below Ground)	1	LS		180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$	360,000
	Install new communication tower foundation	1	LS	\$		\$ -	\$ 75,000	\$ 75,000	\$ 75,000	\$	75,000
	Relocate existing communication tower	1	LS	\$		\$ -	\$ 50,000		\$ 50,000	-	50,000
7.14	•										
7.15											
7.16											
7.17											
7.18											
7.19 7.20											
7.21											
7.22											
7.23											
7.24 7.25											
TOTAL - MISC I	TFMS					\$ 897,304		\$ 1,093,110		\$	1,990,414
										Ś	
	cotland Substation - Install					\$ 3,816,200		\$ 3,061,973		ş	6,878,173
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization	1.0	15	\$		\$ -	\$ 68,782	¢ 60.703	\$ 68,782	Ś	68,782
	Mob / Demob Project Management, Material Handling & Amenities	1.0	LS	13	-	\$ -	۶ 58,/82	\$ 68,782	85,782 ج	Þ	08,/82
1 X/ I	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 330,634	\$ 330,634	\$ 330,634	\$	330,634
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 68,782	\$ 68,782	\$ 68,782	Ś	68,782
	Site Accommodation, Facilities, Storage	1		\$		\$ -	\$ 68,782				68,782
	Engineering										
	Design Engineering	1		\$		\$ -	\$ 550,254				550,254
	Lidar	-	LS	\$		\$ -		\$ -	\$ -	\$	-
	Geotech	4		\$			\$ 3,500				14,000
	Surveying/Staking	1	Site	\$	-	\$ -	\$ 48,147	\$ 48,147	\$ 48,147	\$	48,147
	Testing & Commissioning		1.5	-		<u> </u>	ć 474.05 <i>1</i>	ć 474.05 <i>1</i>	ć 474.05 <i>1</i>		474.67.
	Testing & Commissioning of T-Line and Equipment Permitting and Additional Costs	1	LS	\$	-	\$ -	\$ 171,954	\$ 171,954	\$ 171,954	>	171,954
	remitting and Additional Costs			1							

Item	Item Description	Estimated Quantity	Unit of Measure	Mater	ial Supply Rate	Mate	erial Supply Cost	Labor & Equipment Supply Rate	1	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$	-	\$	-	\$ 20,63	5 \$	20,635	\$ 20,635	\$ 20,635
8.13	Real Estate Costs (New)	-	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
8.15	Legal Fees	-	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
8.17		-	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	305,296	\$	305,296	\$ -	\$	-	\$ 305,296	\$ 305,296
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$	-	\$ 6,87	3 \$	6,878	\$ 6,878	\$ 6,878
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$	305,296		\$	1,348,847		\$ 1,654,143

Page 34 of 57

I. New Scotland Substation - Removal

Estimate Revision: 5 Total: \$ 184,697

NG & NY Transco - T018 - (Segment A)		
	Supply	Installation	Total
I. New Scotland Substation - Removal			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ -	\$ 30,000	\$ 30,000
2. SUBSTATION FOUNDATIONS	\$ -	\$ 57,200	\$ 57,200
3. SUBSTATION STRUCTURES	\$ -	\$ 27,000	\$ 27,000
4. MAJOR EQUIPTMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPTMENT / MATERIALS	\$ -	\$ 7,000	\$ 7,000
6. CONTROL HOUSE / PANELS	\$ -	\$ -	\$ -
7. MISC ITEMS	\$ -	\$ 37,875	\$ 37,875
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ -	\$ 25,622	\$ 25,622
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ -	\$ 184,697	\$ 184,697
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ -	\$ 184,697	\$ 184,697

Description of Wo	UI IX.	

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
I. New S	cotland Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Substation Fence	200	LF	\$ -	\$ -	\$ 150	\$ 30,000	\$ 150	\$ 30,000
1.2									
1.3									
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.15									
	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ 30,000		\$ 30,000
	N FOUNDATIONS				7		30,000		30,000
	345kV								
2.1a	Circuit Breaker Foundations	2	EA	\$ -	\$ -	\$ 14,200	\$ 28,400	\$ 14,200	\$ 28,400
2.1b	Capacitor Bank Foundations	0	EA	\$ -			\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	12	EA	\$ -	\$ -	\$ 2,400	\$ 28,800	\$ 2,400	\$ 28,800
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV	-			_				
2.2a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200		\$ 7,200	
2.2b	Capacitor Bank Foundations	0	EA	\$ -		\$ 32,000		\$ 32,000	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA EA	\$ -		\$ 22,000		\$ 22,000 \$ 11,000	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0		\$ -	· ·	, , , , , , ,	\$ -		
2.2e	Switch Stand Foundations	0	EA EA	\$ - \$ -	\$ -	,	\$ -	\$ 5,200	
2.2f	Station Service Transformer Stand Foundation	0	EA EA	'	· ·		\$ - \$ -	\$ - \$ -	\$ - \$ -
	Bus Support 3ph Foundations Bus Support 1 Ph Foundations	0	EA EA	\$ -	\$ -	т	\$ - \$ -	\$ - \$ 2,400	
2.211	Dus Support 1 Fit Fouridations	U	EA		- ا	2,400	γ -	2,400	Page 25 of 57

Page 35 of 57

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0		\$ -	\$ -	\$ -	\$ -		\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column) Switch Stand Foundations	0		\$ - \$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ -	\$ - \$ -
2.3e 2.3f	Fuse Stand Foundations	0	EA EA	\$ -	\$ -	\$ 5,200 \$ -	·	\$ 5,200 \$ -	
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ - \$ -
2.3g 2.3h	Bus Support 1 Ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3K 2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m	Station Service Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		†		·		i .		•	
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	,								
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TATION FOUNDATIONS				\$ -		\$ 57,200		\$ 57,200
	N STRUCTURES								
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 3ph	0	EA	\$ -	\$ - \$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	12	EA EA	\$ - \$ -	\$ - \$ -	\$ 2,250	\$ 27,000	\$ 2,250 \$ -	\$ 27,000
3.1g 3.1h	Instrument Transformer Stand Arrester Stand	0	EA EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j		0	EA		'	\$ -			\$ -
3.1j 3.1k	Wave Trap Stand Misc. Structures	0	EA EA	\$ -	\$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ -
3.11	IMISC. Structures	-	EM	- ب	- ب	, -	- ب	, -	-
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	
3.2c	Switch Stands	0	EA	\$ -	\$ -	\$ 9,750	'	\$ 9,750	
3.2d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
3.2e	Bus Support 3ph	0		\$ -	\$ -		\$ -		\$ -
3.2f	Bus Support 1 Ph	0		\$ -	\$ -	\$ 2,250		\$ 2,250	
3.2g	Instrument Transformer Stand	0		\$ -	\$ -			\$ 1,050	
3.2h	Arrester Stand	0		\$ -	\$ -	\$ 1,050		\$ 1,050	
3.2j	Wave Trap Stand	0		\$ -	\$ -			\$ 4,500	
	Misc. Structures	0		\$ -	\$ -	\$ -	\$ -		\$ -
3.2k	IVISC. Structures								
3.2k	wisc. Structures								
3.2k	115kV							\$ 15,000	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3b	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -		\$ -	\$ -	\$ -
3.3c	Switch Stands	0	EA	\$ -	\$ -	\$ 6,450		\$ 6,450	
3.3d	Fuse Stand	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ - \$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA EA	\$ -		\$ -	\$ -	\$ - \$ -	\$ -
3.3j 3.3k	Wave Trap Stand Misc. Structures	0	EA EA	\$ -	\$ - \$ -		\$ - \$ -	\$ - \$ -	\$ - \$ -
3.3K	INISC. Structures	U	EA	ş -	\$ -	, -	, -	\$ -	, -
TOTAL - SUBST	ATION STRUCTURES				\$ -		\$ 27,000		\$ 27,000
4. MAJOR EQU					, -		\$ 27,000		\$ 27,000
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	R EQUIPTMENT				\$ -		\$ -		\$ -
	PTMENT / MATERIALS								
5.1	345kV							,	
5.1a	Line Switches - 3ph w/ motor operator	0		\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -		\$ -		\$ -
5.1c	VT'S	0	EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ -
5.1d 5.1e	CT'S CCVT'S	0	EA EA	<u> </u>			\$ - \$ -	•	\$ - \$ -
5.1e 5.1f	Arresters	3	EA		\$ - \$ -		\$ 4,500	\$ 2,500 \$ 1,500	\$ 4,500
5.1g	Wave Traps	1	EA	\$ -	\$ -	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500
5.1j	Station service transformers	•	LA	7	7	7	7	7	Ť
5.25									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -		\$ -	\$ 5,500	\$ -
5.2c	VT'S	0	EA		\$ -		\$ -	\$ -	\$ -
5.2d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S	0	EA		\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.2f	Arresters	0	EA	\$ -	\$ -		\$ -	\$ 2,500	\$ -
5.2g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3	115kV		F.	ć	ć	ć	Ć	^	^
5.3a	Line Switches - 3ph w/ motor operator	0			\$ -	\$ - \$ 5.500	\$ -	\$ -	\$ -
5.3b 5.3c	Disconnect Switches - 3ph w/ manual operator VT'S	0	EA EA	\$ - \$ -	\$ - \$ -	7		\$ 5,500 \$ -	\$ - \$ -
5.3d	CT'S	0	EA EA		:		:	:	:
5.3e	CCVT'S	0			\$ -		\$ - \$ -		\$ - \$ -
5.3f	Arresters	0			\$ -	\$ 1,500		\$ 1,500	
5.3g	Wave Traps	0			\$ -		\$ -	\$ 1,300	\$ -
	Station Service Transformers	0			\$ -	\$ -			\$ -
	Fuses	0			\$ -		\$ -		\$ -
5.5,				l ·			•		
TOTAL - SMALI	L EQUIPTMENT / MATERIALS				\$ -		\$ 7,000		\$ 7,000
	OUSE / PANELS / GENERATOR						,		,
							_		
	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -

7-3 Strain Res Connectors & Resultators	Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
SCADA and Communications	6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A	6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Red Security	6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Good Fee Name	6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Control Common Notes	6.8	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL-CONTROLOGUE FANIES GRINDRATOR	6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Table Tabl	6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Table Tabl										
2.1 Conduit & Carbot French System	TOTAL - CONTE	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
2.1 Conduit & Carbot French System	7. MISC ITEMS									
2.2 Rigid Bus, Fittings, Brisslaters 300 CA 5 5 1,201.5 3,2787.5 3 126 5 3 3,2787.5 3 126 5 3 3,287.5 3 126 5 3 3,287.5 3 126 5 3 3,287.5 3 126 5 3 3,287.5 3 126 5 3 3,287.5 3 126 5 3 3,287.5 3 126 5 3 3,287.5 3 126 5 3 3,287.5 3 126 5 3 3,287.5 3 126 5 3 3,287.5 3 126 5 3 3,287.5 3 126 5 3 3,287.5 3 126 5 3 3,287.5 3 126 5 3 3,287.5 3 126 5 3 3,287.5 3,287.5 3,287.5 3,287.5 3,287.5 3,287.5 3,287.5 3,287.5 3,287.5 3,287.5 3,287.5 3,287.5 3,287.5 3,287.5		Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.4 Grounding System					\$ -	\$ -				
7.4 Grounding System						\$ -				
7.5						\$ -				
7.6					7	- T	,	7		
7.7										
7.8										
7.9										
7.10										
7.11										
7.12										
7.13										
Total										
TOTAL - MICK TEMPS										
S										
Second S		TENAC				A		A 27.075		å 27.075
R. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization / D						\$ -		\$ 37,875		\$ 37,875
Contractor Mobilization / Demobilization S	I. New So	cotland Substation - Removal				\$ -		\$ 159,075		\$ 159,075
Contractor Mobilization / Demobilization S	8. MOB/DEMO	B. ENGINEERING. PERMITTING. T&C. PM & INDIRECTS:								
8.1 Mob / Demob 1.0 LS S S S S S S S S										
Project Management, Material Handling & Amenities			1.0	LS	Ś -	\$ -	\$ 1.591	\$ 1.591	\$ 1.591	\$ 1,591
8.2 Project Management & Staffing (Includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 8.3 Utility PM and Project Oversite 1 LS 8.4 Site Accommodation, Facilities, Storage 1.0 LS 8.5 S 8.6 S 8.7 S		,			7	*	7 -,	7 2,002	7 -,555	7 -,
8.4 Site Accommodation, Facilities, Storage	8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler	1	LS			\$ 7,647	\$ 7,647	\$ 7,647	\$ 7,647
8.4 Site Accommodation, Facilities, Storage	8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 1.591	\$ 1.591	\$ 1.591	\$ 1,591
Engineering					\$ -	\$ -				
8.5 Design Engineering 1.0 LS \$ - \$ - \$ \$ 12,726 \$ 1					7		7 -,552	7 2,002	7 -/	7
8.6 LIDAR			1.0	IS	Ś -	\$ -	\$ 12 726	\$ 12 726	\$ 12 726	\$ 12,726
8.7 Geotech - Site S - S					'	T				
Site Surveying/Staking Site S										
Testing & Commissioning Fuline and Equipment Full State			_			т		•		
R.9 Testing & Commissioning of T-Line and Equipment				Site	7	7	7 1,114	7	7 1,114	7
Permitting and Additional Costs			_	15	ė -	¢ .	¢ 3 077	ė -	¢ 3 077	\$ -
8.10 Environmental Licensing & Permitting Costs			_		-	· -	3,377	-	3,377	-
8.11 Environmental Mitigation - LS \$ - \$ - \$ - \$ - \$ - \$ 5 -				10	ė	ė	ċ	ė	ċ	\$ -
8.12 Warranties / LOC's 1 LS \$ - \$ 477 \$ 5 - \$ - <td></td> <td></td> <td></td> <td></td> <td></td> <td>7</td> <td></td> <td>·</td> <td></td> <td></td>						7		·		
8.13 Real Estate Costs (New) - LS \$ - \$										
8.14 Real Estate Costs (Incumbent Utility) - LS \$ - \$ </td <td></td> <td></td> <td></td> <td></td> <td></td> <td>т</td> <td></td> <td></td> <td></td> <td></td>						т				
8.15 Legal Fees - LS \$ -						Ÿ			т	
8.16 Allowance for Funds Used During Construction (AFUDC) - LS \$ - <td></td>										
8.17 - LS \$ - <td></td> <td></td> <td></td> <td></td> <td>·</td> <td>7</td> <td></td> <td>'</td> <td></td> <td></td>					·	7		'		
8.18 Sales Tax on Materials 1.0 LS \$ - \$ - \$ - \$ 8.19 Fees for permits, including roadway, railroad, building or other local permits - LS \$ - \$ 1.59 \$ - \$ 159 \$		Allowance for Funds Used During Construction (AFUDC)			<u> </u>	т				
8.19 Fees for permits, including roadway, railroad, building or other local permits - LS \$ - \$ 159 \$ - \$ 159 \$						<u>'</u>				
					\$ -	т	т	'	7	т
TOTAL - MOB/DEMOB. ENGINEERING, PERMITTING, T&C. PM & INDIRECTS:			-	LS			\$ 159		\$ 159	
Y 23,022 Y 2.	TOTAL - MOB/I	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 25,622		\$ 25,622

Page 38 of 57

J. Porter Substation - Install

Estimate Revision: 5 Total: \$ 87,069

NG & NY Transco - T018 - (Segment	A)		
		Supply	Installation	Total
J. Porter Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ -	\$ -
2. SUBSTATION FOUNDATIONS	\$	-	\$	\$ -
3. SUBSTATION STRUCTURES	\$	-	\$ -	\$ -
4. MAJOR EQUIPTMENT	\$	-	\$ -	\$ -
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ -	\$ -
6. CONTROL HOUSE / PANELS	\$	-	\$ -	\$ -
7. MISC ITEMS	\$	15,008	\$ 56,904	\$ 71,912
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,201	\$ 13,956	\$ 15,157
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	\$ -
SUBTOTAL:	\$	16,209	\$ 70,860	\$ 87,069
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	16,209	\$ 70,860	\$ 87,069

ption of	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
J. Porter	Substation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000		\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	
1.3	Substation Fence	0	LF	\$ 100	\$ -	\$ 100	\$ -	\$ 200	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
	NFOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ 14,940	\$ -	\$ 16,000		\$ 30,940	
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,025	\$ -	\$ 60,000	·	\$ 116,025	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 26,145	\$ -		\$ -	\$ 54,145	
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,145	\$ -		\$ -	\$ 54,145	
2.1e	Switch Stand Foundations	0	EA	\$ 4,482	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 9,282	
	Station Service Transformer Stand Foundation	0	EA	\$ 4,482	\$ -	\$ 4,800	·	\$ 9,282	
	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	·	\$ 9,282	
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ 4,482	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 9,282	
2.1k	Arrester Stand Foundations	0	EA	\$ 4,482	\$ -	7 .,	\$ -	\$ 9,282	
2.1m	Wave Trap Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800		\$ 9,282	
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
	Circuit Breaker Foundations	0	EA	\$ 11,952	\$ -	\$ 12,800		\$ 24,752	
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -		\$ -	\$ 46,410	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -		\$ -	\$ 69,615	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	
	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -		\$ -
	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -		\$ -
	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Control House Foundations / Pad				1		_		•
	Control House / Pad	0	EA	\$ 76,194	\$ -	\$ 81,600	\$ -	\$ 157,794	\$ -
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6	Lightning Mast Foundations								
	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CLIDET	TATION FOUNDATIONS				*		Ċ.		<u> </u>
B. SUBSTATION	ATION FOUNDATIONS				\$ -		\$ -		\$ -
	345kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1c	Switch Stands	0	EA	\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
	Station Service Transformer Stand	0	EA	\$ 14,800	\$ -		\$ -		\$ -
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
	Bus Support 1 Ph	0	EA	\$ 3,700	\$ -		\$ -	\$ 7,400	
	Instrument Transformer Stand	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	
	Arrester Stand	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	
	Wave Trap Stand	0	EA	\$ 7,400	\$ -	\$ 7,400	\$ -	\$ 14,800	
3.1k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.2	230kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2b	Substation A-Frame Structures - Shared Column	0	EA		\$ -	\$ 33,300	\$ -	\$ 66,600	
	Switch Stands	0		\$ 12,025					
	Station Service Transformer Stand	0	EA	\$ 12,025		\$ 12,025		\$ 24,050	
	Bus Support 3ph	0	EA	\$ -	\$ -			\$ -	
	Bus Support 1 Ph	0	EA	' '				\$ 5,550	
	Instrument Transformer Stand	0	EA			\$ 1,295		\$ 2,590	
3.2h	Arrester Stand Wave Trap Stand	0	EA EA	\$ 1,295 \$ 5,550		\$ 1,295 \$ 5,550		\$ 2,590 \$ 11,100	
		1 0	LA	3,350 با		0,050 با	ا - ا	11,100	· -
3.2j		0	F۸	\$ 6,475	ς .	\$ 6,175	¢ _	\$ 12.050	¢ :
3.2j	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3e	Bus Support 3ph	0	EA	\$ 3,330	\$ -		\$ -	\$ 6,660	
3.3f	Bus Support 1 Ph	0	EA	\$ 1,850	\$ -		\$ -	\$ 3,700	
3.3g	Instrument Transformer Stand	0	EA	\$ 740	\$ -		\$ -	\$ 1,480	
3.3h	Arrester Stand	0	EA	\$ 740	\$ -		\$ -	\$ 1,480	
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
	TO ALCOHOLOGICA CONTRACTOR OF THE CONTRACTOR OF								
	TATION STRUCTURES				\$ -		\$ -		\$ -
4. MAJOR EQU									
4.1	345kV			4 200,000	A	4 00 000	A	4 200,000	A
4.1a	Circuit Breakers	0	EA	\$ 300,000	\$ -	\$ 80,000	\$ -	\$ 380,000	
4.1b	Capacitor Banks	0		\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0	EA EA	\$ - \$ -	\$ - \$ -		\$ - \$ -	\$ 750,000 \$ 750,000	
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	· -	\$ 750,000	\$ -	\$ 750,000	, -
4.2 4.2a	230kV Circuit Breakers	0	EA	\$ 250,000	\$ -	\$ 80,000	\$ -	\$ 330,000	\$ -
4.2a 4.2b	Capacitor Banks	0	EA EA			\$ 80,000	:	\$ 330,000	
4.20	Capacitor paris	U	EA	\$ -	\$ -	الالارانة د	\$ -	ب ۵۵٫۵۵۵	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 225,000	\$ -	\$ 60,000	\$ -	\$ 285,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
4.50	Capacitor banks	U	EA	- -	, -	3 00,000	· -	\$ 00,000	-
TOTAL - MAJO	R EQUIPTMENT				\$ -		\$ -		\$ -
	IPTMENT / MATERIALS				-		· -		, -
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 40,000	\$ -	\$ 17,500	\$ -	30,000	\$ -
5.1c	VT'S	0	EA	\$ 35,000	\$ -		\$ -	\$ 47,000	
5.1d	CT'S	0	EA	\$ 13,000	\$ -		\$ -	\$ 21,000	
5.1e	CCVT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	
5.1f	Arresters	0	EA	\$ 6,500	\$ -		\$ -	\$ 8,000	
5.1g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	
5.1h	Station Service Transformers	0	EA	\$ 200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	
5.1j				,					
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 30,000	\$ -	\$ 15,000	\$ -	\$ 45,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 35,000	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.2c	VT'S	0	EA	\$ 30,000	\$ -	\$ 8,000	\$ -	\$ 38,000	\$ -
5.2d	CT'S	0	EA	\$ 13,000	\$ -		\$ -	\$ 21,000	\$ -
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -	\$ 6,000	\$ -	\$ 16,000	\$ -
5.2f	Arresters	0	EA	\$ 5,000	\$ -	\$ 6,000	\$ -	\$ 11,000	\$ -
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ 28,000	\$ -	\$ 15,000	\$ -	\$ 43,000	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 33,000	\$ -	\$ 17,500	\$ -	\$ 50,500	
5.3c	VT'S	0	EA	\$ 28,000	\$ -	\$ 8,000	\$ -	\$ 36,000	
5.3d	CT'S	0		\$ 13,000					
5.3e	CCVT'S	0		\$ 8,000		\$ 8,000		\$ 16,000	
5.3f	Arresters	0		\$ 3,420				\$ 9,420	
5.3g	Wave Traps	0		\$ -	\$ -		\$ -		\$ -
5.3h	Station Service Transformers	0		\$ -	\$ -		\$ -		\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	1				A		•		•
	L EQUIPTMENT / MATERIALS				\$ -		\$ -		\$ -
	OUSE / PANELS / GENERATOR		FA.	ć 554.050	<u>^</u>	¢ 05.000	ć	ć cac asa	A
6.1	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -

8.3 Utility PM and Project Oversite 1 LS \$ - \$ 719 \$ 719 \$ 719 \$ 8.4 Site Accommodation, Facilities, Storage 1 LS \$ - \$ 719 \$ 719	Total Unit Rate	TOTAL
6.4 Control Cables 0 15 5 5 5 5 5 5 5 5	\$ 45,000 \$	-
6.5 SCADA and Communications 0 EA \$	\$ 100,000 \$	-
6.6 Low Voltage AC Burtifuction 0 EA \$ \$0,000 \$ \$ \$ \$100,000 \$ \$ \$ \$ \$ \$ \$ \$ \$	\$ - \$	-
6.7 CO Estribution System	\$ - \$	-
6.8 Security	\$ 150,000 \$	-
6.8 Security	\$ 150,000 \$	-
6-9 Fire Alarm	\$ 15,000 \$	-
E-10 Generator	\$ 15,000 \$	_
TOTAL - CONTROL HOUSE / PANELS / GENERATOR	\$ 180,000 \$	_
Text	150,000 \$	
Text	Ś	
7.1 Conduit & Cale Trench System 0 IF S 185.00 S S 170.00 S C	3	
7.2 Rigid Bus, Fittings & Insulators	255 4	
7.3 Strain Bus, Connectors & Insulators 0 LF 5 13.38 5 5 39.35 5 7.4 Grounding System 0 LF 5 6.93 5 5 32.58 5 7.5 Strain Bus insulators - 365kV 0 EA 5 2,000 5 5 1,000 5 7.6 Strain Bus insulators - 325kV 0 EA 5 2,000 5 5 1,000 5 7.7 Strain Bus insulators - 325kV 0 EA 5 2,000 5 5 1,000 5 7.7 Strain Bus insulators - 325kV 0 EA 5 1,000 5 5 7,00 5 7.7 Strain Bus insulators - 325kV 0 EA 5 1,000 5 5 7,00 5 7.7 Strain Bus insulators - 325kV 0 EA 5 1,000 5 5 7,00 5 7.8 Low Valeage AC Stains basin Service 0 EA 5 1,000 5 5 7,000 5 7.8 Low Valeage AC Stains nervice 0 EA 5 1,000 5 5 7,000 5 7.9 SOVT Service 0 EA 5 1,000 5 5 7,000 5 7.10 Control Condulis from Trench to Equipment 0 ES 5 125,000 5 5 125,000 5 5 125,000 5 5 125,000 5 7.11 Misc. Materials (Above and Below Ground) 0 ES 5 125,000 5 5 125,00	\$ 355 \$	-
7.4 Grounding System	\$ 71,912 \$	71,912
7.5 Strain Bus Insulators - 345kV	\$ 53 \$	-
Trial Bus insulators - 230k7	\$ 40 \$	-
Trial Bus Insulators - 115kV	\$ 3,050 \$	-
7.7 Strain Bus Insulators - 115kV	\$ 2,150 \$	-
7.9 SVT Service	\$ 1,550 \$	-
7.9 SVT Service	\$ 125,000 \$	-
Control Conduits from Trench to Equipment 0 LS S 125,000 S S S S S S S S S	\$ 90,000 \$	-
Till Misc. Materials (Above and Below Ground) 0 15 \$ 180,000 \$ 	\$ 250,000 \$	-
7.12 7.13 7.14 7.15 7.16 7.17 7.18 7.19 7.20 7.20 7.21 7.21 7.22 7.23 7.24 7.25 7.25 7.27 7.28 7.28 7.29 7.20 7.20 7.20 7.20 7.21 7.22 7.23 7.24 7.25 7.28 7.29 7.29 7.20 7.20 7.20 7.20 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.28 7.29 7.29 7.20 7.20 7.20 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.28 7.29 7.29 7.20 7.20 7.21 7.20 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.29 7.29 7.20 7.21 7.20 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.29 7.29 7.20 7.20 7.21 7.21 7.22 7.23 7.24 7.25 7.25 7.26 7.27 7.27 7.28 7.29 7.29 7.20 7.20 7.21 7.21 7.22 7.23 7.24 7.25 7.25 7.26 7.27 7.28 7.29 7.29 7.20 7.20 7.21 7.21 7.22 7.23 7.24 7.25 7.25 7.20 7.26 7.27 7.27 7.28 7.29 7.29 7.20 7.20 7.20 7.20 7.20 7.20 7.21 7.20 7.20 7.20 7.20 7.20 7.20 7.20 7.20	\$ 360,000 \$	-
7.13 7.14 7.15 7.16 7.17 7.18 7.19 7.19 7.20 7.21 7.22 7.23 7.24 7.24 7.25 7.25 7.724 7.25 7.725 7.724 7.85 7.96 7.97 7.97 7.97 7.97 7.98 7.99 7.99 7.90 7.90 7.90 7.90 7.90 7.90	\$ 500,000 \$	
7.14	+	
7.15	+	
7.16	+	
7.17	+	
7.18		
7.19		
7.20		
7.21		
7.22 7.23 7.24 7.25 70TAL - MISC ITEMS 7.		
7.23		
7.24 7.25		
TOTAL - MISC ITEMS		
TOTAL - MISC ITEMS		
TOTAL - MISCITEMS \$ 15,008 \$ 56,904		
Sample Substation - Install Sample Sampl	Š	71,912
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization		
Contractor Mobilization / Demobilization Demobilization 1.0	\$	71,912
8.1 Mob / Demob 1.0 LS \$ - \$ 719 \$ 719 Project Management, Material Handling & Amenities 8.2 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 1 LS \$ 3,457 \$ 3,457 8.3 Utility PM and Project Oversite 1 LS \$ - \$ 719 \$ 719 8.4 Site Accommodation, Facilities, Storage 1 LS \$ - \$ 719 \$ 719		
8.1 Mob / Demob 1.0 LS \$ - \$ 719 \$ 719 Project Management, Material Handling & Amenities 8.2 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 1 LS \$ 3,457 \$ 3,457 8.3 Utility PM and Project Oversite 1 LS \$ - \$ 719 \$ 719 8.4 Site Accommodation, Facilities, Storage 1 LS \$ - \$ 719 \$ 719		
Project Management, Material Handling & Amenities 8.2 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 8.3 Utility PM and Project Oversite 1 LS \$ 3,457 \$ 3,457 \$ 719 8.4 Site Accommodation, Facilities, Storage	\$ 719 \$	719
8.2 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 1 LS \$ 3,457 \$ 3,457 8.3 Utility PM and Project Oversite 1 LS \$ - \$ 719 \$ 719 8.4 Site Accommodation, Facilities, Storage 1 LS \$ - \$ 719 \$ 719		
8.4 Site Accommodation, Facilities, Storage 1 LS \$ - \$ 719 \$ 719	\$ 3,457 \$	3,457
8.4 Site Accommodation, Facilities, Storage 1 LS \$ - \$ 719 \$ 719	6 740 4	710
		719
	\$ 719 \$	719
Engineering	+	
8.5 Design Engineering 1 LS \$ - \$ 5,753 \$ 5,753	1.	5,753
8.6 LIDAR - LS \$ - \$ - \$ -		-
	\$ 3,500 \$	<u> </u>
8.8 Surveying/Staking 1 Site \$ - \$ - \$ 503 \$ 503	\$ 503 \$	503
Testing & Commissioning		
8.9 Testing & Commissioning of T-Line and Equipment 1 LS \$ - \$ - \$ 1,798 \$ 1,798	\$ 1,798 \$	1,798
Permitting and Additional Costs		
8.10 Environmental Licensing & Permitting Costs - LS \$ - \$ - \$ -	\$ - \$	-
		-
8.12 Warranties / LOC's 1 LS \$ - \$ - \$ 216 \$ 216		216
8.13 Real Estate Costs (New) - LS \$ - \$ - \$ -		-

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	1,201	\$ 1,201	\$ -	\$ -	\$ 1,201	\$ 1,201
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 72	\$ 72	\$ 72	\$ 72
TOTAL - MOB,	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,201		\$ 13,956		\$ 15,157

Page 43 of 57

J. SS Porter-Install

NG & NY Transco - T018 - (Segment A) K. Porter Substation - Removal

557,825

Total: \$

NG & NY Transco	- T018 - (Segment A	I)			
		Supply	Installation		Total
K. Porter Substation - Removal					
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ -	\$	-
2. SUBSTATION FOUNDATIONS	\$	-	\$ 126,600	\$	126,600
3. SUBSTATION STRUCTURES	\$	-	\$ 206,100	\$	206,100
4. MAJOR EQUIPTMENT	\$	-	\$ 43,500	\$	43,500
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ 59,500	\$	59,500
6. CONTROL HOUSE / PANELS	\$	-	\$ -	\$	-
7. MISC ITEMS	\$	-	\$ 38,613	\$	38,613
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$ 83,512	\$	83,512
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-
SUBTOTAL:	\$	-	\$ 557,825	\$	557,825
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-
				À	

iption	

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
K. Porter	Substation - Removal								
1. SITE PREP/ G	GRADING/ FENCING / CIVIL								
TOTAL - SITE PF	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
2. SUBSTATION	FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									·
2.2	230kV								
2.2a	Circuit Breaker Foundations	3	EA	\$ -	\$ -	\$ 7,200	\$ 21,600	\$ 7,200	\$ 21,600
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000	\$ -	\$ 32,000	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000	\$ -	\$ 22,000	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	5	EA	\$ -	\$ -	\$ 11,000	\$ 55,000	\$ 11,000	\$ 55,000
2.2e	Switch Stand Foundations	5	EA	\$ -	\$ -	\$ 5,200	\$ 26,000	\$ 5,200	\$ 26,000
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2j	Instrument Transformer Stand Foundations	4	EA	\$ -	\$ -	\$ 2,400	\$ 9,600	\$ 2,400	\$ 9,600
2.2k	Arrester Stand Foundations	6	EA	\$ -	\$ -	\$ 2,400	\$ 14,400	\$ 2,400	\$ 14,400
2.2m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p		-							
· ·									
2.3	115kV								
	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str shared column)	0	EA		\$ -		\$ -	s -	\$ -

3.10	Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.5 3.5 5.5	2.3e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
1.20	2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.21 Marriage Transformer Researchers 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$						\$ -				
2.30 Work Ingel Assertations		Bus Support 1 Ph Foundations				\$ -			·	•
2.20 2000						'	•			
2.59 Miles Service Foundations 0						'				
Dec. Security Foundations										
Tendemore Touristation will Differentiation at 1						'			·	
2-48 35-1284 Trensformer foundation of OL Contaminant 0 UA 5 3 5 5 5 5 5 5 5 5	2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2-48 35-1284 Trensformer foundation of OL Contaminant 0 UA 5 3 5 5 5 5 5 5 5 5										
2-26 2-30-15 150-400					4	4	4		_	4
2.64 1315-05/14 Transferred Foundation of Discontaneers						·	'		•	
2.56		·				7				
2.5 Centrol House Foundations / Pad						·				
2-36 Control shouse / Find	2.40	115kV-69kV Transformer Foundation W/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2-36 Control shouse / Find	2.5	Control House Foundations / Red								
2-50 Generator Foundation				FA.	ć	ć	ć	ć	ć	ć
2.6 Spring Mast Foundations						7	'	'		•
2.6a 77 Lightney Mast Foundation	2.50	Generator Fouridation	0	EA	· ·	· -	· -	· -	<i>γ</i> -	· -
2.6a 77 Lightney Mast Foundation	26	Lightning Mast Foundations								
2.66			0	ΕΛ	ċ	ċ	ė	ć	ċ	ć
266		70 Lightning Wast Foundation					'	'		•
S						-				
3.1 SASAY	2.60		U	EA	ş -	ş -	ş -	\$ -	, -	ş -
3.1 SASAY	TOTAL - SUBST	TATION FOUNDATIONS				Ċ -		\$ 126,600		\$ 126,600
3.1						7		7 120,000		7 120,000
3.13 Substation A-Frame Structures - Stand cloum										
Substation A-frame Structures - Shared Column			0	FΔ	¢ -	¢ -	¢ .	¢ .	\$ -	¢ .
3.1d Switch Stands					'	т		'		•
3.1d Station Service Transformer Stand 0 EA S S S S S S S S S						'	•			
3.18 Bus Support 3ph 0 EA S S S S S S S S S						'				•
3.11 Bus Support 1Ph						'				
3.1 Instrument Transformer Stand						'				•
3.1h Arrester Stand						\$ -				
3.11 Wave Trap Stand						·			•	•
3.1k Misc. Structures						·	•	·		
3.2 230kV							•		•	
3.2a Substation A-Frame Structures - Stand alone 0										
3.2 b	3.2	230kV								
3.2c Switch Stands 6 EA S - S - S 9,750 S 58,500 S 9,750 S 58,500 S 3,260 S 3,261 Station Service Transformer Stand 0 EA S -	3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2d Station Service Transformer Stand 0 EA S -	3.2b	Substation A-Frame Structures - Shared Column	5	EA	\$ -	\$ -	\$ 27,000	\$ 135,000	\$ 27,000	\$ 135,000
3.2e Bus Support 3ph 0 EA S - S	3.2c	Switch Stands	6	EA	\$ -	\$ -	\$ 9,750	\$ 58,500	\$ 9,750	\$ 58,500
3.2f Bus Support 1 Ph	3.2d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2g Instrument Transformer Stand 6 EA \$ - \$ - \$ 1,050 \$ 6,300 \$ 1,050 \$ 6,300 \$ 3.2h Arrester Stand 6 EA \$ - \$ 5 - \$ 5 1,050 \$ 6,300 \$ 1,050 \$ 6,300 \$ 3.2h Arrester Stand 6 EA \$ - \$ 5 - \$ 5 1,050 \$ 6,300 \$ 1,050 \$ 1,050	3.2e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -		
3.2g Instrument Transformer Stand 6 EA S - S - S 1,050 S 6,300 S 1,050 S 6,300 3.2h Arrester Stand 6 EA S - S - S 1,050 S 6,300 S 1,050 S 6,300 3.2l Wave Trap Stand 0 EA S - S - S 4,500 S - S 4,500 S 3.2k Misc. Structures 0 EA S - S - S - S - S - S 3.2k Misc. Structures 0 EA S - S - S - S - S - S 3.3a Substation A-Frame Structures - Stand alone 0 EA S - S - S - S - S - 3.3a Substation A-Frame Structures - Stand alone 0 EA S - S - S - S - S - 3.3c Switch Stands 0 EA S - S - S - S - S - S 3.3d Fuse Stand 0 EA S - S - S - S - S - 3.3e Bus Support 3ph 0 EA S - S - S - S - S - 3.3f Bus Support 1Ph 0 EA S - S - S - S - S - 3.3g Instrument Transformer Stand 0 EA S - S - S - S - S - 3.3g Instrument Transformer Stand 0 EA S - S - S - S - S - 3.3g Wave Trap Stand 0 EA S - S - S - S - S - S - 3.3g Wave Trap Stand 0 EA S - S - S - S - S - S - 3.3g Wave Trap Stand 0 EA S - S - S - S - S - S - 3.3g Wave Trap Stand 0 EA S - S - S - S - S - S - S - 3.3g Wave Trap Stand 0 EA S -	3.2f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	\$ -
3.2h Arrester Stand 6 EA \$ - \$ 1,050 \$ 6,300 \$ 1,050 \$ 6,300 \$ 1,050 \$ 6,300 \$ 1,050 \$ 6,300 \$ 1,050 \$ 6,300 \$ 1,050 \$ 6,300 \$ 1,050 \$ 6,300 \$ 1,050 \$ 6,300 \$ 1,050 \$ 6,300 \$ 1,050 \$ 4,500 \$ - \$ 4,500 \$ - \$ 4,500 \$ - \$	3.2g		6	EA	\$ -	\$ -	\$ 1,050	\$ 6,300	\$ 1,050	\$ 6,300
3.2k Misc. Structures			6	EA	\$ -	\$ -	\$ 1,050	\$ 6,300	\$ 1,050	\$ 6,300
3.3 115kV	3.2j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ 4,500	\$ -	\$ 4,500	\$ -
3.3 115kV	3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3a Substation A-Frame Structures - Stand alone 0 EA \$ - \$ 15,000 \$ - \$ 15,000 \$ - \$ 15,000 \$ - \$ 15,000 \$ - \$ 15,000 \$ - \$										
3.3b Substation A-Frame Structures - Shared Column 0 EA \$ - <td< td=""><td>3.3</td><td>115kV</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	3.3	115kV								
3.3c Switch Stands 0 EA \$ - \$ 6,450 \$ - \$ 6,450 \$ - \$ 6,450 \$ - \$ 6,450 \$ - \$ - \$ 6,450 \$ - \$ 6,450 \$ - \$	3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -		\$ -		\$ -
3.3d Fuse Stand 0 EA \$ -	3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e Bus Support 3ph 0 EA \$ -	3.3c	Switch Stands	0	EA				\$ -		
3.3f Bus Support 1 Ph 0 EA \$ -										
3.3g Instrument Transformer Stand 0 EA \$ - </td <td></td>										
3.3h Arrester Stand 0 EA \$ -						'				
3.3j Wave Trap Stand 0 EA \$ - \$	3.3g	Instrument Transformer Stand	0			\$ -			\$ -	\$ -
3.3k Misc. Structures 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$						\$ -				
		Wave Trap Stand	0			\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES \$ - \$ 206,100 \$ 206,100	3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES \$ 206,100 \$ 206,100										
	TOTAL - SUBST	TATION STRUCTURES				\$ -		\$ 206,100		\$ 206,100

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost		
4. MAJOR EQU	IPTMENT								
	345kV								
	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
	230kV								
4.2a	Circuit Breakers	3	EA	\$ -	\$ -	\$ 14,500	\$ 43,500	\$ 14,500	\$ 43,500
	Capacitor Banks	0		\$ -	\$ -		\$ -	\$ 42,000	
						,,,,,,	,	,,,,,,	
4.3	115kV								
	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Capacitor Banks	0		\$ -	\$ -		\$ -	\$ -	\$ -
TOTAL - MAJO	R EQUIPTMENT				\$ -		\$ 43,500		\$ 43,500
5. SMALL EQUI	PTMENT / MATERIALS								
	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -		\$ -	\$ 5,500	
	VT'S	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -		\$ -
	Arresters	0		\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j	Station Service mansionners	ű	L,	*	·	·	· ·	·	*
3.1									
5.2	230kV								
	Line Switches - 3ph w/ motor operator	2	EA	\$ -	\$ -	\$ 5,500	\$ 11,000	\$ 5,500	\$ 11,000
	Disconnect Switches - 3ph w/ manual operator	3		\$ -	\$ -		\$ 16,500	\$ 5,500	
	VT'S	2		\$ -	\$ -	\$ 1,500	\$ 3,000	\$ 1,500	\$ 3,000
5.2d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S	6	EA	\$ -	\$ -	\$ 1,500	\$ 9,000	-	\$ 9,000
5.2f	Arresters	6		\$ -	\$ -	\$ 2,500	\$ 15,000	\$ 2,500	
	Wave Traps	2	EA	\$ -	\$ -		\$ 5,000	\$ 2,500	
	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
5.2j	Station Service Transformers	0	LA	7	· -	7	٠ -	,	-
3.2									
5.3	115kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -		\$ -	\$ 5,500	
	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ 5,500	\$ -
	CT'S	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
5.3e	CCVT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Arresters	0	EA	\$ -	\$ -		\$ -	\$ 1,500	
	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ 1,500	\$ -
	Station Service Transformers	0	EA	\$ -	\$ -		\$ -	š -	\$ -
	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.5,		Ů							
TOTAL - SMALL	L EQUIPTMENT / MATERIALS				\$ -		\$ 59,500		\$ 59,500
	OUSE / PANELS / GENERATOR				-		- 33,300		55,500
	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
	Protection and Telecom Equipment Panels	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	125VDC Batteries	0		\$ -	'		\$ -		\$ -
	Control Cables	0		\$ -	\$ -		\$ -	· .	\$ -
	SCADA and Communications	0		\$ -			\$ -		\$ -
	Low Voltage AC Distribution	0		\$ -	\$ -		\$ -		\$ -
	DC Distribution System	0		\$ -			\$ -		\$ -
	Security	0		\$ -	\$ -		\$ -		\$ -
	Fire Alarm	0		\$ -	\$ -		\$ -		\$ -
	Generator	0		\$ -	\$ -		\$ -		\$ -
0.10	- Constitution	0		· ·	1	¥ -	· ·	¥	-
TOTAL - CONT	L ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS					-		-		-
ITIISC IT LIVIS									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
7.1	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.2	Rigid Bus, Fittings & Insulators	1	L.S.	\$ -	\$ -	\$ 18,937.50	\$ 18,938	\$ 18,938	\$ 18,938
7.3	Strain Bus, Connectors & Insulators	1	L.S.	\$ -	\$ -	\$ 19,675.00	\$ 19,675	\$ 19,675	\$ 19,675
7.4	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MIS	CITEMS				\$ -		\$ 38,613		\$ 38,613
K. Porte	r Substation - Removal				\$ -		\$ 474,313		\$ 474,313
8. MOB/DEM	IOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 11,858	\$ 11,858	\$ 11,858	\$ 11,858
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 22,800	\$ 22,800	\$ 22,800	\$ 22,800
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
8.4	Site Accommodation, Facilities, Storage	1.0	LS	\$ -	\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
	Engineering								
8.5	Design Engineering	1.0	LS	\$ -	\$ -	\$ 37,945	\$ 37,945	\$ 37,945	\$ 37,945
8.6	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 3,320	\$ -	\$ 3,320	\$ -
	Testing & Commissioning								
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 11,858	\$ -	\$ 11,858	\$ -
	Permitting and Additional Costs								
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 1,423	\$ 1,423	\$ 1,423	\$ 1,423
8.13	Real Estate Costs (New)		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1.0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits		LS		\$ -	\$ 474	\$ -	\$ 474	\$ -
	S/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 83,512		\$ 83,512

Page 47 of 57
K. SS Porter-Removal

L. Interconnection Edic Station

Estimate Revision: 5 Total: \$ 2,122,073

NG & NY Transco - TO	T018 - (Segment A)							
		Supply	lr	nstallation		Total		
L. Interconnection Edic Station								
1. CLEARING & ACCESS	\$	-	\$	367,850	\$	367,850		
2. FOUNDATIONS	\$	168,366	\$	170,169	\$	338,536		
3. STRUCTURES	\$	501,469	\$	321,821	\$	823,289		
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$	-		
5. INSULATORS, FITTINGS, HARDWARE	\$	160,000	\$	94,400	\$	254,400		
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	66,387	\$	271,611	\$	337,998		
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-		
SUBTOTAL:	\$	896,222	\$	1,225,851	\$	2,122,073		
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-		
TOTAL:	\$	896,222	\$	1,225,851	\$	2,122,073		

escri	pti	on	of	w	or	k:	

1.2 Clearing the ROW- Light (mowing)	TOTAL	Total Unit Rate	Labor & Equipment Cost	Labor & Equipment Supply Rate	Material Supply Cost	ate	Material Supply Rate	Unit of Measure	Estimated Quantity	Item Description	Item
1.1 Clearing the ROW - Heavy (moving & clearing)										onnection Edic Station	L. Interc
1.2 Clearing the ROW - Light (mowing)										& ACCESS	1. CLEARING 8
1.3 Access Road	0 \$ -	\$ 15,000	\$ -	\$ 15,000	-	- \$	\$ -	Acre	-	Clearing the ROW - Heavy (mowing & clearing)	1.1
1.4 Sit Fence	0 \$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000	-	- \$	\$ -	Acre	2.0	Clearing the ROW - Light (mowing)	1.2
1.5 Matting - Access and ROW	5 \$ -			\$ 45	-	- \$	\$ -	LF	-	Access Road	1.3
1.6 Matting 1 Montk Area 30.00 LF \$ \$ \$ \$ \$ \$ \$ \$ \$	4 \$ 14,000	\$ 4	\$ 14,000	\$ 4	-	- \$	\$ -	LF	3,500.0	Silt Fence	1.4
1.7 Show Removal	0 \$ 245,000	\$ 70	\$ 245,000	\$ 70	-	- \$	\$ -	LF	3,500.0	Matting - Access and ROW	1.5
1.8 SOW Restoration	0 \$ 21,000		\$ 21,000		-	- \$		LF	300.0	Matting - To Work Area	1.6
1.9 Work Pad's 20,000.0 SF S S S S S S S S	0 \$ -	\$ 516,800	\$ -	\$ 516,800	-	- \$	\$ -	LS	-	Snow Removal	1.7
1.10 Restoration for Work Pad areas 4,000.0 SF S	0 \$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000	-	- \$	\$ -	Mile	0.5	ROW Restoration	1.8
1.11 Temporary Access Bridge - EA S - S 20,035 S - S 14,445 S - S - S 14,445 S -	4 \$ 70,400	\$ 4	\$ 70,400	\$ 4	-	- \$	\$ -	SF	20,000.0	Work Pads	1.9
1.12 Air Bridge	0 \$ 600	\$ 0	\$ 600	\$ 0.2	-	- \$	\$ -	SF	4,000.0	Restoration for Work Pad areas	1.10
1.12 Air Bridge	5 \$ -	\$ 20,035	\$ -	\$ 20,035	-	- \$	\$ -	EA	-	Temporary Access Bridge	1.11
1.13 Stabilized Construction Entrance	5 \$ -	\$ 14,445	\$ -	\$ 14,445	-	- s	\$ -	EA	_		1.12
1.14 Maintenance and Protection of Traffic on Public Roads - EA S - S 4,130 S - S 4,131 1.15 Gates - EA S 2,000 S - S 2,500 S - S 4,200 1.16 Culverts / Misc. Access - EA S 750 S - S 2,500 S - S 2,500 1.17 Concrete Washout Station 1 EA S - S - S 1,250 S 1,850 1.18 S S 1,850 S 1,850 1.19 S S S S S S 1.19 S S S S S S 1.20 Crushed Rock 0 CY S 27 S - S 75 S - S 1.20 Crushed Rock 0 CY S 27 S - S 75 S S 2.70 TOTAL - CLEARING & ACCESS S 41,774 S 125,322 S 83,106 2.1 Foundation – Drilled Pier – 8"X 27" S S 44,847 S 44,847 S 89,215 2.2 Foundation – Drilled Pier – 8"X 29" S S S S S 2.3 Rock Excavation Adder CY S S S S S S 2.4 S S S S S S S 2.5 S S S S S S S 2.8 S S S S S S S S 2.9 S S S S S S S 2.9 S S S S S S S 3.00 S S S S S 3.00 S S 3.00 S S S 3.00 S S 3.00 S S	0 \$ -	\$ 4,580	\$ -	\$ 4,580	-	- \$	\$ -	EA	-		
1.15 Gates			\$ -	\$ 4,130	-	- \$	\$ -	EA	-	Maintenance and Protection of Traffic on Public Roads	
1.16 Culverts / Misc. Access - EA S 750 S - S 1,250 S S 2,000					-	000 \$		EA	_	Gates	
1.17 Concrete Washout Station 1 EA 5 - 5 - 5 1,850 1,850 5 1,850									-		
1.18									1		
1.19	\$ -	7 -,551					*				
1.20 Crushed Rock	\$ -										
TOTAL - CLEARING & ACCESS \$	2 \$ -	\$ 102	т	\$ 75			\$ 27	CY	0	Crushed Rock	
2.1 Foundation - Drilled Pier - 8'X 27' 3 EA \$ 41,332 \$ 123,995 \$ 41,774 \$ 125,322 \$ 83,106	\$ 367,850		\$ 367,850		-	\$					
2.2 Foundation – Drilled Pier – 8'X 29' 1 EA \$ 44,372 \$ 44,372 \$ 44,847 \$ 89,215										DNS	2. FOUNDATION
2.3 Rock Excavation Adder - CY \$ - \$ - \$ 2,000 \$ - \$ 2	6 \$ 249,317	\$ 83,106	\$ 125,322	\$ 41,774	123,995	332 \$	\$ 41,332	EA	3	Foundation – Drilled Pier – 8'X 27'	2.1
2.4 2.5 2.6 2.7 2.8 2.9	9 \$ 89,219	\$ 89,219	\$ 44,847	\$ 44,847	44,372	372 \$	\$ 44,372	EA	1	Foundation – Drilled Pier – 8'X 29'	2.2
2.5 2.6 2.7 2.8 2.9	0 \$ -	\$ 2,000	\$ -	\$ 2,000		- \$	\$ -	CY	-	Rock Excavation Adder	2.3
2.6 2.7 2.8 2.9											2.4
2.7 2.8 2.9											
2.8 2.9											
2.9											
											2.10
2.11											
2.12											
2.13											
2.14											2.14

Page 48 of 57

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply F	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
2.15											
TOTAL - FOUN						\$ 168,366		\$ 170,169		\$	338,536
3. STRUCTURE									<u> </u>		
3.1	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) – 105'	3	Structure			\$ 296,648	\$ 59,330	\$ 177,989	\$ 158,212		474,636
3.2	2-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure		797		\$ 121,678		\$ 324,475		324,475
3.3	Install Grounding and Grounding Accessories	4	Pole	\$	506		\$ 5,539	\$ 22,154 \$ -	\$ 6,045		24,178
3.4					\rightarrow	\$ -		ş -		\$	-
3.6						\$ -		\$ -		Ś	
3.7					\rightarrow	\$ -		\$ -		\$	
3.8						\$ -		\$ -		\$	_
3.9						\$ -		\$ -		\$	-
3.10						\$ -		\$ -		\$	-
3.11						\$ -		\$ -		\$	-
3.12						\$ -		\$ -		\$	-
3.13						\$ -		\$ -		\$	-
3.14						\$ -		\$ -		\$	-
3.15				1		\$ -		\$ -		Ś	
	TUDEC					•				*	-
TOTAL - STRUC						\$ 501,469		\$ 321,821		\$	823,289
4. CONDUCTO	R, SHIELDWIRE, OPGW 345kV - (1) 954kcmil 54/7 ACSS "Cardinal"		LF	\$	1.90	ė	\$ 5.00	\$ -	\$ 6.90	\$	
4.1	(1) OPGW 36 Fiber AC-33/38/571	-	LF LF			\$ - \$ -	\$ 5.00		\$ 6.35		-
4.3	(1) 3/8" EHS7 Steel	-	LF		0.47		\$ 5.00	\$ -	\$ 5.47		
4.5	Remove Existing Cable From Existing Structures		Mile	Ś		\$ -	\$ 30,000		\$ 30,000.00	Ś	_
4.6	Remove Existing OPGW Cable	-	Mile	Ś		\$ -	\$ 12,000		\$ 12,000.00	_	-
4.7	Remove Existing EH7		Mile	\$			\$ 12,000	\$ -	\$ 12,000.00		-
4.8	-										
4.9		٠									
4.10	Rider Poles - Relocated	-	Set	\$		\$ -	\$ 3,500		\$ 3,500.00		-
4.11	Rider Poles	-	EA	\$ 1	,750		\$ 3,500		\$ 5,250.00		-
	JCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$	-
	FITTINGS, HARDWARE				000	A	Å 700		A 2.520		
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)		Assembly			\$ - \$ -	\$ 720 \$ 560		\$ 2,520 \$ 1,460		-
5.3	115kV Tangent (1-Group of 9-Bells Each Assembly) 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	60	Assembly Assembly		-	\$ 108,000	\$ 720		\$ 2,520		151,200
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	00	Assembly		$\overline{}$	\$ -	\$ 560		\$ 1,460		-
5.5	OPGW Assembly - Tangent		Assembly		200		\$ 150		\$ 350	_	_
5.6	OPGW Assembly - Angle / DE	4	Assembly		_	\$ 1,000	\$ 150		\$ 400		1,600
5.7	OHSW Assembly - Angle / DE	4	Assembly		250		\$ 150				1,600
5.8	OPGW Splice Boxes	-	Set	\$ 1,	746	\$ -	\$ 2,274	\$ -	\$ 4,020	\$	-
5.9	OPGW Splice & Test	٠	EA	\$ 2,	520	\$ -	\$ 2,520	\$ -	\$ 5,040	\$	-
5.10	Spacer - Conductor		EA	\$		\$ -	\$ 35		\$ 85		-
5.11	Vibration Dampers - Conductor	-	EA	\$	35	\$ -	\$ 35	\$ -	\$ 70	\$	-
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$	27	\$ -	\$ 35	\$ -	\$ 62	\$	-
5.13	Guys, Anchors, and Accessories		EA	\$	720	\$ -	\$ 885	\$ -	\$ 1,605	Ś	_
5.14	Misc. materials (Signs and Markers)	-	Mile	1 '	\rightarrow	\$ -	\$ 1,006	\$ -	\$ 1,776		
5.14	INISC. Hateriais (Signs and Iviainers)	-	iville	1,	_	\$ -	1,006 پ	\$ -	1,//6	\$	-
5.16					\dashv	-		-		,	<u>-</u>
5.17						\$ -		\$ -		\$	
5.18						\$ -		\$ -		\$	-
5.19	Interconnection Arrangements	1	EA	\$ 50,	-	\$ 50,000	\$ 50,000	\$ 50,000	\$ 100,000	\$	100,000
5.20						\$ -		\$ -		\$	-
TOTAL - INSUL	ATOR, FITTINGS, HARDWARE					\$ 160,000		\$ 94,400		\$	254,400
L. Interce	onnection Edic Station					\$ 829,835		\$ 954,240		\$	1,784,075
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					222,233					,,
O. IVIOB/DEIVIC	Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 17,841	\$ 17,841	\$ 17,841	Ś	17,841
0.1	Project Management, Material Handling & Amenities	1		1	_	· -	7 17,041	7 17,041	7 17,041	,	17,041
				1							
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 85,760	\$ 85,760	\$ 85,760	\$	85,760

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	ate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	.	\$ -	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
	Engineering									
6.5	Design Engineering	1	LS	\$.	. :	\$ -	\$ 89,204	\$ 89,204	\$ 89,204	\$ 89,204
6.6	LiDAR	-	LS	\$ -	.	\$ -	\$ 5,352	\$ -	\$ 5,352	\$ -
6.7	Geotech	1	Location	\$.	. !	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$.	. :	\$ -	\$ 12,489	\$ 12,489	\$ 12,489	\$ 12,489
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$.	.	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$.	- !	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$.	.	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$.	- !	\$ -	\$ 5,352	\$ 5,352	\$ 5,352	\$ 5,352
6.13	Real Estate Costs (New ROW)	1	LS	\$.	.	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$.	. !	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$.	.	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$.	- !	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$.	.	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 66,3	87	\$ 66,387	\$ -	\$ -	\$ 66,387	\$ 66,387
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 1,784		\$ 1,784	\$ 1,784
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 66,387		\$ 271,611		\$ 337,998

Page 50 of 57

M. Interconnection New Scotland Station

Estimate Revision: 5 Total: \$ 3,101,204

NG & NY Transco	T018 - (Segment i	iegment A)								
		Supply		Installation		Total				
M. Interconnection New Scotland Station										
1. CLEARING & ACCESS	\$	-	\$	367,850	\$	367,850				
2. FOUNDATIONS	\$	365,657	\$	473,093	\$	838,749				
3. STRUCTURES	\$	655,465	\$	445,628	\$	1,101,092				
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	3,555	\$	26,100	\$	29,655				
5. INSULATORS, FITTINGS, HARDWARE	\$	161,130	\$	95,795	\$	256,925				
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	94,864	\$	412,068	\$	506,933				
CONTRACTOR MARK-UP (OH&P)	\$		\$		\$	-				
SUBTOTAL:	\$	1,280,670	\$	1,820,533	\$	3,101,204				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL:	Ś	1.280.670	Ś	1.820.533	Ś	3.101.204				

Dε	:50	cri	ptı	on	OT	wo	rk:	

Item	Item Description	Estimated Quantity	Unit of Measure	Mat	terial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
M. Inter	connection New Scotland Station									
1. CLEARING 8	ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$	-	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000
1.3	Access Road	-	LF	\$	-	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	3,500.0	LF	\$	-	\$ -	\$ 4	\$ 14,000	\$ 4	\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$	-	\$ -	\$ 70	\$ 245,000	\$ 70	\$ 245,000
1.6	Matting - To Work Area	300.0	LF	\$	-	\$ -	\$ 70	\$ 21,000	\$ 70	\$ 21,000
1.7	Snow Removal	-	LS	\$	-	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	\$	-	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.9	Work Pads	20,000.0	SF	\$	-	\$ -	\$ 4	\$ 70,400	\$ 4	\$ 70,400
1.10	Restoration for Work Pad areas	4,000.0	SF	\$	-	\$ -	\$ 0.2	\$ 600	\$ 0	\$ 600
1.11	Temporary Access Bridge	-	EA	\$	-	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$	-	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$	-	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$	-	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$	2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$	750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18						\$ -		\$ -		\$ -
1.19						\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$	27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEAR	ING & ACCESS					\$ -		\$ 367,850		\$ 367,850
2. FOUNDATIO	INS									
2.1	Foundation – Drilled Pier – 8'X 50'	3	EA	\$	76,500	\$ 229,501	\$ 77,320	\$ 231,959	\$ 153,820	\$ 461,459
2.2	Foundation – Drilled Pier – 8'X 89'	1	EA	\$	136,156	\$ 136,156	\$ 137,614	\$ 137,614	\$ 273,770	\$ 273,770
2.3	Rock Excavation Adder	51.8	СУ	\$	-	\$ -	\$ 2,000	\$ 103,520	\$ 2,000	\$ 103,520
2.4										
2.5										
2.6										
2.7				1						
2.8										
2.9										
2.10										
2.11				1						
2.12				+-						
2.13										

Item	Item Description	Estimated Quantity	Unit of Measure	Material S	Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	-	TOTAL
2.14											
2.15											
TOTAL - FOUN						\$ 365,657		\$ 473,093		\$	838,749
3. STRUCTURE		2	Characteria	6	470.026	ć 524.077	ć 100.04F	\$ 320,446	\$ 284.841		054 533
3.1	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115' 1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	3	Structure Structure	\$	178,026 116,328	\$ 534,077 \$ 116,328			T,		854,522 186,125
3.3	Install Grounding and Grounding Accessories	10	Structure	Ś		\$ 5,060	\$ 5,539		\$ 6,045	Ś	60,445
3.4	install drounding and drounding Accessories	10	Structure	+		\$ -	3,333	\$ 55,565	9 0,043		- 00,445
3.5						•				i	
3.6						\$ -		\$ -		I	
3.7						\$ -		\$ -			
3.8						\$ -		\$ -			
3.9						\$ -		\$ -			
3.10						\$ -		\$ -			
3.11						\$ -		\$ -			
3.12				1		\$ - \$ -		\$ - \$ -			
				1		•		1			
3.14						\$ -		\$ -			
3.15						\$ -		\$ -		l .	
TOTAL - STRUC						\$ 655,465		\$ 445,628		\$	1,101,092
	R, SHIELDWIRE, OPGW										
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	1,500	LF	\$		\$ 2,850	\$ 5.00	, , , , , , , , , , , , , , , , , , , ,	\$ 6.90		10,350
4.2	(1) OPGW 36 Fiber AC-33/38/571	- 4.500	LF	\$		\$ -	\$ 5.00		\$ 6.35		-
4.3	(1) 3/8" EHS7 Steel	1,500	LF Mile	\$	0.47	\$ 705 \$ -	\$ 5.00 \$ 30,000		\$ 5.47 \$ 30,000.00		8,205
4.5	Remove Existing 345kV Cable From Existing Structures Remove Existing OPGW Cable	0.3	Mile	\$		\$ -	\$ 30,000	7 .,	\$ 30,000.00		7,500
4.6	Remove Existing Grow Cable Remove Existing EH7	0.3	Mile	\$		\$ -	\$ 12,000	\$ 3,600			3,600
4.8	Nemove Existing Em	0.5	IVIIIC	7		· -	7 12,000	3,000	3 12,000.00	, 	3,000
4.9											
4.10	Rider Poles - Relocated	-	Set	\$	-	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$	-
4.11	Rider Poles	-	EA	\$	1,750		\$ 3,500		\$ 5,250.00	\$	-
	UCTOR, SHIELDWIRE, OPGW:					\$ 3,555		\$ 26,100		\$	29,655
	, FITTINGS, HARDWARE										
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$,	\$ -	\$ 720		\$ 2,520		
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly) 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	- 60	Assembly	\$		\$ - \$ 108,000	\$ 560 \$ 720		\$ 1,460 \$ 2,520		151,200
5.4	115kV Dead-end & Angle Insulators (1-Group of 18-bells Each Assembly)		Assembly Assembly	\$		\$ 108,000	\$ 720		\$ 2,520 \$ 1,460		151,200
5.5	OPGW Assembly - Tangent	-	Assembly	\$		\$ -	\$ 150		\$ 350	\$	-
5.6	OPGW Assembly - Angle / DE	-	Assembly	\$		\$ -	\$ 150		\$ 400	Ś	_
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$		\$ 1,000			\$ 400	\$	1,600
5.8	OPGW Splice Boxes	-	Set	\$	1,746		\$ 2,274		\$ 4,020		-
5.9	OPGW Splice & Test	-	EA	\$	2,520		\$ 2,520		\$ 5,040		-
5.10	Spacer - Conductor	9	EA	\$	50				\$ 85		765
5.11	Vibration Dampers - Conductor	48	EA	\$	35				\$ 70		3,360
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$	27	\$ -	\$ 35	\$ -	\$ 62	\$	-
5.13	Guys, Anchors, and Accessories	-	EA	\$	720	\$ -	\$ 885	\$ -	\$ 1,605	\$	-
5.14	Misc. materials (Signs and Markers)	-	Mile	\$	770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$	-
5.15	, ,			1		\$ -	,,,,,	\$ -	,	\$	-
5.16	Interconnection Arrangements	1	EA	\$	50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 100,000	\$	100,000
5.17						\$ -		\$ -		\$	-
5.18						\$ -		\$ -		\$	-
5.19				1		\$ -		\$ -		\$	-
5.20	 ATOR, FITTINGS, HARDWARE					\$ - \$ 161,130		\$ - \$ 95,795		\$	256,925
										¢	
	connection New Scotland Station					\$ 1,185,806		\$ 1,408,465		\$	2,594,271
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization										
1		1					1	1			
6.1	Mob / Demob	1	LS	5	-	\$ -	\$ 25,943	\$ 25,943	\$ 25,943	Ś	25,943

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 124,707	\$ 124,707	\$ 124,707	\$ 124,707
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$ 25,943
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$ 25,943
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 129,714	\$ 129,714	\$ 129,714	\$ 129,714
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 7,783	\$ 7,783	\$ 7,783	\$ 7,783
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 18,160	\$ 18,160	\$ 18,160	\$ 18,160
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 7,783	\$ 7,783	\$ 7,783	\$ 7,783
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 94,864	\$ 94,864	\$ -	\$ -	\$ 94,864	\$ 94,864
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 2,594		\$ 2,594	
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 94,864		\$ 412,068		\$ 506,933

Page 53 of 57
M. In. New Scotland SS

N. Interconnection Rotterdam Station

Estimate Revision: 5 Total: \$ 4,781,500

NG & NY Transco - T018 - (Se	gment A)		
		Supply	Installation	Total
N. Interconnection Rotterdam Station				
1. CLEARING & ACCESS	\$	-	\$ 1,233,050	\$ 1,233,050
2. FOUNDATIONS	\$	192,145	\$ 325,963	\$ 518,108
3. STRUCTURES	\$	546,722	\$ 995,362	\$ 1,542,084
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	65,923	\$ 437,250	\$ 503,173
5. INSULATORS, FITTINGS, HARDWARE	\$	165,730	\$ 118,480	\$ 284,210
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	77,642	\$ 623,234	\$ 700,876
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	1,048,161	\$ 3,733,339	\$ 4,781,500
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	1,048,161	\$ 3,733,339	4,781,500

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
N. Interd	connection Rotterdam Station								
1. CLEARING 8	R ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	7.0	Acre	\$ -	\$ -	\$ 15,000	\$ 105,000	\$ 15,000	\$ 105,000
1.2	Clearing the ROW - Light (mowing)	5.0	Acre	\$ -	\$ -	\$ 5,000			,
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45	•	\$ 45	
1.4	Silt Fence	4,800.0	LF	\$ -	\$ -	\$ 4			\$ 19,200
1.5	Matting - Access and ROW	4,800.0	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	2,400.0	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800		\$ 516,800	
1.8	ROW Restoration	1.0	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	160,000.0	SF	\$ -	\$ -	\$ 4	1,		\$ 563,200
1.10	Restoration for Work Pad areas	32,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 4,800		\$ 4,800
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130		\$ 4,130	
1.15	Gates	-	EA	\$ 2,000		\$ 2,500		\$ 4,500	
1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250		\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18					\$ -		\$ -		\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 27	*	\$ 75	\$ -	\$ 102	-
	RING & ACCESS				\$ -		\$ 1,233,050		\$ 1,233,050
2. FOUNDATION									
2.1	10' ED Rock BF	6	EA	\$ 358	\$ 2,145	\$ 3,575	\$ 21,450	\$ 3,933	\$ 23,595
2.2	15' ED Rock BF	18	EA	\$ 536	,				\$ 106,178
2.3	20' ED Rock BF	4	EA	\$ 715	\$ 2,860	\$ 7,150	\$ 28,600	\$ 7,865	\$ 31,460
2.4	Foundation – Drilled Pier – 8'X 29'	4	EA	\$ 44,372	\$ 177,487	\$ 44,847	\$ 179,388	\$ 89,219	\$ 356,875
2.5	Rock Excavation Adder	-	CY	\$ -	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.6					\$ -		\$ -		\$ -
2.7					\$ -		\$ -		\$ -
2.8					\$ -		\$ -		\$ -
2.9					\$ -		\$ -		\$ -
2.10					\$ -		\$ -		\$ -
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply	/ Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.13						\$ -		\$ -		\$ -
2.14						\$ -		\$ -		\$ -
2.15 TOTAL - FOUN	IDATIONS				\rightarrow	\$ - \$ 192,145		\$ - \$ 325,963		\$ - \$ 518,108
3. STRUCTURE						3 192,143		\$ 323,303		3 316,106
3.1	15kV 3-CKT TANGENT DIST WOOD POLE	3	Pole	\$	3,500	\$ 10,500	\$ 3,600	\$ 10,800	\$ 7,100	\$ 21,300
3.2	15Kv 3-CKT MA DIST WOOD POLE	1	Pole	\$	3,500	\$ 3,500	\$ 3,600	\$ 3,600		\$ 7,100
3.3	15kV 3-CKT DE - WOOD POLE	2	Pole		3,500	\$ 7,000	\$ 3,600	\$ 7,200		\$ 14,200
3.4	115kV 1-CKT TANGENT - WOOD POLE	5	Pole		4,500	\$ 22,500	\$ 4,400	\$ 22,000	\$ 8,900	\$ 44,500
3.5	115kV 1-CKT MA - WOOD POLE 115kV 1-CKT DE - WOOD POLE	2 11	Pole Pole		4,500 5,500	\$ 9,000 \$ 60,500	\$ 4,400 \$ 5,000	\$ 8,800 \$ 55,000		\$ 17,800 \$ 115,500
3.7	115kV 2-CKT TANGENT - WOOD POLE	4	Pole		5,500	\$ 22,000	\$ 5,000	\$ 35,000		\$ 113,300
3.8	115kV 2-CKT DE - STEEL POLE	4	Pole	<u> </u>	8,883	\$ 395,530		\$ 395,530		\$ 791,060
3.9	Remove Existing Structure	24	EA		,,,,,,,	\$ -	\$ 12,300	\$ 295,200		\$ 295,200
3.10						\$ -		\$ -		\$ -
3.11						\$ -		\$ -		\$ -
3.12	Install Grounding and Grounding Accessories	32	Structure	\$	506	\$ 16,192 \$ -	\$ 5,539	\$ 177,232	\$ 6,045	\$ 193,424
3.13						*		\$ -		\$ -
3.14 3.15						\$ - \$ -		\$ - \$ -		\$ - \$ -
TOTAL - STRU	CTURES				_	\$ 546,722		\$ 995,362		\$ 1,542,084
	DR, SHIELDWIRE, OPGW					ŷ 310,722		333,302		2,3 12,00 1
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	23,400	LF	\$	1.90	\$ 44,460	\$ 5.00	\$ 117,000	\$ 6.90	\$ 161,460
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$	1.35	\$ -	\$ 5.00	\$ -		\$ -
4.3	(1) 3/8" EHS7 Steel	7,800	LF	\$	0.47	\$ 3,666	\$ 5.00	\$ 39,000		\$ 42,666
4.5	Remove Existing Cable	6.6	Mile	\$	-	\$ -	\$ 30,000	\$ 197,700		\$ 197,700
4.6	Remove Existing EH7 15kV - (1) 477kcmil 26/7 ACSR "Hawk"	2.2 9,630	Mile LF	\$	1.62	\$ - \$ 15,601	\$ 12,000 \$ 5.00	\$ 26,400 \$ 48,150		\$ 26,400 \$ 63,751
4.7	15kV - (1) 336kcmil 26/7 ACSR "Linnet"	1,800	LF	\$	1.22	\$ 2,196	\$ 5.00	\$ 9,000		\$ 11,196
4.9	15KV (1) 55KKHIII 20) 7 RESIL EHITEE	-	- G	7	1.22	2,130	ŷ 5.00	3,000	ÿ 0.22	y 11,130
4.10	Rider Poles - Relocated	-	Set	\$	-	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$	1,750	\$ -	\$ 3,500		\$ 5,250.00	\$ -
	UCTOR, SHIELDWIRE, OPGW:					\$ 65,923		\$ 437,250		\$ 503,173
	R, FITTINGS, HARDWARE	22			1.000	4 22.000	Å 500	40.400	4.500	A
5.1	115kV Tangent (1-Group of 9-Bells Each Assembly) 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	33	Assembly		1,000	\$ 33,000 \$ 66,000	\$ 560 \$ 560	\$ 18,480 \$ 36,960		\$ 51,480 \$ 102,960
5.3	15kV Tangent	12	Assembly Assembly	\$	100	\$ 1,200				\$ 2,100
5.4	15kV Dead-end & Angle Insulators	18	Assembly	\$	100	\$ 1,800	\$ 75			\$ 3,150
5.5	Neutral, Distribution, Tangent	4	Assembly	\$	100	\$ 400	\$ 75			\$ 700
5.6	Neutral, Distribution, DE/Side	2	Assembly	\$	100	\$ 200	\$ 75	\$ 150	\$ 175	\$ 350
5.7	Jumper, DE/Angle, 3PH	4	Assembly	\$	100	\$ 400	\$ 75			\$ 700
5.8	OPGW Assembly - Tangent	2	Assembly	\$	200	\$ 400	\$ 150			\$ 700
5.9	OSHW Assembly - Tangent	11	Assembly	\$	250	\$ 2,750	\$ 150	\$ 1,650		\$ 4,400
5.10	OHSW Assembly - Angle / DE OPGW Splice Boxes	38	Assembly	\$	250 1,746	\$ 9,500 \$ -	\$ 150 \$ 2,274	\$ 5,700 \$ -	 	\$ 15,200 \$ -
				l .						-
5.12 5.13	OPGW Splice & Test Spacer - Conductor	-	EA EA	\$	2,520 50	\$ - \$ -	\$ 2,520 \$ 35	\$ -	\$ 5,040 \$ 85	\$ - \$ -
5.14	Vibration Dampers - Conductor	-	EA	\$	35	\$ -	\$ 35			\$ -
5.15	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$	27	\$ -	\$ 35			\$ -
5.16	Guys, Anchors, and Accessories	14.0	EA	\$	720	\$ 10,080	\$ 885	\$ 12,390		\$ 22,470
5.17	Misc. materials (Signs and Markers)	-	Mile	\$	770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$ -
5.18				ļ		\$ -	4	\$ -		\$ -
5.19	Interconnection Arrangements	8	EA	\$	5,000	\$ 40,000	\$ 5,000			\$ 80,000
5.20 5.21				1	-	\$ - \$ -		\$ - \$ -		\$ - \$ -
5.22				1	_	\$ -		\$ -		\$ -
5.23				1		\$ -		\$ -		\$ -
	LATOR, FITTINGS, HARDWARE				\rightarrow	\$ 165,730		\$ 118,480		\$ 284,210
	connection Rotterdam Station					\$ 970,519		\$ 3,110,105		\$ 4,080,624
6. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization			1						
										Page 55 of 57

Item	Item Description	Estimated Quantity	Unit of Measure	Material Suppl	y Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 40,806	\$ 40,806	\$ 40,806	\$ 40,806
	Project Management, Material Handling & Amenities									
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 196,156	\$ 196,156	\$ 196,156	\$ 196,156
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 40,806	\$ 40,806	\$ 40,806	\$ 40,806
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 40,806	\$ 40,806	\$ 40,806	\$ 40,806
	Engineering									
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 204,031	\$ 204,031	\$ 204,031	\$ 204,031
6.6	Lidar	1	LS	\$	-	\$ -	\$ 12,242	\$ 12,242	\$ 12,242	\$ 12,242
6.7	Geotech	1	Location	\$	-	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 28,564	\$ 28,564	\$ 28,564	\$ 28,564
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 12,242	\$ 12,242	\$ 12,242	\$ 12,242
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 7	77,642	\$ 77,642	\$ -	\$ -	\$ 77,642	\$ 77,642
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 4,081	\$ 4,081	\$ 4,081	\$ 4,081
TOTAL - MOI	B/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 77,642		\$ 623,234		\$ 700,876

Page 56 of 57

ESTIMATE ASSUMPTIONS & CLARIFICATIONS

- 1 Cost Estimate is based on 2017 rates.
- Construction schedule is in accordance with proposed schedule we have assumed continuous working with no breaks in the schedule. Six months have been added to the construction schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.).
- We have assumed a typical work week of five-(5) days per week at ten-(10) hours per day (5 x 10 hour days).
- 4 All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017.
- 5 We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type.
- Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not enough information to provide a quantified estimate for this item, allowance is included in the contingency monies.
- Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for formal quotes.
- 8 | Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing.
- 9 A Contractor Mark-Up (OH&P) of 15% has been included in the Total section.
- 10 We have assumed that all project details provided are accurate unless noted otherwise.
- 11 Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%)
- 12 A contractor allowance of 1% for mobilization and demobilization has been included in the total section.
- A contractor allowance of 4.121% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safety inspector, compliance inspector, environmental inspector, and SWPP inspector.
- 14 An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section.
- 15 A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section.
- An allowance of 5% for transmission design and engineering has been included in the total section.
- An allowance of 8% for substation design and engineering has been included in the total section.
- An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section.
- An allowance of 0.3% for LIDAR of the transmission line has been included in the total section.
- 20 An allowance of 3.75% for substation testing and commissioning has been included in the total section.
- 21 An allowance of \$20,000.00 per circuit for transmission line testing and commissioning has been included in the total section.
- New York state sales tax of 8% is included in all material pricing.
- 23 An allowance of 1.5% for insurance is included in the DPS sheet.



1.2 Foundations \$18,318 \$17,4701 \$1,40			NextEra Energy (T021)						
1.1 Clearing & Access 555,275			Description						
1.2 Foundations \$18,318 \$17,4701 \$1,40		1	Transmission Lines						
1.3 Structures \$74,701 1.4 Conductor, Shiedwire and Optical Ground Wire \$38,661 1.5 Insulators, Fitting and Hardwares \$18,280 2 Substations \$205,235 2.1 Rotterdam Substation \$2,153 2.2 Edic Substation \$40,296 2.3 Princetown Substation \$40,296 2.4 New Scotland Substation \$5,480 2.5 Porter Substation \$5,480 2.6 Knickerbocker Substation \$6,883 2.7 Marcy Substation \$6,883 2.8 Substation Interconnections \$6,833 3 Technical Services Costs \$70tal Direct Cost (A) \$299,398 3 Technical Services Costs \$1,435 3.1 Contractor Mobilization / Demobilization \$2,603 3.2 Project Management, Material Handling & Amenities \$18,440 3.3 Engineering \$17,327 3.4 Testing & Commissioning \$1,435 3.5 Permitting, Real Estate, Sales Tax and Additional Costs \$15,672 3.6 Compensation for use of NYPA Structures (1 Circuit) \$8,915 3.7 Legal, Environmental Licensing & Permitting and Environmental Mitigation \$7,865 Total Indirect Cost (B=A+3) 2017 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		1.1	Clearing & Access	\$55,279					
1.4 Conductor, Shiedwire and Optical Ground Wire \$38,661 Insulators, Fitting and Hardwares \$18,280 \$205,235 \$2 Substations \$205,235 \$2.1 Rotterdam Substation \$2,153 \$2.1		1.2	Foundations	\$18,318					
1.5 Insulators, Fitting and Hardwares \$18,280 \$205,235 \$2 \$3 \$3 \$3 \$3 \$4 \$3 \$3 \$3		1.3	Structures	\$74,701					
Substations Substations Substation S		1.4	Conductor, Shiedwire and Optical Ground Wire	\$38,661					
2 Substations		1.5	Insulators, Fitting and Hardwares	\$18,280					
2.1 Rotterdam Substation \$850 \$2,153 \$			Subtotal (1)	\$205,239					
2.2 Edic Substation \$2,153		2	Substations						
2.4 New Scotland Substation \$5,883 2.5 Porter Substation \$55,883 2.6 Knickerbocker Substation \$50,000 2.7 Marcy Substation \$50,000 2.8 Substation Interconnections \$4,376	st	2.1	Rotterdam Substation	\$850					
2.4 New Scotland Substation \$5,883 2.5 Porter Substation \$55,883 2.6 Knickerbocker Substation \$50,000 2.7 Marcy Substation \$50,000 2.8 Substation Interconnections \$4,376	ر د د	2.2	Edic Substation	\$2,153					
2.4 New Scotland Substation \$5,883 2.5 Porter Substation \$55,883 2.6 Knickerbocker Substation \$50,000 2.7 Marcy Substation \$50,000 2.8 Substation Interconnections \$4,376	irec	2.3	Princetown Substation	\$40,296					
2.6 Knickerbocker Substation \$00		2.4	New Scotland Substation	\$6,883					
2.7 Marcy Substation \$90		2.5	Porter Substation	\$546					
2.8 Substation Interconnections \$4,378		2.6	Knickerbocker Substation	\$0					
Subtotal (2) \$55,107		2.7	Marcy Substation	\$0					
Total (1+2) \$260,346		2.8	Substation Interconnections	\$4,378					
Total Direct Cost (A) \$39,052		<u> </u>							
Total Direct Cost (A) \$299,398 3 Technical Services Costs 3.1 Contractor Mobilization / Demobilization \$2,603 3.2 Project Management, Material Handling & Amenities \$18,440 3.3 Engineering \$17,327 3.4 Testing & Commissioning \$1,435 3.5 Permitting, Real Estate, Sales Tax and Additional Costs \$15,672 3.6 Compensation for use of NYPA Structures (1 Circuit) \$8,919 3.7 Legal, Environmental Licensing & Permitting and Environmental Mitigation \$7,865 Total Indirect Cost (3) \$72,262 Subtotal Project Cost (B=A+3) 2017 \$ \$371,660 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project \$50 4.2 NUF identified during Evaluation \$50 Subtotal NUF Cost (C) \$00 Total Project Cost (B+C) 2017 \$ \$371,660			Total (1+2)	\$260,346					
3 Technical Services Costs			Contractors Mark-up (15% of Total 1+2)	\$39,052					
3.1 Contractor Mobilization / Demobilization			Total Direct Cost (A)	\$299,398					
3.2 Project Management, Material Handling & Amenities \$18,440		3	Technical Services Costs						
3.3 Engineering \$17,327 3.4 Testing & Commissioning \$1,435 3.5 Permitting, Real Estate, Sales Tax and Additional Costs \$15,672 3.6 Compensation for use of NYPA Structures (1 Circuit) \$8,919 3.7 Legal, Environmental Licensing & Permitting and Environmental Mitigation \$7,865 Total Indirect Cost (3) \$72,262 Subtotal Project Cost (B=A+3) 2017 \$ \$371,660 4.1 NUF proposed as element of the Project \$00 4.2 NUF identified during Evaluation \$00 Subtotal NUF Cost (C) \$00 Total Project Cost (B+C) 2017 \$ \$371,660		3.1	Contractor Mobilization / Demobilization	\$2,603					
3.6 Compensation for use of NYPA Structures (1 Circuit) 3.7 Legal, Environmental Licensing & Permitting and Environmental Mitigation \$7,865 Total Indirect Cost (3) \$72,262 Subtotal Project Cost (B=A+3) 2017 \$ \$371,660 4.1 NUF proposed as element of the Project 4.2 NUF identified during Evaluation \$0 Subtotal NUF Cost (C) \$0 Total Project Cost (B+C) 2017 \$ \$371,660		3.2	Project Management, Material Handling & Amenities	\$18,440					
3.6 Compensation for use of NYPA Structures (1 Circuit) 3.7 Legal, Environmental Licensing & Permitting and Environmental Mitigation \$7,865 Total Indirect Cost (3) \$72,262 Subtotal Project Cost (B=A+3) 2017 \$ \$371,660 4.1 NUF proposed as element of the Project 4.2 NUF identified during Evaluation \$0 Subtotal NUF Cost (C) \$0 Total Project Cost (B+C) 2017 \$ \$371,660	Cos	3.3	Engineering	\$17,327					
3.6 Compensation for use of NYPA Structures (1 Circuit) 3.7 Legal, Environmental Licensing & Permitting and Environmental Mitigation \$7,865 Total Indirect Cost (3) \$72,262 Subtotal Project Cost (B=A+3) 2017 \$ \$371,660 4.1 NUF proposed as element of the Project 4.2 NUF identified during Evaluation \$0 Subtotal NUF Cost (C) \$0 Total Project Cost (B+C) 2017 \$ \$371,660	ect	3.4	Testing & Commissioning	\$1,435					
3.7 Legal, Environmental Licensing & Permitting and Environmental Mitigation \$7,865 Total Indirect Cost (3) \$72,262 Subtotal Project Cost (B=A+3) 2017 \$ \$371,660 4.1 NUF proposed as element of the Project \$0 4.2 NUF identified during Evaluation \$0 Subtotal NUF Cost (C) \$0 Total Project Cost (B+C) 2017 \$ \$371,660	Indir	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$15,672					
Total Indirect Cost (3) \$72,262 Subtotal Project Cost (B=A+3) 2017 \$ \$371,660 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project \$0 4.2 NUF identified during Evaluation \$0 Subtotal NUF Cost (C) \$0 Total Project Cost (B+C) 2017 \$ \$371,660		3.6	Compensation for use of NYPA Structures (1 Circuit)	\$8,919					
Subtotal Project Cost (B=A+3) 2017 \$ \$371,660 4 Network Upgrade Facilities (NUF) 4.1 NUF proposed as element of the Project 4.2 NUF identified during Evaluation Subtotal NUF Cost (C) \$0 Total Project Cost (B+C) 2017 \$ \$371,660		3.7	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,865					
4.1 NUF proposed as element of the Project \$C			Total Indirect Cost (3)	\$72,262					
4.1 NUF proposed as element of the Project 4.2 NUF identified during Evaluation Subtotal NUF Cost (C) Total Project Cost (B+C) 2017 \$ \$371,660			Subtotal Project Cost (B=A+3) 2017 \$	\$371,660					
4.2 NUF identified during Evaluation \$0 Subtotal NUF Cost (C) \$0 Total Project Cost (B+C) 2017 \$ \$371,660		4	Network Upgrade Facilities (NUF)						
Subtotal NUF Cost (C) \$0 Total Project Cost (B+C) 2017 \$ \$371,660		4.1	NUF proposed as element of the Project	\$0					
Total Project Cost (B+C) 2017 \$ \$371,660		4.2	NUF identified during Evaluation	\$0					
			Subtotal NUF Cost (C)	\$0					
Total Project Cost 2018 \$ \$382,810			Total Project Cost (B+C) 2017 \$	\$371,660					
			Total Project Cost 2018 \$	\$382,810					

5/22/2018 Page 1 of 55

NextEra - T021 Enterprise Line - (Segment A)

Estimate Revision: 5

		4	
	NextEra - T021 Enterprise Line - (Segment A) - Direct Costs		Total Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Edic to Princetown	\$	142,045,942
Direct Labor, Material & Equipment Costs	B. Transmission Line Princetown to Rotterdam	\$	22,954,338
Direct Labor, Material & Equipment Costs	C. Transmission Line Princetown to New Scotland	\$	40,238,473
Direct Labor, Material & Equipment Costs	D. Princetown Substation - Install	\$	40,296,444
Direct Labor, Material & Equipment Costs	F. Edic Substation - Install	\$	2,117,185
Direct Labor, Material & Equipment Costs	G. Edic Substation - Removal	\$	35,950
Direct Labor, Material & Equipment Costs	H. New Scotland Substation - Install	\$	6,740,673
Direct Labor, Material & Equipment Costs	I. New Scotland Substation - Removal	\$	142,200
Direct Labor, Material & Equipment Costs	J. Porter Substation - Install	\$	71,912
Direct Labor, Material & Equipment Costs	K. Porter Substation - Removal	\$	474,313
Direct Labor, Material & Equipment Costs	L. Interconnection Edic Station	\$	1,784,075
Direct Labor, Material & Equipment Costs	M. Interconnection New Scotland Station	\$	2,594,271
Direct Labor, Material & Equipment Costs	N. Rotterdam Subtation - Install	\$	850,000
Direct Labor, Material & Equipment Costs	O. System Upgrade Facilities (Various Lines for Edic to New Scotland)	\$	-
Direct Labor, Material & Equipment Costs	P. System Upgrade Facilities (Various Stations for Edic to New Scotland)	\$	-
	SUBTOTA	L: \$	260,345,776
	CONTRACTOR MARK-UP (OH&) \$	39,051,866
	CONTINGENCY ON ENTIRE PROJECT	T \$	
	TOTAL DIRECT	\$	299,397,642

	NextEra - T021 Enterprise Line - (Segment A) - Indirect Costs	Total Each Segment
Indirect Costs	A. Transmission Line Edic to Princetown	\$ 37,373,534
Indirect Costs	B. Transmission Line Princetown to Rotterdam	\$ 4,659,697
Indirect Costs	C. Transmission Line Princetown to New Scotland	\$ 8,472,452
Indirect Costs	D. Princetown Substation - Install	\$ 10,527,866
Indirect Costs	F. Edic Substation - Install	\$ 521,904
Indirect Costs	G. Edic Substation - Removal	\$ 5,890
Indirect Costs	H. New Scotland Substation - Install	\$ 1,643,663
Indirect Costs	I. New Scotland Substation - Removal	\$ 26,852
Indirect Costs	J. Porter Substation - Install	\$ 29,355
Indirect Costs	K. Porter Substation - Removal	\$ 78,181
Indirect Costs	L. Interconnection Edic Station	\$ 342,922
Indirect Costs	M. Interconnection New Scotland Station	\$ 514,093
Indirect Costs	N. Interconnection Rotterdam Station	\$ 201,306
Indirect Costs	O. System Upgrade Facilities (Various Lines for Edic to New Scotland)	\$ -
Indirect Costs	P. System Upgrade Facilities (Various Stations for Edic to New Scotland)	\$ -
Indirect Costs	Legal and Permitting (Includes Legal, Envir. Lisc. & Permit., and Envir. Mitagation)	\$ 7,864,674
	TOTA INDIRECT:	\$ 72,262,388
	TOTAL ESTIMATED COST:	\$ 371,660,030

Page 2 of 55

NextEra - T021 Enterprise Line - (Segment A)

A. Transmission Line Edic to Princetown

Estimate Revision: 5 Total: \$ 179,419,477

NextEra - T021 Enterprise Line - (So	egme	nt A)		
		Supply	Installation	Total
A. Transmission Line Edic to Princetown				
1. CLEARING & ACCESS	\$	41,500	\$ 38,580,626	\$ 38,622,126
2. FOUNDATIONS	\$	1,198,049	\$ 9,147,920	\$ 10,345,968
3. STRUCTURES	\$	8,531,149	\$ 41,220,539	\$ 49,751,688
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	7,848,486	\$ 22,863,905	\$ 30,712,391
5. INSULATORS, FITTINGS, HARDWARE	\$	8,560,788	\$ 4,052,981	\$ 12,613,769
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	2,094,398	\$ 35,279,137	\$ 37,373,534
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	28,274,369	\$ 151,145,108	\$ 179,419,477
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	28,274,369	\$ 151,145,108	\$ 179,419,477

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
A. Transn	nission Line Edic to Princetown								
1. CLEARING &	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	127.0	Acre		\$ -	\$ 5,000	\$ 635,000	\$ 5,000	\$ 635,000
1.3	Access Road	70,540.8	LF	\$ -	\$ -	\$ 45			
	Silt Fence	352,704.0	LF	\$ -	\$ -		\$ 1,410,816		
	Matting - Access and ROW	282,163.2	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	25,200.0	LF	\$ -	\$ -	\$ 70			
	Snow Removal	66.8	Mile	\$ -	\$ -	\$ 16,000	\$ 1,068,800		\$ 1,068,800
	ROW Restoration	66.8	Mile	\$ -	\$ -	\$ 10,000	\$ 668,000		\$ 668,000
	Work Pads	2,625,000.0	SF	\$ -	\$ -	\$ 4		\$ 4	
	Restoration for Work Pad areas	525,000.0	SF	\$ -	\$ -	\$ 0.15	\$ 78,750		
	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	
	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	
	Stabilized Construction Entrance	50	EA	\$ -	\$ -	\$ 4,580	\$ 229,000		
	Maintenance and Protection of Traffic on Public Roads	100	EA	\$ -	\$ -	\$ 4,130	\$ 413,000	\$ 4,130	
	Culverts / Misc. Access	10	EA	\$ 750		\$ 1,250	\$ 12,500	\$ 2,000	
	Gates	17	EA	\$ 2,000	· , , , , , , , , , , , , , , , , , , ,	\$ 2,500	\$ 42,500	\$ 4,500	
	Concrete Washout Station	50	EA	\$ -	\$ -	\$ 1,850	\$ 92,500	\$ 1,850	
TOTAL - CLEARI					\$ 41,500		\$ 38,580,626		\$ 38,622,126
2. FOUNDATION	NS								
2.1	Direct Embed - 345KV S/C CONC DELTA TANGENT	472	EA	\$ 1,739			\$ 5,582,698	\$ 13,567	\$ 6,403,683
2.2	Direct Embed - 345KV S/C CONC GUYED DEADEND	21	EA	\$ 1,943			\$ 277,443	\$ 15,154	\$ 318,243
2.3	Direct Embed - 345KV S/C CONC RUNNING ANGLE	22	EA	\$ 2,072	\$ 45,587	\$ 14,090	\$ 309,990	\$ 16,163	\$ 355,577
2.4	Drilled Pier - 345KV S/C STEEL DELTA TANGENT	5	EA	\$ 24,478	\$ 122,392	\$ 24,741	\$ 123,703	\$ 49,219	\$ 246,095
2.5	Drilled Pier - 345KV RUNNING ANGLE, STEEL	2	EA	\$ 32,128	\$ 64,257	\$ 32,473	\$ 64,945	\$ 64,601	\$ 129,202
2.6	Drilled Pier - 345KV SELF SUPPORT DEADEND, STEEL	3	EA	\$ 34,676	\$ 104,027	\$ 35,047	\$ 105,141	\$ 69,723	\$ 209,169
2.7	Rock Excavation Adder	1,342.0	CY	\$ -	\$ -	\$ 2,000	\$ 2,684,000	\$ 2,000	\$ 2,684,000
2.8									
2.9									
2.10									
2.11									
2.12									
2.13									
2.14 2.15									
TOTAL - FOUND	ATIONS:				\$ 1.198.049		\$ 9147 920		\$ 10.345.968
					\$ 1,198,049		\$ 9,147,920		\$ 10,345,968
3. STRUCTURES			C : .	A	4 7045	A	4 22.525.777	A	4 00 000
	345KV S/C CONCRETE DELTA TANGENT	472	Structure	\$ 14,930			\$ 22,639,079		
3.2	345KV S/C CONCRETE GUYED DEADEND	21	Structure	\$ 17,582	\$ 369,222	\$ 60,144	\$ 1,263,021	\$ 77,726	\$ 1,632,243 Page 3 of 55

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
3.3	345KV S/C CONCRETE GUYED RUNNING ANGLE	22	Structure	\$ 17,880	\$ 393,360	\$ 60,780	\$ 1,337,153	\$ 78,660	\$ 1,730,513
3.4	345KV S/C STEEL DELTA TANGENT	5	Structure	\$ 15,860	\$ 79,300	\$ 9,516			\$ 126,880
3.5	345KV RUNNING ANGLE, STEEL	2	Structure	\$ 62,900	\$ 125,800	\$ 37,740	\$ 75,480		\$ 201,280
3.6	345KV SELF SUPPORT DEADEND, STEEL	3	Structure	\$ 83,619	\$ 250,856	\$ 50,171	\$ 150,514	\$ 133,790	\$ 401,370
3.7	Remove Existing Foundation	50	EA	\$ -	\$ -	\$ 7,500	\$ 375,000	\$ 7,500	\$ 375,000
3.8	Remove Existing Structure and Accessories	994	EA	\$ -	\$ -	\$ 12,500	\$ 12,425,000	. ,	\$ 12,425,000
3.9	Install Grounding and Grounding Accessories	525	Pole	\$ 506	\$ 265,650	\$ 5,539	\$ 2,907,713	\$ 6,045	\$ 3,173,363
3.10									
3.11									
3.12									
3.14									
3.14									
TOTAL - STRUC	TURES:				\$ 8,531,149		\$ 41,220,539		\$ 49,751,688
	R, SHIELDWIRE, OPGW				ŷ 0,551,145		7 41,220,333		7 43,731,000
4. CONDUCTOR	345kV - (1) 1033kcmil 54/7 ACSS "Curlew"	2,501,453	LF	\$ 2.82	\$ 7,054,097	\$ 5.00	\$ 12,507,265	\$ 7.82	\$ 19,561,362
4.1	(1) OPGW 36 Fiber AC-33/38/571	347,054	LF	\$ 1.35	\$ 468,523	\$ 5.00	\$ 1,735,270		\$ 2,203,793
4.2	(1) 7/16" EHS7 Steel	347,054	LF	\$ 1.35		\$ 5.00		·	\$ 2,203,793
4.4		121.0	Mile	\$ 0.47		\$ 30,000			\$ 1,898,385
4.4	Remove Existing Conductor and Accessories Remove Existing OPGW and Accessories	108.4	Mile	\$ - \$ -		\$ 30,000	\$ 3,630,000		
4.6		108.4	Mile	\$ -		\$ 12,000	\$ 1,300,800		
	Remove Existing OHSW and Accessories	93	Set				\$ 1,300,800		
4.7	Rider Poles (187 Locations)	93		\$ 1,750 \$ -				-	
4.8	Rider Poles - Relocated	94	Set	\$ -	\$ -	\$ 3,500	\$ 329,000	\$ 3,500.00	\$ 329,000
4.9									
4.10									
4.11									
4.12									
4.13									
4.14									
4.15									
4.16									
4.17	ICTOR CHIEF DAVIDE ORCH				å 7040.40¢		4 22.052.005		4 22 742 224
	ICTOR, SHIELDWIRE, OPGW:				\$ 7,848,486		\$ 22,863,905		\$ 30,712,391
	FITTINGS, HARDWARE							4	
	345kV Tangent (1-Group of 18-Bells Each Assembly)	3,006	Assembly		\$ 5,410,800				
5.2	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	360	Assembly	\$ 1,800	\$ 648,000	\$ 720	\$ 259,200		\$ 907,200
5.3			Assembly		\$ -		\$ -		\$ -
5.4	OPGW Assembly - Tangent	501	Assembly	\$ 200	\$ 100,200	\$ 150	\$ 75,150	·	\$ 175,350
5.5	OPGW Assembly - Angle / DE	48	Assembly	\$ 250	\$ 12,000	\$ 150	\$ 7,200	·	\$ 19,200
5.6	OHSW Assembly - Tangent	501	Assembly	\$ 200	\$ 100,200	\$ 150	\$ 75,150	· -	\$ 175,350
5.7	OHSW Assembly - Angle / DE	48	Assembly	\$ 250	\$ 12,000	\$ 150	\$ 7,200	\$ 400	\$ 19,200
5.8	OPGW Splice Boxes	42	Assembly	\$ 1,746	\$ 73,338	\$ 2,274	\$ 95,508	\$ 4,020	\$ 168,846
5.9	OPGW Splice & Test	42	EA	\$ 2,520	\$ 105,840	\$ 2,520	\$ 105,840	,	\$ 211,680
5.10	Spacer - Conductor	11,077	EA	\$ 50	\$ 553,850	\$ 35	\$ 387,695	7	\$ 941,545
5.11	Vibration Dampers - Conductor	2,658	EA	\$ 35	-	\$ 35		•	\$ 186,060
5.12	Shield wire / OPGW Dampers, Misc. Fittings	1,090	EA	\$ 27	\$ 29,430	\$ 35	\$ 38,150	\$ 62	\$ 67,580
5.13									
5.14	Replace - Mono Pole Vertical Tangent - V-String	480	Assembly	\$ 1,800					
5.15	Replace - Dead-end & Angle Insulators	195	Assembly	\$ 1,800	\$ 351,000	\$ 720	\$ 140,400	\$ 2,520	\$ 491,400
5.16									
5.17	Guys, Anchors, and Accessories	188	EA	\$ 828			\$ 191,337	\$ 1,846	\$ 347,001
5.18	Misc. materials (Signs and Markers)	66.8	Mile	\$ 770			\$ 67,201		\$ 118,637
5.19		-		\$ -	\$ -	\$ -	\$ -	·	\$ -
TOTAL - INSULA	ATORS, FITTINGS, HARDWARE:				\$ 8,560,788		\$ 4,052,981		\$ 12,613,769
A. Transr	nission Line Edic to Princetown				\$ 26,179,971		\$ 115,865,971		\$ 142,045,942
					, .,		,,		D 4 -6.55

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	l Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 1,420,459	\$ 1,420,459	\$ 1,420,459	\$ 1,420,45
	Project Management, Material Handling & Amenities									
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 7,220,195	\$ 7,220,195	\$ 7,220,195	\$ 7,220,19
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 1,420,459	\$ 1,420,459	\$ 1,420,459	\$ 1,420,45
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 1,420,459	\$ 1,420,459	\$ 1,420,459	\$ 1,420,45
	Engineering									
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 7,102,297	\$ 7,102,297	\$ 7,102,297	\$ 7,102,29
6.6	LiDAR	1	LS	\$	-	\$ -	\$ 426,138	\$ 426,138	\$ 426,138	\$ 426,13
6.7	Geotech	55.0	Location	\$	-	\$ -	\$ 3,500	\$ 192,500	\$ 3,500	\$ 192,50
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 994,322	\$ 994,322	\$ 994,322	\$ 994,32
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	EA	\$	-	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,00
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs		LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 426,138	\$ 426,138	\$ 426,138	\$ 426,13
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$ 5,555,000	\$ 5,555,000	\$ 5,555,000	\$ 5,555,00
6.15	Legal Fees		LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.17	Compensation for use of 1 Ckt - NYPA Structures (92 Structures)	1	LS	\$	-	\$ -	\$ 8,919,123	\$ 8,919,123	\$ 8,919,123	\$ 8,919,1
6.18	Sales Tax on Materials	1	LS	\$	2,094,398	\$ 2,094,398	\$ -	\$ -	\$ 2,094,398	\$ 2,094,3
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 142,046	\$ 142,046	\$ 142,046	\$ 142,0
TAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 2,094,398		\$ 35,279,137		\$ 37,373,5

NextEra - T021 Enterprise Line - (Segment A)

B. Transmission Line Princetown to Rotterdam

Estimate Revision: 5 Total: \$ 27,614,035

NextEra - T021 Enterprise L	ine - (Segment	· A)			
		Supply	Installation	Total	
B. Transmission Line Princetown to Rotterdam					
1. CLEARING & ACCESS	\$	6,000	\$ 4,789,200	\$	4,795,200
2. FOUNDATIONS	\$	891,972	\$ 4,104,882	\$	4,996,854
3. STRUCTURES	\$	2,675,074	\$ 7,029,527	\$	9,704,602
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	128,126	\$ 852,170	\$	980,296
5. INSULATORS, FITTINGS, HARDWARE	\$	1,682,833	\$ 794,553	\$	2,477,386
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	430,720	\$ 4,228,977	\$	4,659,697
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-
SUBTOTAL:	\$	5,814,726	\$ 21,799,309	\$	27,614,035
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-
TOTAL:	\$	5,814,726	\$ 21,799,309	\$	27,614,035

TOTAL: \$ 5,814,726 \$ 21,799,309 \$ 27,614,035 Description of Work:										
Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rat	e Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
B. Transmission Line Princetown to Rotterdam										
1. CLEARING 8	ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$	-
1.2	Clearing the ROW - Light (mowing)	20.0	Acre	\$ -	\$ -	\$ 5,000	\$ 100,000			100,000
1.3	Access Road	5,280.0	LF	\$ -	\$ -	\$ 45				237,600
1.4	Silt Fence	26,400.0	LF	\$ -	· ·	\$ 4	1,		\$	105,600
1.5	Matting - Access and ROW	21,120.0	LF	\$ -	T	\$ 70			\$	1,478,400
1.6	Matting - To Work Area	8,550.0	LF	\$ -	T	\$ 70				598,500
1.7	Snow Removal	5.0	Mile	\$ -		\$ 16,000	\$ 80,000			80,000
1.8	ROW Restoration Work Pads	5.0 570,000.0	Mile SF	\$ - \$ -	\$ - \$ -	\$ 10,000 \$ 4			\$	50,000 2,006,400
1.10	Restoration for Work Pad areas	114,000.0	SF SF	\$ -		\$ 0.2	, , ,		\$	17,100
1.10	Temporary Access Bridge	- 114,000.0	EA EA	\$ -	· ·	\$ 20,035	, , , , ,	\$ 20,035		- 17,100
1.12	Air Bridge	-	EA	\$ -		\$ 14,445		\$ 14,445		
1.13	Stabilized Construction Entrance	10		Š -	T	\$ 4,580				45,800
1.14	Maintenance and Protection of Traffic on Public Roads	10		\$ -	\$ -	\$ 4,130				41,300
1.15	Gates	-	EA	\$ 2,00	0 \$ -	\$ 2,500		\$ 4,500		-
1.16	Culverts / Misc. Access	8	EA	\$ 75	0 \$ 6,000		\$ 10,000	\$ 2,000	\$	16,000
1.17	Concrete Washout Station	10	EA	\$ -	\$ -	\$ 1,850	\$ 18,500	\$ 1,850	\$	18,500
TOTAL - CLEAR	ING & ACCESS:				\$ 6,000		\$ 4,789,200		\$	4,795,200
2. FOUNDATIO	NS .									
2.1	Direct Embed - 230KV S/C STEEL GUYED DEADEND	4	EA	\$ 1,20		\$ 8,163	\$ 32,650			37,452
2.2	Direct Embed - 230KV S/C STEEL GUYED RUNNING ANGLE	24	EA	\$ 1,41	6 \$ 33,990	\$ 9,631	\$ 231,132	\$ 11,047	\$	265,122
2.3	Direct Embed - 230 KV GUYED ANGLE, STEEL	6	EA	\$ 1,47		\$ 10,005	\$ 60,027		_	68,855
2.4	Direct Embed - 345KV S/C CONC DELTA TANGENT	70	EA	\$ 2,22	9 \$ 156,021	\$ 15,156	\$ 1,060,945	\$ 17,385	\$	1,216,966
2.5	Direct Embed - 345KV GUYED DEADEND, CONCRETE	2	EA	\$ 1,92	0 \$ 3,839	\$ 13,053	\$ 26,105	\$ 14,972	\$	29,944
2.6	Drilled Pier - 345KV S/C STEEL SELF SUPPORTING DEADEND	1	EA	\$ 32,12	8 \$ 32,128	\$ 32,473	\$ 32,473	\$ 64,601	\$	64,601
2.7	Drilled Pier - 345KV THREE POLE TAP, STEEL	6	EA	\$ 96,37	7 \$ 578,263	\$ 97,409	\$ 584,456	\$ 193,787	\$	1,162,719
2.8	Drilled Pier - 345KV STEEL D/C DEADEND , STEEL	1	EA	\$ 74,10	1 \$ 74,101	\$ 74,894	\$ 74,894	\$ 148,995	\$	148,995
2.9	Rock Excavation Adder	1,001.1	СУ	\$ -	\$ -	\$ 2,000	\$ 2,002,200	\$ 2,000	\$	2,002,200
TOTAL - FOUNDATIONS:					\$ 891,972		\$ 4,104,882		\$	4,996,854
3. STRUCTURE			-							
3.1	345KV RUNNING ANGLE, STEEL	24	Structure	\$ 17,07	4 \$ 409,775	\$ 10,244	\$ 245,865	\$ 27,318	 \$	655,640

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
3.2	345KV SELF SUPPORT DEADEND, STEEL	6	Structure	\$ 10,268	\$ 61,605	\$ 6,161	\$ 36,963	\$ 16,428	\$	98,568
3.3	230 KV GUYED DEADEND, STEEL	4	Structure	\$ 12,025	\$ 48,100	\$ 7,215	\$ 28,860	\$ 19,240	\$	76,960
3.4	345KV S/C DEADEND, STEEL	1	Structure	\$ 74,000	\$ 74,000	\$ 44,400	\$ 44,400	\$ 118,400	\$	118,400
3.5	345KV THREE POLE TAP, STEEL	6	Structure	\$ 166,500	\$ 999,000	\$ 99,900	\$ 599,400	\$ 266,400	\$	1,598,400
3.6	345KV STEEL D/C DEADEND , STEEL	1	Structure	\$ 101,750	\$ 101,750	\$ 61,050	\$ 61,050	\$ 162,800	\$	162,800
3.7	345KV S/C CONCRETE DELTA TANGENT	70	Structure	\$ 12,990	\$ 909,300	\$ 53,923	\$ 3,774,600	\$ 66,913	\$	4,683,900
3.8	345KV S/C CONCRETE GUYED RUNNING ANGLE	1	Structure	\$ 13,860	\$ 13,860	\$ 81,000		\$ 94,860		94,860
3.9	Remove Existing Foundation	22	EA	\$ -	\$ -	\$ 7,500		\$ 7,500		163,500
3.10	Remove Existing Structure and Accessories	109	EA	\$ -	\$ -	\$ 12,500	\$ 1,362,500	\$ 12,500	Ś	1,362,500
3.11	Install Grounding and Grounding Accessories	114	Pole	\$ 506	\$ 57,684	\$ 5,539		\$ 6,045		689,073
3.12										
3.13										
TOTAL - STRUC	CTURES PRINCTOWN TO NEW SCOTLAND:				\$ 2,675,074		\$ 7,029,527		\$	9,704,602
4. CONDUCTO	R, SHIELDWIRE, OPGW									
4.1	345kV - (1) 1033kcmil 54/7 ACSS "Curlew"	-	LF	\$ 2.82	\$ -	\$ 5.00	\$ -	\$ 7.82	\$	-
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$ 1.35	\$ -	\$ 5.00	\$ -	\$ 6.35		-
4.3	(1) 3/8" EHS7 Steel	-	LF	\$ 0.47	\$ -	\$ 5.00		\$ 5.47	<u> </u>	-
4.5	230V - (1) 1033kcmil 54/7 ACSS "Curlew"	33,264	LF	\$ 2.82	\$ 93,804	\$ 5.00	\$ 166,320	\$ 7.82	\$	260,124
4.6	(1) OPGW 36 Fiber AC-33/38/571	4,435	LF	\$ 1.35	\$ 5,987	\$ 5.00	\$ 22,175	\$ 6.35	\$	28,162
4.7	(1) 3/8" EHS7 Steel	4,435	LF	\$ 0.47	\$ 2,084	\$ 5.00	\$ 22,175	\$ 5.47	\$	24,259
4.8	Remove Existing Conductor and Accessories	10.0	Mile	\$ -	\$ -	\$ 30,000	\$ 300,000	\$ 30,000.00	\$	300,000
4.9	Remove Existing OPGW and Accessories	10.0	Mile	\$ -	\$ -	\$ 12,000	\$ 120,000	\$ 12,000.00	\$	120,000
4.10	Remove Existing OHSW and Accessories	10.0	Mile	\$ -	\$ -	\$ 12,000	\$ 120,000	\$ 12,000.00	\$	120,000
4.11						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	· ·	.,
4.12	Rider Poles	15	EA	\$ 1,750	\$ 26,250	\$ 3,500	\$ 52,500	\$ 5,250.00	\$	78,750
4.13	Rider Poles - Relocated	14	Set	\$ -	\$ -	\$ 3,500				49,000
4.14	Macri des Relocates	14	Set	7	Ÿ	3,300	7 45,000	\$ 3,500.00	ļ -	45,000
	L UCTOR, SHIELDWIRE, OPGW:				\$ 128,126		\$ 852,170		\$	980,296
	, FITTINGS, HARDWARE				Ų 120,120		Ç 032,170		Ť	300,230
5.1	230kV/345kV Tangent (1-Group of 18-Bells Each Assembly)	600	Assembly	\$ 1,800	\$ 1,080,000	\$ 720	\$ 432,000	\$ 2,520	\$	1,512,000
5.2	230kV/345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	210	Assembly	\$ 1,800	\$ 378,000	\$ 720	\$ 151,200	\$ 2,520		529,200
5.3	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Assembly	, , , , , , , , , , , , , , , , , , , ,	\$ -	,	\$ -	\$ -	\$	-
5.4	OPGW Assembly - Tangent	100	Assembly	\$ 200	\$ 20,000	\$ 150	\$ 15,000	\$ 350		35,000
5.5	OPGW Assembly - Angle / DE	28	Assembly	\$ 250	\$ 7,000	\$ 150	\$ 4,200	\$ 400		11,200
5.6	OHSW Assembly - Tangent	100	Assembly	\$ 200	\$ 20,000		\$ 15,000	\$ 350	\$	35,000
5.7	OHSW Assembly - Nagle / DE	28	Assembly	\$ 250	\$ 7,000	\$ 150	\$ 4,200	\$ 400	_	11,200
5.8	OPGW Splice Boxes	8	Assembly	\$ 1,746	\$ 13,969	\$ 2,274		\$ 4,020		32,161
5.9	OPGW Splice & Test	8	EA	\$ 2,520	\$ 20,160	\$ 2,520		\$ 5,040	_	40,320
5.10	Spacer - Conductor	1,038	EA	\$ 50	\$ 51,900	\$ 35		\$ 85	_	88,230
5.10	Vibration Dampers - Conductor	830	EA	\$ 35				\$ 70		58,100
5.11	Shieldwire / OPGW Dampers, Misc. Fittings	210	EA	\$ 27	\$ 29,030	\$ 35		\$ 62	_	13,020
		64.0								
5.13	Guys, Anchors, and Accessories		EA Náile			\$ 885		\$ 1,605		102,720
5.14	Misc. materials (Signs and Markers) ATORS, FITTINGS, HARDWARE:	5.2	Mile	\$ 770	\$ 4,004 \$ 1,682,833	\$ 1,006	\$ 5,231 \$ 794,553	\$ 1,776	\$	9,235 2,477,386
	mission Line Princetown to Rotterdam				\$ 5,384,005		\$ 17,570,333		\$	22,954,338
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
	Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 229,543	\$ 229,543	\$ 229,543	\$	229,543
<u> </u>	Project Management, Material Handling & Amenities									
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 1,166,769	\$ 1,166,769	\$ 1,166,769	\$	1,166,769
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 229,543	\$ 229,543	\$ 229,543	\$	229,543
		·				·	,· · · · ·	,		

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 229,543	\$ 229,543	\$ 229,543	\$ 229,543
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,147,717	\$ 1,147,717	\$ 1,147,717	\$ 1,147,717
6.6	Lidar	1	LS	\$ -	\$ -	\$ 68,863	\$ 68,863	\$ 68,863	\$ 68,863
6.7	Geotech	5	Location	\$ -	\$ -	\$ 3,500	\$ 17,500	\$ 3,500	\$ 17,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 160,680	\$ 160,680	\$ 160,680	\$ 160,680
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	EA	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 68,863	\$ 68,863	\$ 68,863	\$ 68,863
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 847,000	\$ 847,000	\$ 847,000	\$ 847,000
6.15	Legal Fees	-	LS	\$ -	\$ -		\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 430,720	\$ 430,720	\$ -	\$ -	\$ 430,720	\$ 430,720
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 22,954	\$ 22,954	\$ 22,954	\$ 22,954
TOTAL - MOB/	TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 430,720		\$ 4,228,977		\$ 4,659,697

NextEra - T021 Enterprise Line - (Segment A) C. Transmission Line Princetown to New Scotland

Estimate 5 Total: \$ 48,710,925 Revision:

NextEra - T021 Enterprise Line - (Segr	nent A	4)		
		Supply	Installation	Total
C. Transmission Line Princetown to New Scotland				
1. CLEARING & ACCESS	\$	88,000	\$ 11,773,438	\$ 11,861,438
2. FOUNDATIONS	\$	257,730	\$ 2,717,364	\$ 2,975,094
3. STRUCTURES	\$	3,192,349	\$ 12,052,512	\$ 15,244,861
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	2,212,093	\$ 4,756,290	\$ 6,968,383
5. INSULATORS, FITTINGS, HARDWARE	\$	2,164,996	\$ 1,023,701	\$ 3,188,698
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	633,213	\$ 7,839,238	\$ 8,472,452
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	8,548,381	\$ 40,162,544	\$ 48,710,925
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	8,548,381	\$ 40,162,544	\$ 48,710,925

escrip	ption of	Wor	k:
--------	----------	-----	----

1.2 Clearing the ROW - Light (mowning)	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
1.1 Clearing the ROW - Heavy (moving & Clearing)	C. Trans	mission Line Princetown to New Scotland								
1.2 Clearing the ROW - Light (mowing)	1. CLEARING 8	ACCESS								
1.1 Access Road	1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.5	1.2	Clearing the ROW - Light (mowing)	40.0	Acre	\$ -	\$ -	\$ 5,000	\$ 200,000	\$ 5,000	\$ 200,000
1.5 Matting-1 Access and ROW 84,057.6 LF S S S S S S S S S	1.3	Access Road		LF	\$ -	\$ -	\$ 45			\$ 945,648
1.0	1.4	Silt Fence	105,072.0	LF	\$ -	\$ -				\$ 420,288
1.7 Show Restoration 19.9 1.5 5 .					\$ -	\$ -				
18 ROW Reutoration 190 Mile \$ - \$ \$ \$ 190,000 \$ 190,			,			-				
1-9						т				
1.10 Restoration for Work Pad areas						-				
1.11 Temporary Access Bridge						т				
1.12 Air Bridge						-	·			
1.13 Stabilized Construction Entrance 76.0 EA \$					•	'				
1.14 Maintenance and Protection of Traffic on Public Roads 30.0 EA 5 75.0 \$ 22,500 \$ 3,7500 \$ 2,000 \$ 60.0 \$ 1.15 6 6 6 5 75.0 \$ 2,000 \$		<u> </u>			,	· .				
1.15 Galtes 1.10 EA \$ 2,000 \$ 2,200 \$ 2,200 \$ 2,200 \$ 2,200 \$ 3,200 \$ 4,500 \$ 43,500 \$ 1.15					•	т				
1.16 CUVERTS /MISC. ACCESS 5.80.0 E.A. \$ 750 \$ 3.4500 \$ 1.250 \$ 72,000 \$ 2.000 \$ 5 114,000 \$ 1.150 \$ 1.160 \$ 1.173 \$ 1.160 \$ 1.180 \$ 1										
1.17 Concrete Washout Station 76.0 EA S S S 149,000 S 1,850 S 140,000 S 1,850 S 140,000 S 1,850 S 140,000 S 1,850 S 1,850 S 140,000 S 1,850										
S		·			,					
2. FOUNDATIONS			76.0	EA	\$ -		\$ 1,850		\$ 1,850	
2.1 Drilled Pier - 345KV SELF SUPPORT DEADEND, STEEL 3 EA \$ 7.9.18 \$ 218,753 \$ 73,699 \$ 221,096 \$ 146,616 \$ 439,8						\$ 88,000		\$ 11,773,438		\$ 11,861,438
2			-							
2.3 Drilled Pier - 345KV VERTICAL TANGENT, STEEL 2 EA 5 32,128 5 64,257 5 32,473 5 64,945 5 64,601 5 12,02										
2.4										
2.5 Direct Embed - 345KV VERTICAL TANGENT, CONCRETE 37 EA \$ 1,881 \$ 69,597 \$ 12,791 \$ 473,260 \$ 14,672 \$ 542,8 2.6 Direct Embed - 345KV VERNINING ANGLE, CONCRETE 5 EA \$ 1,920 \$ 9,598 \$ 13,033 \$ 65,263 \$ 14,972 \$ 74,8 2.7 Direct Embed - 345KV VERTICAL D/C TANGENT, CONCRETE 4 4 EA \$ 1,800 \$ 7,200 \$ 12,239 \$ 48,957 \$ 14,093 \$ 56,1 2.8 Direct Embed - 345KV VERTICAL D/C TANGENT, CONCRETE 18 EA \$ 2,027 \$ 36,482 \$ 13,782 \$ 248,074 \$ 15,809 \$ 284,5 2.9 Rock Excavation Adder 482.4 CY \$ \$ \$ 2,000 \$ 964,800 \$ 2,000 \$ 964,800 \$ 284,5 2.10										
2.6 Direct Embed - 345KV RUNNING ANGLE, CONCRETE 5 EA \$ 1,920 \$ 9,598 \$ 13,053 \$ 65,263 \$ 14,972 \$ 74,8										
2.7 Direct Embed - 345KV GUYED DEADEND, CONCRETE										
2.8 Direct Embed - 345KV VERTICAL D/C TANGENT, CONCRETE					, , , , ,					
2.9 Rock Excavation Adder 482.4 CY \$ - \$ 2,000 \$ 964,800 \$ 2,000 \$ 964,80 2.10 2.11 2.12 2.13 2.14 2.15 TOTAL - FOUNDATIONS: 3.5TRUCTURES 3.1 345KV D/C CONCRETE VERTICAL TANGENT 3.1 345KV D/C CONCRETE VERTICAL TANGENT 3.2 345KV S/C CONCRETE DELITA TANGENT 5 21,000 \$ 964,800 \$ 2,000 \$ 964,80		·								
2.10	2.8	Direct Embed - 345KV VERTICAL D/C TANGENT, CONCRETE	18	EA	\$ 2,027	\$ 36,482	\$ 13,/82	\$ 248,074	\$ 15,809	\$ 284,556
2.11	2.9	Rock Excavation Adder	482.4	СУ	\$ -	\$ -	\$ 2,000	\$ 964,800	\$ 2,000	\$ 964,800
2.12	2.10									
2.13	2.11									
2.14	2.12									
2.15 CONCRETE VERTICAL TANGENT S 2.57,730 \$ 2,717,364 \$ 2,975,0 3.1 345KV D/C CONCRETE VERTICAL TANGENT 18 Structure \$ 21,737 \$ 391,266 \$ 84,708 \$ 1,524,752 \$ 1916,045 \$ 1,916,00 3.2 345KV S/C CONCRETE DELTA TANGENT \$ 21,214 \$ 1,400,124 \$ 84,051 \$ 5,547,366 \$ 105,265 \$ 6,947,4	2.13									
TOTAL - FOUNDATIONS: \$ 257,730 \$ 2,717,364 \$ 2,975,00 3. STRUCTURES S STRUCTURES S 257,730 \$ 2,717,364 \$ 2,975,00 3.1 345KV D/C CONCRETE VERTICAL TANGENT 18 Structure \$ 21,737 \$ 391,266 \$ 84,708 \$ 1,524,752 \$ 106,445 \$ 1,916,00 3.2 345KV S/C CONCRETE DELTA TANGENT 66 Structure \$ 21,214 \$ 1,400,124 \$ 84,051 \$ 5,547,366 \$ 105,265 \$ 6,947,40	2.14									
3.1 345KV D/C CONCRETE VERTICAL TANGENT 18 Structure \$ 21,737 \$ 391,266 \$ 84,708 \$ 1,524,752 \$ 106,445 \$ 1,916,0 3.2 345KV S/C CONCRETE DELTA TANGENT 66 Structure \$ 21,214 \$ 1,400,124 \$ 84,051 \$ 5,547,366 \$ 105,265 \$ 6,947,4	2.15									
3.1 345KV D/C CONCRETE VERTICAL TANGENT 18 Structure \$ 21,737 \$ 391,266 \$ 84,708 \$ 1,524,752 \$ 1,916,00 3.2 345KV S/C CONCRETE DELTA TANGENT 66 Structure \$ 21,214 \$ 1,400,124 \$ 84,051 \$ 5,547,366 \$ 1,052,65 \$ 6,947,4	TOTAL - FOUN	DATIONS:				\$ 257,730		\$ 2,717,364		\$ 2,975,094
3.2 345KV S/C CONCRETE DELTA TANGENT 66 Structure \$ 21,214 \$ 1,400,124 \$ 84,051 \$ 5,547,366 \$ 105,265 \$ 6,947,4	3. STRUCTURE	S								
	3.1	345KV D/C CONCRETE VERTICAL TANGENT	18	Structure	\$ 21,737	\$ 391,266	\$ 84,708	\$ 1,524,752	\$ 106,445	\$ 1,916,018
3.3 345KV S/C CONCRETE GLYFD DEADEND 4 Structure \$ 17.563 \$ 70.252 \$ 59.114 \$ 236.455 \$ 76.677 \$ 306.70	3.2	345KV S/C CONCRETE DELTA TANGENT	66	Structure	\$ 21,214	\$ 1,400,124	\$ 84,051	\$ 5,547,366	\$ 105,265	\$ 6,947,490
	3.3	345KV S/C CONCRETE GUYED DEADEND	4	Structure	\$ 17,563	\$ 70,252	\$ 59,114	\$ 236,455	\$ 76,677	\$ 306,707

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.4	345KV S/C CONCRETE GUYED RUNNING ANGLE	5	Structure	\$ 17,563	\$ 87,815	\$ 62,417	\$ 312,086	\$ 79,980	\$ 399,901
3.5	345KV S/C CONCRETE VERTICAL TANGENT	37	Structure	\$ 21,214	\$ 784,918		\$ 3,109,887		\$ 3,894,805
3.6	345KV S/C STEEL SELF SUPPORTING DEADEND	3	Structure	\$ 80,217	\$ 240,652		\$ 144,391		\$ 385,043
3.7	345KV S/C STEEL VERTICAL TANGENT	2	Structure	\$ 37,000			\$ 44,400		\$ 118,400
3.8	345KV VERTICAL D/C TANGENT, STEEL	2	Structure	\$ 37,000	\$ 74,000	\$ 22,200	\$ 44,400	\$ 59,200	\$ 118,400
3.9	Remove Existing Foundation	4	EA	\$ -	\$ -	\$ 7,500	\$ 30,000		\$ 30,000
3.10	Remove Existing Structure and Accessories	24	EA	\$ -	\$ -	\$ 12,500	\$ 300,000		\$ 300,000
3.11	Install Grounding and Grounding Accessories	137	Pole	\$ 506	\$ 69,322	\$ 5,539	\$ 758,775	\$ 6,045	\$ 828,097
3.12 3.13									
3.14									
3.15									
3.16									
3.17									
3.18									
3.19									
3.20									
TOTAL - STRUC	CTURES:				\$ 3,192,349		\$ 12,052,512		\$ 15,244,861
4. CONDUCTO	R, SHIELDWIRE, OPGW								
4.1	345kV - (1) 1033kcmil 54/7 ACSS "Curlew"	661,954	LF	\$ 2.82	\$ 1,866,710	\$ 5.00	\$ 3,309,770	\$ 7.82	\$ 5,176,480
4.2	(1) OPGW 36 Fiber AC-33/38/571	110,326	LF	\$ 1.35	\$ 148,940	\$ 5.00	\$ 551,630	\$ 6.35	\$ 700,570
4.3	(1) 3/8" EHS7 Steel	75,398	LF	\$ 0.47	\$ 35,437	\$ 5.00	\$ 376,990	\$ 5.47	\$ 412,427
4.4	115kV - (1) 1033kcmil 54/7 ACSS "Curlew"	41,580	LF	\$ 2.82			\$ 207,900		\$ 325,156
4.5	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$ 1.35		\$ 5.00			\$ -
4.6	(1) 3/8" EHS7 Steel	-	LF	\$ 0.47	\$ -	\$ 5.00	\$ -	\$ 5.47	\$ -
4.7	Remove Existing Conductor and Accessories	2.5	Mile	\$ -	\$ -	\$ 30,000	\$ 75,000	\$ 30,000.00	\$ 75,000
4.8	Remove Existing OPGW and Accessories	2.5	Mile	\$ -	-	\$ 12,000	\$ 30,000		\$ 30,000
4.9	Remove Existing OHSW and Accessories	2.5	Mile	\$ -		\$ 12,000		\$ 12,000.00	
4.10	Nemove Existing Orisiv and Accessories	2.5	IVIIIC	-	-	7 12,000	30,000	7 12,000.00	3 30,000
4.11									
4.12	Rider Poles (50 Locations)	25	EA	\$ 1,750	\$ 43,750	\$ 3,500	\$ 87,500	\$ 5,250.00	\$ 131,250
4.13	Rider Poles - Relocated	25	Set	\$ -	\$ -	\$ 3,500	\$ 87,500		\$ 87,500
	UCTOR, SHIELDWIRE, OPGW:	23	Sec	-	\$ 2,212,093	3,300	\$ 4,756,290		\$ 6,968,383
	, FITTINGS, HARDWARE				Ç 2,212,033		7 4,730,230		y 0,500,505
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	900	Assembly	\$ 1,800	\$ 1,620,000	\$ 720	\$ 648,000	\$ 2,520	\$ 2,268,000
5.2	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	105	Assembly	\$ 1,800			\$ 75,600		\$ 264,600
5.3			Assembly		\$ -		\$ -	\$ -	\$ -
5.4	OPGW Assembly - Tangent	130	Assembly	\$ 200			\$ 19,500		\$ 45,500
5.5	OPGW Assembly - Angle / DE	14	Assembly	\$ 250			\$ 2,100		\$ 5,600
5.6	OHSW Assembly - Tangent	130	Assembly	\$ 200					\$ 45,500
5.7	OHSW Assembly - Angle / DE	14	Assembly	\$ 250			\$ 2,100		\$ 5,600
5.8	OPGW Splice Boxes	8	Assembly	\$ 1,746			\$ 18,192		\$ 32,161
5.9 5.10	OPGW Splice & Test	3,734	EA EA	\$ 2,520 \$ 50			\$ 20,160 \$ 130,690		\$ 40,320 \$ 317,390
5.10	Spacer - Conductor Vibration Dampers - Conductor	896	EA	\$ 35			\$ 130,690		\$ 317,390
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	132	EA	\$ 27			\$ 4,620		\$ 8,184
5.13	Guys, Anchors, and Accessories	36	EA	\$ 720					\$ 57,780
5.14	Misc. materials (Signs and Markers)	19.9	Mile	\$ 770					
5.15 5.16							,	,	
5.17									
5.18									
5.19									
5.20		-		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - INSUL	ATORS, FITTINGS, HARDWARE:				\$ 2,164,996		\$ 1,023,701		\$ 3,188,698
C. Transi	mission Line Princetown to New Scotland				\$ 7,915,168		\$ 32,323,305		\$ 40,238,473
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
) 10 -£55

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 402,385	\$ 402,385	\$ 402,385	\$ 402,385
	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 2,045,322	\$ 2,045,322	\$ 2,045,322	\$ 2,045,322
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 402,385	\$ 402,385	\$ 402,385	\$ 402,385
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 402,385	\$ 402,385	\$ 402,385	\$ 402,385
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,011,924	\$ 2,011,924	\$ 2,011,924	\$ 2,011,924
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 120,715	\$ 120,715	\$ 120,715	\$ 120,715
6.7	Geotech	21	Location	\$ -	\$ -	\$ 3,500	\$ 73,500	\$ 3,500	\$ 73,500
6.8	Surveying/Staking	1	Mile	\$ -	\$ -	\$ 281,669	\$ 281,669	\$ 281,669	\$ 281,669
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	EA	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 120,715	\$ 120,715		
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ 218,000	\$ 218,000		\$ 218,000
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 1,680,000	\$ 1,680,000	\$ 1,680,000	\$ 1,680,000
6.15	Legal Fees	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 633,213	\$ 633,213	\$ -	\$ -	\$ 633,213	\$ 633,213
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 40,238		\$ 40,238	
TOTAL - MOE	J/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 633,213		\$ 7,839,238		\$ 8,472,452

NextEra - T021 Enterprise Line - (Segment A)

D. Princetown Substation - Install

Estimate Revision: 5 Total: \$ 50,824,310

NextEra - T021 Enterp	rise Line - (Segn	nent A)			
		Supply	Installation	Total	
D. Princetown Substation - Install]
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	440,750	\$ 3,451,500	\$ 3,892,250]
2. SUBSTATION FOUNDATIONS	\$	3,436,513	\$ 3,680,200	\$ 7,116,713]
3. SUBSTATION STRUCTURES	\$	1,426,720	\$ 1,426,720	\$ 2,853,440	1
4. MAJOR EQUIPTMENT	\$	8,890,000	\$ 2,540,000	\$ 11,430,000	1
5. SMALL EQUIPTMENT / MATERIALS	\$	2,338,000	\$ 1,215,000	\$ 3,553,000	1
6. CONTROL HOUSE / PANELS	\$	4,021,205	\$ 2,135,205	\$ 6,156,410	1
7. MISC ITEMS	\$	1,825,778	\$ 3,468,853	\$ 5,294,631	1
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,790,317	\$ 8,737,549	\$ 10,527,866	1
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -	0.0
SUBTOTAL:	\$	24,169,283	\$ 26,655,027	\$ 50,824,310	1
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -	0.0
TOTAL:	\$	24,169,283	\$ 26,655,027	\$ 50,824,310	1

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Mate	ial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
D. Prince	etown Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	9.4	ACRES	\$	-	\$ -	\$ 230,000	\$ 2,156,250	\$ 230,000	\$ 2,156,250
1.2	Station stone within substation fence.	4,000	СУ	\$	27	\$ 108,000	\$ 75	\$ 300,000	\$ 102	\$ 408,000
1.3	Substation Fence	2,400	LF	\$	100	\$ 240,000	\$ 100	\$ 240,000	\$ 200	\$ 480,000
1.4	Retaining Wall (1065' x 13')			\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
1.5	Compacted Fill (124,583cy Sand)			\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
1.6	Permanent Access Road - 20'-Wide (From Coplon Road)	2,650	LF	\$	35	\$ 92,750	\$ 285	\$ 755,250	\$ 320	\$ 848,000
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE F	PREP/ GRADING/ FENCING / CIVIL					\$ 440,750		\$ 3,451,500		\$ 3,892,250
2. SUBSTATIO	N FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	7	EA	\$	14,940	\$ 104,580	\$ 16,000	\$ 112,000	\$ 30,940	\$ 216,580
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	16	EA	\$	26,145	\$ 418,320	\$ 28,000	\$ 448,000	\$ 54,145	\$ 866,320
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	108	EA	\$	4,482	\$ 484,056	\$ 4,800	\$ 518,400	\$ 9,282	\$ 1,002,456
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	122	EA	\$	4,482	\$ 546,804	\$ 4,800	\$ 585,600	\$ 9,282	\$ 1,132,404
2.1j	Instrument Transformer Stand Foundations	30	EA	\$	4,482	\$ 134,460	\$ 4,800	\$ 144,000	\$ 9,282	\$ 278,460
2.1k	Arrester Stand Foundations	6	EA	\$	4,482	\$ 26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$ 55,692
2.1m	Wave Trap Stand Foundations	2	EA	\$	4,482	\$ 8,964	\$ 4,800	\$ 9,600	\$ 9,282	\$ 18,564
2.1n	Misc. Structure Foundations	1	EA	\$	7,470	\$ 7,470	\$ 8,000	\$ 8,000	\$ 15,470	\$ 15,470

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply F	tate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
2.1p	Transformer Firewalls	0	EA	\$ 65,	736	\$ -	\$ 70,400	\$ -	\$ 136,136	\$	-
2.1q											
2.2	230kV										
2.2a	Circuit Breaker Foundations	6	EA	\$ 11,	952	\$ 71,712	\$ 12,800	\$ 76,800	\$ 24,752	\$	148,512
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,	820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$	-
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	20	EA	\$ 22,	410	\$ 448,200	\$ 24,000	\$ 480,000	\$ 46,410	\$	928,200
2.2d	Caisson DE Foundations (for DE A frame str shared column)	12	EA	\$ 22,	410	\$ 268,920	\$ 24,000	\$ 288,000	\$ 46,410	\$	556,920
2.2e	Switch Stand Foundations	56	EA	\$ 3,	735	\$ 209,160	\$ 4,000	\$ 224,000	\$ 7,735	\$	433,160
2.2f	Station Service Transformer Stand Foundation	4	EA	\$ 3,	735	\$ 14,940	\$ 4,000	\$ 16,000	\$ 7,735	\$	30,940
2.2g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.2h	Bus Support 1 Ph Foundations	57	EA	\$ 3,	735	\$ 212,895	\$ 4,000	\$ 228,000	\$ 7,735	\$	440,895
2.2j	Instrument Transformer Stand Foundations	30	EA	\$ 3,	735	\$ 112,050	\$ 4,000	\$ 120,000	\$ 7,735	\$	232,050
2.2k	Arrester Stand Foundations	6	EA	\$ 3,	735	\$ 22,410	\$ 4,000	\$ 24,000	\$ 7,735	\$	46,410
2.2m	Wave Trap Stand Foundations	2	EA	\$ 3,	735	\$ 7,470	\$ 4,000	\$ 8,000	\$ 7,735	\$	15,470
2.2n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.2p											
2.3	115kV										
2.3a	Circuit Breaker Foundations		EA	\$ 5,	229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$	-
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,	615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$	-
2.3c	Caisson DE Foundations (for DE A frame str stand alone)		EA	\$ 16,	434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$	-
2.3d	Caisson DE Foundations (for DE A frame str shared column)		EA	\$ 16,	434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$	
2.3e	Switch Stand Foundations		EA	\$ 2,	988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
2.3f	Fuse Stand Foundations		EA	\$ 2,	988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
2.3g	Bus Support 3ph Foundations		EA	\$ 2,	988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
2.3h	Bus Support 1 Ph Foundations		EA	\$ 2,	988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
2.3j	Instrument Transformer Stand Foundations		EA	\$ 2	988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
	Arrester Stand Foundations		EA		988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	
2.3m	Wave Trap Stand Foundations		EA	\$ 2,	988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	
2.3n	Station Service Foundations		EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
	Misc. Structure Foundations		EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	
						·				-	
2.4	Transformer Foundations										
2.4a	345-230kV Transformer Foundation w/ Oil Containment	2	EA	\$ 97,	110	\$ 194,220	\$ 104,000	\$ 208,000	\$ 201,110	\$	402,220
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,	700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$	-
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	
2.5	Control House Foundations / Pad										
2.5a	Control House / Pad (45' x120')	1	EA	\$ 74,	700	\$ 74,700	\$ 80,000	\$ 80,000	\$ 154,700	\$	154,700
2.5b	Generator Foundation	1	EA	\$ 16,	000	\$ 16,000	\$ 17,000	\$ 17,000	\$ 33,000	\$	33,000
											-
2.6	Lightning Mast Foundations										
2.6a	70' Lightning Mast Foundation	10	EA	\$ 5,	229	\$ 52,290	\$ 5,600	\$ 56,000	\$ 10,829	\$	108,290
2.6b					_	\$ -	\$ -	\$ -	\$ -	\$	-
2.6c				\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
											-
TOTAL - SUBS ¹	FATION FOUNDATIONS					\$ 3,436,513		\$ 3,680,200		\$	7,116,713
	N STRUCTURES										, ., ==

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	4	EA	\$ 37,000	\$ 148,000	\$ 37,000	\$ 148,000	\$ 74,000	\$ 296,000
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1c	Switch Stands	18	EA	\$ 14,800	\$ 266,400	\$ 14,800	\$ 266,400	\$ 29,600	\$ 532,800
3.1d	Station Service Transformer Stand	1	EA	\$ 14,800	\$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600	\$ 29,600
3.1e	Bus Support 3ph	59	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	63	EA	\$ 3,700	\$ 233,100	\$ 3,700	\$ 233,100	\$ 7,400	\$ 466,200
3.1g	Instrument Transformer Stand	30	EA	\$ 1,850	\$ 55,500	\$ 1,850	\$ 55,500	\$ 3,700	\$ 111,000
3.1h	Arrester Stand	6	EA	\$ 1,850	\$ 11,100	\$ 1,850	\$ 11,100	\$ 3,700	\$ 22,200
3.1j	Wave Trap Stand	2	EA	\$ 7,400	\$ 14,800	\$ 7,400	\$ 14,800	\$ 14,800	\$ 29,600
3.1k	Misc. Structures	7	EA	\$ 6,475	\$ 45,325	\$ 6,475	\$ 45,325	\$ 12,950	\$ 90,650
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	5	EA	\$ 33,300	\$ 166,500	\$ 33,300	\$ 166,500	\$ 66,600	\$ 333,000
3.2b	Substation A-Frame Structures - Shared Column	4	EA	\$ 33,300	\$ 133,200	\$ 33,300	\$ 133,200	\$ 66,600	\$ 266,400
3.2c	Switch Stands	14	EA	\$ 12,025	\$ 168,350	\$ 12,025	\$ 168,350	\$ 24,050	\$ 336,700
3.2d	Station Service Transformer Stand	1	EA	\$ 12,025	\$ 12,025	\$ 12,025	\$ 12,025	\$ 24,050	\$ 24,050
3.2e	Bus Support 3ph	28	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2f	Bus Support 1 Ph	29	EA	\$ 2,775	\$ 80,475	\$ 2,775	\$ 80,475	\$ 5,550	\$ 160,950
3.2g	Instrument Transformer Stand	30	EA	\$ 1,295	\$ 38,850	\$ 1,295	\$ 38,850	\$ 2,590	\$ 77,700
3.2h	Arrester Stand	6	EA	\$ 1,295	\$ 7,770	\$ 1,295	\$ 7,770	\$ 2,590	\$ 15,540
3.2j	Wave Trap Stand	2	EA	\$ 5,550	\$ 11,100		\$ 11,100	\$ 11,100	\$ 22,200
3.2k	Misc. Structures	3	EA	\$ 6,475	\$ 19,425		\$ 19,425	\$ 12,950	\$ 38,850
		-		,				, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
3.3	115kV								
TOTAL - SUBS	TATION STRUCTURES				\$ 1,426,720		\$ 1,426,720		\$ 2,853,440
4. MAJOR EQU					2,120,720		2,120,720		2,033,110
4.1	345kV								
4.1a	Circuit Breakers	7	EA	\$ 200,000	\$ 1,400,000	\$ 80,000	\$ 560,000	\$ 280,000	\$ 1,960,000
4.1b	Capacitor Banks with Reactors	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	2	EA	\$ 3,400,000	\$ 6,800,000	\$ 750,000	\$ 1,500,000	\$ 4,150,000	\$ 8,300,000
4.1d	345 kV - 115 kV Auto Transformer	0	EA	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	\$ 750,000	\$ -	\$ 750,000	\$ -
4.1e		-				7,	*	+ 100,000	*
4.2	230kV								
4.2a	Circuit Breakers	6	EA	\$ 115,000	\$ 690,000	\$ 80,000	\$ 480,000	\$ 195,000	\$ 1,170,000
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
		-					,		
4.3	115kV								
4.3a	Circuit Breakers		EA	\$ 52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks		EA	\$ -	\$ -		\$ -	\$ 60,000	•
				T	*	7 33,333	*	+ 00,000	*
TOTAL - MAIC	DR EQUIPTMENT				\$ 8,890,000		\$ 2,540,000		\$ 11,430,000
	JIPTMENT / MATERIALS				\$ 6,650,000		2,340,000		7 11,430,000
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	4	EA	\$ 40,000	\$ 160,000	\$ 15,000	\$ 60,000	\$ 55,000	\$ 220,000
5.1b	Disconnect Switches - 3ph w/ manual operator	14	EA	\$ 35,000	\$ 490,000	· ·	\$ 245,000	\$ 52,500	
5.1c	VT'S	6	EA	\$ 25,000	\$ 150,000			\$ 37,000	
		6	EA		\$ 78,000		\$ 48,000	\$ 21,000	
5 1 d	ICIS								
5.1d 5.1e	CT'S CCVT'S	18	EA	\$ 13,000 \$ 13,000	\$ 234,000			\$ 21,000	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	Т	TOTAL
5.1g	Wave Traps	2	EA	\$ 13,000	\$ 26,000	\$ 8,000	\$ 16,000	\$ 21,000	\$	42,000
5.1h	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000	\$ 50,000	\$ 50,000	\$ 250,000	\$	250,000
5.1j										
5.2	230kV									
5.2a	Line Switches - 3ph w/ motor operator	4	EA	\$ 35,000	\$ 140,000	\$ 15,000	\$ 60,000	\$ 50,000	\$	200,000
5.2b	Disconnect Switches - 3ph w/ manual operator	12	EA	\$ 30,000	\$ 360,000	\$ 17,500	\$ 210,000	\$ 47,500	\$	570,000
5.2c	VT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$	126,000
5.2d	CT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$	126,000
5.2e	CCVT'S	18	EA	\$ 10,000	\$ 180,000	\$ 6,000	\$ 108,000	\$ 16,000	\$	288,000
5.2f	Arresters	12	EA	\$ 5,000	\$ 60,000	\$ 6,000	\$ 72,000	\$ 11,000	\$	132,000
5.2g	Wave Traps	2	EA	\$ 13,000	\$ 26,000	\$ 8,000	\$ 16,000	\$ 21,000	\$	42,000
5.2h	Station Service Transformers	1	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.2j										
5.3	115kV									
5.3a	Line Switches - 3ph w/ motor operator		EA	\$ 33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$	-
5.3b	Disconnect Switches - 3ph w/ manual operator		EA	\$ 28,000	\$ -	\$ 17,500	\$ -	\$ 45,500	\$	-
5.3c	VT'S		EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	-
5.3d	CT'S		EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	-
5.3e	CCVT'S		EA	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 16,000	\$	-
5.3f	Arresters		EA	\$ 3,420	\$ -	\$ 6,000	\$ -	\$ 9,420	\$	-
5.3g	Wave Traps		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.3h	Station Service Transformers		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.3j	Fuses		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
	LL EQUIPTMENT / MATERIALS				\$ 2,338,000		\$ 1,215,000		\$	3,553,000
	HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	1	EA	\$ 1,026,000	\$ 1,026,000	\$ 85,000	\$ 85,000	\$ 1,111,000	\$	1,111,000
6.2	Protection and Telecom Equipment Panels	43	EA	\$ 35,000	\$ 1,505,000	\$ 10,000	\$ 430,000	\$ 45,000	\$	1,935,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$	200,000
6.4	Control Cables	1	LS	\$ 975,205	\$ 975,205	\$ 975,205	\$ 975,205	\$ 1,950,410	\$	1,950,410
6.5	SCADA and Communications	1	EA	\$ 50,000	\$ 50,000	\$ 100,000	\$ 100,000	\$ 150,000	\$	150,000
6.6	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$	300,000
6.7	DC Distribution System	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$	300,000
6.8	Security	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$	15,000
6.9	Fire Alarm	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$	15,000
6.10	Generator	1	EA	\$ 100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$	180,000
	 ROL HOUSE / PANELS / GENERATOR				\$ 4,021,205		\$ 2,135,205		\$	6,156,410
7. MISC ITEMS	5									
7.1	Conduit & Cable Trench System	2,000	LF	\$ 185.00	\$ 370,000	\$ 170.00	\$ 340,000	\$ 355	\$	710,000
7.2	Rigid Bus, Fittings & Insulators	5,000	LF	\$ 125.07	\$ 625,350	\$ 237.10	\$ 1,185,500	\$ 362	\$	1,810,850
7.3	Strain Bus, Connectors & Insulators	2,700	LF	\$ 39.30	\$ 106,110	\$ 53.35	\$ 144,045	\$ 93	\$	250,155
7.4	Grounding System	32,600	LF	\$ 6.93	\$ 225,918	\$ 32.58	\$ 1,062,108	\$ 40	\$	1,288,026
7.5	Strain Bus Insulators - 345kV	24	EA	\$ 2,000	\$ 48,000	\$ 1,050	\$ 25,200	\$ 3,050	ć	73,200

Item	Item Description	Estimated Quantity	Unit of Measure	Mater	ial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
7.6	Strain Bus Insulators - 230kV	36	EA	\$	1,400	\$ 50,400	\$ 750	\$ 27,000	\$ 2,150	\$	77,400
7.7	Strain Bus Insulators - 115kV		EA	\$	1,000	\$ -	\$ 550	\$ -	\$ 1,550	\$	-
7.8	Low Voltage AC Station Service	1	LS	\$	50,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$	125,000
7.9	SSVT Service	1	LS	\$	45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 90,000	\$	90,000
7.10	Control Conduits from Trench to Equipment	1	LS	\$	125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$	250,000
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$	180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$	360,000
7.12	Utility Station Power	1	LS			\$ -	\$ 135,000	\$ 135,000	\$ 135,000	\$	135,000
7.13	Install new communication tower foundation	1	LS			\$ -	\$ 75,000	\$ 75,000	\$ 75,000	\$	75,000
7.14	Relocate existing communication tower	1	LS			\$ -	\$ 50,000	\$ 50,000	\$ 50,000	\$	50,000
7.15											
7.16											
7.17											
7.18											
7.19											
7.20											
7.21											
7.22											
7.23											
7.24											
7.25											
TOTAL - MISC	LITEMS					\$ 1,825,778		\$ 3,468,853		Ś	5,294,631
	etown Substation - Install					\$ 22,378,966		\$ 17,917,478		Ś	40,296,444
						\$ 22,378,900		3 17,517,476		7	40,230,444
8. MOB/DEMI	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization										
8.1	Mob / Demob	1.0	LS	Ś	-	\$ -	\$ 402,964	\$ 402,964	\$ 402,964	Ś	402,964
0.1	•	1.0	LS	۶		ş -	\$ 402,964	\$ 402,964	\$ 402,964	Þ	402,964
	Project Management, Material Handling & Amenities										
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 2,048,268	\$ 2,048,268	\$ 2,048,268	\$	2,048,268
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 402,964	\$ 402,964	\$ 402,964	\$	402,964
8.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 402,964	\$ 402,964	\$ 402,964	\$	402,964
	Engineering										
8.5	Design Engineering	1	LS	\$	-	\$ -	\$ 3,223,716	\$ 3,223,716	\$ 3,223,716	\$	3,223,716
8.6	LiDAR	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.7	Geotech	4	EA	\$	-	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$	14,000
8.8	Surveying/Staking	1	Site	\$	-	\$ -	\$ 282,075	\$ 282,075	\$ 282,075		282,075
	Testing & Commissioning							·	·		-
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 1,007,411	\$ 1,007,411	\$ 1,007,411	\$	1,007,411
	Permitting and Additional Costs			<u> </u>				, ,	, ,		
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	_	\$ -	\$ -	\$ -	\$ -	\$	_
8.11	Environmental Mitigation	_	LS	\$	-	\$ -	\$ -	š -	\$ -	\$	
8.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 120,889	\$ 120,889	\$ 120,889	\$	120,889
8.13	Real Estate Costs (New)	1	LS	\$		\$ -	\$ 120,085	\$ 120,003	\$ 120,085	\$	120,003
8.14	Real Estate Costs (New)	1	LS	\$	-	\$ -	\$ 792,000	\$ 792,000	\$ 792,000	\$	792,000
8.15	Legal Fees	-	LS	\$		\$ -	\$ -	\$ -	\$ 752,000	\$	
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$	
8.17	A Turing Osed Burning Constitution (ALODE)	-	LS	\$		\$ -	\$ -	\$ -	\$ - \$ -	Ś	
8.18	Sales Tax on Materials	1	LS	\$		\$ 1,790,317	\$ -	\$ - \$ -	\$ 1,790,317	\$	1,790,317
8.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS	٦	1,/90,31/	\$ 1,790,317	\$ 40,296	\$ 40,296	\$ 1,790,317		40,296
		. 1				1 7		1 7 40,230	+0,230	1 Y	70,230

NextEra - T021 Enterprise Line - (Segment A) Total: \$ 2,639,089

NextEra - T021 Enterprise	NextEra - T021 Enterprise Line - (Segment A)										
		Supply	Installation		Total						
F. Edic Substation - Install											
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	2,025	\$ 5,625	\$	7,650						
2. SUBSTATION FOUNDATIONS	\$	100,098	\$ 107,200	\$	207,298						
3. SUBSTATION STRUCTURES	\$	44,400	\$ 44,400	\$	88,800						
4. MAJOR EQUIPTMENT	\$	200,000	\$ 80,000	\$	280,000						
5. SMALL EQUIPTMENT / MATERIALS	\$	280,000	\$ 133,500	\$	413,500						
6. CONTROL HOUSE / PANELS	\$	173,850	\$ 98,850	\$	272,700						
7. MISC ITEMS	\$	339,357	\$ 507,880	\$	847,237						
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	91,178	\$ 430,726	\$	521,904						
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-						
SUBTOTAL:	\$	1,230,908	\$ 1,408,181	\$	2,639,089						
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-						
TOTAL:	\$	1,230,908	\$ 1,408,181	\$	2,639,089						

Descr	iptic	on of	Wo	rk:

Estimate Revision:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supp	oly Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
F. Edic S	ubstation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$	-	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	75	CY	\$	27	\$ 2,025	\$ 75	\$ 5,625	\$ 102	\$ 7,650
1.3	Substation Fence	0	LF	\$	100	\$ -	\$ 100	\$ -	\$ 200	\$ -
1.4	Permanent Access Road - 20'-Wide	0	LF	\$	35	\$ -	\$ 285	\$ -	\$ 320	\$ -
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE F	PREP/ GRADING/ FENCING / CIVIL					\$ 2,025		\$ 5,625		\$ 7,650
2. SUBSTATIO	N FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$	14,940	\$ 14,940	\$ 16,000	\$ 16,000	\$ 30,940	\$ 30,940
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	6	EA	\$	4,482	\$ 26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$ 55,692
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1j	Instrument Transformer Stand Foundation	9	EA	\$	4,482	\$ 40,338	\$ 4,800	\$ 43,200	\$ 9,282	
2.1k	Arrester Stand Foundations	3	EA	\$	4,482	\$ 13,446	\$ 4,800	\$ 14,400	\$ 9,282	\$ 27,846
2.1m	Wave Trap Stand Foundations	1	EA	\$	4,482	\$ 4,482	\$ 4,800	\$ 4,800	\$ 9,282	\$ 9,282
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p										
2.2	230kV									
2.2a	Circuit Breaker Foundations		EA	\$	11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations		EA	\$	44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)		EA	\$	22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)		EA	\$	22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2e	Switch Stand Foundations		EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2f	Station Service Transformer Stand Foundation		EA	\$ 3,735	\$ -			\$ 7,735	
2.2g	Bus Support 3ph Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations		EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2j	Instrument Transformer Stand Foundation		EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2k 2.2m	Arrester Stand Foundations Wave Trap Stand Foundations		EA EA	\$ 3,735 \$ 3,735	\$ - \$ -	\$ 4,000 \$ 4,000	\$ - \$ -	\$ 7,735 \$ 7,735	
2.2m	Misc. Structure Foundations		EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2p	Wisc. Structure Foundations		EA	,		,	Ÿ	7	•
2.3	115kV								
2.3a	Circuit Breaker Foundations		EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations		EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)		EA	\$ 16,434	\$ -		\$ -	\$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column)		EA	\$ 16,434	\$ -	\$ 17,600		\$ 34,034	
2.3e	Switch Stand Foundations		EA	\$ 2,988	\$ -		•	\$ 6,188	
2.3f	Fuse Stand Foundations		EA	\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
2.3g 2.3h	Bus Support 3ph Foundations Bus Support 1 Ph Foundations		EA EA	\$ 2,988 \$ 2,988	\$ - \$ -	\$ 3,200 \$ 3,200		\$ 6,188 \$ 6,188	
2.3n 2.3j	Instrument Transformer Stand Foundations		EA	\$ 2,988	\$ - \$ -	\$ 3,200	\$ -	\$ 6,188	
2.3k	Arrester Stand Foundations		EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3m	Wave Trap Stand Foundations		EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3n	Station Service Foundations		EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment		EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment		EA	\$ 74,700	\$ -	\$ 80,000	<u>'</u>	\$ 154,700	
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad		EA	\$ 76,194	\$ -	\$ 81,600	\$ -	\$ 157,794	\$ -
2.5b	Generator Foundation		EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation		EA	\$ 5,229	\$ -	,	\$ -	\$ 10,829	\$ -
2.6b	60' Lightning Mast Foundation		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c	50' Lightning Mast Foundation		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBS	 Fation foundations				\$ 100,098		\$ 107,200		\$ 207,298
	N STRUCTURES				+ = = = = = = = = = = = = = = = = = = =		7 201,200		¥ 20.720
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0		\$ 37,000	\$ -			\$ 74,000	
3.1b	Substation A-Frame Structures - Shared Column	0		\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1c	Switch Stands	1		\$ 14,800	\$ 14,800		' '	\$ 29,600	
3.1d 3.1e	Station Service Transformer Stand	0		\$ 14,800 \$ -	\$ - \$ -		\$ -	\$ 29,600	
3.1e 3.1f	Bus Support 3ph Bus Support 1 Ph	0		\$ -	\$ - \$ -		\$ - \$ -	\$ - \$ 7,400	\$ - \$ -
3.1g	Instrument Transformer Stand	9		\$ 3,700	\$ 16,650	,		\$ 7,400	
3.1g 3.1h	Arrester Stand	3		\$ 1,850	\$ 5,550			\$ 3,700	
3.1j	Wave Trap Stand	1		\$ 7,400	\$ 7,400			\$ 14,800	\$ 14,800
3.1k	Misc. Structures	0		\$ 6,475	\$ -		\$ -	\$ 12,950	
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone		EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2b	Substation A-Frame Structures - Shared Column		EA		'	\$ 33,300		\$ 66,600	
3.2c	Switch Stands		EA	\$ 12,025		\$ 12,025		\$ 24,050	
3.2d	Station Service Transformer Stand		EA	\$ 12,025		\$ 12,025		\$ 24,050	
3.2e	Bus Support 3ph		EA	\$ -	\$ -			\$ -	
3.2f	Bus Support 1 Ph		EA	\$ 2,775		\$ 2,775		\$ 5,550	
3.2g	Instrument Transformer Stand		EA	\$ 1,295	\$ -	\$ 1,295		\$ 2,590	
3.2h	Arrester Stand		EA	\$ 1,295	\$ -	\$ 1,295		\$ 2,590	
3.2j	Wave Trap Stand		EA	\$ 5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2k	Misc. Structures		EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone		EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column		EA	\$ 18,500	\$ -		\$ -	\$ 37,000	
3.3c	Switch Stands		EA	\$ 7,955	\$ -	\$ 7,955		\$ 15,910	
3.3d	Fuse Stand		EA	\$ 7,955			\$ -		\$ -
3.3e	Bus Support 3ph		EA	\$ 3,330	\$ -	\$ 3,330		\$ 6,660	
3.3f	Bus Support 1 Ph		EA	\$ 1,850	\$ -		\$ -	\$ 3,700	
3.3g	Instrument Transformer Stand		EA	\$ 740	\$ -		\$ -	\$ 1,480	
3.3h	Arrester Stand		EA	\$ 740	\$ -		\$ -	\$ 1,480	
3.3j	Wave Trap Stand		EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures		EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	
					•			. ,	•
TOTAL - SUBS	TATION STRUCTURES				\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQU	UIPTMENT								
4.1	345kV								
4.1a	Circuit Breakers	1	EA	\$ 200,000	\$ 200,000	\$ 80,000	\$ 80,000	\$ 280,000	\$ 280,000
4.1b	Capacitor Banks	0	EA	\$ -	\$ -		\$ -	\$ 80,000	
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -		\$ -	\$ 750,000	•
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -		\$ -	\$ 750,000	
4.2	230kV							, , , , , , , , , , , , , , , , , , , ,	
4.2a	Circuit Breakers		EA	\$ 115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.2b	Capacitor Banks		EA	\$ -	\$ -		\$ -	\$ 80,000	\$ -
				T	T	7 22,000	Ť	7 00,000	*
4.3	115kV								
4.3a	Circuit Breakers		EA	\$ 52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks		EA	\$ -	\$ -		\$ -	\$ 60,000	
				Ť	Ť	7 22,000	Ť	7 00,000	T
TOTAL - MAJO	DR EQUIPTMENT				\$ 200,000		\$ 80,000		\$ 280,000
	IIPTMENT / MATERIALS				,				
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	1	EA	\$ 40,000	\$ 40,000	\$ 15,000	\$ 15,000	\$ 55,000	\$ 55,000
5.1b	Disconnect Switches - 3ph w/ manual operator	1	EA	\$ 35,000	\$ 35,000	\$ 17,500	\$ 17,500	\$ 52,500	\$ 52,500
5.1c	VT'S	3		\$ 25,000	\$ 75,000		\$ 36,000	\$ 37,000	
5.1d	CT'S	3	EA	\$ 13,000	\$ 39,000			\$ 21,000	
5.1e	CCVT'S	3		\$ 13,000	\$ 39,000		· , , ,	\$ 21,000	
5.1f	Arresters	6		\$ 6,500	\$ 39,000			\$ 8,000	
5.1g	Wave Traps	1		\$ 13,000	\$ 13,000		\$ 8,000	\$ 21,000	
5.1h	Station Service Transformers	0	EA	\$ 200,000	\$ -	\$ 50,000		\$ 250,000	
5.1j	Station Service Transformers		Er.	Ç 200,000	*	\$ 30,000	<u> </u>	Ç 250,000	*
F 2	230kV								
5.2									
				4 25 000		45.000	<u> </u>	4 50.000	•
5.2a	Line Switches - 3ph w/ motor operator		EA	\$ 35,000	\$ -		\$ -	\$ 50,000	
5.2b	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator		EA	\$ 30,000	\$ -	\$ 17,500	\$ -	\$ 47,500	\$ -
5.2b 5.2c	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S		EA EA	\$ 30,000 \$ 13,000	\$ - \$ -	\$ 17,500 \$ 8,000	\$ - \$ -	\$ 47,500 \$ 21,000	\$ - \$ -
5.2b 5.2c 5.2d	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S		EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000	\$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000	\$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S		EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000	\$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000	\$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000	\$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters		EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000	\$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000	\$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000	\$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps		EA EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters		EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000	\$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000	\$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000	\$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps		EA EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers		EA EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers		EA EA EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator		EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 13,000 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator		EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ - \$ - \$ - \$ 33,000 \$ 28,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ - \$ - \$ 15,000 \$ 17,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$ - \$ - \$ 5 48,000 \$ 45,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3c	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S		EA E	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 13,000 \$ - \$ - \$ 33,000 \$ 28,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ - \$ - \$ 15,000 \$ 17,500 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$ - \$ - \$ 48,000 \$ 45,500 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3c 5.3c 5.3d	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CC'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CT'S		EA E	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ - \$ 28,000 \$ 33,000 \$ 28,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ - \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$ - \$ - \$ 48,000 \$ 45,500 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3a 5.3c 5.3c 5.3d 5.3e	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S		EA E	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ 13,000 \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ 15,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 16,000 \$ 16,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ - \$ 21,000 \$ 48,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3c 5.3d 5.3c 5.3d 5.3e 5.3f	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters		EA E	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ 5,000 \$ 28,000 \$ 33,000 \$ 28,000 \$ 33,000 \$ 3420	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 7 \$ 7 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 16,000 \$ 11,000 \$ 12,000 \$ 12,000 \$ - \$ - \$ 48,000 \$ 45,500 \$ 21,000 \$ 21,000 \$ 9,420	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3c 5.3d 5.3e 5.3f 5.3g 5.3g	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps		EA E	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ 5,000 \$ 28,000 \$ 33,000 \$ 28,000 \$ 13,000 \$ 3,420 \$ 3,420	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 15,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$ - \$ 21,000 \$ 21,000 \$ 48,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3c 5.3d 5.3c 5.3d 5.3e 5.3f	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters		EA E	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ 5,000 \$ 28,000 \$ 33,000 \$ 28,000 \$ 33,000 \$ 3420	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 15,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 1,000 \$ 1,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

							Labor & Equipment	Labor & Equipment			
Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Supply Rate	Cost	Total Unit Rate	T	TOTAL
TOTAL - SMALI	EQUIPTMENT / MATERIALS					\$ 280,000		\$ 133,500		\$	413,500
6. CONTROL H	DUSE / PANELS / GENERATOR										
6.1	CONTROL HOUSE	0	EA	\$	551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$	-
6.2	Protection and Telecom Equipment Panels	3	EA	\$	35,000	\$ 105,000	\$ 10,000	\$ 30,000	\$ 45,000	\$	135,000
6.3	125VDC Batteries	0	EA	\$	75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$	-
6.4	Control Cables	1	LS	\$	68,850	\$ 68,850	\$ 68,850	\$ 68,850	\$ 137,700	\$	137,700
6.5	SCADA and Communications	0	EA	\$		\$ -	\$ -	\$ -	\$ -	\$	-
6.6	Low Voltage AC Distribution	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$	-
6.7	DC Distribution System	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$	-
6.8	Security	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$	-
6.9	Fire Alarm	0	EA	\$	7,500		\$ 7,500	\$ -	\$ 15,000	\$	-
6.10	Generator	0	EA	\$	100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$	-
										-	
	ROL HOUSE / PANELS / GENERATOR					\$ 173,850		\$ 98,850		\$	272,700
7. MISC ITEMS									4		
7.1	Conduit & Cable Trench System	800	LF	\$	185.00			\$ 136,000	\$ 355	\$	284,000
7.2	Rigid Bus, Fittings & Insulators	0	L.S.	\$	75,042.00	\$ -	\$ 142,260.00	\$ -	\$ 217,302	\$	-
7.3	Strain Bus, Connectors & Insulators	2,500	LF	\$	39.30		\$ 53.35		\$ 93		231,625
7.4	Grounding System	1	L.S.	\$	10,395.00				\$ 83,700		83,700
7.5	Strain Bus Insulators - 345kV	24	EA	\$	2,000				\$ 3,050		73,200
7.6	Strain Bus Insulators - 230kV	0	EA	\$	1,400		\$ 750		\$ 2,150		-
7.7	Strain Bus Insulators - 115kV	0	EA	\$	1,000		\$ 550		\$ 1,550		-
7.8	Low Voltage AC Station Service	0	LS	\$	50,000		\$ 75,000		\$ 125,000		-
7.9	SSVT Service	0	LS	\$	-,		\$ 45,000		\$ 90,000		
7.10	Control Conduits from Trench to Equipment	1	LS	\$,	,	\$ 70,000	\$ 70,000	\$ 84,000	\$	84,000
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$	20,712	\$ 20,712	\$ 70,000	\$ 70,000	\$ 90,712	\$	90,712
7.12											
7.13											
7.14											
7.15				-							
7.16											
7.17											
7.18 7.19				-							
7.20 7.21				_							
7.21											
7.22											
7.23				1							
7.25											
TOTAL - MISC	ITEMS					\$ 339,357		\$ 507,880		Ś	847,237
										s	
	ubstation - Install					\$ 1,139,730		\$ 977,455		>	2,117,185
8. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization			1.						.	
8.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$	21,172
	Project Management, Material Handling & Amenities			-							
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 107,617	\$ 107,617	\$ 107,617	\$	107,617
8.3	Utility PM and Project Oversite	1	LS	+		\$ -	\$ 21,172	\$ 21,172	\$ 21,172	ć	21,172
8.4	ch a lat 5 this 6	4	LS	4		ý - Ġ _	\$ 21,172 \$ 21,172				21,172
0.4	Site Accommodation, Facilities, Storage Engineering	1	IJ	>		· -	y 21,172	y 21,1/2	γ 21,1/2		
8.5	Design Engineering	1	LS	\$	-	\$ -	\$ 169,375	\$ 169,375	\$ 169,375	Ś	169,375
8.6	LiDAR	-	LS	\$				\$ -	\$ 103,373		-
8.7	Geotech	4		\$			\$ 3,500				14,000
8.8	Surveying/Staking	1	Site	\$			\$ 14,820				14,820
5.5	Testing & Commissioning		2.60	+*			. 1.,520	. 1,,520	. 1,520	r –	
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 52,930	\$ 52,930	\$ 52,930	\$	52,930
	Permitting and Additional Costs	-		1					. 22,330		
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	
							*	•	•		

Item	Item Description	Estimated Quantity	Unit of Measure	Mater	ial Supply Rate	Mate	erial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipm Cost	ent	Total Unit Rate	TOTAL
8.11	Environmental Mitigation		LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$	-	\$	-	\$ 6,352	\$ 6	,352	\$ 6,352	\$ 6,352
8.13	Real Estate Costs (New)	1	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
8.15	Legal Fees	٠	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
8.17		-	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	91,178	\$	91,178	\$ -	\$	-	\$ 91,178	\$ 91,178
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$	-	\$ 2,117	\$ 2	,117	\$ 2,117	\$ 2,117
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$	91,178		\$ 430	,726		\$ 521,904

Page 21 of 55

NextEra - T021 Enterprise Line - (Segment A) Total: \$ 41,840

NextEra - T021 Enterp	orise Line - (Segment	A)				
	Si	ıpply		Installation		Total
G. Edic Substation - Removal						
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$	-
2. SUBSTATION FOUNDATIONS	\$	-	\$	14,200	\$	14,200
3. SUBSTATION STRUCTURES	\$	-	\$	6,750	\$	6,750
4. MAJOR EQUIPTMENT	\$	-	\$	-	\$	-
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	4,500	\$	4,500
6. CONTROL HOUSE / PANELS	\$	-	\$	-	\$	-
7. MISC ITEMS	\$	-	\$	10,500	\$	10,500
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$	5,890	\$	5,890
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	-	\$	41,840	\$	41,840
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL:	Ś		Ś	41.840	Ś	41.840

Description of W	orl	ĸ:
------------------	-----	----

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
G. Edic S	ubstation - Removal								
1. SITE PREP/ 6	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
2. SUBSTATION	N FOUNDATIONS								
	345kV								
2.1a	Circuit Breaker Foundations	1	EA	\$ -	\$ -	\$ 14,200	\$ 14,200	\$ 14,200	\$ 14,200
	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
	230kV								
	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200		\$ 7,200	
	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000		\$ 32,000	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000		\$ 22,000	
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -		\$ 11,000	<u>'</u>	\$ 11,000	
	Switch Stand Foundations	0	EA	\$ -	\$ -	,	\$ -	\$ 5,200	•
	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

2.70	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
22 Amount 2		Bus Support 1 Ph Foundations				\$ -				
2-2m Wave Tray Start of pandetises					•	·				
2.2n Misc Structure Foundations						'				
239 238						т				\$ -
13 1150 11		Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.30 Circuit freware Fromations 0 EA 5 5 5 5 5 5 5 5 5	2.2p									
2.30 Circuit freware Fromations 0 EA 5 5 5 5 5 5 5 5 5	2.2	115bV								
2.30 Capacine Deak Foundations Capacine Deak Foundation Capacine De			0	FA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.26 Classon Def Foundations (In Def Annex Inst shared colored)										\$ -
2-36 Casson Dif Foundations (for Dif A fame str shared column)										\$ -
2.36 Soutist Stand Foundations 0 6A 5 5 5,000 5 2.38 Factor Foundations 0 6A 5 5 5 5 5 5 5 5 5				EA		\$ -			\$ -	\$ -
2.3		Switch Stand Foundations		EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
2.39 Bus Support 19 Foundations	2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.38 Instrument Transformer Stand Foundations 0 6A \$ \$ \$ \$ \$ \$ \$ \$ \$	2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.38 Arrester Stand Foundations	2.3h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m Wave Trag Stand Foundations						<u>'</u>				\$ -
2.39 Station Service Foundations 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$						7				\$ -
2.30 Moc. Structure Foundations										\$ -
2.4 Transformer Foundations						т				\$ -
2.4a 345-230N/ Transformer Foundation w/ Oil Containment	2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4a 345-230N/ Transformer Foundation w/ Oil Containment	2.4	Transferment Fernadations								
2.4b 345-115W Transformer Foundation w/ Oil Containment 0 EA 5 5 5 5 5 5 5 5 5			0	ГА	ċ	č	ċ	ċ	\$ -	\$ -
2-4c 236W-115W Transformer Foundation w/ Oil Containment					'	'				\$ -
A		,						t .		\$ -
2.5 Control House Foundations / Pad						'		'		\$ -
2-5a Control House / Pad 0 EA 5 5 5 5 5	2.40	113KV-03KV Transformer Foundation w/ Oil Containment	0	LA	, -	-	-	, -	· -	-
2-5a Control House / Pad 0 EA 5 5 5 5 5	2.5	Control House Foundations / Pad								
2.5		•	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6a 70 Lighting Mast Foundation 0 EA S S S S S S S S S		<u> </u>	0		\$ -	\$ -	\$ -		\$ -	\$ -
2.69 70 Lighting Mast Foundation 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$										
2.6b	2.6	Lightning Mast Foundations								
Company		70' Lightning Mast Foundation				\$ -				\$ -
S									•	\$
3.13 345kV	2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.13 345kV	TOTAL CURCT	ATION FOLIND ATIONS				č		ć 14.200		ć 14.200
3.1a SASKY						\$ -		\$ 14,200		\$ 14,200
3.1a Substation A-Frame Structures - Stand alone 0 EA S - S - S - S 3.1b Substation A-Frame Structures - Shared Column 0 EA S - S - S - S 3.1c Switch Stands 0 EA S - S - S - S 3.1d Station Service Transformer Stand 0 EA S - S - S 3.1d Station Service Transformer Stand 0 EA S - S - S 3.1d Station Service Transformer Stand 0 EA S - S - S 3.1f Bus Support 1 Ph 3 EA S - S - S 3.1g Instrument Transformer Stand 0 EA S - S - S 3.1j Wave Trap Stand 0 EA S - S - S 3.1j Wave Trap Stand 0 EA S - S - S 3.1j Wave Trap Stand 0 EA S - S - S 3.2d Substation A-Frame Structures - Stand alone 0 EA S - S 3.2d Substation A-Frame Structures - Stand alone 0 EA S - S 3.2d Substation A-Frame Structures - Stand Column 0 EA S - S 3.2d Substation A-Frame Structures - Stand Column 0 EA S - S 3.2d Substation A-Frame Structures - Stand Column 0 EA S - S 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 0 EA S - S 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 0 EA S - S 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 0 EA S - S 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 0 EA S - S 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 0 EA S - S 3.2d Substation Service Transformer Stand 0 EA S - S 3.2d Substation Service Transformer Stand 0 EA S - S 3.2d Substation Service Transformer Stand 0 EA S - S 3.2d Substation Service Transformer Stand 0 EA S - S 3.2d Substation Service Transformer Stand 0 EA S - S 3.2d Substation Service Tran										
3.1b Substation A-Frame Structures - Shared Column 0 EA S - S - S - S S S S S S S S S S			0	FΔ	¢ .	¢ -	¢ -	¢ .	\$ -	\$ -
3.1c Switch Stands					'					\$ -
3.1d Station Service Transformer Stand 0 EA \$ -										\$ -
3.1e										\$ -
3.1g Instrument Transformer Stand 0 EA \$ - \$ - \$ - \$ \$ - \$ \$ \$										
3.1g Instrument Transformer Stand 0 EA \$ - \$ - \$ - \$ \$ \$ \$		Bus Support 1 Ph	3	EA	\$ -	\$ -	\$ 2,250	\$ 6,750	\$ 2,250	\$ 6,750
3.1j Wave Trap Stand 0 EA \$ -			0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k Misc. Structures 0 EA \$ - \$ - \$ - \$ \$ \$ \$	3.1h	Arrester Stand				\$ -	\$ -		\$ -	\$ -
3.2 230kV						'				\$ -
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ -	3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ -										
3.2b Substation A-Frame Structures - Shared Column 0 EA \$ -					4	•	A	<u> </u>		
3.2c Switch Stands 0 EA \$ - \$ 9,750 \$ - \$ 3.2d Station Service Transformer Stand 0 EA \$ -										
3.2d Station Service Transformer Stand 0 EA \$ -					•	·				
3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ 3.2f Bus Support 1 Ph 0 EA \$ - \$ - \$ 2,250 \$ - \$ 3.2g Instrument Transformer Stand 0 EA \$ - \$ - \$ - \$ 3.2h Arrester Stand 0 EA \$ - \$ - \$ - \$ 3.2j Wave Trap Stand 0 EA \$ - \$ - \$ - \$										
3.2f Bus Support 1 Ph 0 EA \$ - \$ 2,250 \$ - \$ 3.2g Instrument Transformer Stand 0 EA \$ - \$ - \$ - \$ 3.2h Arrester Stand 0 EA \$ - \$ - \$ - \$ 3.2j Wave Trap Stand 0 EA \$ - \$ - \$ - \$										
3.2g Instrument Transformer Stand 0 EA \$ - \$ 1,050 \$ - \$ 3.2h Arrester Stand 0 EA \$ -		· · · · ·								
3.2h Arrester Stand 0 EA \$ - \$ - \$ - \$ 3.2j Wave Trap Stand 0 EA \$ - \$ - \$ 4,500 \$ - \$										
3.2j Wave Trap Stand 0 EA \$ - \$ - \$ 4,500 \$ - \$						•				
5.2K		Misc. Structures	0		\$ -			\$ -		\$ -
3.3 115kV	3.3	115kV								

3.3b S 3.3c S 3.3d F 3.3e B 3.3f B 3.3f B 3.3g Ir 3.3h A 3.3j W	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Fuse Stand Bus Support 3ph Bus Support 1 Ph	0 0							
3.3c S 3.3d F 3.3e B 3.3f B 3.3g Ir 3.3h A 3.3j V	Switch Stands Fuse Stand Bus Support 3ph	0		\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3d F 3.3e B 3.3f B 3.3g Ir 3.3h A 3.3j V	Fuse Stand Bus Support 3ph		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e B 3.3f B 3.3g Ir 3.3h A 3.3j V	Bus Support 3ph	•		\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
3.3f B 3.3g Ir 3.3h A 3.3j V		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g Ir 3.3h A 3.3j V	Pur Support 1 Dh	0		\$ -	\$ -	\$ -	\$ -		\$ -
3.3h A 3.3j V		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j V	Instrument Transformer Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Arrester Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Wave Trap Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k N	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ATION STRUCTURES				\$ -		\$ 6,750		\$ 6,750
4. MAJOR EQUIP									
	345kV								
	Circuit Breakers	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Capacitor Banks	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
	230kV				4	A =	4		
	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	
4.2b C	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
4.2	145[0]								
	115kV					4		A	
	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b C	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR I	FOUNDTMENT				\$ -		ć		\$ -
	-				\$ -		\$ -		\$ -
	PTMENT / MATERIALS								
	345kV	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	Line Switches - 3ph w/ motor operator						·		
	Disconnect Switches - 3ph w/ manual operator VT'S	0		\$ -	\$ - \$ -	\$ 5,500 \$ -		\$ 5,500 \$ -	\$ -
	CT'S	0		\$ -	\$ -	\$ -		\$ -	\$ -
	CCVT'S	0		\$ -	\$ -	\$ 2,500	\$ - \$ -	\$ 2,500	\$ -
3.1e C	CCV13	U	EA	, -	, -	\$ 2,300	- ب	\$ 2,300	-
5.1f A	Arresters	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
5.1g V	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
	Station Service Transformers	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ -	\$ -
5.1j	Station Service mansionners		EA.	7	7	7	7	Ÿ	7
5.2,									
5.2 2	230kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	VT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CCVT'S	0		\$ -	\$ -		\$ -	\$ 1,500	
	Arresters	0		\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	
	Wave Traps	0		\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	
	Station Service Transformers	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
- '									
5.3 1	115kV								
5.3a Li	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
	VT'S	0	EA	\$ -	\$ -		\$ -		\$ -
	CT'S	0		\$ -			\$ -		\$ -
	CCVT'S	0		\$ -	\$ -		\$ -		\$ -
	Arresters	0		\$ -	\$ -	\$ 1,500		\$ 1,500	
	Wave Traps	0		\$ -	\$ -	\$ -	\$ -		\$ -
	Station Service Transformers	0		\$ -	\$ -		\$ -		\$ -
	Fuses	0		\$ -	\$ -	\$ -	\$ -		\$ -
`									
TOTAL - SMALL E	EQUIPTMENT / MATERIALS				\$ -		\$ 4,500		\$ 4,500
	USE / PANELS / GENERATOR								

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
6.2	Protection and Telecom Equipment Panels	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
0.10	Generator	Ü	LA	-	· -	-	· -	· -	-
TOTAL - CONT	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS					, -		,		.
		2	EA.	ć	\$ -	ć 42.000.00	ć	ć 42.000	<u> </u>
7.1	Conduit & Cable Trench System	0	EA	\$ -	7	\$ 42,000.00	\$ -	\$ 42,000	
	Rigid Bus, Fittings & Insulators	1	LS	\$ -	\$ -	\$ 10,500.00	\$ 10,500	\$ 10,500	
7.3	Strain Bus, Connectors & Insulators	0	EA	\$ -	\$ -		\$ -	\$ 39	
7.4	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC	ITEMS				\$ -		\$ 10,500		\$ 10,500
	ubstation - Removal				\$ -		\$ 35,950		\$ 35,950
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
	Mob / Demob	1	LS	\$ -	\$ -	\$ 360	\$ 360	\$ 360	\$ 360
		1	LJ	, -	, -	\$ 500	\$ 300	\$ 500	\$ 300
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 1,827	\$ 1,827	\$ 1,827	\$ 1,827
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 360	\$ 360	\$ 360	\$ 360
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 360	\$ 360	\$ 360	\$ 360
	Engineering								
	Design Engineering	1	LS	\$ -	\$ -	\$ 2,876	\$ 2,876	\$ 2,876	\$ 2,876
8.6	LiDAR		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500	
	Surveying/Staking	-	Site	\$ -	\$ -		\$ -	\$ 252	
	Testing & Commissioning		5.00	T	T	7 252	7	- 252	т
8.9	Testing & Commissioning Testing & Commissioning of T-Line and Equipment	_	LS	\$ -	\$ -	\$ 899	\$ -	\$ 899	\$ -
0.5		-	LJ	-	-	2 699	-	y 099	-
8.10	Permitting and Additional Costs		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Environmental Licensing & Permitting Costs	-		·				т	
	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Warranties / LOC's	1	LS	\$ -	\$ -		\$ 108	·	\$ 108
	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	\$ 36	\$ -	\$ 36	\$ -

NextEra - T021 Enterprise Line - (Segment A)

H. New Scotland Substation - Install

Estimate Revision: 5 Total: \$ 8,384,335

NextEra - T021 Enterprise Lin	e - (Segi	ment A)		
		Supply	Installation	Total
H. New Scotland Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	30,750	\$ 233,063	\$ 263,813
2. SUBSTATION FOUNDATIONS	\$	498,996	\$ 534,400	\$ 1,033,396
3. SUBSTATION STRUCTURES	\$	240,500	\$ 240,500	\$ 481,000
4. MAJOR EQUIPTMENT	\$	1,000,000	\$ 400,000	\$ 1,400,000
5. SMALL EQUIPTMENT / MATERIALS	\$	369,500	\$ 188,000	\$ 557,500
6. CONTROL HOUSE / PANELS	\$	749,150	\$ 390,400	\$ 1,139,550
7. MISC ITEMS	\$	897,304	\$ 968,110	\$ 1,865,414
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	302,896	\$ 1,340,767	\$ 1,643,663
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	4,089,096	\$ 4,295,239	\$ 8,384,335
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	4,089,096	\$ 4,295,239	\$ 8,384,335

Description of Work:

	·	Estimated Quantity	Unit of Measure	Material Su	pply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	тот	ſAL
H. New S	cotland Substation - Install										
1. SITE PREP/ G	RADING/ FENCING / CIVIL										
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0.9	ACRES	\$	-	\$ -	\$ 203,000	\$ 190,313	\$ 203,000	\$	190,313
1.2	Station stone within substation fence.	250	CY	\$	27	\$ 6,750	\$ 75	\$ 18,750	\$ 102	\$	25,500
1.3	Substation Fence	240	LF	\$	100	\$ 24,000	\$ 100	\$ 24,000	\$ 200	\$	48,000
1.4	Permanent Access Road - 20'-Wide	0	LF	\$	35	\$ -	\$ 285	\$ -	\$ 320	\$	-
1.5											
1.6											
1.7											
1.8											
1.9											
1.10											
1.11											
1.12											
1.13											
1.14											
1.15											
TOTAL - SITE PF	REP/ GRADING/ FENCING / CIVIL					\$ 30,750		\$ 233,063		\$	263,813
2. SUBSTATION	FOUNDATIONS										
2.1	345kV										
2.1a	Circuit Breaker Foundations	5	EA	\$	14,940	\$ 74,700	\$ 16,000	\$ 80,000	\$ 30,940	\$	154,700
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$	-
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$	26,145	\$ 104,580	\$ 28,000	\$ 112,000	\$ 54,145	\$	216,580
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$	-
2.1e	Switch Stand Foundations	18	EA	\$	4,482	\$ 80,676	\$ 4,800	\$ 86,400	\$ 9,282	\$	167,076
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$	-
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.1h	Bus Support 1 Ph Foundations	32	EA	\$	4,482	\$ 143,424	\$ 4,800	\$ 153,600	\$ 9,282	\$	297,024
2.1j	Instrument Transformer Stand Foundations	15	EA	\$	4,482	\$ 67,230	\$ 4,800	\$ 72,000	\$ 9,282	\$	139,230
2.1k	Arrester Stand Foundations	3	EA	\$	4,482	\$ 13,446	\$ 4,800	\$ 14,400	\$ 9,282	\$	27,846
2.1m	Wave Trap Stand Foundations	1	EA	\$	4,482	\$ 4,482	\$ 4,800	\$ 4,800	\$ 9,282	\$	9,282
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.1p											
	230kV										
	Circuit Breaker Foundations	0	EA	\$	11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$	-
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820	\$ -	\$ 48,000		\$ 92,820		-
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	22,410	\$ -	\$ 24,000		\$ 46,410		-
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$	-
2.2e	Switch Stand Foundations	0	EA	\$	3,735	\$ -	\$ 4,000	\$ -	\$ 7,735		-
2.2f	Station Service Transformer Stand Foundation	0	EA	\$	3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$	-

Column C	Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2	2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.20	2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2-72 No. No. To proceed translations 0 FA 5 178 5 5 4,000 5 5 7,785 5 5 5 5 5 5 5 5 5										
2.20 Min. Standarder Min. Standarder 0 FA 5 5 5 5 5 5 5 5 5										
230										
Second Service Condition		Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3.0 Carsat transer transfators 0 FA \$ 3.279 \$ 1 \$ 1,000 \$ 5 \$ 1,000	2.2p									
2-30 Creat transfer Foundations 0 EA 5 3.278 5 5 5.000 5 5 5 5 5 5 5 5 5	2.3	115kV								
2.70 Capacita few formations			0	FA	\$ 5,229	\$ -	\$ 5.600	\$ -	\$ 10.829	\$ -
2.24										
2-be Section Stand Foundations 0 FA \$ 2,088 \$ \$ 3,200 \$ \$ 6,198 \$	2.3c		0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	\$ -
2.48 Investigation	2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.49					, , , , , , , , , , , , , , , , , , , ,	\$ -	,	\$ -	,	
2.36						\$ -				
2.3 Instrument Transformer Stand Foundations							,	•	. , , ,	•
2.8										
2.3m Wave Trap Stand Foundations 0 EA \$ 2,088 \$ \$ 3,200 \$ \$ 5,88 \$ \$ \$ \$ \$ \$ \$ \$ \$									7 -/	
2.39 Station Service Foundations 0 EA S S S S S S S S S						·				
2.48		· ·				'			,	
2.4 Transformer Foundations						т				
2.48 345-230W Transformer foundation w/ Oil Containment 0 EA 5 79,110 5 5 106,000 5 5 5 201,110 5	2.56	I Structure i suriousis			<u> </u>	<u> </u>	<u> </u>	Ŷ	Ť	Ť
240 345-115W Transformer foundation w/ Oil Containment	2.4	Transformer Foundations								
2.46 2308/-115M/Transformer Foundation w/ Oil Containment		345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.6	2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.5 Control House Foundations Fad	2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5										
2-50 Generator Foundation								4		•
2.6 Lightning Mast Foundations										-
2	2.50	Generator Foundation	-	EA	\$ 10,000	ş -	\$ 17,000	· -	\$ 33,000	, -
2	2.6	Lightning Mast Foundations								
2.66			2	EA	\$ 5,229	\$ 10.458	\$ 5.600	\$ 11,200	\$ 10.829	\$ 21,658
TOTAL - SUBSTATION FOUNDATIONS \$ 498,996 \$ 534,400 \$ 1,033										
3.18 Substation A-Frame Structures - Stand alone 1	2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.18 Substation A-Frame Structures - Stand alone 1										
3.11 SaskV						\$ 498,996		\$ 534,400		\$ 1,033,396
3.1a Substation A-Frame Structures - Stand alone 1 EA S 37,000 S 37,000 S 37,000 S 74,000 S 74,000 S 37,000 S 37										
3.1b Substation A-Frame Structures - Shared Column 0 EA \$ 37,000 \$ -										
3.1c Switch Stands 3 EA \$ 14,800 \$ 44,400 \$ 29,600 \$ 88										
Station Service Transformer Stand 0 EA 5 14,800 5 - 5 5 29,600 5 3.1e Bus Support 3ph 0 EA 5 - 5 - 5 - 5 - 5 - 5 3.7e 5 3.7e 3.7						т				
3.1e Bus Support 3ph 0 EA \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ \$										
3.1f Bus Support 1 Ph 32 EA \$ 3,700 \$ 118,400 \$ 3,700 \$ 118,400 \$ 7,400 \$ 236									. , , ,	
3.1g Instrument Transformer Stand 15 EA \$ 1,850 \$ 27,750 \$ 1,850 \$ 27,750 \$ 3,700 \$ 55 3.1h Arrester Stand 3 EA \$ 1,850 \$ 5,550 \$ 1,850 \$ 5,550 \$ 3,700 \$ 11 3.1j Wave Trap Stand 1 EA \$ 7,400 \$ 7,400 \$ 7,400 \$ 7,400 \$ 14,800 \$ 14,800 3.1k Lightning Masts - 70' 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$ 1 3.2 230kV									_	
3.1h Arrester Stand 3 EA \$ 1,850 \$ 5,550 \$ 1,850 \$ 5,550 \$ 3,700 \$ 11 3.1j Wave Trap Stand 1 EA \$ 7,400 \$ 7,400 \$ 7,400 \$ 7,400 \$ 14,800 \$ 14 3.1k Lightning Masts - 70' 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$ 3.2 230kV										
3.1k Lightning Masts - 70' C EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$ 3.2										
3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 5.2 Switch Stands 5.3 Station Service Transformer Stand 6. Station Service Transformer Stand 7. Station Service Transformer Stand 8. Station Service Transformer Stand 8. Station Service Transformer Stand 8. Station Service Transformer Stand 9. Stati		Wave Trap Stand								
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ 3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ 3.2f Bus Support 1Ph 0 EA \$ 2,775 \$ - \$ 2,775 \$ - \$ 3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 5,550 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 3.2h Arrester Stand 0 EA \$ 5,550 \$ - \$ 1,100 \$	3.1k	Lightning Masts - 70'	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ 3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ 3.2f Bus Support 1Ph 0 EA \$ 2,775 \$ - \$ 2,775 \$ - \$ 3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 5,550 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 3.2h Arrester Stand 0 EA \$ 5,550 \$ - \$ 1,100 \$										
3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ \$ \$ \$ \$ \$ \$ \$										
3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ 3.2f Bus Support 1Ph 0 EA \$ 2,775 \$ - \$ 2,775 \$ - \$ 3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 2,590 \$ 3.2h Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$					· /					
3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ 3.2f Bus Support 1Ph 0 EA \$ 2,775 \$ - \$ 2,775 \$ - \$ 3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 3.2h Arrester Stand 0 EA \$ 5,550 \$ - \$ 1,295 \$ - \$ 3.2h Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 3.2h Arrester Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,550 \$ - \$ 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,550 \$ \$ 3.2i Wave Trap Stand 0 EA \$ 5,550 \$ \$ - \$ 5,550 \$ \$ \$ \$ \$ \$ \$ \$ \$										
3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5,550 \$ 3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 2,590 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 2,590 \$ 3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 1,100 \$										
3.2f Bus Support 1 Ph 0 EA \$ 2,775 \$ - \$ 5,550 \$ 3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$										
3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,959 \$ - \$ 2,590 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$										
3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$										
3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$										
										•
					1,		.,		,	

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	Il Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3	115kV									
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$		\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	0	EA	\$	7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3d	Fuse Stand	0	EA	\$	7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3e	Bus Support 3ph	0	EA	\$	3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$	1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$	740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0	EA	\$	740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3j	Wave Trap Stand	0	EA	\$	3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
TOTAL - SUBST	TATION STRUCTURES					\$ 240,500		\$ 240,500		\$ 481,000
4. MAJOR EQU	IPTMENT									
4.1	345kV									
4.1a	Circuit Breakers	5	EA	\$	200,000	\$ 1,000,000	\$ 80,000	\$ 400,000	\$ 280,000	\$ 1,400,000
4.1b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$	-	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$	-	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	230kV									
4.2a	Circuit Breakers	0		\$	115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.2b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV									
4.3a	Circuit Breakers	0	EA	\$	52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
	R EQUIPTMENT					\$ 1,000,000		\$ 400,000		\$ 1,400,000
	IPTMENT / MATERIALS									
5.1	345kV									
5.1a	Line Switches - 3ph w/ motor operator	1		\$	40,000	\$ 40,000	\$ 15,000	\$ 15,000	\$ 55,000	\$ 55,000
5.1b	Disconnect Switches - 3ph w/ manual operator	3		\$,	\$ 105,000	\$ 17,500	\$ 52,500	\$ 52,500	\$ 157,500
5.1c	VT'S	3		\$	25,000		\$ 12,000		\$ 37,000	\$ 111,000
5.1d	CT'S	3	EA	\$	13,000		\$ 8,000		\$ 21,000	
5.1e	CCVT'S	6		\$		\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000
5.1f	Arresters	3		\$	6,500			\$ 4,500		\$ 24,000
5.1g	Wave Traps	1	EA	\$	13,000	\$ 13,000	\$ 8,000	\$ 8,000	\$ 21,000	\$ 21,000
5.1h	Station Service Transformers	0	EA	\$	200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j										
F 2	22014									
5.2 5.2a	230kV	0	EA	\$	35,000	\$ -	\$ 15,000	ċ	\$ 50,000	\$ -
	Line Switches - 3ph w/ motor operator	0		\$				\$ - \$ -	· · · · · · · · · · · · · · · · · · ·	•
5.2b 5.2c	Disconnect Switches - 3ph w/ manual operator VT'S	0		\$		\$ - \$ -	\$ 17,500 \$ 8,000	\$ -	\$ 47,500 \$ 21,000	\$ - \$ -
5.2d	CT'S	0	EA	\$	13,000		\$ 8,000	·	\$ 21,000	
5.2e	CCVT'S	0		\$		\$ -	\$ 6,000	\$ -	\$ 16,000	\$ -
5.2e 5.2f	Arresters	0		\$		\$ - \$ -	\$ 6,000	\$ -	\$ 11,000	\$ -
5.2g	Wave Traps	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2g 5.2h	Station Service Transformers	0		\$		\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2j	Station Service Hundronners	0		1		-	* -	* 1	· ·	* *
الم.در				1	+					
5.3	115kV									
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$	33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0		\$	28,000		\$ 17,500	\$ -	\$ 45,500	•
	VT'S	0		\$	13,000		\$ 8,000		\$ 21,000	
5.3d	CT'S	0		\$	13,000		\$ 8,000		\$ 21,000	
5.3e	CCVT'S	0		\$	8,000		\$ 8,000		\$ 16,000	
5.3f	Arresters	0		\$	3,420		\$ 6,000		\$ 9,420	
5.3g	Wave Traps	0		\$			\$ -		\$ -	\$ -
5.3h	Station Service Transformers	0		\$		•	•	\$ -		\$ -
5.3j	Fuses	0		\$				\$ -	\$ -	\$ -
				1			•			
TOTAL - SMAL	L EQUIPTMENT / MATERIALS					\$ 369,500		\$ 188,000		\$ 557,500
	OUSE / PANELS / GENERATOR					,		,		,
				-						

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
6.1	CONTROL HOUSE	1	EA	\$	243,750	\$ 243,750	\$ 42,500	\$ 42,500	\$ 286,250	\$	286,250
6.2	Protection and Telecom Equipment Panels	7	EA	\$	35,000	\$ 245,000	\$ 12,500	\$ 87,500	\$ 47,500	\$	332,500
6.3	125VDC Batteries	0	EA	\$	75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$	-
	Control Cables	1	LS	\$	260,400	\$ 260,400	\$ 260,400	\$ 260,400	\$ 520,800		520,800
6.5	SCADA and Communications	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.6	Low Voltage AC Distribution	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$	-
6.7	DC Distribution System	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$	-
	Security	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$	-
	Fire Alarm	0		\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000		-
6.10	Generator	0	EA	\$	100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	Ş	-
TOTAL - CONTR	OL HOUSE / PANELS / GENERATOR					\$ 749,150		\$ 390,400		\$	1,139,550
7. MISC ITEMS	OL HOUSE / FANELS / GENERATOR					\$ 745,150		\$ 350,400		7	1,139,530
	Conduit & Cable Trench System	2,500.0	LF	\$	185.00	\$ 462,500	\$ 170.00	\$ 425,000	\$ 355	\$	887,500
	Rigid Bus, Fittings & Insulators	700.0	LF	\$		\$ 87,549			\$ 362		253,519
7.3	Strain Bus, Connectors & Insulators	200.0	LF	\$	39.30		\$ 53.35				18,530
	Grounding System	1,500.0	LF	\$	6.93		\$ 32.58	-			59,265
	Strain Bus Insulators - 345kV	12	EA	\$	2,000						36,600
	Strain Bus Insulators - 230kV	0	EA	\$	1,400 1,000		\$ 750 \$ 550		\$ 2,150 \$ 1,550		-
	Strain Bus Insulators - 115kV	0		\$		\$ - \$ -	\$ 75,000	\$ - \$ -	\$ 1,550 \$ 125,000		-
	Low Voltage AC Station Service SSVT Service	0		\$	45,000	\$ -	\$ 45,000	\$ -	\$ 90,000		
	Control Conduits from Trench to Equipment	1	LS	\$	125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$	250,000
	Misc. Materials (Above and Below Ground)	1	LS	\$	180,000		\$ 180,000	\$ 180,000	\$ 360,000	-	360,000
7.12	\	_ _		1		7 200,000	7 200,000	7 200,000	7 553,555	-	
7.13											
7.14											
7.15											
7.16											
7.17											
7.18											
7.19											
7.20 7.21				-							
7.21				+							
7.23											
7.24				1							
7.25											
TOTAL - MISC I	TEMS					\$ 897,304		\$ 968,110		\$	1,865,414
H. New S	cotland Substation - Install					\$ 3,786,200		\$ 2,954,473		\$	6,740,673
8. MOB/DEMOI	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 3,700,200		2,55 1, 175		*	0,110,010
	Contractor Mobilization / Demobilization	4.0	1.0	ć		\$ -	\$ 67.407	¢ 67.407	¢ 67.407	ć	67.407
	Mob / Demob Project Management, Material Handling & Amonities	1.0	LS	\$	-	\$ -	\$ 67,407	\$ 67,407	\$ 67,407	\$	67,407
	Project Management, Material Handling & Amenities										
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 342,628	\$ 342,628	\$ 342,628	\$	342,628
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 67,407	\$ 67,407	\$ 67,407	\$	67,407
	Site Accommodation, Facilities, Storage	1		\$		\$ -	\$ 67,407				67,407
	Engineering		-	1					. ,,,,,,,,	<u> </u>	
	Design Engineering	1	LS	\$	-	\$ -	\$ 539,254	\$ 539,254	\$ 539,254	\$	539,254
	LiDAR	-	LS	\$		\$ -		\$ -		\$	-
	Geotech	4		\$		\$ -	\$ 3,500				14,000
	Surveying/Staking	1	Site	\$	-	\$ -	\$ 47,185	\$ 47,185	\$ 47,185	\$	47,185
	Testing & Commissioning										
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 168,517	\$ 168,517	\$ 168,517	\$	168,517

Item	Item Description	Estimated Quantity	Unit of Measure	Material Su	oply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation		LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 20,222	\$ 20,222	\$ 20,222	\$ 20,222
8.13	Real Estate Costs (New)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	302,896	\$ 302,896	\$ -	\$ -	\$ 302,896	\$ 302,896
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 6,741	\$ 6,741	\$ 6,741	\$ 6,741
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 302,896		\$ 1,340,767		\$ 1,643,663

Page 30 of 55

NextEra - T021 Enterprise Line - (Segment A) I. New Scotland Substation - Removal Total: \$ 169,052

NextEra - T021 Enterprise Lin	e - (Segment A)		
	Supply	Installation	Total
I. New Scotland Substation - Removal			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ -	\$ 30,000	\$ 30,000
2. SUBSTATION FOUNDATIONS	\$ -	\$ 57,200	\$ 57,200
3. SUBSTATION STRUCTURES	\$ -	\$ 27,000	\$ 27,000
4. MAJOR EQUIPTMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPTMENT / MATERIALS	\$ -	\$ 7,000	\$ 7,000
6. CONTROL HOUSE / PANELS	\$ -	\$ -	\$ -
7. MISC ITEMS	\$ -	\$ 21,000	\$ 21,000
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ -	\$ 26,852	\$ 26,852
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ -	\$ 169,052	\$ 169,052
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ -	\$ 169,052	\$ 169,052

	ption o	

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
I. New S	cotland Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	200	LF	\$ -	\$ -	\$ 150	\$ 30,000	\$ 150	\$ 30,000
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ 30,000		\$ 30,000
	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	2	EA	\$ -	\$ -	,	\$ 28,400	\$ 14,200	
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	12	EA	\$ -	\$ -	\$ 2,400	\$ 28,800	\$ 2,400	\$ 28,800
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	_	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	Ś -	\$ -	\$ 7,200	\$ -	\$ 7,200	\$ -
2.2b	Capacitor Bank Foundations	0	EA	š -	\$ -		\$ -	\$ 32,000	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	, ,	\$ -	\$ 22,000	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	š -	\$ -	\$ 11,000		\$ 11,000	
2.2e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200		\$ 5,200	
2.2f	Fuse Stand Foundations	0	EA	s -	\$ -	\$ -	\$ -	\$ 5,200	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	š -	\$ -	\$ -	\$ -	\$ -	\$ -
	pas support spiri suridations		LA	17			-	· ·	· ·

Page 31 of 55

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	
2.2m	Wave Trap Stand Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	AAFIAI								
2.3 2.3a	115kV Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m 2.3n	Wave Trap Stand Foundations Station Service Foundations	0	EA EA	\$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5p	imise. Structure i ouridations	0	LA	-	,	-	-	-	-
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b	- G - G	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ATION FOUNDATIONS				\$ -		\$ 57,200		\$ 57,200
	N STRUCTURES								
3.1	345kV				A			A	
3.1a 3.1b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA EA	\$ -	\$ -	\$ -	\$ -	\$ - \$ -	\$ - \$ -
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	12	EA	\$ -	\$ -	\$ 2,250	\$ 27,000	\$ 2,250	\$ 27,000
3.1g	Instrument Transformer Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	220147								
3.2 3.2a	230kV Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2a 3.2b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ 27,000		\$ 27,000	
3.2c	Switch Stands	0		\$ -	\$ -	\$ 27,000		\$ 27,000	
	Fuse Stand	0		\$ -	\$ -		\$ -	\$ -	
3.2e	Bus Support 3ph	0		\$ -	\$ -		\$ -		\$ -
	Bus Support 1 Ph	0		\$ -	\$ -			\$ 2,250	
3.2g	Instrument Transformer Stand	0		\$ -	\$ -	\$ 1,050	\$ -	\$ 1,050	\$ -
3.2h	Arrester Stand	0		\$ -	\$ -			\$ 1,050	
3.2j	Wave Trap Stand	0		\$ -	\$ -	\$ 4,500		\$ 4,500	
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
- 22	sarlar								
3.3	115kV								D 22 055

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	0	EA	\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Arrester Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ATION STRUCTURES				\$ -		\$ 27,000		\$ 27,000
4. MAJOR EQU									
	345kV								
	Circuit Breakers	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
	230kV								
	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
	115kV								
	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	REQUIPTMENT				\$ -		\$ -		\$ -
	PTMENT / MATERIALS								
	345kV				4		4	4	4
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -		\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	
	Arresters	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	
	Wave Traps	1	EA	\$ -	\$ -			\$ 2,500	
	Station Service Transformers	0		\$ -	\$ -	\$ -	\$ -		\$ -
5.1j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	220137								
	230kV	0	ГА	ć	\$ -	ć	ċ	¢	ć
	Line Switches - 3ph w/ motor operator	0	EA	\$ -		\$ 5,500	\$ -	\$ 5,500	
	Disconnect Switches - 3ph w/ manual operator VT'S	0	EA EA	\$ -	\$ - \$ -	\$ 5,500	\$ - \$ -	\$ 5,500 \$ -	\$ - \$ -
	CT'S	0	EA	\$ -	\$ -		•	\$ - \$ -	\$ -
5.2u 5.2e	CCVT'S	0	EA	\$ -	\$ -	<u>'</u>		\$ 1,500	
		0	EA		\$ -		\$ - \$ -	\$ 1,500	\$ -
	Arresters Wave Traps	0	EA	\$ -	\$ -	\$ 2,500 \$ 2,500	\$ -	\$ 2,500	
		0	EA		'	\$ 2,500			\$ -
	Station Service Transformers Fuses	0	EA		7	1	-	-	\$ -
5.2]	ruses	U	EA	\$ -	\$ -	\$ -	\$ -	\$ -	, -
5.3	115kV								
		0	ГА	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3a	Line Switches - 3ph w/ motor operator		EA		Т				
	Disconnect Switches - 3ph w/ manual operator	0	EA EA	'		\$ 5,500			
	VT'S CT'S	0	EA	\$ - \$ -	\$ - \$ -	\$ -	\$ - \$ -		\$ - \$ -
				'					
	CCVT'S	0		\$ -	\$ -		\$ -		\$ -
	Arresters Ways Trans	0		\$ -	\$ -	\$ 1,500		\$ 1,500	
	Wave Traps	0		\$ -	\$ -		\$ -		\$ - \$ -
	Station Service Transformers	0		\$ -			\$ -		
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL SMALL	EQUIPTMENT / MATERIALS				\$ -		\$ 7,000		\$ 7,000
	DUSE / PANELS / GENERATOR						7,000 ب		7,000
	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
L	5511110E11030E	0	L	1 *		130,000	ı	y 130,000	D 22 -£55

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	PANELS	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Protection and Telecom Equipment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator	0	EA	Ś -	\$ -	\$ -	\$ -	\$ -	\$ -
									·
TOTAL - CONT	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
	Rigid Bus, Fittings & Insulators	1	LS	\$ -	<u> </u>	\$ 21,000.00	\$ 21,000	\$ 21,000	\$ 21,000
7.3	Strain Bus, Connectors & Insulators	0	LS	\$ -	š -		\$ -	\$ 21,000	
7.4	Grounding System	0		\$ -	\$ -	\$ 42,000.00		\$ 42,000	
7.5	Grounding System	•	LA.	7	7	7 42,000.00	7	7 42,000	7
7.6									
7.7									
7.7									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC	ITEMS				\$ -		\$ 21,000		\$ 21,000
I. New So	cotland Substation - Removal				\$ -		\$ 142,200		\$ 142,200
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
0.102,220	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 1,422	\$ 1,422	\$ 1,422	\$ 1,422
0.1	Project Management, Material Handling & Amenities	1.0		·	<u> </u>	7 2,122	7 2,122	¥ 1,122	7 -,1
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 7,228	\$ 7,228	\$ 7,228	\$ 7,228
8.3	Utility PM and Project Oversite	1	LS		\$ -		\$ 1,422	\$ 1,422	
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,422	\$ 1,422	\$ 1,422	\$ 1,422
	Engineering								
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 11,376	\$ 11,376	\$ 11,376	\$ 11,376
	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 995	\$ -	\$ 995	\$ -
	Testing & Commissioning								
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 3,555	\$ 3,555	\$ 3,555	\$ 3,555
	Permitting and Additional Costs	_				.,,,,,	2,100	-,	.,
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 427		\$ 427	
	Real Estate Costs (New)		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (New) Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15		-	LS	\$ -	\$ - \$ -	\$ -	\$ -	·	\$ -
	Legal Fees Allowance for Funds Used During Construction (AFUDC)	-	LS		т	<u>'</u>			
8.16	Allowance for Funds Used During Construction (AFUDC)			\$ -	т	\$ -	'	\$ -	
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	\$ 142		\$ 142	
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 26,852		\$ 26,852

NextEra - T021 Enterprise Line - (Segment A) Total: \$ 101,268

NextEra - T021 Enterprise	NextEra - T021 Enterprise Line - (Segment A)										
		Supply		Installation		Total					
J. Porter Substation - Install											
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$	-					
2. SUBSTATION FOUNDATIONS	\$	-	\$	-	\$	-					
3. SUBSTATION STRUCTURES	\$	-	\$	-	\$	-					
4. MAJOR EQUIPTMENT	\$	-	\$	-	\$	-					
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	-	\$	-					
6. CONTROL HOUSE / PANELS	\$	-	\$	-	\$	-					
7. MISC ITEMS	\$	15,008	\$	56,904	\$	71,912					
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,201	\$	28,155	\$	29,355					
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$						
SUBTOTAL:	\$	16,209	\$	85,059	\$	101,268					
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-					
TOTAL:	\$	16,209	\$	85,059	\$	101,268					

Ì	escr	ipi	tion c	ot W	or/	k:

Estimate Revision:

5

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
J. Porter	Substation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000		\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ 27		\$ 75		\$ 102	\$ -
1.3	Substation Fence	0	LF	\$ 100		\$ 100		\$ 200	\$ -
1.4	Permanent Access Road - 20'-Wide	0	LF	\$ 35	\$ -	\$ 285	\$ -	\$ 320	\$ -
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE F	PREP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
2. SUBSTATIO	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ 14,940	\$ -		\$ -	\$ 30,940	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 26,145		\$ 28,000		\$ 54,145	
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ 4,482	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 9,282	
2.1f	Fuse Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ 4,482		\$ 4,800		\$ 9,282	
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ 4,482		\$ 4,800	\$ -	\$ 9,282	
2.1k	Arrester Stand Foundations	0	EA	\$ 4,482	\$ -		\$ -	\$ 9,282	
2.1m	Wave Trap Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,952		\$ 12,800		\$ 24,752	
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410		\$ 24,000		\$ 46,410	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410		\$ 24,000	· .	\$ 46,410	
2.2e	Switch Stand Foundations	0	EA	\$ 3,735		, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 7,735	
2.2f	Fuse Stand Foundations	0	EA	\$ 3,735			\$ -	\$ 7,735	
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
									D 25 C55

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229					\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -	\$ 17,600			\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -			\$ 34,034	•
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -		\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988			\$ -	\$ 6,188	
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988			\$ -	\$ 6,188	
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,988				\$ 6,188	
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ 2,988			\$ -	\$ 6,188	
2.3k	Arrester Stand Foundations	0	EA	\$ 2,988			\$ -	\$ 6,188	
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -		
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations	0	F.A.	ć 07.440	ć	ć 404.000	ć	ć 201.110	^
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -		\$ -
2.4c 2.4d	230kV-115kV Transformer Foundation w/ Oil Containment 115kV-69kV Transformer Foundation w/ Oil Containment	0	EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -		\$ - \$ -
2.40	115KV-69KV Transformer Foundation W/ Oil Containment	U	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ 76,194	\$ -	\$ 81,600	\$ -	\$ 157,794	\$ -
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -		\$ -		\$ -
2.55	Cenerator i Gariatatori		LA.	7 10,000	7	7 17,000	,	33,000	7
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA		\$ -	\$ -	\$ -	\$ -	\$ -
									·
TOTAL - SUBS	TATION FOUNDATIONS				\$ -		\$ -		\$ -
3. SUBSTATIO	N STRUCTURES								
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0					\$ -	\$ 74,000	\$ -
3.1c			EA	\$ 37,000	\$ -	\$ 37,000	\$ -	3 74,000	
	Switch Stands	0	EA EA	\$ 37,000 \$ 14,800				\$ 29,600	
3.1d	Switch Stands Fuse Stand	0	EA EA			\$ 14,800	\$ -	\$ 29,600	\$ -
		0	EA	\$ 14,800	\$ - \$ -	\$ 14,800	\$ -	\$ 29,600 \$ 29,600	\$ -
3.1d	Fuse Stand	0	EA EA EA	\$ 14,800 \$ 14,800 \$ - \$ 3,700	\$ - \$ -	\$ 14,800 \$ 14,800 \$ - \$ 3,700	\$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400	\$ - \$ - \$ - \$ -
3.1d 3.1e	Fuse Stand Bus Support 3ph	0 0 0	EA EA EA	\$ 14,800 \$ 14,800 \$ -	\$ - \$ - \$ -	\$ 14,800 \$ 14,800 \$ - \$ 3,700	\$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ -	\$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 0	EA EA EA EA EA	\$ 14,800 \$ 14,800 \$ - \$ 3,700	\$ - \$ - \$ - \$ -	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850	\$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700	\$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand	0 0 0 0 0	EA EA EA EA	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ - \$ - \$ -	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850	\$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 0 0 0	EA EA EA EA EA	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures	0 0 0 0 0 0 0	EA EA EA EA EA EA	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV	0 0 0 0 0 0 0 0	EA EA EA EA EA EA	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone	0 0 0 0 0 0 0 0 0	EA	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0 0 0 0 0 0 0 0 0	EA	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ 14,800 \$ \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2 3.2a 3.2b	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230KV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands	0 0 0 0 0 0 0 0 0	EA E	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Fuse Stand	0 0 0 0 0 0 0 0 0	EA	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 12,025 \$ 12,025	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2d 3.2e	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Fuse Stand Bus Support 3ph	0 0 0 0 0 0 0 0 0 0	EA	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2d 3.2d 3.2d	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Fuse Stand Bus Support 3ph Bus Support 1 Ph	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ 2,775	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ 14,800 \$ \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 12,025 \$ 12,025 \$ \$ 2,775	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2a 3.2c 3.2c 3.2c 3.2c 3.2c 3.2c 3.2c 3.2c	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 6,475 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ - \$ 2,775 \$ 1,295	\$ - \$ 5 - \$ 7 - 5	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 12,025 \$ 12,025 \$ - \$ 2,775 \$ 1,295	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ - \$ 5,550 \$ 2,590	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2d 3.2c 3.2d 3.d 3.d 3.d 3.d 3.d 3.d 3.d 3.	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ 2,775 \$ 1,295 \$ 1,295	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ 2,775 \$ 2,775 \$ 1,295 \$ 1,295	\$ - \$ - \$ - \$ 5 -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 24,050 \$ 24,050 \$ 24,050 \$ 5,550 \$ 2,590	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2c 3.2d 3.2e 3.2f 3.2g 3.2f 3.2g 3.2g	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Arrester Stand Wave Trap Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 6,475 \$ 33,300 \$ 12,025 \$ 12,025 \$ 2,775 \$ 1,295 \$ 1,295 \$ 1,295 \$ 1,295 \$ 5,550	\$ - S - S - S - S - S - S - S - S - S -	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ 2,775 \$ 1,295 \$ 1,295 \$ 1,295 \$ 5,550	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ 5,550 \$ 2,590 \$ 2,590 \$ 11,100	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2d 3.2c 3.2d 3.d 3.d 3.d 3.d 3.d 3.d 3.d 3.	Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Fuse Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 6,475 \$ 33,300 \$ 12,025 \$ 12,025 \$ 2,775 \$ 1,295 \$ 1,295 \$ 1,295 \$ 1,295	\$ - S - S - S - S - S - S - S - S - S -	\$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ 2,775 \$ 2,775 \$ 1,295 \$ 1,295	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 24,050 \$ 24,050 \$ 24,050 \$ 5,550 \$ 2,590	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	0		\$ 7,955			\$ -		\$ -
3.3d	Fuse Stand	0	EA	\$ 7,955		\$ 7,955	\$ -	\$ 15,910	\$ -
3.3e	Bus Support 3ph	0		\$ 3,330		\$ 3,330	\$ -	\$ 6,660	\$ -
3.3f	Bus Support 1 Ph	0		\$ 1,850 \$ 740		\$ 1,850		\$ 3,700	•
3.3g 3.3h	Instrument Transformer Stand	0		\$ 740		\$ 740 \$ 740	\$ - \$ -	\$ 1,480 \$ 1,480	\$ - \$ -
3.3j	Arrester Stand Wave Trap Stand	0		\$ 3,700		\$ 3,700	\$ - \$ -	\$ 1,480	\$ -
3.3k	Misc. Structures	0	EA	\$ 6,475			\$ -		\$ -
5.51	- Misor Structures	-	- Lit	0,175	*	ψ 0,173	Y	Ų 12,550	*
TOTAL - SUBST	TATION STRUCTURES				\$ -		\$ -		\$ -
4. MAJOR EQU	JIPTMENT								
4.1	345kV								
4.1a	Circuit Breakers	0		\$ 200		\$ 80,000	·	\$ 80,200	·
4.1b	Capacitor Banks	0		\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0		\$ -	\$ -		\$ -		\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2 4.2a	230kV Circuit Breakers	0	EA	\$ 115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.2a 4.2b	Capacitor Banks	0		\$ 115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.20	Capacitor banks	0	LA	-	-	\$ 80,000	· -	3 80,000	· -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks	0		\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
	R EQUIPTMENT				\$ -		\$ -		\$ -
5. SMALL EQU	IPTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0		\$ 40,000		\$ 15,000	\$ -	\$ 55,000	\$ -
5.1b 5.1c	Disconnect Switches - 3ph w/ manual operator VT'S	0		\$ 35,000 \$ -	\$ -	\$ 17,500 \$ 12,000	\$ -	\$ 12,000	\$ - \$ -
5.1d	CT'S	0	EA	\$ 13,000			\$ - \$ -		\$ -
5.1e	CCVT'S	0		\$ 13,000	\$ -	\$ 8,000	\$ -		\$ -
5.1f	Arresters	0		\$ 6,500	·	\$ 1,500			\$ -
5.1g	Wave Traps	0		\$ 13,000	\$ -		\$ -		\$ -
5.1h	Station Service Transformers	0		\$ 200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j	Fuses	0	EA	\$ 15,000	\$ -	\$ 7,500	\$ -	\$ 22,500	\$ -
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0		\$ 35,000		\$ 15,000	\$ -		\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0		\$ 30,000			\$ -	\$ 47,500	
5.2c 5.2d	VT'S CT'S	0		\$ 13,000 \$ 13,000		\$ 8,000 \$ 8,000		\$ 21,000 \$ 21,000	
5.2e	CCVT'S	0		\$ 10,000	\$ -	\$ 6,000	\$ -		\$ -
5.2f	Arresters	0		\$ 5,000		\$ 6,000	\$ -	\$ 11,000	\$ -
5.2g	Wave Traps	0		\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2h	Station Service Transformers	0		\$ -	\$ -		\$ -	\$ -	\$ -
5.2j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0		\$ 33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0		\$ 28,000		\$ 17,500	\$ -		\$ -
5.3c	VT'S	0	EA	\$ 13,000		\$ 8,000	\$ -		\$ -
5.3d	CCVT'S	0		\$ 13,000 \$ 8,000		\$ 8,000 \$ 8,000		\$ 21,000 \$ 16,000	
5.3e 5.3f	Arresters	0		\$ 8,000				\$ 16,000	
5.3g	Wave Traps	0			\$ -	\$ 6,000			\$ -
5.3h	Station Service Transformers	0			\$ -		\$ -		\$ -
5.3j	Fuses	0			\$ -		\$ -		\$ -
3.0,				·			•		•
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				\$ -		\$ -		\$ -
	OUSE / PANELS / GENERATOR								
	CONTROL HOUSE			\$ 551,250		\$ 85,000		\$ 636,250	

7.4	Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
1.0 Cattor Cases	6.2	Protection and Telecom Equipment	0	EA	\$	35,000	\$ -	\$ 12,500	\$ -	\$ 47,500	\$ -
\$5 \$5 \$5 \$5 \$5 \$5 \$5 \$5	6.3	125VDC Batteries	0	EA	\$	75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
E. 6. Documents Document	6.4	Control Cables	0	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
Contractive System	6.5	SCADA and Communications	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.6 Source Company	6.6	Low Voltage AC Distribution	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
6.6 Source Company			0						Ś -		\$ -
BA S TABLE S S S S S S S S S									\$ -		\$ -
Secondary Seco											•
TOTAL CONTICL MOUSE / MARKEY GENERATOR			· ·					7 .,			
7 Control &	0.10	Generator	0		17	100,000	· -	\$ 80,000	· -	3 180,000	-
7 Control &	TOTAL - CONTE	POL HOUSE / DANIELS / GENERATOR					ċ		ċ		\$ -
2.1 Command & Cabel French System 0							, -		· -		-
2.2 Read Bus, Fittings B insulators			0	15		405.00	ć	ć 170.00	Č.	ć 255	*
7.3 Seein Bus, Connection & Involutions 0 11 5 1138 5 5 38.3 5 5 5 5 5 5 5 5 5	7.1	Conduit & Cable Trench System	0	LF	\$	185.00	\$ -	\$ 170.00	\$ -	\$ 355	\$ -
7.4 Grounding System	7.2	Rigid Bus, Fittings & Insulators	1	LS	\$	15,008.40	\$ 15,008	\$ 56,904.00	\$ 56,904	\$ 71,912	\$ 71,912
1	7.3	Strain Bus, Connectors & Insulators	0	LF	\$	13.38	\$ -	\$ 39.35	\$ -	\$ 53	\$ -
7.7 Strain flus Insulation - 2286V	7.4	Grounding System	0	LF	<u>'</u>	6.93	\$ -	\$ 32.58	\$ -	\$ 40	\$ -
7.7 Strain But Installators - LISAV	7.5	Strain Bus Insulators - 345kV	0	EA	\$	2,000	\$ -	\$ 1,050	\$ -	\$ 3,050	\$ -
7.7 Strain But Installators - LISAV			0	EA	\$	1,400	\$ -	\$ 750	\$ -	\$ 2,150	\$ -
7.8			0								
7.30 SSYT Service			0	LS	Ś	50.000	\$ -	\$ 75.000	\$ -	\$ 125.000	\$ -
7.10 Central Condust from Trench to Equipment 0 15 5 15,000 5 5 25,000 5 7.11 Michael Maked Ma			0				\$ -		\$ -		\$ -
7.11 Misc. Naterials (Above and Below Ground)							\$ -		\$ -		•
7.12							•				
7.13		mise materials (ribore and selon orband)			+~	100,000	Y	ψ 200,000	Ψ	ψ 500,000	*
7.14											
7.15					1						
7.16											
7.17											
7.18											
7.19											
7.20											
7-21	7.19										
7.22 7.23 7.24 7.25 7.27 7.27 7.28 7.28 7.29 7.29 7.29 7.29 7.29 7.29 7.29 7.29	7.20										
7.23	7.21										
7.24 7.25 7.25 7.26 7.25	7.22										
T.25	7.23										
Total - MISCITEMS	7.24										
Same State State											
Section Sect		TEMS					\$ 15.008		\$ 56,904		\$ 71,912
Section Sect											
Contractor Mobilization / Demobilization / Demobilizati	J. Porter	Substation - Install					\$ 15,008		\$ 56,904		\$ 71,912
8.1 Mob / Demob 1.0 LS S - S 719 S 7	8. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
8.1 Mob / Demob 1.0 LS S - S 719 S 7		Contractor Mobilization / Demobilization									
Project Management, Material Handling & Amenities			1.0	LS	\$	-	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
R.2 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 1											-
Site Accommodation, Facilities, Storage	8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler	1	LS				\$ 3,655	\$ 3,655	\$ 3,655	\$ 3,655
Site Accommodation, Facilities, Storage		Heilite Das and Dasinst Oversite		1.0			ć	ć 710	ć 710	ė	ć -
Engineering					-				·		·
8.5 Design Engineering 1 LS \$ - \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5,753 \$ 5 - \$			1	LS	1>	-	> -	ş /19	ş /19	ə /19	\$ 719
8.6 LiDAR - LS \$ - \$<					1,						
8.7 Geotech 4 EA \$ - \$ - \$ 3,500 \$ 3,500 \$ 8.8 Surveying/Staking 1 Site \$ - \$ - \$ 503 \$ 1,798 \$ 1,798 \$ 1,798 \$ 1,798 <td< td=""><td></td><td></td><td>1</td><td></td><td>T .</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>			1		T .						
8.8 Surveying/Staking 1 Site \$ - \$ - \$ 503 \$ 503 \$ Testing & Commissioning Testing & Commissioning of T-Line and Equipment 1 LS \$ - \$ 1,798 \$ 1,798 \$ 1,798 \$ Permitting and Additional Costs - LS \$ - \$			-								
Testing & Commissioning											
8.9 Testing & Commissioning of T-Line and Equipment 1 LS \$ - \$ 1,798 \$ 1,798 \$ Permitting and Additional Costs - LS \$ - \$ - \$ - \$ - 8.10 Environmental Licensing & Permitting Costs - LS \$ - \$ - \$ - \$ - \$ - \$ 8.11 Environmental Mitigation - LS \$ - \$ - \$ - \$ - \$ 8.12 Warranties / LOC's 1 LS \$ - \$ - \$ 2.16 \$ 2.16 \$			1	Site	\$	-	\$ -	\$ 503	\$ 503	\$ 503	\$ 503
Permitting and Additional Costs LS \$ - \$ <											
8.10 Environmental Licensing & Permitting Costs - LS \$ - \$<			1	LS	\$	-	\$ -	\$ 1,798	\$ 1,798	\$ 1,798	\$ 1,798
8.11 Environmental Mitigation - LS \$ -		Permitting and Additional Costs									
8.11 Environmental Mitigation - LS \$ -	8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.12 Warranties / LOC's 1 LS \$ - \$ - \$ 216 \$ 216 \$ 216 \$			-								
8.13 Real Estate Costs (New) - LS \$ - \$ - \$ - \$		Real Estate Costs (New)		LS	\$						

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 1,201	\$ 1,201	\$ -	\$ -	\$ 1,201	\$ 1,201
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 72	\$ 72	\$ 72	\$ 72
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 1,201		\$ 28,155		\$ 29,355

Page 39 of 55

J. SS Porter-Install

NextEra - T021 Enterprise Line - (Segment A) Total: \$ 552,493

NextEra - T021 Enterprise Li	NextEra - T021 Enterprise Line - (Segment A)										
	Supply	/	Installation		Total						
K. Porter Substation - Removal											
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ -	\$	-						
2. SUBSTATION FOUNDATIONS	\$	-	\$ 126,600	\$	126,600						
3. SUBSTATION STRUCTURES	\$	-	\$ 206,100	\$	206,100						
4. MAJOR EQUIPTMENT	\$	-	\$ 43,500	\$	43,500						
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ 59,500	\$	59,500						
6. CONTROL HOUSE / PANELS	\$	-	\$ -	\$	-						
7. MISC ITEMS	\$	-	\$ 38,613	\$	38,613						
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$ 78,181	\$	78,181						
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-						
SUBTOTAL:	\$	-	\$ 552,493	\$	552,493						
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-						
TOTAL:	\$	-	\$ 552,493	\$	552,493						

)	escri	ption	of W	ork:

Estimate Revision:

					Supply Rate	Cost		TOTAL
Substation - Removal								
GRADING/ FENCING / CIVIL								
Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -				
Station stone within substation fence.	0		'	\$ -				
Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
								i
REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
N FOUNDATIONS								
Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capacitor Bank Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
230kV								
Circuit Breaker Foundations	3	EA	\$ -	\$ -				
Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000	\$ -	\$ 32,000	\$ -
Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000	\$ -	\$ 22,000	\$ -
Caisson DE Foundations (for DE A frame str shared column)	5	EA	\$ -	\$ -	\$ 11,000	\$ 55,000	\$ 11,000	\$ 55,000
Switch Stand Foundations	5	EA	\$ -	\$ -	\$ 5,200	\$ 26,000	\$ 5,200	\$ 26,000
	SRADING/ FENCING / CIVIL Site Works including clearing, sediment controls, rough grading, and final grading. Station stone within substation fence. Substation Fence Substation Fence REP/ GRADING/ FENCING / CIVIL NFOUNDATIONS 345kV Circuit Breaker Foundations Cajascinor Bank Foundations Caisson DE Foundations (for DE A frame str stand alone) Caisson DE Foundations Fuse Stand Foundations Bus Support 3 Ph Foundations Bus Support 1 Ph Foundations Bus Support 1 Ph Foundations Instrument Transformer Stand Foundations Instrument Transformer Stand Foundations Wave Trap Stand Foundations Wave Trap Stand Foundations Wave Trap Stand Foundations Misc. Structure Foundations Misc. Structure Foundations Misc. Structure Foundations Cajason DE Foundations Cajason DE Foundations Capacitor Bank Foundations Cajason DE Foundations Cajason DE Foundations Cajason DE Foundations (for DE A frame str stand alone) Caisson DE Foundations (for DE A frame str stand alone) Caisson DE Foundations (for DE A frame str stand alone) Caisson DE Foundations (for DE A frame str stand alone)	SRADING/ FENCING / CIVIL Site Works including clearing, sediment controls, rough grading, and final grading. O Station stone within substation fence. O Substation Fence O Substation	SRADING/ FENCING / CIVIL Site Works including clearing, sediment controls, rough grading, and final grading. O ACRES Station stow within substation fence. O LF Substation Fence Substation Fence Substation Fence Substation Fence O LF Substation Fence Substation Fence O EA Capacitor Bank Foundations O EA Capacitor Bank Foundation (for DE A frame str stand alone) O EA Substation Fence O EA Substation Fence Substation Fence O EA Substation Fence Substation Fence O EA Substation Fence O EA Substation Fence O EA Substation Fence O EA Instrument Transformer Stand Foundations O EA Arrester Stand Foundations O EA Station Service Foundations O EA Misc. Structure Foundations O EA Station Service Foundations O EA Capacitor Bank Foundations O EA	### STRADING / FENCING / CIVIL	STREADING/FENCING / CIVIL	SABONG FENCING CIVIL S S S S S S S S S	SADING FENCING CIVIL	SADINST FENCING FENC

1.3.1 1.3.4 1.3.	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
Part										
A content of the first and contents on the contents of the c					<u> </u>	·				
2.20 1.20										
2.23 Marce forus Forceatrons 0						·				
2.29 Miles Statistical Control Con						'				•
13 13 13 13 13 13 13 13										
2-30 Concept foundations	2.2p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	Ş -	\$ -
2-30 Concept foundations										
2.28 Capacita Bark Foundations Capacita Service Capacita Servi					_	4				
2 2 2 2 2 2 2 2 3 2 3 3					-	7	<u>'</u>			
2.36 Cancord Procustations for PR A farmer or. shared column)		· ·				'				
2.28 Joseph Stands Foundations						Т		'		
2.38 Rev Stand Foundations 0 FA \$ \$ \$ \$ \$ \$ \$ \$ \$						'				
2.32 Bits Support Phil Conditions 0 LA S S S S S S S S S										
2.30 bits support Per Contactions 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$						-		· .		
2.38 Instrument Transformer's Manufactures							<u> </u>			
2.3 Arrest Stand Foundations					<u> </u>			· .		
2.2m										
2-30 Macro Service Foundations						7	<u> </u>			
2.2 Miss. Structure Foundations					·	т				
2.4 Transformer Foundations 2.4 345-2004/ Transformer Foundation of Oil Containment 2.5 35-2004/ Transformer Foundation of Oil Containment 2.6 35-2004/ Transformer Foundation of Oil Containment 2.7 35-2004/ Transformer Foundation of Oil Containment 2.8 25-2004/ Transformer Foundation of Oil Containment 2.9 25-2004/ Transformer Foundation 2.9 25-2004/ Transformer Foundation of Oil Containment 2.9 25-2004/ Transformer Foundation 2.9 25-2004										
2.4a 345-2300V Transformer Foundation of VOIC Contament 0 EA 5 5 5 5 5 5 5 5 5	2.3p	Misc. Structure Foundations	U	EA	\$ -	\$ -	\$ -	5 -	\$ -	•
2.4a 345-2300V Transformer Foundation of VOIC Contament 0 EA 5 5 5 5 5 5 5 5 5	2.4	Transfermer Ferradations								
2.40 345-1154V Transformer Foundation w/ Oil Containment			0	ΕΛ	ċ	ċ	ċ	ć	ċ	ć
2.4c					'	·				
2.40 155V-69V Transformer Foundations / Pad						т				
2.5 Control House Foundations / Pad (40125)					<u> </u>	·				
2.58 Control House Pad (69-125)	2.40	113KV-05KV Transformer Foundation wy Oil Containment	U	LA	-	, -	, -	, -	ş -	-
2.58 Control House Pad (69-125) Control House Pad (6	2.5	Control House Foundations / Pad								
Company Comp			0	FΔ	¢ .	¢ -	¢ .	\$ -	¢ -	¢ .
Color Colo										
2.6a 70 Lightning Mast Foundation 0 EA S S S S S S S S S	2.55	Contractor Foundation			,	*	,	Ť	<u> </u>	*
2.6a 70 Lightning Mast Foundation 0 EA S S S S S S S S S	2.6	Lightning Mast Foundations								
2.6b			0	FA	Ś -	\$ -	Ś -	s -	Ś -	\$ -
TOTAL SUBSTATION FOUNDATIONS					+ '	·	<u>'</u>	'		
TOTAL - SUBSTATION FOUNDATIONS 3. SUBSTATION FOUNDATION FOUNDATIONS 3. SUBSTATION FOUNDATION										
3.1 3.1 3.1 3.1 3.2 3.3			-		Ť	7	,	T	*	7
3.1 3.1 3.1 3.1 3.2 3.3	TOTAL - SUBS	TATION FOUNDATIONS				\$ -		\$ 126,600		\$ 126,600
3.1a Substation A-Frame Structures - Stand alone 0 EA S -										
3.1b Substation A-Frame Structures - Shared Column 0 EA S - S	3.1	345kV								
3.1c Switch Stands	3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d Fuse Stand Fuse Stan	3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e Bus Support 3ph 0 EA S - S	3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e Bus Support 3ph 0 EA S - S	3.1d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Salgorian Instrument Transformer Stand Salgorian	3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
S.1h Arrester Stand O EA \$ - \$ - \$ - \$ 5 - \$ \$ 5 - \$ \$ 5 - \$ \$ 5 - \$ \$ 5 - \$ \$ 5 - \$ \$ 5 - \$ \$ 5 - \$ \$ 5 - \$ \$ 5 - \$ \$ 5 - \$ \$ \$ 5 - \$ \$ \$ \$ \$ \$ \$ \$ \$	3.1f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j Wave Trap Stand	3.1g		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k Misc. Structures 0 EA \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$	3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2 230kV EA \$<	3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ - \$ 9,750 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$	3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ 27,000 \$ - \$ - \$ 9,750 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$ 9,500 \$										
3.2b Substation A-Frame Structures - Shared Column 5 EA \$ - \$ 27,000 \$ 135,000 \$ 135,000 \$ 27,000 \$ 135,000 \$ 135,000 \$ 135,000 \$ 27,000 \$ 135,000 \$ 135,000 \$ 135,000 \$ 17,000 \$ 135,000 \$ 17,000 \$ 135,000 \$ 17,000 \$ 185,000 \$ 185,000 \$ 19,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 9,750 \$ 9,750 \$	3.2	230kV								
3.2c Switch Stands 6 EA \$ - \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ 9,750 \$ 58,500 \$ -	3.2a								, , , , , , , , , , , , , , , , , , , ,	
3.2d Fuse Stand 0 EA \$ -										
3.2e Bus Support 3ph 0 EA \$ - \$										
3.2f Bus Support 1 Ph 0 EA \$ - \$ 2,250 \$ - \$ 2,250 \$ - 3.2g Instrument Transformer Stand 6 EA \$ - \$ - \$ 6,300 \$ 1,050 \$ 6,300 3.2h Arrester Stand 6 EA \$ - \$ - \$ 6,300 \$ 1,050 \$ 6,300 3.2j Wave Trap Stand 0 EA \$ - \$ - \$ 4,500 \$ -										
3.2g Instrument Transformer Stand 6 EA \$ - \$ - \$ 1,050 \$ 6,300 \$ 1,050 \$ 6,300 3.2h Arrester Stand 6 EA \$ - \$ - \$ 1,050 \$ 6,300 \$ 1,050 \$ 6,300 3.2j Wave Trap Stand 0 EA \$ - \$ - \$ 4,500 \$ - \$ 4,500 \$ -										
3.2h Arrester Stand 6 EA \$ - \$ 1,050 \$ 6,300 \$ 1,050 \$ 6,300 3.2j Wave Trap Stand 0 EA \$ - \$ - \$ - \$ 4,500 \$ - \$ 4,500 \$ -										
3.2j Wave Trap Stand 0 EA \$ - \$ - \$ 4,500 \$ - \$ 4,500 \$ -										
3.2k Misc. Structures 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$										
	3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	0	EA	\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TATION STRUCTURES				\$ -		\$ 206,100		\$ 206,100
4. MAJOR EQU									
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	·	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV				4			4	
4.2a	Circuit Breakers	3	EA	\$ -	\$ -	\$ 14,500	\$ 43,500	\$ 14,500	\$ 43,500
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
	estatus.								
4.3	115kV					<u> </u>	A	<u> </u>	•
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL MANG	R EQUIPTMENT						42.500		Å 42.500
					\$ -		\$ 43,500		\$ 43,500
	IPTMENT / MATERIALS 345kV								
5.1		0	ΓΛ	\$ -	\$ -	\$ 5,500	\$ -	ć F.F00	\$ -
5.1a 5.1b	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	0	EA EA	\$ -	\$ - \$ -			\$ 5,500 \$ 5,500	\$ -
5.1c	VT'S	0	EA	t .	\$ -	\$ 5,500	\$ -		\$ -
5.1d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ - \$ -	\$ -
5.1e	CCVT'S	0	EA	\$ -	\$ -	·	•	\$ 2,500	\$ -
5.1f	Arresters	0			\$ -		\$ -	\$ 2,300	\$ -
5.1g	Wave Traps	0	EA	\$ -	\$ -			\$ 2,500	\$ -
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	-,	\$ -	\$ 2,300	\$ -
5.1i	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1	1 0363	0	LA	-	,	· -	· ·	-	-
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	2	EA	\$ -	\$ -	\$ 5,500	\$ 11,000	\$ 5,500	\$ 11,000
5.2b	Disconnect Switches - 3ph w/ manual operator	3	EA	\$ -	\$ -	\$ 5,500		\$ 5,500	\$ 16,500
5.2c	VT'S	2	EA	\$ -	\$ -			\$ 1,500	\$ 3,000
5.2d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S	6	EA	\$ -	\$ -	\$ 1,500	'	\$ 1,500	
5.2f	Arresters	6	EA	\$ -	\$ -	\$ 2,500	\$ 15,000	\$ 2,500	\$ 15,000
5.2g	Wave Traps	2	EA	\$ -	\$ -	\$ 2,500	\$ 5,000	\$ 2,500	\$ 5,000
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2,				1.	·				•
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0		•	\$ -	\$ 5,500	'		\$ -
5.3c	VT'S	0			\$ -		\$ -		\$ -
5.3d	CT'S	0			\$ -		\$ -		\$ -
5.3e	CCVT'S	0			\$ -		\$ -		\$ -
5.3f	Arresters	0			\$ -	\$ 1,500		\$ 1,500	
5.3g	Wave Traps	0					\$ -		\$ -
5.3h	Station Service Transformers	0			\$ -		\$ -		\$ -
5.3j	Fuses	0			\$ -		\$ -		\$ -
				1					•
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				\$ -		\$ 59,500		\$ 59,500
	OUSE / PANELS / GENERATOR						,		

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
	PANELS	0		\$ -	\$ -		\$ -	\$ -	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
	Protection and Telecom Equipment	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	SCADA and Communications	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Low Voltage AC Distribution	0		\$ -	\$ -		\$ -	\$ -	\$ -
	DC Distribution System	0		\$ -	\$ -		\$ -	\$ -	\$ -
	Security	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Fire Alarm	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		0			\$ -	\$ -	·		·
6.10	Generator	U	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	DOLUMENT ADAMES A ACCUSEDATED				_		1		4
	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
. MISC ITEMS									
	Conduit & Cable Trench System	0		\$ -	\$ -	\$ 42,000.00		\$ 42,000	
	Rigid Bus, Fittings & Insulators	1		\$ -	\$ -	\$ 18,937.50		\$ 18,938	
	Strain Bus, Connectors & Insulators	1	L.S.	\$ -	\$ -	\$ 19,675.00	\$ 19,675	\$ 19,675	\$ 19,675
7.4	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.12									
7.14									
7.15									
OTAL - MISC I	ITEMS				\$ -		\$ 38,613		\$ 38,613
K. Porter	· Substation - Removal				\$ -		\$ 474,313		\$ 474,313
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:						,		
	Contractor Mobilization / Demobilization								
			1.0	\$ -	\$ -	\$ 4,743	ć 4.742	\$ 4,743	\$ 4,743
	Mob / Demob	1	LS	\$ -	\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
	Project Management, Material Handling & Amenities								
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 24,109	\$ 24,109	\$ 24,109	\$ 24,109
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
	Engineering								
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 37,945	\$ 37,945	\$ 37,945	\$ 37,945
	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Geotech	-	EA	\$ -	\$ -	\$ 3,500		\$ 3,500	
	Surveying/Staking	_	Site	\$ -	\$ -	\$ 3,320		\$ 3,320	
	Testing & Commissioning		Site	7	7	3,320	7	3,320	7
	Testing & Commissioning Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 11,858	\$ -	\$ 11,858	\$ -
		-	LS	, ·	, ·	\$ 11,030	, -	3 11,030	, -
	Permitting and Additional Costs		10	ć	\$ -	ć	ċ	<u> </u>	ć
	Environmental Licensing & Permitting Costs	-	LS	\$ -	Ÿ	\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Warranties / LOC's	1	LS	\$ -	\$ -		\$ 1,423		
	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -		\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -		\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17	·	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Sales Tax on Materials	1	LS	\$ -	\$ -		\$ -	\$ -	\$ -
				·	1	7			
	Fees for permits, including roadway, railroad, building or other local permits	1	LS		۱ ۲	\$ 474	\$ 474	\$ 474	\$ 474

NextEra - T021 Enterprise Line - (Segment A)

L. Interconnection Edic Station

Estimate Revision: 5 Total: \$ 2,126,997

NextEra - T021 Enterprise Line - (Segment A)							
		Supply	Installation	Total			
L. Interconnection Edic Station							
1. CLEARING & ACCESS	\$	-	\$ 367,850	\$	367,850		
2. FOUNDATIONS	\$	168,366	\$ 170,169	\$	338,536		
3. STRUCTURES	\$	501,469	\$ 321,821	\$	823,289		
4. CONDUCTOR, SHIELDWIRE, OPGW	\$		\$ -	\$	-		
5. INSULATORS, FITTINGS, HARDWARE	\$	160,000	\$ 94,400	\$	254,400		
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	66,387	\$ 276,535	\$	342,922		
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-		
SUBTOTAL:	\$	896,222	\$ 1,230,776	\$	2,126,997		
CONTINGENCY ON ENTIRE PROJECT	\$		\$ -	\$	-		
TOTAL:	Ś	896.222	\$ 1.230.776	Ś	2.126.997		

Description of Work:

1.4 Silf Fence	TOTAL	Total Unit Rate	Labor & Equipment Cost	Labor & Equipment Supply Rate	Material Supply Cost	Naterial Supply Rate	Unit of Measure	Estimated Quantity	Item Description	Item
1.1									onnection Edic Station	L. Interc
1.2 Clearing the ROW - Light (mowing)									A ACCESS	1. CLEARING 8
1.3 Access Road	00 \$ -	\$ 15,000	\$ -	\$ 15,000	\$ -	-	Acre	-	Clearing the ROW - Heavy (mowing & clearing)	1.1
1.4 SIF Fence	00 \$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000	\$ -	-	Acre	2.0	Clearing the ROW - Light (mowing)	1.2
1.5	45 \$ -			\$ 45	\$ -	-	LF	-	Access Road	
1.6 Matting = To Work Area 300.0 F S S S TO S 21,000 S 50,000 1.7 Show Removal S S S S S S S S S	4 \$ 14,000	\$ 4	\$ 14,000	\$ 4	\$ -	-	LF	3,500.0	Silt Fence	1.4
1.7 Snow Removal	70 \$ 245,000				\$ -	-		3,500.0		
1.8 ROW Restoration 0.5 Mile S S S 10,000 S 5,000 S 10,000 S 10,000 S 10,000 S 10,000 S 10,000 S 10,000 S S S S S S S S S	70 \$ 21,000		\$ 21,000		\$ -	-		300.0	Matting - To Work Area	
1.9 Work Pad's 20,000.0 SF S					\$ -	-	LS	-	Snow Removal	1.7
1.10 Restoration for Work Pad areas	00 \$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000	\$ -	-	Mile	0.5	ROW Restoration	
1.11 Temporary Access Bridge	4 \$ 70,400				\$ -	-	SF	20,000.0	Work Pads	
1.12 Air Bridge	0 \$ 600		\$ 600				SF	4,000.0		1.10
1.13 Stabilized Construction Entrance - EA 5			\$ -				EA	-		1.11
1.14 Maintenance and Protection of Traffic on Public Roads - EA S - S 4,130 S - S 4,130					\$ -	-		-	Air Bridge	
1.15 Gates					\$ -	-		-	Stabilized Construction Entrance	1.13
1.16 Culverty Misc. Access - EA \$ 750 \$. \$ 1,250 \$. \$ 2,000							EA	-	Maintenance and Protection of Traffic on Public Roads	1.14
1.17 Concrete Washout Station			\$ -	\$ 2,500				-		
1.18					\$ -	750	EA		Culverts / Misc. Access	1.16
1.19	50 \$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850	\$ -	-	EA	1	Concrete Washout Station	
1.20 Crushed Rock 0 CY \$ 27 \$ - \$ 75 \$ - \$ 5 102	\$ -		\$ -		\$ -					1.18
TOTAL - CLEARING & ACCESS	\$ -		\$ -							
2. FOUNDATIONS EA \$ 41,332 \$ 123,995 \$ 41,774 \$ 125,322 \$ 83,106 2.1 Foundation – Drilled Pier – 8'X 27' 3 EA \$ 44,372 \$ 44,877 \$ 44,847 \$ 89,219 2.3 Rock Excavation Adder - CY \$ - \$ 2,000 \$ - \$ 2,000 2.4 - - CY \$ - \$ 2,000 \$ - \$ 2,000 2.5 - <td>02 \$ -</td> <td>\$ 102</td> <td>\$ -</td> <td>\$ 75</td> <td>\$ -</td> <td>27</td> <td>CY</td> <td>0</td> <td>Crushed Rock</td> <td>1.20</td>	02 \$ -	\$ 102	\$ -	\$ 75	\$ -	27	CY	0	Crushed Rock	1.20
2.1 Foundation – Drilled Pier – 8'X 27' 3 EA \$ 41,332 \$ 123,995 \$ 41,774 \$ 125,322 \$ 83,106 2.2 Foundation – Drilled Pier – 8'X 29' 1 EA \$ 44,372 \$ 44,372 \$ 44,847 \$ 89,219 2.3 Rock Excavation Adder - CY \$ - \$ - \$ 2,000 \$ - \$ 2,000 2.4	\$ 367,850		\$ 367,850		\$ -				RING & ACCESS	TOTAL - CLEA
2.2 Foundation – Drilled Pier – 8'X 29' 2.3 Rock Excavation Adder CY \$ - \$ - \$ 2,000 \$ - \$ 2,000 2.4									ONS	2. FOUNDATION
2.3 Rock Excavation Adder - CY \$ - \$ - \$ 2,000 \$ - \$ 2,000 2.4	06 \$ 249,317	\$ 83,106	\$ 125,322	\$ 41,774	\$ 123,995	41,332	EA	3	Foundation – Drilled Pier – 8'X 27'	2.1
2.4 2.5 2.6 2.7 2.8 2.9	19 \$ 89,219	\$ 89,219	\$ 44,847	\$ 44,847	\$ 44,372	44,372	EA	1	Foundation – Drilled Pier – 8'X 29'	2.2
2.5 2.6 2.7 2.8 2.9	00 \$ -	\$ 2,000	\$ -	\$ 2,000	\$ -	-	СУ	-	Rock Excavation Adder	2.3
2.6 2.7 2.8 2.9										2.4
2.6 2.7 2.8 2.9										2.5
2.7 2.8 2.9										
2.8 2.9	+	 								
2.9										
										2.9
	-									2.10
2.11										2.11
2.12	_									

Page 44 of 55

Item	Item Description	Estimated Quantity	Unit of Measure	Material Su	ipply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	то	OTAL
2.13											
2.14										<u> </u>	
2.15 TOTAL - FOUN	DATIONS					\$ 168,366		\$ 170,169		ć	338,536
3. STRUCTURE						\$ 168,366		\$ 170,169		\$	330,330
3.1	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) – 105′	3	Structure	Ś	98,883	\$ 296,648	\$ 59,330	\$ 177,989	\$ 158,212	\$	474,636
3.2	2-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	Ś		\$ 202,797			\$ 324,475	-	324,475
3.3	Install Grounding and Grounding Accessories	4		\$	506						24,178
3.4	0 0							,			
3.5											
3.6											
3.7										<u> </u>	
3.8										<u> </u>	
3.9											
3.10				-							
3.11 3.12				-						\vdash	
3.12		+		+						\vdash	
				+						\vdash	
3.14											
3.15										1	
TOTAL - STRUC	TURES					\$ 501,469		\$ 321,821		Ś	823,289
4. CONDUCTO	R, SHIELDWIRE, OPGW					1					
4.1	345kV - (2) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$	3.53	\$ -	\$ 5.00	\$ -	\$ 8.53	\$	-
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$	1.55		\$ 5.00		\$ 6.55		-
4.3	(1) 3/8" EHS7 Steel	-	LF	\$	0.72	\$ -	\$ 5.00		\$ 5.72		-
4.5	Remove Existing Cable From Existing Structures	-	Mile	\$		\$ -	\$ 30,000		\$ 30,000.00		-
4.6	Remove Existing OPGW Cable	-	Mile	\$		\$ -	\$ 12,000		\$ 12,000.00		-
4.7	Remove Existing EH7	-	Mile	\$	-	\$ -	\$ 12,000	\$ -	\$ 12,000.00	\$	-
4.8											
4.9	Rider Poles - Relocated	-	Set		_	\$ -	\$ 3,500	Ś -	\$ 3,500.00	<u> </u>	
4.10 4.11	Rider Poles - Relocated	-	EA	Ś	1,750		\$ 3,500		\$ 5,250.00		
	JCTOR, SHIELDWIRE, OPGW:		EA	7		\$ -	3,300	\$ -	\$ 3,250.00	Ś	-
	FITTINGS, HARDWARE					,		-			
	345kV Tangent (1-Group of 18-Bells Each Assembly)										
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)										
	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	60	Assembly	\$	1,800	\$ 108,000	\$ 720	\$ 43,200	\$ 2,520	\$	151,200
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)										
5.5	OPGW Assembly - Tangent	-	Assembly	\$		\$ -	\$ 150		\$ 350		-
5.6	OPGW Assembly - Angle / DE	4	Assembly	\$		\$ 1,000	\$ 150		\$ 400		1,600
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$	250		\$ 150				1,600
5.8	OPGW Splice Boxes	-	Set	\$	1,746		\$ 2,274		\$ 4,020 \$ 5.040		-
	OPGW Splice & Test Spacer - Conductor	-	EA EA	\$	2,520 50		\$ 2,520 \$ 35		\$ 5,040 \$ 85		-
5.11	Vibration Dampers - Conductor		EA	Ś		\$ -	\$ 35		\$ 70		
	·			\$	27		\$ 35		\$ 62	<u> </u>	
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA			\$ -			•	-	
5.13	Guys, Anchors, and Accessories	-	EA	\$	720	\$ -	\$ 885	\$ -	\$ 1,605	\$	-
5.14	Misc. materials (Signs and Markers)	-	Mile	\$	770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$	-
5.15											
5.16											
5.17											
5.18				1						-	
5.19	Interconnection Arrangements	1	EA	\$	50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 100,000	\$	100,000
5.20	ATOR EITTINGS HARDWARE					¢ 160,000		¢ 04.400		ċ	254.400
	ATOR, FITTINGS, HARDWARE					\$ 160,000		\$ 94,400		,	254,400
	onnection Edic Station					\$ 829,835		\$ 954,240		\$	1,784,075
6. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
	Mob / Demob Project Management, Material Handling & Amenities	1	LS	\$	-	\$ -	\$ 17,841	\$ 17,841	\$ 17,841	\$	17,841

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 90,685	\$ 90,685	\$ 90,685	\$ 90,685
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 89,204	\$ 89,204	\$ 89,204	\$ 89,204
6.6	Lidar	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	Geotech	1	LS	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 12,489	\$ 12,489	\$ 12,489	\$ 12,489
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	EA	\$ -	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 5,352	\$ 5,352	\$ 5,352	\$ 5,352
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 66,387	\$ 66,387		\$ -	\$ 66,387	\$ 66,387
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 1,784		\$ 1,784	\$ 1,784
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 66,387		\$ 276,535		\$ 342,922

Page 46 of 55

NextEra - T021 Enterprise Line - (Segment A) M. Interconnection New Scotland Station

Total: \$ 3,108,364

NextEra - T021 Enterprise Line - (Segment A)												
		Supply	Installation		Total							
M. Interconnection New Scotland Station												
1. CLEARING & ACCESS	\$	-	\$ 367,850	\$	367,850							
2. FOUNDATIONS	\$	365,657	\$ 473,093	\$	838,749							
3. STRUCTURES	\$	655,465	\$ 445,628	\$	1,101,092							
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	3,555	\$ 26,100	\$	29,655							
5. INSULATORS, FITTINGS, HARDWARE	\$	161,130	\$ 95,795	\$	256,925							
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	94,864	\$ 419,228	\$	514,093							
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-							
SUBTOTAL:	\$	1,280,670	\$ 1,827,693	\$	3,108,364							
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-							
TOTAL:	¢	1 280 670	¢ 1 927 603	¢	3 109 364							

Description	of Work:	7 1,280,070	7 1,027,033	3,100,30						
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supp	oly Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
M. Inter	connection New Scotland Station									
1. CLEARING	& ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$	-	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$ -	\$	-	\$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000
1.3	Access Road	-	LF	\$ -	\$	-	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	3,500.0	LF	\$ -	\$	-	\$ 4	\$ 14,000	\$ 4	\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$ -	\$	-	\$ 70	\$ 245,000	\$ 70	\$ 245,000
1.6	Matting - To Work Area	300.0	LF	\$ -	\$	-	\$ 70	\$ 21,000	\$ 70	\$ 21,000
1.7	Snow Removal	-	LS	\$ -	\$	-	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	\$ -	\$	-	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.9	Work Pads	20,000.0	SF	\$ -	\$	-	\$ 4	\$ 70,400	\$ 4	\$ 70,400
1.10	Restoration for Work Pad areas	4,000.0	SF	\$ -	\$	-	\$ 0.2	\$ 600	\$ 0	\$ 600
1.11	Temporary Access Bridge	-	EA	\$ -	\$	-	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$ -	\$	-	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$	-	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$	-	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$ 2,00	\$	-	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$ 75	\$	-	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$ -	\$	-	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18					\$	-		\$ -		\$ -
1.19					\$	-		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 2	7 \$	-	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEA	RING & ACCESS				\$	-		\$ 367,850		\$ 367,850
2. FOUNDATI	ONS									
2.1	Foundation – Drilled Pier – 8'X 50'	3	EA	\$ 76,50) \$ 2	229,501	\$ 77,320	\$ 231,959	\$ 153,820	\$ 461,459
2.2	Foundation – Drilled Pier – 8'X 89'	1	EA	\$ 136,15	5 \$ 1	136,156	\$ 137,614	\$ 137,614	\$ 273,770	\$ 273,770
2.3	Rock Excavation Adder	51.8	СУ	\$ -	\$	-	\$ 2,000	\$ 103,520	\$ 2,000	\$ 103,520
2.4										
2.5										
2.6										
2.7										
2.8										

2.9

Estimate

Revision:

5

ltem	Item Description	Estimated Quantity	Unit of Measure	Material S	Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.10										
2.11										
2.12										
2.14										
2.15										
TOTAL - FOUN						\$ 365,657		\$ 473,093		\$ 838,749
3. STRUCTURE 3.1	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115'	3	Structure	\$	178,026	\$ 534,077	\$ 106,815	\$ 320,446	\$ 284,841	\$ 854,522
3.2	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$	116,328	\$ 116,328	\$ 69,797	\$ 69,797		\$ 186,125
3.3	Install Grounding and Grounding Accessories	10	Structure	\$	506	\$ 5,060	\$ 5,539	\$ 55,385		\$ 60,445
3.4						\$ -		\$ -		
3.5						_				
3.6						\$ - \$ -		\$ - \$ -		
3.8						\$ -		\$ -		
3.9						\$ -		\$ -		
3.10						\$ -		\$ -		
3.11						\$ -		\$ -		
3.12 3.13						\$ - \$ -		\$ - \$ -		
						•		•		
3.14						\$ -		\$ -		
3.15						\$ -		\$ -		
TOTAL - STRUC						\$ 655,465		\$ 445,628		\$ 1,101,092
	R, SHIELDWIRE, OPGW									
4.1	345kV - (2) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571	1,500	LF LF	\$	1.90 1.35	\$ 2,850 \$ -	\$ 5.00 \$ 5.00	\$ 7,500 \$ -		\$ 10,350 \$ -
4.2	(1) OPGW 36 FIDER AC-33/38/371 (1) 3/8" EHS7 Steel	1,500	LF	Ś	0.47	\$ 705	\$ 5.00	\$ 7,500		\$ 8,205
4.5	Remove Existing 345kV Cable From Existing Structures	0.3	Mile	\$	-	\$ -	\$ 30,000	\$ 7,500		\$ 7,500
4.6	Remove Existing OPGW Cable	-	Mile	\$	-	\$ -	\$ 12,000	\$ -	, , , , , , , , , ,	\$ -
4.7	Remove Existing EH7	0.3	Mile	\$	-	\$ -	\$ 12,000	\$ 3,600	\$ 12,000.00	\$ 3,600
4.8										
4.9 4.10	Rider Poles - Relocated	_	Set	\$	_	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$	1,750	\$ -	\$ 3,500	\$ -		\$ -
	JCTOR, SHIELDWIRE, OPGW:					\$ 3,555		\$ 26,100		\$ 29,655
	FITTINGS, HARDWARE									
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$	1,800 900	\$ -	\$ 720 \$ 560		\$ 2,520 \$ 1,460	\$ - \$ -
5.2 5.3	115kV Tangent (1-Group of 9-Bells Each Assembly) 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	- 60	Assembly Assembly	\$	1,800	\$ - \$ 108,000	\$ 720			\$ - \$ 151,200
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$	900	\$ -	\$ 560	\$ -		\$ -
5.5	OPGW Assembly - Tangent	-	Assembly	\$	200	\$ -	\$ 150	\$ -		\$ -
5.6	OPGW Assembly - Angle / DE	-	Assembly	\$	250	\$ -	\$ 150			\$ -
5.7 5.8	OHSW Assembly - Angle / DE OPGW Splice Boxes	4	Assembly Set	\$	250 1,746	\$ 1,000 \$ -	\$ 150 \$ 2,274	\$ 600 \$ -		\$ 1,600 \$ -
5.9	OPGW Splice & Test	-	EA	\$	2,520	\$ -	\$ 2,520	\$ -	. ,	\$ -
5.10	Spacer - Conductor	9	EA	\$	50	\$ 450	\$ 35	\$ 315		\$ 765
5.11	Vibration Dampers - Conductor	48	EA	\$	35	\$ 1,680	\$ 35	\$ 1,680	\$ 70	\$ 3,360
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$	27	\$ -	\$ 35	\$ -	\$ 62	\$ -
5.13	Guys, Anchors, and Accessories	-	EA	\$	720	\$ -	7	\$ -		\$ -
5.14 5.15	Misc. materials (Signs and Markers)	-	Mile	\$	770	\$ - \$ -	\$ 1,006	\$ - \$ -	\$ 1,776	\$ - \$ -
5.15	Interconnection Arrangements	1	EA	\$	50,000	_	\$ 50,000		\$ 100,000	
5.17		-		T		\$ -	. 55,500	\$ -		\$ -
5.18						\$ -		\$ -		\$ -
5.19						\$ -		\$ -		\$ -
5.20	ATOR, FITTINGS, HARDWARE					\$ - \$ 161,130		\$ - \$ 95,795		\$ -
								\$ 95,795 \$ 1,408,465		\$ 256,925 \$ 2,594,271
	connection New Scotland Station B. ENGINEERING, PERMITTING, T&C. PM & INDIRECTS:					\$ 1,185,806		7 1,400,405		2,394,2/1
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization									
	CONTRACTOR INCOMINATION / DEMODRINATION			1					1	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$ 25,943
	Project Management, Material Handling & Amenities									
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 131,867	\$ 131,867	\$ 131,867	\$ 131,867
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$ 25,943
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$ 25,943
	Engineering									
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 129,714	\$ 129,714	\$ 129,714	\$ 129,714
6.6	LiDAR	1	LS	\$	-	\$ -	\$ 7,783	\$ 7,783	\$ 7,783	\$ 7,783
6.7	Geotech	1	Location	\$	-	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 18,160	\$ 18,160	\$ 18,160	\$ 18,160
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 7,783	\$ 7,783	\$ 7,783	\$ 7,783
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 94	,864	\$ 94,864	\$ -	\$ -	\$ 94,864	\$ 94,864
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 2,594	\$ 2,594	\$ 2,594	\$ 2,594
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 94,864		\$ 419,228		\$ 514,093

Page 49 of 55

NextEra - T021 Enterprise Line - (Segment A) J. Porter Substation - Install

Estimate	E	Total	ċ	1,051,306
Revision:	3	Total.	Ą	1,031,300

NextEra - T021 Enterprise Line - (Segment A)										
		Supply		Installation		Total				
J. Porter Substation - Install										
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$	-				
2. SUBSTATION FOUNDATIONS	\$	-	\$	-	\$	-				
3. SUBSTATION STRUCTURES	\$	-	\$	-	\$	-				
4. MAJOR EQUIPTMENT	\$	-	\$	-	\$	-				
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	-	\$	-				
6. CONTROL HOUSE / PANELS	\$	425,000	\$	425,000	\$	850,000				
7. MISC ITEMS	\$	-	\$	-	\$	-				
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	34,000	\$	167,306	\$	201,306				
CONTRACTOR MARK-UP (OH&P)	\$		\$	-	\$	-				
SUBTOTAL:	\$	459,000	\$	592,306	\$	1,051,306				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL:	\$	459,000	\$	592,306		1,051,306				

Description of Work:

Description	UI WUIK.								
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
J. Porter	Substation - Install								
1. SITE PREP/ O	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	\$ -
1.3	Substation Fence	0	LF	\$ 100	\$ -	\$ 100	\$ -	\$ 200	\$ -
1.4	Permanent Access Road - 20'-Wide	0	LF	\$ 35	\$ -	\$ 285	\$ -	\$ 320	\$ -
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
2. SUBSTATION	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ 14,940	\$ -	\$ 16,000	\$ -	\$ 30,940	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
	Switch Stand Foundations	0	EA	\$ 4,482		\$ 4,800			
	Fuse Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	, .	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	0	EA	\$ 4,482		\$ 4,800	\$ -	\$ 9,282	
	Instrument Transformer Stand Foundations	0	EA	\$ 4,482		\$ 4,800	\$ -	\$ 9,282	
	Arrester Stand Foundations	0	EA	\$ 4,482		\$ 4,800	\$ -	\$ 9,282	•
	Wave Trap Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800		\$ 9,282	\$ -
	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	230kV								
	Circuit Breaker Foundations	0	EA	\$ 11,952	•	\$ 12,800		\$ 24,752	· ·
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410		\$ 24,000	\$ -	, .	
2.2c 2.2d		0 0 0	EA EA EA	\$ 22,410 \$ 22,410 \$ 3,735	\$ -	\$ 24,000 \$ 24,000 \$ 4,000	\$ -		\$ -

Page 50 of 55

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2f	Fuse Stand Foundations	0	EA	\$ 3,735		7 .,	\$ -	\$ 7,735	
2.2g	Bus Support 3ph Foundations	0	EA				\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735		7 .,	\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735			\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA EA	\$ 3,735 \$ 3,735		\$ 4,000 \$ 4,000	\$ - \$ -	\$ 7,735 \$ 7,735	\$ -
2.2m 2.2n	Wave Trap Stand Foundations Station Service Foundations	0	EA EA				<u>-</u>		
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ - \$ -		\$ - \$ -	\$ - \$ -	\$ - \$ -
2.2μ	Misc. Structure Foundations	U	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.3	115kV			-	, -	-	, -	, -	-
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA		\$ -		\$ -	\$ 6,188	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ 2,988		\$ 3,200		\$ 6,188	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	+ -/	\$ -	\$ 6,188	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations	-			4				
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110		\$ 104,000	\$ -		\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700		\$ 80,000	•		\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -		\$ - \$ -	Ÿ.	\$ - \$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	U	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ 76,194	\$ -	\$ 81,600	\$ -	\$ 157,794	\$ -
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -		\$ -	\$ 33,000	\$ -
2.55	School Foundation	Ů	271	7 10,000	*	7 27,000	<u> </u>	ÿ 33,000	· · · · · · · · · · · · · · · · · · ·
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				· ·	*	,	T	*	·
									ı
	TATION FOUNDATIONS				\$ -		\$ -		\$ -
	IN STRUCTURES								
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	<u> </u>	,	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000		\$ 37,000	\$ -	\$ 74,000	\$ -
3.1c	Switch Stands	0	EA	\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
3.1d	Fuse Stand	0	EA	\$ 14,800 \$ -		7 - 1,000	\$ - \$ -	\$ 29,600	\$ -
3.1e 3.1f	Bus Support 3ph Bus Support 1 Ph	0	EA EA	\$ -		\$ - \$ 3,700	т	\$ - \$ 7,400	\$ -
3.1g	Instrument Transformer Stand	0	EA	\$ 3,700		\$ 3,700		\$ 7,400	\$ -
3.1g 3.1h	Arrester Stand	0	EA			, , , , , , , , , , , , , , , , , , , ,	\$ - \$ -	\$ 3,700	\$ -
3.1ii	Wave Trap Stand	0	EA	\$ 7,400		\$ 7,400	·	\$ 14,800	\$ -
3.1k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
				5,5		. 5,5			_
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
		1	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2b	Substation A-Frame Structures - Shared Column	0	LA						
				· ·	Ś -	\$ 12.025	\$ -	\$ 24.050	's -
3.2c	Substation A-Frame Structures - Shared Column Switch Stands Fuse Stand	0	EA	\$ 12,025		\$ 12,025 \$ 12,025		\$ 24,050 \$ 24,050	
3.2c 3.2d	Switch Stands Fuse Stand	0	EA EA	\$ 12,025 \$ 12,025	\$ -	\$ 12,025		\$ 24,050	\$ -
3.2c	Switch Stands	0	EA	\$ 12,025 \$ 12,025	\$ - \$ -	\$ 12,025	\$ - \$ -	\$ 24,050	\$ - \$ -
3.2c 3.2d 3.2e 3.2f	Switch Stands Fuse Stand Bus Support 3ph Bus Support 1 Ph	0 0 0	EA EA EA	\$ 12,025 \$ 12,025 \$ - \$ 2,775	\$ - \$ - \$	\$ 12,025 \$ - \$ 2,775	\$ - \$ - \$ -	\$ 24,050 \$ - \$ 5,550	\$ - \$ - \$
3.2c 3.2d 3.2e	Switch Stands Fuse Stand Bus Support 3ph	0 0	EA EA EA EA	\$ 12,025 \$ 12,025 \$ -	\$ - \$ - \$ -	\$ 12,025 \$ - \$ 2,775 \$ 1,295	\$ - \$ - \$ - \$ -	\$ 24,050 \$ - \$ 5,550 \$ 2,590	\$ - \$ - \$ - \$

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2j	Wave Trap Stand	0	EA	\$ 5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500		\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -		\$ -	\$ 15,910	
3.3d	Fuse Stand	0	EA	\$ 7,955			\$ -	\$ 15,910	
3.3e	Bus Support 3ph	0	EA	\$ 3,330			\$ -	\$ 6,660	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ 1,850		. ,	\$ -	\$ 3,700	
3.3g	Instrument Transformer Stand	0	EA	\$ 740		\$ 740		\$ 1,480	
3.3h	Arrester Stand	0	EA	\$ 740			\$ -	\$ 1,480	
3.3j	Wave Trap Stand	0	EA	\$ 3,700		\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$ 6,475		\$ 6,475	т	\$ 12,950	
3.3K	Wisc. Structures	0	EA	\$ 6,475	ş -	\$ 0,475	ş -	\$ 12,950	, -
TOTAL CLIDS	TATION STRUCTURES				ć		<u> </u>		ć
					\$ -		\$ -		\$ -
4. MAJOR EQU									
4.1	345kV				4		_		
4.1a	Circuit Breakers	0	EA	\$ 200			\$ -	\$ 80,200	
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -		\$ -	\$ 750,000	
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ 115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.20	Capacitor banks	0	LA	-	-	3 80,000	-	3 80,000	-
4.2	115kV								
4.3				4 50,000	A	d 50,000	A	4 442.000	A
4.3a	Circuit Breakers	0	EA	\$ 52,000	\$ -		\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAIO	L DR EQUIPTMENT				\$ -		\$ -		\$ -
	IPTMENT / MATERIALS				, -		· -		, -
5.1	345kV								
		0	ГА	¢ 40,000	ċ	ć 1F.000	ċ	ć	ć
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ 40,000			\$ -	\$ 55,000	\$ - \$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 35,000		, , , , , , , , , , , , , , , , , , , ,	\$ -	ć 12.000	т
5.1c	VT'S	0	EA	\$ -	\$ -		\$ -	\$ 12,000	\$ -
5.1d	CT'S	0	EA	\$ 13,000		. ,	\$ -	\$ 21,000	
5.1e	CCVT'S	0	EA	\$ 13,000			\$ -	\$ 21,000	
5.1f	Arresters	0	EA	\$ 6,500		. ,	\$ -	\$ 8,000	
5.1g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.1h	Station Service Transformers	0	EA	\$ 200,000		\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j	Fuses	0	EA	\$ 15,000	\$ -	\$ 7,500	\$ -	\$ 22,500	\$ -
	lanali.								
5.2	230kV			4 25	4	45.55	•	A 55.000	
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000		. ,	\$ -	\$ 50,000	•
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,000		, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 47,500	
5.2c	VT'S	0	EA	\$ 13,000		,	\$ -	\$ 21,000	\$ -
5.2d	CT'S	0	EA	\$ 13,000			\$ -	\$ 21,000	
5.2e	CCVT'S	0	EA	\$ 10,000		\$ 6,000	\$ -	\$ 16,000	\$ -
5.2f	Arresters	0	EA	\$ 5,000		\$ 6,000	\$ -	\$ 11,000	\$ -
5.2g	Wave Traps	0	EA	\$ 13,000		,	\$ -	\$ 21,000	
5.2h	Station Service Transformers	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
5.2j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ 33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	s -
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000		\$ 17,500		\$ 45,500	
5.3c	VT'S	0	EA	\$ 13,000			\$ -	\$ 21,000	
5.3d	CT'S	0	EA	\$ 13,000		\$ 8,000	<u>'</u>	\$ 21,000	
5.3e	CCVT'S	0	EA	\$ 8,000			\$ -	\$ 16,000	
5.3f	Arresters	0	EA	\$ 3,420		. ,		\$ 16,000	
5.3g	Wave Traps	0	EA				\$ -	\$ 9,420	\$ -
5.3h	Station Service Transformers	0	EA	\$ -			\$ -	\$ -	\$ -
ااد.د	Station Service transformers		EM	1 -	-		-	-	-

Item	Item Description	Estimated Quantity	Unit of Measure	Mat	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
5.3j	Fuses	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
						4				_	
	L EQUIPTMENT / MATERIALS OUSE / PANELS / GENERATOR					\$ -		\$ -		\$	-
6.1	CONTROL HOUSE	0	EA	\$	551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$	_
6.2	Protection and Telecom Equipment	1		\$	425,000	\$ 425,000	\$ 425,000		\$ 850,000	\$	850,000
6.3	125VDC Batteries	0		\$	75,000	\$ -	\$ 25,000		\$ 100,000		-
6.4	Control Cables	0	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.5	SCADA and Communications	0		\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.6	Low Voltage AC Distribution	0		\$	50,000	\$ -	\$ 100,000		\$ 150,000		-
6.7	DC Distribution System	0		\$,	\$ -	\$ 100,000		\$ 150,000		-
6.8	Security Fire Alarm	0		\$	7,500 7,500	\$ - \$ -	\$ 7,500 \$ 7,500		\$ 15,000 \$ 15,000	\$	-
6.10	Generator	0		\$	100,000	•	\$ 80,000		\$ 180,000		-
0.10	Scholator		LA	+ -	100,000	7	3 50,000	1	\$ 100,000	_	
TOTAL - CONT	ROL HOUSE / PANELS / GENERATOR					\$ 425,000		\$ 425,000		\$	850,000
7. MISC ITEMS											
7.1	Conduit & Cable Trench System	0	LF	\$	185.00	\$ -	\$ 170.00	\$ -	\$ 355	\$	-
7.2	Rigid Bus, Fittings & Insulators	0	LS	\$	15,008.40	\$ -	\$ 56,904.00	\$ -	\$ 71,912	\$	-
7.3	Strain Bus, Connectors & Insulators	0	LF	\$	13.38	\$ -	\$ 39.35	\$ -	\$ 53	\$	-
7.4	Grounding System	0	LF	\$	6.93	\$ -	\$ 32.58	\$ -	\$ 40	\$	-
7.5	Strain Bus Insulators - 345kV	0	EA	\$	2,000	\$ -	\$ 1,050	\$ -	\$ 3,050	\$	-
7.6	Strain Bus Insulators - 230kV	0	EA	\$	1,400	\$ -	\$ 750	\$ -	\$ 2,150	\$	-
7.7	Strain Bus Insulators - 115kV	0		\$,	\$ -	\$ 550		\$ 1,550		-
7.8	Low Voltage AC Station Service	0		\$	50,000	\$ -	\$ 75,000		\$ 125,000		-
7.9	SSVT Service	0		\$	45,000		\$ 45,000		\$ 90,000		-
7.10	Control Conduits from Trench to Equipment	0		\$		\$ -	\$ 125,000		\$ 250,000		-
7.11 7.12	Misc. Materials (Above and Below Ground)	0	LS	\$	180,000	\$ -	\$ 180,000	\$ -	\$ 360,000	\$	-
7.12											
7.14											
7.15											
7.16											
7.17											
7.18											
7.19											
7.20				-							
7.21 7.22											
7.23											
7.24											
7.25											
TOTAL - MISC	ITEMS					\$ -		\$ -		\$	-
J. Porter	Substation - Install					\$ 425,000		\$ 425,000		\$	850,000
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
8.1	Mob / Demob	1.0	LS	\$	-	\$ -	\$ 8,500	\$ 8,500	\$ 8,500	\$	8,500
	Project Management, Material Handling & Amenities										
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 43,206	\$ 43,206	\$ 43,206	\$	43,206
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 8,500	\$ 8,500	\$ 8,500	\$	8,500
8.4	Site Accommodation, Facilities, Storage	1		\$	-	\$ -	\$ 8,500				8,500
	Engineering										
8.5	Design Engineering	1		\$		\$ -	\$ 68,000				68,000
8.6	LiDAR	-	LS	\$		\$ -	\$ -		\$ -		-
8.7 8.8	Geotech Surveying/Staking	- 1	EA Site	\$		\$ - \$ -	\$ 3,500 \$ 5,950		\$ 3,500 \$ 5,950		5,950
5.0	Testing & Commissioning	1	JILE	1	-	÷ -	2,950	2,950	2,330	٠	3,930
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 21,250	\$ 21,250	\$ 21,250	\$	21,250
	1 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		-						,	· · · · ·	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	ite	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 2,550	\$ 2,550	\$ 2,550	\$ 2,550
8.13	Real Estate Costs (New)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 34,0	00 \$	34,000	\$ -	\$ -	\$ 34,000	\$ 34,000
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 850	\$ 850	\$ 850	\$ 850
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	34,000		\$ 167,306		\$ 201,306

Page 54 of 55 N. SS Rotterdam-Install

	NextEra - T021 Enterprise Line - (Segment A)
	ESTIMATE ASSUMPTIONS & CLARIFICATIONS
1	Cost Estimate is based on 2017 rates.
2	Construction schedule is in accordance with proposed schedule - we have assumed continuous working with no breaks in the schedule. Six months have been added to the construction schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.).
3	We have assumed a typical work week of five-(5) days per week at ten-(10) hours per day (5 x 10 hour days).
4	All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017.
5	We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type.
6	Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not enough information to provide a quantified estimate for this item, allowance is included in the contingency monies.
7	Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for formal quotes.
8	Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing.
9	A Contractor Mark-Up (OH&P) of 15% has been included in the Total section.
10	We have assumed that all project details provided are accurate unless noted otherwise.
11	Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%)
12	A contractor allowance of 1% for mobilization and demobilization has been included in the total section.
13	A contractor allowance of 4.347% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safety
15	inspector, compliance inspector, environmental inspector, and SWPP inspector.
14	An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section.
	A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section.
	An allowance of 5% for transmission design and engineering has been included in the total section.
	An allowance of 8% for substation design and engineering has been included in the total section.
	An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section.
	An allowance of 0.3% for LIDAR of the transmission line has been included in the total section.
20	An allowance of 3.75% for substation testing and commissioning has been included in the total section.

An allowance of \$20,000.00 per circuit for transmission line testing and commissioning has been included in the total section.

New York state sales tax of 8% is included in all material pricing.

23 An allowance of 1.5% for insurance is included in the DPS sheet.



		NY Power Authority and North American Transmission (T025) Description	Total Amount						
		·	(In thousand \$)						
	1	Transmission Lines							
	1.1	Clearing & Access	\$54,770						
	1.2	Foundations	\$35,794						
	1.3	Structures	\$67,800						
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$37,454						
	1.5	Insulators, Fitting and Hardwares	\$13,068						
		Subtotal (1)	\$208,887						
	2	Substations							
st	2.1	Rotterdam Substation	\$47,629						
t Co	2.2	Edic Substation	\$2,153						
Direct Cost	2.3	Princetown Substation	\$12,713						
Δ	2.4	New Scotland Substation	\$0						
	2.5	Porter Substation	\$546						
	2.6	Knickerbocker Substation	\$67,167						
	2.7	Marcy Substation	\$17,553						
	2.8 Substation Interconnections								
		Subtotal (2)	\$156,062						
		Total (1+2)	\$364,949						
		Contractors Mark-up (15% of Total 1+2)	\$54,742						
		Total Direct Cost (A)	\$419,691						
	3	Technical Services Costs							
	3.1	Contractor Mobilization / Demobilization	\$3,649						
+	3.2	Project Management, Material Handling & Amenities	\$20,483						
Cos	3.3	Engineering	\$26,265						
Indirect Cost	3.4	Testing & Commissioning	\$3,851						
Indi	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$28,307						
	3.6	Compensation for use of NYPA Structures (1 Circuit)	\$8,919						
	3.7	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$9,589						
		Total Indirect Cost (3)	\$101,064						
		Subtotal Project Cost (B=A+3) 2017 \$	\$520,756						
	4	Network Upgrade Facilities (NUF)							
	4.1	NUF proposed as element of the Project (Marcy and Edic Terminals)	\$7,727						
	4.2	NUF identified during Evaluation (765kV Corona Mitigation)	\$116,005						
		Subtotal NUF Cost (C)	\$123,731						
		Total Project Cost (B+C) 2017 \$	\$644,487						
		Total Project Cost 2018 \$	\$663,822						

5/22/2018 Page 1 of 69

Estimate Revision: 7

	NAT & NYPA - T025 - (Segment A, + 765kV) - Direct Costs	Total Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Edic to Princetown	\$ 122,946,653
Direct Labor, Material & Equipment Costs	A1. Marcy Interconnect & New Scotland SS Loop	\$ 27,109,751
Direct Labor, Material & Equipment Costs	B. Transmission Line Princetown to Rotterdam	\$ 20,488,282
Direct Labor, Material & Equipment Costs	C. Transmission Line Princetown to New Scotland	\$ 38,342,499
Direct Labor, Material & Equipment Costs	D. Rotterdam Substation - Install	\$ 44,017,974
Direct Labor, Material & Equipment Costs	E. Rotterdam Substation - Removal	\$ 3,611,030
Direct Labor, Material & Equipment Costs	F. Edic Substation - Install	\$ 2,117,185
Direct Labor, Material & Equipment Costs	G. Edic Substation - Removal	\$ 35,950
Direct Labor, Material & Equipment Costs	H. Princetown Substation - Install	\$ 12,713,164
Direct Labor, Material & Equipment Costs	l.	\$ -
Direct Labor, Material & Equipment Costs	J. Porter Substation - Install	\$ 71,912
Direct Labor, Material & Equipment Costs	K. Porter Substation - Removal	\$ 474,313
Direct Labor, Material & Equipment Costs	L. Interconnection Edic Station	\$ 1,784,075
Direct Labor, Material & Equipment Costs	M. Interconnection New Scotland Station	\$ 2,594,271
Direct Labor, Material & Equipment Costs	N. Interconnection Rotterdam Station	\$ 3,922,412
Direct Labor, Material & Equipment Costs	O. System Upgrade Facilities (765kV Corona Mitigation)	\$ 82,860,450
Direct Labor, Material & Equipment Costs	P. System Upgrade Facilities (Various Stations for Edic to New Scotland)	\$ 5,519,000
Direct Labor, Material & Equipment Costs	Q. Knickerbocker Substation - Install	\$ 67,167,025
Direct Labor, Material & Equipment Costs	R. Marcy Substation - Install	\$ 17,552,506
	SUBTOTAL:	\$ 453,328,452
	CONTRACTOR MARK-UP (OH&P)	\$ 67,999,268
	CONTINGENCY ON ENTIRE PROJECT	\$ -
	TOTAL DIRECT:	\$ 521,327,720

	NAT & NYPA - T025 - (Segment A, + 765kV) - Indirect Costs	Total Each Segment			
Indirect Costs	A. Transmission Line Edic to Princetown	\$	36,074,996		
	A1. Marcy Interconnect & New Scotland SS Loop	\$	7,071,214		
Indirect Costs	B. Transmission Line Princetown to Rotterdam	\$	4,232,179		
Indirect Costs	C. Transmission Line Princetown to New Scotland	\$	8,706,295		
Indirect Costs	D. Rotterdam Substation - Install	\$	10,243,358		
Indirect Costs	E. Rotterdam Substation - Removal	\$	542,106		
Indirect Costs	F. Edic Substation - Install	\$	490,771		
Indirect Costs	G. Edic Substation - Removal	\$	5,361		
Indirect Costs	H. Princetown Substation - Install	\$	3,058,558		
Indirect Costs	l.	\$	-		
Indirect Costs	J. Porter Substation - Install	\$	14,298		
Indirect Costs	K. Porter Substation - Removal	\$	70,732		
Indirect Costs	L. Interconnection Edic Station	\$	316,687		
Indirect Costs	M. Interconnection New Scotland Station	\$	475,944		
Indirect Costs	N. Interconnection Rotterdam Station	\$	631,545		
Indirect Costs	O. System Upgrade Facilities (765kV Corona Mitigation)	\$	20,715,113		
Indirect Costs	P. System Upgrade Facilities (Various Stations for Edic to New Scotland)	\$	1,380,000		
Indirect Costs	Q. Knickerbocker Substation - Install	\$	15,567,255		
Indirect Costs	R. Marcy Substation - Install	\$	3,973,633		
Indirect Costs	Legal and Permitting (Includes Legal, Envir. Lisc. & Permit., and Envir. Mitagation)	\$	9,589,464		
	TOTAL INDIRECT:	\$	123,159,508		
	TOTAL ESTIMATED COST-	ė	644 487 228		

A. Transmission Line Edic to Princetown

Estimate Revision:

7

Total: \$ 159,021,649

NAT & NYPA - T025 - (Segment A, + 765kV)									
		Supply	Installation			Total			
A. Transmission Line Edic to Princetown									
1. CLEARING & ACCESS	\$	41,500	\$	35,680,876	\$	35,722,376			
2. FOUNDATIONS	\$	3,098,282	\$	10,723,946	\$	13,822,229			
3. STRUCTURES	\$	14,839,646	\$	25,190,231	\$	40,029,876			
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	4,932,087	\$	20,895,790	\$	25,827,877			
5. INSULATORS, FITTINGS, HARDWARE	\$	5,125,311	\$	2,418,984	\$	7,544,295			
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	2,242,946	\$	33,832,050	\$	36,074,996			
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-			
SUBTOTAL:	\$	30,279,773	\$	128,741,877	\$	159,021,649			
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-			
TOTAL:	Ś	30.279.773	Ś	128.741.877	Ś	159.021.649			

Item	ltem Description	Estimated Quantity	Unit of Measure	Mat	erial Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate		TOTAL
A. Transı	mission Line Edic to Princetown										
1. CLEARING &	ACCESS										
1.1	Clearing the ROW - Heavy (mowing & clearing)	8.0	Acre	\$	-	\$ -	\$ 15,000	\$ 120,000	\$ 15,000	\$	120,000
1.2	Clearing the ROW - Light (mowing)	194.0	Acre			\$ -	\$ 5,000	\$ 970,000	\$ 5,000	\$	970,000
1.3	Permanent Access Road	70,540.8	LF	\$	-	\$ -	\$ 45				3,174,336
1.4	Silt Fence	352,704.0	LF	\$	-	\$ -	\$ 4	, ,,,,		\$	1,410,816
1.5	Matting - Access and ROW	282,163.2	LF	\$	-	\$ -	\$ 70			\$	19,751,424
1.6	Matting - To Work Area	25,200.0	LF	\$	-	\$ -	\$ 70			\$	1,764,000
1.7	Snow Removal	66.8	Mile	\$	-	\$ -	\$ 16,000	\$ 1,068,800			1,068,800
1.8	ROW Restoration Work Pads	66.8	Mile SF	\$	-	\$ - \$ -	\$ 10,000 \$ 4	\$ 668,000			668,000
1.9	Restoration for Work Pad areas	1,680,000.0 336,000.0	SF SF	\$	-	\$ - \$ -	\$ 4 \$ 0.15	,,		\$	5,913,600 50,400
1.10	Temporary Access Bridge	330,000.0	EA EA	\$	-	\$ - \$ -	\$ 20,035	\$ 50,400	\$ 20,035	_	50,400
1.12	Air Bridge	-	EA	5		\$ -	\$ 14,445	т	\$ 14,445	+	-
1.13	Stabilized Construction Entrance	50	EA	Ś	_	\$ -	\$ 4,580				229,000
1.14	Maintenance and Protection of Traffic on Public Roads	100	EA	Ś	_	\$ -	\$ 4,130			<u> </u>	413,000
1.15	Culverts / Misc. Access	10	EA	\$	750	\$ 7,500	\$ 1,250	. ,			20,000
1.16	Gates	17	EA	\$	2,000	\$ 34,000	\$ 2,500	\$ 42,500	\$ 4,500	\$	76,500
1.17	Concrete Washout Station	50	EA	\$	-	\$ -	\$ 1,850	\$ 92,500	\$ 1,850	\$	92,500
TOTAL - CLEAR	ING & ACCESS:					\$ 41,500		\$ 35,680,876		\$	35,722,376
2. FOUNDATIO	ONS CONTRACTOR OF THE PROPERTY										
2.1	Direct Embed Foundations - 4' x 16'	416	EA	\$	941	\$ 391,345	\$ 7,398	\$ 3,077,513	\$ 8,339	\$	3,468,858
2.2	Direct Embed Foundations - 4' x 17'	2	EA	\$	995	\$ 1,990	\$ 7,833	\$ 15,666	\$ 8,828	\$	17,656
2.3	Direct Embed Foundations - 4' x 19'	52	EA	\$	1,104	\$ 57,404	\$ 8,703	\$ 452,576	\$ 9,807	\$	509,979
2.4	Direct Embed Foundations - 4' x 21'	4	EA	\$	1,213	\$ 4,851	\$ 9,574	\$ 38,295	\$ 10,786	\$	43,146
2.5	Direct Embed Foundations - 4' x 23'	16	EA	\$	1,322	\$ 21,144	\$ 10,444	\$ 167,105	\$ 11,766	\$	188,249
2.6	Direct Embed Foundations - 4' x 25'	4	EA	\$	1,430	\$ 5,721	\$ 11,314	\$ 45,258	\$ 12,745	\$	50,979
2.7	Direct Embed Foundations - 6' x 18'	6	EA	Ś	1,857	\$ 11,145	\$ 18,603	\$ 111,621	\$ 20,461	Ś	122,766
2.8	Direct Embed Foundations - 6' x 19'	6	EA	Ś	1,952	\$ 11,711	\$ 19,583	,	· · · · · · · · · · · · · · · · · · ·		129,207
2.9	Direct Embed Foundations - 6' x 20'	14	EA	Ś	2,046	\$ 28,648	\$ 20,562	\$ 287,864			316,512
2.10	Direct Embed Foundations - 6' x 21'	15	EA	Ś	2,141			,			355,222
2.11	Direct Embed Foundations - 6' x 22'	7	EA	Ś	2,235			. ,			173,285
2.12	Direct Embed Foundations - 6' x 25'	6	EA	Ś	2,518		\$ 25,457	\$ 152,744		_	167,854
2.13	Direct Embed Foundations - 6' x 26'	1	EA	Ś	2,613		\$ 26,437				29,049
2.13	Direct Embed Foundations - 6' x 28'	3	EA	Ś	2,707					_	90,368
2.14	Direct Embed Foundations - 6' x 29'	3	EA	Ś	2,896	,	\$ 29,374		· · · · · · · · · · · · · · · · · · ·	+ -	96,809
2.15	Direct Embed Foundations - 6 x 29	3	EA EA	\$	3,273		\$ 29,374	\$ 88,122			109,691
			EA EA	\$	3,273						
2.17	Direct Embed Foundations - 7' x 27'	2		<u> </u>	,					-	81,305
2.18	Direct Embed Foundations - 7' x 28'	1	EA	\$	3,452					_	42,101
2.19	Direct Embed Foundations - 7' x 49'	1	EA	\$	5,880	\$ 5,880	\$ 66,635	\$ 66,635	\$ 72,515	-	72,515

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate		TOTAL
2.20	Direct Embed Foundations - 7' x 61'	1	EA	\$	7,267	\$ 7,267	\$ 82,628	\$ 82,628	\$ 89,894	\$	89,894
2.21	Drilled Pier - 6' x 20'	54	EA	\$	18,064	\$ 975,459	\$ 18,261	\$ 986,079	\$ 36,325	\$	1,961,539
2.22	Drilled Pier - 7' x 19'	15	EA	\$	23,416	\$ 351,246	\$ 23,671	\$ 355,070	\$ 47,088	\$	706,315
2.23	Drilled Pier - 7' x 21'	12	EA	\$	25,758	\$ 309,096	\$ 26,038	\$ 312,461	\$ 51,796	\$	621,558
2.24	Drilled Pier - 7' x 22'	6	EA	\$	26,929	\$ 161,573	\$ 27,222	\$ 163,332	\$ 54,151	\$	324,905
2.26	Drilled Pier - 7' x 23'	3	EA	\$	28,100	\$ 84,299	\$ 28,406	\$ 85,217	\$ 56,505	\$	169,516
2.27	Drilled Pier - 7' x 33'	6	EA	\$	39,808	\$ 238,847	\$ 40,241	\$ 241,447	\$ 80,049	\$	480,295
2.28	Drilled Pier - 7' x 42'	3	EA	\$	50,345	\$ 151,036	\$ 50,893	\$ 152,680	\$ 101,239	\$	303,716
2.29	Drilled Pier - 8' x 27'	2	EA	\$	42,819	\$ 85,637	\$ 57,340	\$ 114,680	\$ 100,158	\$	200,317
2.30	Drilled Pier - 8' x 29'	2	EA	\$	45,877	\$ 91,754	\$ 61,436	\$ 122,871	\$ 107,313	\$	214,625
2.31	Rock Excavation Adder	1,342	СУ	\$	-	\$ -	\$ 2,000				2,684,000
TOTAL - FOUN	DATIONS:					\$ 3,098,282		\$ 10,723,946		\$	13,822,229
3. STRUCTURE	3										
3.1	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 115'	7	Structure	\$	50,024	\$ 350,168	\$ 30,014	\$ 210,101	\$ 80,038	\$	560,269
3.2	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 120'	4	Structure	\$	52,207	\$ 208,828	\$ 31,324	\$ 125,297	\$ 83,531	\$	334,125
3.3	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 130'	3	Structure	\$	58,257	\$ 174,770	\$ 34,954	\$ 104,862	\$ 93,210	\$	279,631
3.4	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 135'	10	Structure	\$	60,884	\$ 608,835	\$ 36,530	\$ 365,301	\$ 97,414	\$	974,136
3.5	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 145'	1	Structure	\$	64,473	\$ 64,473	\$ 38,684	\$ 38,684	\$ 103,156	\$	103,156
3.6	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 115'	1	Structure	\$	72,039	\$ 72,039	\$ 43,223	\$ 43,223	\$ 115,262	\$	115,262
3.7	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 130'	3	Structure	\$	85,082	\$ 255,245	\$ 51,049			_	408,391
3.8	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 135'	1	Structure	\$	92,278	\$ 92,278	\$ 55,367	\$ 55,367	\$ 147,645	\$	147,645
3.9	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$		\$ 116,328	\$ 69,797			_	186,125
3.10	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 120'	1	Structure	\$	127,558	\$ 127,558	\$ 76,535		\$ 204,092	_	204,092
3.11	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 150'	1	Structure	\$	208,033	\$ 208,033	\$ 124,820	\$ 124,820		_	332,852
3.12	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 160'	1	Structure	\$	238,595	\$ 238,595	\$ 143,157	\$ 143,157		\$	381,751
3.13	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 75'	1	Structure	Ś	-		\$ 14,685	\$ 14,685		_	39,161
3.14	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 80'	2	Structure	Ś	25,826	\$ 51,652	\$ 15,496		\$ 41,322		82,643
3.15	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 84'	169	Structure	Ś	29,526					_	7,983,830
3.16	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 89'	36	Structure	Ś						_	1,883,981
3.17	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 93'	23	Structure	Ś	34,540						1,271,054
3.18	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 98'	10	Structure	3	37,500	\$ 374,995	\$ 22,500			_	599,992
3.19	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 102'	4	Structure	Ś	43,901	\$ 175,602	\$ 26,340			_	280,963
3.20	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 107'	2	Structure	Ś	45,936	\$ 91,871	\$ 27,561	\$ 55,123		_	146,994
3.21	1-CKT 345KV H-FRAME MALL ANGLE (1°-15°) - 80'	2	Structure	Ś	55,241	\$ 110,482	\$ 33,145		\$ 88,386	_	176,771
3.22	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 85'	19		Ś			\$ 34,688	\$ 659,063			1,757,500
3.23		2	Structure	\$	61,050	\$ 1,098,438	\$ 36,630			_	1,757,300
	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 90'		Structure					,		_	
3.24	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 95'	2	Structure	\$	65,120	\$ 130,240	\$ 39,072	\$ 78,144	·		208,384
3.25 3.26	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 100'	1	Structure	\$	68,635	\$ 68,635	\$ 41,181 \$ 43,723	\$ 41,181		_	109,816
	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 105'	1	Structure		72,872					_	116,594
3.27	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 75'	2	Structure	\$	61,513	\$ 123,025	\$ 36,908	. ,	\$ 98,420	-	196,840
3.28	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 80'	3	Structure	\$	69,079					_	331,579
3.29	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 85'	4	Structure	\$	75,739					_	484,730
3.30	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 90'	4	Structure	\$							521,552
3.31	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 80'	1	Structure	\$	97,403	\$ 97,403	\$ 58,442	,	\$ 155,844		155,844
3.32	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 85'	6	Structure	\$,	\$ 634,809	\$ 63,481			_	1,015,694
3.33	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90'	6	Structure	\$	117,253				·	_	1,125,629
3.34	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 95'	1	Structure	\$	129,408						207,052
3.35	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$	178,026		\$ 106,815	\$ 106,815		_	284,841
3.36	Remove Existing Foundation	50	EA	\$	-	\$ -	\$ 7,500	\$ 375,000		_	375,000
3.37	Remove Existing Structure and Accessories	994	EA	\$		\$ -	\$ 12,500			_	12,425,000
3.38	Install Grounding and Grounding Accessories	666	Pole	\$	506		\$ 5,539	\$ 3,688,641	\$ 6,045		4,025,637
TOTAL - STRUC						\$ 14,839,646		\$ 25,190,231		\$	40,029,876
	R, SHIELDWIRE, OPGW										
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	2,228,688	LF	\$	1.90					_	15,377,947
4.2	(1) OPGW 36 Fiber AC-33/38/571	301,594	LF	\$	1.35	\$ 407,152	\$ 5.00	\$ 1,507,970	\$ 6.35	i Ś	1,915,122

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
4.3	(1) 3/8" EHS7 Steel	271,656	LF	\$ 0.47	\$ 127,678	\$ 5.00	\$ 1,358,280	\$ 5.47	\$ 1,485,958
4.4									
4.5									
4.6									
4.7	Remove Existing Conductor and Accessories	121.0	Mile	\$ -	\$ -	\$ 30,000	\$ 3,630,000	\$ 30,000.00	\$ 3,630,000
4.8	Remove Existing OPGW and Accessories	108.4	Mile	\$ -	\$ -	\$ 12,000	\$ 1,300,800	,	\$ 1,300,800
4.9	Remove Existing OHSW and Accessories	108.4	Mile	\$ -	\$ -	\$ 12,000	\$ 1,300,800	\$ 12,000.00	\$ 1,300,800
4.10									
4.11									
4.12	21. 2.1. (127	22			4 452 750		4 225 500	å 5.250.00	4 400.000
4.13	Rider Poles (187 Locations)	93	Set	\$ 1,750	\$ 162,750	\$ 3,500		\$ 5,250.00	\$ 488,250
4.14	Rider Poles - Relocated UCTOR, SHIELDWIRE, OPGW:	94	Set	\$ -	\$ - \$ 4.932.087	\$ 3,500	\$ 329,000 \$ 20,895,790	\$ 3,500.00	\$ 329,000 \$ 25.827.877
					\$ 4,932,087		\$ 20,895,790		\$ 25,827,877
5. INSULATOR 5.1	, FITTINGS, HARDWARE	1,276	Assembly	\$ 1,800	\$ 2,296,800	\$ 720	\$ 918,720	\$ 2,520	\$ 3,215,520
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	480	Assembly	\$ 1,800	\$ 2,296,800	\$ 720	\$ 345,600		\$ 3,213,320
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	400		3 1,800	\$ 604,000	3 720	\$ 343,000	\$ 2,320	\$ 1,209,000
5.4	OPGW Assembly - Tangent	304	Assembly Assembly	\$ 200	\$ 60,800	\$ 150	\$ 45,600	7	\$ 106,400
5.5	OPGW Assembly - Tangent OPGW Assembly - Angle / DE	64	Assembly	\$ 250	\$ 16,000	\$ 150			\$ 25,600
5.6	OHSW Assembly - Tangent	274	Assembly	\$ 200	\$ 54,800				
5.7	OHSW Assembly - Angle / DE	56	Assembly	\$ 250	\$ 14,000	\$ 150	\$ 8,400		\$ 22,400
5.8	OPGW Splice Boxes	27	Assembly	\$ 1,746	\$ 47,146	\$ 2,274			\$ 108,544
5.9	OPGW Splice & Test	27	EA	\$ 2,520	\$ 68,040	\$ 2,520	\$ 68,040	\$ 5,040	\$ 136,080
5.10	Spacer - Conductor	5,244	EA	\$ 50	\$ 262,200	\$ 35	\$ 183,540	\$ 85	\$ 445,740
5.11	Vibration Dampers - Conductor	4,164	EA	\$ 35	\$ 145,740	\$ 35	. ,	\$ 70	\$ 291,480
5.12	Shield wire / OPGW Dampers, Misc. Fittings	1,087	EA	\$ 27	\$ 29,349	\$ 35			\$ 67,394
5.13	Replace - Mono Pole Vertical Tangent (1-Group of 18-Bells Each Assembly)	480	Assembly	\$ 1,800	\$ 864,000	\$ 720	\$ 345,600		\$ 1,209,600
5.14	Replace - Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	195	Assembly	\$ 1,800	\$ 351,000	\$ 720	\$ 140,400	\$ 2,520	\$ 491,400
5.15	Guys, Anchors, and Accessories	-	EA	\$ 912	\$ -	\$ 1,058	\$ -	\$ 1,970	\$ -
5.16	Misc. materials (Signs and Markers)	66.8	Mile	\$ 770	\$ 51,436	\$ 1,006	\$ 67,201	\$ 1,776	\$ 118,637
TOTAL - INSUI	ATORS, FITTINGS, HARDWARE:				\$ 5,125,311		\$ 2,418,984		\$ 7,544,295
A. Trans	mission Line Edic to Princetown				\$ 28,036,826		\$ 94,909,827		\$ 122,946,653
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
O. IVICO/ DEIVI	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 1,229,467	\$ 1,229,467	\$ 1,229,467	\$ 1,229,467
	Project Management, Material Handling & Amenities			-	7	7 -,,	,,	7	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 4,441,442	\$ 4,441,442	\$ 4,441,442	\$ 4,441,442
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 1,229,467	\$ 1,229,467	\$ 1,229,467	\$ 1,229,467
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,229,467	\$ 1,229,467	\$ 1,229,467	\$ 1,229,467
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 6,147,333			
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 368,840			
6.7	Geotech	67	Location	\$ -	\$ -	\$ 3,500			\$ 234,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 860,627	\$ 860,627	\$ 860,627	\$ 860,627
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs			1.		_	_		
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	-	\$ -
6.12	Warranties / LOC's	1		\$ -	\$ -	\$ 368,840		,	\$ 368,840
6.13	Real Estate Costs (New ROW)	1		\$ -	\$ - \$ -	\$ -	\$ -		\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS LS	\$ -		\$ 8,640,000 \$ -			
6.15	Legal Fees Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -		\$ - \$ -	\$ -	·	\$ - \$ -
6.16	Allowance for Funds Osed During Construction (APODC)	-	LS	\$ -	\$ -	- ډ	٠ -	\$ -	· ·

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Sum	Labor & Equipment Labor & Equipment Supply Rate Sum		Total Unit Rate	TOTAL
6.17	Compensation for use of 1 Ckt - NYPA Structures (92 Structures)	1	LS	\$	-	\$ -	\$ 8,919,123	\$ 8,919,123	\$ 8,919,123	\$ 8,919,123
6.18	Sales Tax on Materials	1	LS	\$	2,242,946	\$ 2,242,946	\$ -	\$ -	\$ 2,242,946	\$ 2,242,946
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 122,947	\$ 122,947	\$ 122,947	\$ 122,947
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 2,242,946		\$ 33,832,050		\$ 36,074,996

Page 6 of 69

A. TL Edic-Princetown

A1. Marcy Interconnect & New Scotland SS Loop

NAT & NYPA - T025 - (Segment A, + 765kV)		
	Total:	\$ 34,180,965

NAT & NYPA - T025 - (Segn	NAT & NYPA - T025 - (Segment A, + 765kV)								
		Supply	I.	nstallation		Total			
A1. Marcy Interconnect & New Scotland SS Loop									
1. CLEARING & ACCESS	\$	-	\$	4,749,184	\$	4,749,184			
2. FOUNDATIONS	\$	5,113,108	\$	6,968,775	\$	12,081,883			
3. STRUCTURES	\$	3,973,368	\$	3,182,477	\$	7,155,845			
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	682,610	\$	1,278,833	\$	1,961,442			
5. INSULATORS, FITTINGS, HARDWARE	\$	706,655	\$	454,742	\$	1,161,397			
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	838,059	\$	6,233,155	\$	7,071,214			
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-			
SUBTOTAL:	\$	11,313,799	\$	22,867,166	\$	34,180,965			
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-			
TOTAL:	\$	11,313,799	\$	22,867,166	\$	34,180,965			

D	escri	iptic	on of	W	or	k:

Estimate Revision:

Item	ltem Description	Estimated Quantity	Unit of Measure	Mater	rial Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	тот	Γ AL
A1. Mar	cy Interconnect & New Scotland SS Loop										
1. CLEARING 8	ACCESS										
1.1	Clearing the ROW - Heavy (mowing & clearing)	98.0	Acre	\$	-	\$ -	\$ 15,000	\$ 1,470,000	\$ 15,000	\$ 1	1,470,000
1.2	Clearing the ROW - Light (mowing)	2.0	Acre			\$ -	\$ 5,000		\$ 5,000	\$	10,000
1.3	Permanent Access Road	2,851.2	LF	\$	-	\$ -	\$ 45		\$ 45	-	128,304
1.4	Silt Fence	14,256.0	LF	\$	-	\$ -	\$ 4			\$	57,024
1.5	Matting - Access and ROW	11,404.8	LF	\$	-	\$ -	\$ 70				798,336
1.6	Matting - To Work Area	25,200.0	LF	\$	-	\$ -	\$ 70				1,764,000
1.7	Snow Removal	2.7	Mile	\$	-	\$ -	\$ 16,000		\$ 16,000		43,200
1.8	ROW Restoration	2.7	Mile	\$	-	\$ -	\$ 10,000		\$ 10,000		26,600
1.9	Work Pads	120,000.0	SF	\$	-	\$ -		\$ 422,400		\$	422,400
1.10	Restoration for Work Pad areas	24,000.0	SF	\$	-	\$ -	\$ 0.15		\$ 0.15		3,600
1.11	Temporary Access Bridge	-	EA	\$	-	\$ -	\$ 20,035		\$ 20,035		-
1.12	Air Bridge	-	EA	\$	-	\$ -	\$ 14,445		\$ 14,445		-
1.13	Stabilized Construction Entrance	4.0	EA	\$	-	\$ -	\$ 4,580			-	18,320
1.14	Maintenance and Protection of Traffic on Public Roads	-	LS	\$	-	\$ -	\$ 300,000		\$ 300,000		-
1.15	Culverts / Misc. Access	-	EA	\$	750		\$ 1,250		\$ 2,000		-
1.16	Gates	-	EA	\$	2,000	\$ -	\$ 2,500		\$ 4,500		-
1.17	Concrete Washout Station	4.0	EA	\$	-	\$ -	\$ 1,850		\$ 1,850		7,400
	RING & ACCESS:					\$ -		\$ 4,749,184		\$ 4	4,749,184
2. FOUNDATIO											
2.1	1-CKT 765KV 3-POLE LARGE ANGLE DEADEND (INNER POLE)	2	EA	\$	130,812	\$ 261,624			\$ 263,048		526,096
2.2	1-CKT 765KV 3-POLE LARGE ANGLE DEADEND (OUTER POLE)	4	EA	\$	130,812	\$ 523,248			\$ 263,048		1,052,192
2.3	1-CKT 765KV 3-POLE MEDIUM ANGLE DEADEND (INNER POLE)	2		\$	130,812	\$ 261,624					526,096
2.4	1-CKT 765KV 3-POLE MEDIUM ANGLE DEADEND (OUTER POLE)	4	EA	\$	130,812	\$ 523,248			\$ 263,048		1,052,192
2.5	1-CKT 765KV H-FRAME TANGENT	12	EA	\$	130,812	\$ 1,569,743			\$ 263,048	-	3,156,576
2.6	1-CKT 765KV 3-POLE LARGE ANGLE DEADEND (INNER POLE)	1	EA	\$	140,973	\$ 140,973			\$ 283,481		283,481
2.7	1-CKT 765KV 3-POLE LARGE ANGLE DEADEND (OUTER POLE)	2		\$	140,973	\$ 281,946					566,961
2.8	1-CKT 765KV 3-POLE MEDIUM ANGLE DEADEND (INNER POLE)	1	EA	\$	140,973	\$ 140,973			\$ 283,481		283,481
2.9	1-CKT 765KV 3-POLE MEDIUM ANGLE DEADEND (OUTER POLE)	2		\$	140,973	\$ 281,946					566,961
2.10	1-CKT 765KV H-FRAME TANGENT	8	EA	\$	140,973	\$ 1,127,784	\$ 142,508	\$ 1,140,062	\$ 283,481	\$ 2	2,267,846
2.11	Rock Excavation	900	СҮ	\$	-	\$ -	\$ 2,000	\$ 1,800,000	\$ 2,000	\$ 1	1,800,000
2.12											
2.13											
2.14											
2.15											
TOTAL - FOUN	DATIONS:					\$ 5,113,108		\$ 6,968,775		\$ 12	2,081,883
3. STRUCTURE	S										
3.1	1-CKT 765KV 3-POLE LARGE ANGLE DEADEND	2	Structure	\$	255,540.50	\$ 511,081	\$ 153,324.30	\$ 306,649	\$ 408,865	\$	817,730
3.1	1-CKT 765KV 3-POLE LARGE ANGLE DEADEND	2	Structure	\$	255,540.50	\$ 511,081	\$ 153,324.30	\$ 306,649	\$ 408,865		

Item	Item Description	Estimated Quantity	Unit of Measure	Mat	erial Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
3.2	1-CKT 765KV 3-POLE MEDIUM ANGLE DEADEND	2	Structure	\$	255,540.50	\$ 511,081	\$ 153,324.30	\$ 306,649	\$ 408,865	\$ 817,730
3.3	1-CKT 765KV H-FRAME TANGENT	6	Structure	\$		\$ 1,533,243			\$ 408,865	\$ 2,453,189
3.4	1-CKT 765KV 3-POLE LARGE ANGLE DEADEND	1	Structure	\$	233,291.17		\$ 139,974.70			\$ 373,266
3.5	1-CKT 765KV 3-POLE MEDIUM ANGLE DEADEND	1	Structure	\$	233,291.17		\$ 139,974.70			\$ 373,266
3.6	1-CKT 765KV H-FRAME TANGENT	4	Structure	\$	233,291.17	\$ 933,165			\$ 373,266	
3.7	Remove Existing Structure and Accessories - Lattice	3	EA	\$	-		\$ 12,500		\$ 12,500	
3.8	Remove Existing Structure and Accessories - 3-Pole	3	EA	\$	-		\$ 37,500		\$ 37,500	
3.9	Remove Existing Structure and Accessories - H-Frame	11	EA	\$	-		\$ 12,500	\$ 137,500		\$ 137,500
3.10	Remove Existing Foundation	43	EA	\$	-		\$ 7,500 \$ 5.539			\$ 322,500
3.11	Install Grounding and Grounding Accessories	36	Pole	\$	506	\$ 18,216	\$ 5,539	\$ 199,386	\$ 6,045	\$ 217,602
3.13										
3.14				-						
3.15				 						
3.16										
3.17										
TOTAL - STRUC	CTURES:					\$ 3,973,368		\$ 3,182,477		\$ 7,155,845
	R, SHIELDWIRE, OPGW					7 2,012,000		-		7 1,200,010
4.1	765kV - (1) 1351.5kcmil 54/19 ACSR " <u>Martin</u> "	176,964	LF	\$	3.59	\$ 634,770	\$ 5.00	\$ 884,820	\$ 8.59	\$ 1,519,590
4.2	(1) OPGW 36 Fiber AC-33/38/571	14,747	LF	\$	1.35	\$ 19,909	\$ 5.00	\$ 73,736	\$ 6.35	\$ 93,645
4.3	(1) 3/8" EHS7 Steel	14,747	LF	\$	0.47	\$ 6,931	\$ 5.00			\$ 80,667
4.4	Remove Existing Conductor and Accessories	2.66	Mile	\$	-	\$ -	\$ 45,000	\$ 119,700	\$ 45,000.00	\$ 119,700
4.5	Remove Existing OPGW and Accessories	2.66	Mile	\$	-	\$ -	\$ 12,000	\$ 31,920	\$ 12,000.00	
4.6	Remove Existing OHSW and Accessories	2.66	Mile	\$	-	\$ -	\$ 12,000	\$ 31,920	\$ 12,000.00	\$ 31,920
4.7	Rider Poles	12	Set	\$	1,750	\$ 21,000	\$ 3,500		\$ 5,250.00	
4.8	Rider Poles - Relocated	6	Set	\$	-	\$ -	\$ 3,500	\$ 21,000	\$ 3,500.00	\$ 21,000
4.9										
4.10										
4.11				_						
4.12				-						
4.13 4.14										
4.14										
4.16										
4.17										
	UCTOR, SHIELDWIRE, OPGW:					\$ 682,610		\$ 1,278,833		\$ 1,961,442
	, FITTINGS, HARDWARE					,		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
5.1	765kV Tangent (1-Group of 40-Bells Each Assembly)	60	Assembly	\$	4,000	\$ 240,000	\$ 1,440	\$ 86,400	\$ 5,440	\$ 326,400
5.2	765kV Dead-end & Angle Insulators (1-Group of 40-Bells Each Assembly)	90	Assembly	\$	4,000	\$ 360,000	\$ 1,440	\$ 129,600	\$ 5,440	\$ 489,600
5.3			-							\$ -
5.4	OPGW Assembly - Tangent	10	Assembly	\$	200	\$ 2,000	\$ 150	\$ 1,500	\$ 350	\$ 3,500
5.5	OPGW Assembly - Angle / DE	12	Assembly	\$	250	\$ 3,000	\$ 150			\$ 4,800
5.6	OHSW Assembly - Tangent	10	Assembly	\$	200		\$ 150		\$ 350	
5.7	OHSW Assembly - Angle / DE	12	Assembly	\$	250	,	\$ 150			\$ 4,800
5.8	OPGW Splice Boxes	4	Assembly	\$	1,746		\$ 2,274		\$ 4,020	
5.9	OPGW Splice & Test	4	EA EA	\$	2,520	\$ 10,080	\$ 2,520		,	\$ 20,160
5.10 5.11	Spacer - Conductor Vibration Dampers - Conductor	531 531	EA EA	\$	50 35	\$ 26,550 \$ 18,585	\$ 35 \$ 35		\$ 85 \$ 70	\$ 45,135 \$ 37,170
5.11	Shield wire / OPGW Dampers, Misc. Fittings	88	EA EA	\$	27		\$ 35		7	\$ 37,170
5.12	Splicing at existing 765kV DE	4	LS	\$	7,500				\$ 50,000	
5.14	Guys, Anchors, and Accessories	-	EA	\$	-		\$ 42,300	\$ 170,000		\$ 200,000
5.15	Misc. materials (Signs and Markers)	2.7	Mile	\$	770				\$ 1,776	
5.16		2.7		Ť	,,,	,073	,		,,,,,	,,,,,,,
5.17										
5.18										
5.19										
5.20										
TOTAL - INSUL	ATORS, FITTINGS, HARDWARE:					\$ 706,655		\$ 454,742		\$ 1,161,397
	cy Interconnect & New Scotland SS Loop					\$ 10,475,740		\$ 16,634,011		\$ 27,109,751
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization			<u> </u>						
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 271,098	\$ 271,098	\$ 271,098	\$ 271,098

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 979,338	\$ 979,338	\$ 979,338	\$ 979,338
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 271,098	\$ 271,098	\$ 271,098	\$ 271,098
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 271,098	\$ 271,098	\$ 271,098	\$ 271,098
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,355,488	\$ 1,355,488	\$ 1,355,488	\$ 1,355,488
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 81,329	\$ 81,329	\$ 81,329	\$ 81,329
6.7	Geotech	3	Location	\$ -	\$ -	\$ 3,500	\$ 10,500	\$ 3,500	\$ 10,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 189,768	\$ 189,768	\$ 189,768	\$ 189,768
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 81,329	\$ 81,329	\$ 81,329	\$ 81,329
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ 2,187,000	\$ 2,187,000	\$ 2,187,000	\$ 2,187,000
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 468,000	\$ 468,000	\$ 468,000	\$ 468,000
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 838,059	\$ 838,059	\$ -	\$ -	\$ 838,059	\$ 838,059
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 27,110	\$ 27,110	\$ 27,110	\$ 27,110
TOTAL - MOB,	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 838,059		\$ 6,233,155		\$ 7,071,214

B. Transmission Line Princetown to Rotterdam

Estimate Revision: 7 Total: \$ 24,720,461

NAT & NYPA - T025 - (Segment A	, + 765	5kV)		
		Supply	Installation	Total
B. Transmission Line Princetown to Rotterdam				
1. CLEARING & ACCESS	\$	6,000	\$ 3,038,200	\$ 3,044,200
2. FOUNDATIONS	\$	417,002	\$ 3,778,708	\$ 4,195,711
3. STRUCTURES	\$	3,876,135	\$ 4,280,943	\$ 8,157,078
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	722,365	\$ 2,620,705	\$ 3,343,070
5. INSULATORS, FITTINGS, HARDWARE	\$	1,199,031	\$ 549,192	\$ 1,748,223
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	497,643	\$ 3,734,537	\$ 4,232,179
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	6,718,177	\$ 18,002,285	\$ 24,720,461
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	6,718,177	\$ 18,002,285	\$ 24,720,461

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply R	te Mat	aterial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
B. Transı	mission Line Princetown to Rotterdam									
1. CLEARING &	ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	\$	-	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	24.0	Acre	\$	\$	-	\$ 5,000	\$ 120,000	\$ 5,000	\$ 120,000
1.3	Permanent Access Road	5,280	LF	7	\$	-	\$ 45		\$ 45	
1.4	Silt Fence	26,400	LF	\$	- 7	-	\$ 4	1,		\$ 105,600
1.5	Matting - Access and ROW	21,120	LF	\$	- 7		\$ 70		\$ 70	
1.6	Matting - To Work Area	2,775	LF	\$	Y	-	\$ 70		\$ 70	
1.7	Snow Removal	5	Mile	\$	Ψ.	-	\$ 16,000		\$ 16,000	
1.8	ROW Restoration	5	Mile	'	\$		\$ 10,000		\$ 10,000	
1.9	Work Pads	185,000	SF	т	\$		\$ 4	1 , , , , , ,		\$ 651,200
1.10	Restoration for Work Pad areas	37,000	SF	\$	Ψ.		\$ 0.2	\$ 5,550		\$ 5,550
1.11	Temporary Access Bridge	-	EA EA			-	,	\$ -	\$ 20,035 \$ 14,445	
1.12	Air Bridge Stabilized Construction Entrance	- 10	EA EA	\$	- 7	-	\$ 14,445 \$ 4,580	Y	\$ 14,445	
1.13	Maintenance and Protection of Traffic on Public Roads	10	EA EA	\$	- +	-	\$ 4,380	, , ,	\$ 4,380	
1.15	Gates	-	EA	Y	00 \$		\$ 2,500		\$ 4,500	
1.16	Culverts / Misc. Access	- 8	EA		50 \$	6,000			\$ 2,000	
1.17	Concrete Washout Station	10	EA		\$		\$ 1,850		\$ 1,850	
TOTAL - CLEAR		10	EA.	,	Ś	6,000	7 1,030	\$ 3,038,200	7 1,030	\$ 3,044,200
2. FOUNDATIO					-	5,555		7 3,000,000		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
2.1	Direct Embed Foundations - 6' x 18'	56	EA	\$ 1,8	57 \$	104,018	\$ 18,603	\$ 1,041,794	\$ 20,461	\$ 1,145,812
2.2	Direct Embed Foundations - 6' x 20'	4	EA	\$ 2,0	46 \$		\$ 20,562	\$ 82,247	\$ 22,608	
2.3	Direct Embed Foundations - 6' x 22'	8	EA	\$ 2,2	35 \$	17,880	\$ 22,520	\$ 180,160	\$ 24,755	\$ 198,040
2.4	Direct Embed Foundations - 7' x 25'	4	EA	\$ 3,1	05 \$	12,422	\$ 34,650	\$ 138,601	\$ 37,756	\$ 151,023
2.5	Drilled Pier - 6' x 19'	6	EA	\$ 17,2	04 \$	103,223	\$ 17,391	\$ 104,347	\$ 34,595	\$ 207,570
2.6	Drilled Pier - 8' x 27'	4	EA	\$ 42,8	19 \$	171,274	\$ 57,340	\$ 229,359	\$ 100,158	\$ 400,633
2.7	Rock Excavation Adder	1,001.1	CY	\$	\$	-	\$ 2,000	\$ 2,002,200	\$ 2,000	\$ 2,002,200
TOTAL - FOUN	DATIONS:				\$	417,002		\$ 3,778,708		\$ 4,195,711
3. STRUCTURE	S									
3.1	2x 1-CKT 345KV DELTA TANGENT (0°-1°) - 115'	24	Structure	\$ 85,5	44 \$	2,053,056	\$ 51,326	\$ 1,231,834	\$ 136,870	\$ 3,284,890
3.2	2x 1-CKT 345KV DELTA TANGENT (0°-1°) - 135'	2	Structure	\$ 106,0	05 \$	212,010	\$ 63,603	\$ 127,206	\$ 169,608	\$ 339,216
3.3	2x 1-CKT 345KV DELTA SMALL ANGLE (1°-15°) - 115'	2	Structure	\$ 141,6	73 \$	283,346	\$ 85,004	\$ 170,008	\$ 226,677	\$ 453,354
3.4	2x 1-CKT 345KV VERTICAL TANGENT DEADEND (0°-5°) - 115'	4	Structure	\$ 109,8	16 \$	439,264	\$ 65,890	\$ 263,558	\$ 175,706	\$ 702,822
3.5	2x 1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	2	Structure		56 \$	465,312		\$ 279,187	\$ 372,250	
3.6	2x 1-CKT 345KV 3-POLE LARGE ANGLE DEADEND (60°-90°) - 115'	1	Structure	\$ 176,3	42 \$	176,342	\$ 105,805	\$ 105,805	\$ 282,147	\$ 282,147
3.7	2x 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 65′	1	Structure	\$ 99,4	93 \$	99,493	\$ 59,696		\$ 159,189	\$ 159,189

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.8	2x 1-CKT 345KV DELTA TANGENT (0°-1°) HD- 115'	1	Structure	\$ 105,820	\$ 105,820	\$ 63,492	\$ 63,492	\$ 169,312	\$ 169,312
3.9	Remove Existing Foundation	22	EA	\$ -	\$ -	\$ 7,500	\$ 163,500	\$ 7,500	\$ 163,500
3.10	Remove Existing Structure and Accessories	109	EA	\$ -	\$ -	\$ 12,500	\$ 1,362,500	\$ 12,500	\$ 1,362,500
3.11	Install Grounding and Grounding Accessories	82	Pole	\$ 506	\$ 41,492	\$ 5,539	\$ 454,157	\$ 6,045	\$ 495,649
TOTAL - STRU	ICTURES PRINCTOWN TO NEW SCOTLAND:				\$ 3,876,135		\$ 4,280,943		\$ 8,157,078
4. CONDUCT	OR, SHIELDWIRE, OPGW								
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal" (R1 - R36)	339,293	LF	\$ 1.90	\$ 644,657	\$ 5.00	\$ 1,696,465	\$ 6.90	\$ 2,341,122
4.2	(1) OPGW 36 Fiber AC-33/38/571 (R1 - R36)	28,274	LF	\$ 1.35	\$ 38,170	\$ 5.00	\$ 141,370	\$ 6.35	\$ 179,540
4.3	(1) 3/8" EHS7 Steel (R1 - R36)	28,274	LF	\$ 0.47	\$ 13,289	\$ 5.00	\$ 141,370	\$ 5.47	\$ 154,659
4.5	Remove Existing Conductor and Accessories	10.0	Mile	\$ -	\$ -	\$ 30,000	\$ 300,000	\$ 30,000.00	\$ 300,000
4.6	Remove Existing OPGW and Accessories	10.0	Mile	\$ -	\$ -	\$ 12,000	\$ 120,000	\$ 12,000.00	\$ 120,000
4.7	Remove Existing OHSW and Accessories	10.0	Mile	\$ -	\$ -	\$ 12,000	\$ 120,000	\$ 12,000.00	\$ 120,000
4.8	Rider Poles	15	EA	\$ 1,750	\$ 26,250	\$ 3,500	\$ 52,500	\$ 5,250.00	\$ 78,750
4.9	Rider Poles - Relocated	14	Set	\$ -	\$ -	\$ 3,500	\$ 49,000	\$ 3,500.00	\$ 49,000
TOTAL: CONI	DUCTOR, SHIELDWIRE, OPGW:				\$ 722,365		\$ 2,620,705		\$ 3,343,070
5. INSULATO	R, FITTINGS, HARDWARE								
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	348	Assembly	\$ 1,800	\$ 626,400	\$ 720	\$ 250,560	\$ 2,520	\$ 876,960
5.2	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	240	Assembly	\$ 1,800	\$ 432,000	\$ 720	\$ 172,800	\$ 2,520	\$ 604,800
5.3	OPGW Assembly - Tangent	29	Assembly	\$ 200	\$ 5,800	\$ 150	\$ 4,350	\$ 350	\$ 10,150
5.4	OPGW Assembly - Angle / DE	16	Assembly	\$ 250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.5	OHSW Assembly - Tangent	29	Assembly	\$ 200	\$ 5,800	\$ 150	\$ 4,350	\$ 350	\$ 10,150
5.6	OHSW Assembly - Angle / DE	16	Assembly	\$ 250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.7	OPGW Splice Boxes	8	Assembly	\$ 1,746	\$ 13,969	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161
5.8	OPGW Splice & Test	8	EA	\$ 2,520	\$ 20,160	\$ 2,520	\$ 20,160	\$ 5,040	\$ 40,320
5.9	Spacer - Conductor	1,002	EA	\$ 50	\$ 50,100	\$ 35	\$ 35,070		\$ 85,170
5.10	Vibration Dampers - Conductor	852	EA	\$ 35	\$ 29,820	\$ 35	\$ 29,820		\$ 59,640
5.11	Shieldwire / OPGW Dampers, Misc. Fittings	116	EA	\$ 27	\$ 3,132	\$ 35	\$ 4,060		\$ 7,192
5.12	Guys, Anchors, and Accessories	-	EA	\$ 912	\$ -	\$ 1,058	\$ -		\$ -
5.13	Misc. materials (Signs and Markers)	5.0	Mile	\$ 770	\$ 3,850	\$ 1,006	\$ 5,030		\$ 8,880
	ILATORS, FITTINGS, HARDWARE:	3.0	Wille	7 770	\$ 1,199,031	ý 1,000	\$ 549,192	3 1,770	\$ 1,748,223
	smission Line Princetown to Rotterdam				\$ 6,220,534		\$ 14,267,748		\$ 20,488,282
6. MOB/DEN	IOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS								
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 204,883	\$ 204,883	\$ 204,883	\$ 204,883
	Project Management, Material Handling & Amenities Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost								
6.2	Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 740,138		· ·	\$ 740,138
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 204,883	\$ 204,883		\$ 204,883
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 204,883	\$ 204,883	\$ 204,883	\$ 204,883
6.5	Engineering Design Engineering	1	LS	\$ -	\$ -	\$ 1,024,414	\$ 1,024,414	\$ 1,024,414	\$ 1,024,414
	Design Engineering			· .	7				
6.6	LiDAR Geotech	5	LS	\$ - \$ -	\$ - \$ -	\$ 61,465 \$ 3,500	\$ 61,465 \$ 17,500	\$ 61,465 \$ 3,500	\$ 61,465 \$ 17,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	, ,,,,,,	\$ 143,418	,	\$ 143,418
0.0	Testing & Commissioning			,	,	7 143,410	7 143,410	Ţ 143,410	, 143,410
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
0.5	Permitting and Additional Costs	1	LJ	· ·	· ·	y 40,000	÷ +0,000	40,000	0,000
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -			\$ -		\$ -
6.12	Warranties / LOC's	1	LS	\$ -		\$ 61,465	\$ 61,465		
6.13	Real Estate Costs (New ROW)	1		\$ -		\$ -	\$ -		\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -			\$ 1,011,000		
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
6.17			LS	\$ -			\$ -		\$ -
6.18	Sales Tax on Materials	1	LS	\$ 497,643	\$ 497,643	\$ -	\$ -		\$ 497,643

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 20,488	\$ 20,488	\$ 20,488	\$ 20,488
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 497,643		\$ 3,734,537		\$ 4,232,179

Page 12 of 69
B. TL Princetown-Rotterdam

C. Transmission Line Princetown to New Scotland

Estimate Revision: 7 Total: \$ 47,048,794

NAT & NYPA - T025 - (Segment A, +	765kV)				
		Supply	Installation Total			Total
C. Transmission Line Princetown to New Scotland						
1. CLEARING & ACCESS	\$	31,000	\$	11,223,694	\$	11,254,694
2. FOUNDATIONS	\$	1,194,705	\$	4,499,949	\$	5,694,653
3. STRUCTURES	\$	6,879,617	\$	5,578,039	\$	12,457,656
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	1,564,842	\$	4,756,290	\$	6,321,132
5. INSULATORS, FITTINGS, HARDWARE	\$	1,767,073	\$	847,291	\$	2,614,365
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	914,979	\$	7,791,316	\$	8,706,295
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	12,352,215	\$	34,696,579	\$	47,048,794
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL:	\$	12,352,215	\$	34,696,579	\$	47,048,794

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
C. Trans	mission Line Princetown to New Scotland								
1. CLEARING 8	& ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	26.0	Acre	\$ -	\$ -	\$ 15,000	\$ 390,000	\$ 15,000	\$ 390,000
1.2	Clearing the ROW - Light (mowing)	57.0	Acre	\$ -	\$ -	\$ 5,000	\$ 285,000	\$ 5,000	\$ 285,000
1.3	Permanent Access Road	20,803.2	LF	\$ -	\$ -	\$ 45			\$ 936,144
1.4	Silt Fence	104,016.0	LF	\$ -	\$ -		\$ 416,064		\$ 416,064
1.5	Matting - Access and ROW	83,212.8	LF	\$ -	\$ -	\$ 70		\$ 70	\$ 5,824,896
1.6	Matting - To Work Area	3,375.0	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	19.7	Mile	\$ -	\$ -	\$ 16,000			\$ 315,200
1.8	ROW Restoration	19.7	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	645,000.0	SF	\$ -	\$ -	\$ 4	\$ 2,270,400		\$ 2,270,400
1.10	Restoration for Work Pad areas	129,000.0	SF	\$ -	\$ -	\$ 0.2			\$ 19,350
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	2	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	\$ 28,890
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580		\$ 4,580	
1.14	Maintenance and Protection of Traffic on Public Roads	50	EA	\$ -	\$ -	\$ 4,130		\$ 4,130	\$ 206,500
1.15	Gates	11	EA	\$ 2,000	\$ 22,000	\$ 2,500	\$ 27,500	\$ 4,500	\$ 49,500
1.16	Culverts / Misc. Access	12	EA	\$ 750	\$ 9,000	\$ 1,250	\$ 15,000	\$ 2,000	\$ 24,000
1.17	Concrete Washout Station	30	EA	\$ -	\$ -	\$ 1,850		\$ 1,850	\$ 55,500
TOTAL - CLEA	RING & ACCESS:				\$ 31,000		\$ 11,223,694		\$ 11,254,694
2. FOUNDATION	DNS								
2.1	Direct Embed Foundations - 4' x 16'	100	EA	\$ 941	\$ 94,073	\$ 7,398	\$ 739,787	\$ 8,339	\$ 833,860
2.2	Direct Embed Foundations - 4' x 19'	14	EA		\$ 15,455				
2.3	Direct Embed Foundations - 4' x 21'	2	EA	\$ 1,213					
2.4	Direct Embed Foundations - 6' x 18'	9	EA	\$ 1,857					
2.5	Direct Embed Foundations - 6' x 20'	14	EA	\$ 2,046					
2.6	Direct Embed Foundations - 6' x 21'	25	EA		\$ 53,516				\$ 592,037
2.7	Direct Embed Foundations - 6' x 22'	4	EA	\$ 2,235					
2.8	Direct Embed Foundations - 6' x 25'	5	EA	\$ 2,518					
2.9	Direct Embed Foundations - 6' x 29'	1	EA	\$ 2,896	\$ 2,896				
2.10	Direct Embed Foundations - 6' x 34'	4	EA	\$ 3,273					\$ 146,255
2.11	Direct Embed Foundations - 6' x 42'	3	EA	\$ 4,123	\$ 12,369			, .	\$ 138,676
2.12	Direct Embed Foundations - 7' x 25'	1	EA						
2.13	Direct Embed Foundations - 7' x 27'	1	EA	\$ 3,337					
2.14	Direct Embed Foundations - 7' x 28'	1	EA	\$ 3,452	\$ 3,452			\$ 42,101	\$ 42,101
2.15	Drilled Pier - 6' x 20'	6	EA	\$ 18,064	\$ 108,384				
2.16	Drilled Pier - 7' x 19'	15	EA	\$ 23,416					\$ 706,315
2.17	Drilled Pier - 7' x 24'	3	EA	\$ 29,270					\$ 176,579
2.18	Drilled Pier - 8' x 27'	1	EA	\$ 42,819					\$ 86,103
2.19	Drilled Pier - 8' x 83'	1	EA	\$ 128,456	\$ 128,456	\$ 172,020	\$ 172,020	\$ 300,475	\$ 300,475

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.20	Drilled Pier - 8' x 89'	1	EA	\$ 137,631	\$ 137,631	\$ 184,307	\$ 184,307	\$ 321,938	\$ 321,938
2.21	Drilled Pier - 9' x 34'	1	EA	\$ 67,740	\$ 67,740	\$ 90,713	\$ 90,713	\$ 158,454	\$ 158,454
2.22		-		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.23	Rock Excavation Adder (20% of Excavation)	482.40	СУ	\$ -	\$ -	\$ 2,000	\$ 964,800	\$ 2,000	\$ 964,800
TOTAL - FOU	NDATIONS:				\$ 1,194,705		\$ 4,499,949		\$ 5,694,653
3. STRUCTUR	ES								
3.1	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 115'	7	Structure	\$ 50,024	\$ 350,168	\$ 30,014	\$ 210,101		\$ 560,269
3.2	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 120'	5	Structure	\$ 52,207		\$ 31,324			
3.3	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 125'	8	Structure	\$ 55,685		\$ 33,411	\$ 267,288		\$ 712,768
3.4	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 130'	9	Structure	\$ 58,257	\$ 524,309	\$ 34,954	\$ 314,585		\$ 838,894
3.5	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 135'	4	Structure	\$ 60,884		\$ 36,530			
3.6	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 145'	1	Structure	\$ 64,473		\$ 38,684	\$ 38,684		
3.7	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 115'	1	Structure	\$ 72,039		\$ 43,223			
3.8	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 135'	1	Structure	\$ 92,278 \$ 58,164	\$ 92,278	\$ 55,367	\$ 55,367 \$ 34.898		
3.10	1-CKT 345KV VERTICAL TANGENT DEADEND (0°-5°) - 120'	1	Structure	\$ 58,164 \$ 98,883	\$ 58,164 \$ 98,883	\$ 34,898 \$ 59,330	\$ 34,898 \$ 59,330		
3.10	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 105' 1-CKT 345KV H-FRAME TANGENT (0°-1°) - 84'	43	Structure Structure	\$ 98,883		\$ 59,330			
3.12	1-CKT 345KV H-FRAME TANGENT (0 -1) - 84 1-CKT 345KV H-FRAME TANGENT (0°-1°) - 89'	5	Structure	\$ 29,326					
3.13	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 93'	5	Structure	\$ 34,540		\$ 20,724			·
3.14	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 107'	5	Structure	\$ 45,936		\$ 27,561			
3.15	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 80'	3	Structure	\$ 55,241		\$ 33,145	\$ 99,434		
3.16	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 80'	5	Structure	\$ 69,079		\$ 41,447			
3.17	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 85'	1	Structure	\$ 75,739		\$ 45,443	\$ 45,443		
3.18	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 80'	5	Structure	\$ 97,403	\$ 487,013	\$ 58,442	\$ 292,208		\$ 779,220
3.19	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 95'	1	Structure	\$ 129,408	\$ 129,408	\$ 77,645	\$ 77,645		\$ 207,052
3.20	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$ 178,026		\$ 106,815	\$ 106,815		
3.21	2-CKT 115KV/345KV VERTICAL TANGENT (0°-1°) - 115'	7	Structure	\$ 54,631		\$ 32,778			
3.22	2-CKT 115KV/345KV VERTICAL TANGENT (0°-1°) - 125'	4	Structure	\$ 62,604	\$ 250,416	\$ 37,562	\$ 150,250	\$ 100,166	\$ 400,666
3.23	2-CKT 115KV/345KV VERTICAL TANGENT (0°-1°) - 135'	1	Structure	\$ 68,894	\$ 68,894	\$ 41,336	\$ 41,336	\$ 110,230	\$ 110,230
3.24	2-CKT 115KV/345KV VERTICAL SMALL ANGLE (1°-15°) - 155'	1	Structure	\$ 149,480	\$ 149,480	\$ 89,688	\$ 89,688	\$ 239,168	\$ 239,168
3.25	2-CKT 115KV/345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$ 173,808	\$ 173,808	\$ 104,285	\$ 104,285		
3.26	2-CKT 115KV/345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 125'	1	Structure	\$ 202,797	\$ 202,797	\$ 121,678	\$ 121,678		\$ 324,475
3.27	115KV DUMMY DE, Drilled Pier, 85'	2	Structure	\$ 58,164	\$ 116,328	\$ 34,898	\$ 69,797	\$ 93,062	\$ 186,125
3.28	Remove Existing Foundation	4	EA	\$ -	\$ -	\$ 7,500	\$ 30,000		\$ 30,000
3.29	Remove Existing Structure and Accessories	24	EA	\$ -	\$ -	\$ 12,500	\$ 300,000	\$ 12,500	\$ 300,000
3.30	Install Grounding and Grounding Accessories	214	Pole	\$ 506	\$ 108,284	\$ 5,539	\$ 1,185,239	\$ 6,045	\$ 1,293,523
TOTAL - STRU	ICTURES:				\$ 6,879,617		\$ 5,578,039		\$ 12,457,656
4. CONDUCT	OR, SHIELDWIRE, OPGW								
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal" (ENS-336 to ENS-464)	661,954	LF	\$ 1.90		· ·	\$ 3,309,770		\$ 4,567,483
4.2	(1) OPGW 36 Fiber AC-33/38/571 (ENS-336 to ENS-464)	110,326	LF	\$ 1.35	\$ 148,940	\$ 5.00	\$ 551,630	\$ 6.35	\$ 700,570
4.3	(1) 3/8" EHS7 Steel (ENS-336 to ENS-464)	75,398	LF	\$ 0.47	\$ 35,437	\$ 5.00	\$ 376,990	\$ 5.47	\$ 412,427
4.4		-		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.5	115kV - (1) 954kcmil 54/7 ACSS "Cardinal" (ENS-336 to ENS-464)	41,580	LF	\$ 1.90	\$ 79,002	\$ 5.00	\$ 207,900	\$ 6.90	\$ 286,902
4.6	(1) OPGW 36 Fiber AC-33/38/571 (ENS-336 to ENS-464)	-	LF	\$ 1.35		\$ 5.00		\$ 6.35	
4.7	(1) 3/8" EHS7 Steel (ENS-336 to ENS-464)	_	LF	\$ 0.47	\$ -	\$ 5.00	\$ -	\$ 5.47	\$ -
4.8	Remove Existing Conductor and Accessories	2.5	Mile	\$ -	\$ -	\$ 30,000	\$ 75,000	Ŧ	\$ 75,000
4.8	Remove Existing Conductor and Accessories Remove Existing OPGW and Accessories	2.5	Mile	\$ -	\$ -	\$ 30,000			\$ 30,000
	9				'	, , , , , , , , , , , , , , , , , , , ,			
4.10	Remove Existing OHSW and Accessories	2.5	Mile	\$ -		\$ 12,000			
4.11	Rider Poles (50 Locations)	25	Set	\$ 1,750					<u> </u>
4.12	Rider Poles - Relocated	25	Set	\$ -		\$ 3,500		\$ 3,500.00	\$ 87,500
	DUCTOR, SHIELDWIRE, OPGW:				\$ 1,564,842		\$ 4,756,290		\$ 6,321,132
	R, FITTINGS, HARDWARE				4 000 :		4 207	4 2	A 4000
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	538	Assembly	\$ 1,800					
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	78	Assembly	\$ 900					
5.3 5.4	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	255 21	Assembly	\$ 1,800 \$ 900		\$ 720 \$ 560			
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	21	Assembly	900	10,900 ب	000 پ	11,/60	\$ 1,460	\$ 30,660
5.5				1					

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.6									
5.7	OPGW Assembly - Tangent	110	Assembly	\$ 200		\$ 150			
5.8	OPGW Assembly - Angle / DE	34	Assembly	\$ 250	\$ 8,500	,	\$ 5,100	\$ 400	\$ 13,60
5.9	OHSW Assembly - Tangent	61	Assembly	\$ 200	\$ 12,200	7	\$ 9,150		\$ 21,35
5.10	OHSW Assembly - Angle / DE	24	Assembly	\$ 250			\$ 3,600	·	\$ 9,60
5.11	OPGW Splice Boxes	8	Assembly	\$ 1,746	1 -,	\$ 2,274		, , , ,	\$ 32,16
5.12	OPGW Splice & Test	8	EA	\$ 2,520		\$ 2,520		· , , , , , , , , , , , , , , , , , , ,	
5.13	Spacer - Conductor	1,773	EA	\$ 50		\$ 35			
5.14	Vibration Dampers - Conductor	1,596	EA	\$ 35	\$ 55,860	\$ 35	\$ 55,860	\$ 70	\$ 111,72
5.15	Shieldwire / OPGW Dampers, Misc. Fittings	293	EA	\$ 27	\$ 7,911	\$ 35	\$ 10,255	\$ 62	\$ 18,16
5.16	Guys, Anchors, and Accessories	-	EA	\$ 912	\$ -	\$ 1,058	\$ -	\$ 1,970	\$ -
5.17	Misc. materials (Signs and Markers)	19.9	Mile	\$ 770	\$ 15,323	\$ 1,006	\$ 20,019	\$ 1,776	\$ 35,34
OTAL - INSU	LATORS, FITTINGS, HARDWARE:				\$ 1,767,073		\$ 847,291		\$ 2,614,36
. Trans	mission Line Princetown to New Scotland				\$ 11,437,237		\$ 26,905,263		\$ 38,342,49
MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 383,425	\$ 383,425	\$ 383,425	\$ 383,42
	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 1,385,121	\$ 1,385,121	\$ 1,385,121	\$ 1,385,12
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 383,425	\$ 383,425	\$ 383,425	\$ 383,42
6.4	Site Accommodation, Facilities, Storage	1	LS	Ś -	\$ -	. ,	\$ 383,425		
	Engineering		-						
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,917,125	\$ 1,917,125	\$ 1,917,125	\$ 1,917,12
6.6	Lidar	1	LS	\$ -	\$ -	\$ 115,027	\$ 115,027	\$ 115,027	\$ 115,02
6.7	Geotech	20	Location	\$ -	\$ -	\$ 3,500	\$ 70,000	\$ 3,500	\$ 70,00
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 268,397	\$ 268,397	\$ 268,397	\$ 268,39
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,00
	Permitting and Additional Costs							· · · · · · · · · · · · · · · · · · ·	,
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 115,027	\$ 115,027	\$ 115,027	\$ 115,02
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ 215,000	\$ 215,000	\$ 215,000	\$ 215,00
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 2,477,000	\$ 2,477,000	\$ 2,477,000	
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	_	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 914,979	\$ 914,979	\$ -	\$ -	\$ 914,979	\$ 914,97
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	7 517,575	\$ 514,575	\$ 38,342	т		\$ 38,34
0.23	I/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 914,979	· , , , , , , , , , , , , , , , , , , ,	\$ 7,791,316	+ 55,542	\$ 8,706,29

Page 15 of 69
C. TL Princetown-New Scotland

D. Rotterdam Substation - Install

Estimate Revision: 7 Total: \$ 54,261,332

NAT & NYPA - T025 - (Segme	ent A, + 765kV)		
	Supply	Installation	Total
D. Rotterdam Substation - Install			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ 2,896,891	\$ 8,053,255	\$ 10,950,146
2. SUBSTATION FOUNDATIONS	\$ 2,443,003	\$ 2,616,200	\$ 5,059,203
3. SUBSTATION STRUCTURES	\$ 944,980	\$ 944,980	\$ 1,889,960
4. MAJOR EQUIPTMENT	\$ 11,915,000	\$ 2,970,000	\$ 14,885,000
5. SMALL EQUIPTMENT / MATERIALS	\$ 1,994,540	\$ 1,060,500	\$ 3,055,040
6. CONTROL HOUSE / PANELS	\$ 2,927,500	\$ 1,477,500	\$ 4,405,000
7. MISC ITEMS	\$ 1,441,675	\$ 2,331,950	\$ 3,773,625
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,965,087	\$ 8,278,271	\$ 10,243,358
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 26,528,676	\$ 27,732,656	\$ 54,261,332
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 26,528,676	\$ 27,732,656	\$ 54,261,332

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
D. Rotte	rdam Substation - Install									
1. SITE PREP/ (GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	3.9	ACRES	\$	-	\$ -	\$ 203,000	\$ 786,625	\$ 203,000	\$ 786,625
1.2	Station stone within substation fence.	3,175	CY	\$	27	\$ 85,725	\$ 75	\$ 238,125	\$ 102	\$ 323,850
1.3	Substation Fence	2,130	LF	\$	100	\$ 213,000	\$ 100	\$ 213,000	\$ 200	\$ 426,000
1.4	Retaining Wall (1065' x 13')	1	LS	\$	406,755	\$ 406,755	\$ 925,345	\$ 925,345	\$ 1,332,100	\$ 1,332,100
1.5	Compacted Fill (124,583cy Sand)	124,583	CY	\$	17	\$ 2,117,911	\$ 20	\$ 2,491,660	\$ 37	\$ 4,609,571
1.6	Permanent Access Road - 20'-Wide (From Gordon RD)	2,100	LF	\$	35	\$ 73,500	\$ 285	\$ 598,500	\$ 320	\$ 672,000
1.7	Natural Gas Transmission Line Relocation	1	LS	\$	-	\$ -	\$ 2,800,000	\$ 2,800,000	\$ 2,800,000	\$ 2,800,000
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 2,896,891		\$ 8,053,255		\$ 10,950,146
2. SUBSTATION	FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	8	EA	\$	14,940	\$ 119,520	\$ 16,000	\$ 128,000	\$ 30,940	\$ 247,520
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	32	EA	\$	26,145	\$ 836,640	\$ 28,000	\$ 896,000	\$ 54,145	\$ 1,732,640
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	102	EA	\$	4,482	\$ 457,164	\$ 4,800	\$ 489,600	\$ 9,282	\$ 946,764
2.1f	Station Service Transformer Stand Foundation	1	EA	\$	4,482	\$ 4,482	\$ 4,800	\$ 4,800	\$ 9,282	\$ 9,282
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	42	EA	\$	4,482	\$ 188,244	\$ 4,800	\$ 201,600	\$ 9,282	\$ 389,844
2.1j	Instrument Transformer Stand Foundations	33	EA	\$	4,482	\$ 147,906	\$ 4,800	\$ 158,400	\$ 9,282	\$ 306,306
2.1k	Arrester Stand Foundations	6	EA	\$	4,482	\$ 26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$ 55,692
2.1m	Wave Trap Stand Foundations	2	EA	\$	4,482	\$ 8,964	\$ 4,800	\$ 9,600	\$ 9,282	\$ 18,564
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
2.1p											
2.2	230kV										
2.2a	Circuit Breaker Foundations	1	EA		L,952	\$ 11,952			\$ 24,752	_	24,752
2.2b	Capacitor Bank Foundations	0	EA		1,820	\$ -	\$ 48,000		\$ 92,820	 	-
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA		2,410	\$ 89,640		\$ 96,000	\$ 46,410		185,640
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA		2,410	\$ -	\$ 24,000	\$ -	\$ 46,410	 	-
2.2e	Switch Stand Foundations	8	EA		3,735	\$ 29,880	\$ 4,000	\$ 32,000	\$ 7,735	-	61,880
2.2f	Station Service Transformer Stand Foundation	0	EA		3,735	\$ -			\$ 7,735		-
2.2g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	•
2.2h	Bus Support 1 Ph Foundations	0	EA		3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	_	-
2.2j	Instrument Transformer Stand Foundations	9	EA		3,735	\$ 33,615		\$ 36,000	\$ 7,735		69,615
2.2k	Arrester Stand Foundations	3	EA		3,735	\$ 11,205	\$ 4,000	\$ 12,000	\$ 7,735	\$	23,205
2.2m	Wave Trap Stand Foundations	1	EA		3,735	\$ 3,735		\$ 4,000	\$ 7,735		7,735
2.2n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.2p										<u> </u>	
2.3	115kV										
2.3a	Circuit Breaker Foundations	0	EA		_	\$ -			\$ 10,829		-
2.3b	Capacitor Bank Foundations	0	EA		3,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$	-
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA		,434	\$ 65,736		\$ 70,400	\$ 34,034	\$	136,136
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 10	,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$	-
2.3e	Switch Stand Foundations	4	EA	\$	2,988	\$ 11,952	\$ 3,200	\$ 12,800	\$ 6,188	\$	24,752
2.3f	Fuse Stand Foundations	0	EA	\$:	2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
2.3g	Bus Support 3ph Foundations	0	EA	\$	2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
2.3h	Bus Support 1 Ph Foundations	0	EA	\$	2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
2.3j	Instrument Transformer Stand Foundations	6	EA	\$	2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$	37,128
2.3k	Arrester Stand Foundations	6	EA	\$	2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$	37,128
2.3m	Wave Trap Stand Foundations	0	EA	\$:	,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
2.3n	Station Service Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.3p	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.4	Transformer Foundations										
2.4a	345-230kV Transformer Foundation w/ Oil Containment	1	EA	\$ 9	7,110	\$ 97,110	\$ 104,000	\$ 104,000	\$ 201,110	\$	201,110
2.4b	345-115kV Transformer Foundation w/ Oil Containment	2	EA	\$ 74	1,700	\$ 149,400	\$ 80,000	\$ 160,000	\$ 154,700	\$	309,400
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.5	Control House Foundations / Pad										
2.5a	Control House / Pad	1	EA	\$ 9	7,110	\$ 97,110	\$ 104,000	\$ 104,000	\$ 201,110	\$	201,110
2.5b	Generator Foundation	1	EA	\$ 10	5,000	\$ 16,000	\$ 17,000	\$ 17,000	\$ 33,000	\$	33,000
										<u> </u>	
2.6	Lightning Mast Foundations										
2.6a	70' Lightning Mast Foundation	0	EA		,229				\$ 10,829		-
2.6b				\$	-	\$ -	\$ -	\$ -		\$	-
2.6c				\$	-	\$ -	\$ -	\$ -	\$ -	\$	
										<u> </u>	
TOTAL - SUBS	TATION FOUNDATIONS					\$ 2,443,003		\$ 2,616,200		\$	5,059,203
3. SUBSTATIO	N STRUCTURES										
3.1	345kV										
3.1a	Substation A-Frame Structures - Stand alone	8	EA	\$ 3	7,000	\$ 296,000	\$ 37,000	\$ 296,000	\$ 74,000	\$	592,000

Item	Item Description E	stimated Quantity	Unit of Measure	Mater	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$	37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$	-
3.1c	Switch Stands	17	EA	\$	14,800	\$ 251,600	\$ 14,800	\$ 251,600	\$ 29,600	\$	503,200
3.1d	Station Service Transformer Stand	1	EA	\$	14,800	\$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600	\$	29,600
3.1e	Bus Support 3ph	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
3.1f	Bus Support 1 Ph	42	EA	\$	3,700	\$ 155,400	\$ 3,700	\$ 155,400	\$ 7,400	\$	310,800
3.1g	Instrument Transformer Stand	33	EA	\$	1,850	\$ 61,050	\$ 1,850	\$ 61,050	\$ 3,700	\$	122,100
3.1h	Arrester Stand	6	EA	\$	1,850	\$ 11,100	\$ 1,850	\$ 11,100	\$ 3,700	\$	22,200
3.1j	Wave Trap Stand	2	EA	\$	7,400	\$ 14,800	\$ 7,400	\$ 14,800	\$ 14,800	\$	29,600
3.1k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
3.2	230kV										
3.2a	Substation A-Frame Structures - Stand alone	1	EA	\$	33,300	\$ 33,300	\$ 33,300	\$ 33,300	\$ 66,600	\$	66,600
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$	33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$	-
3.2c	Switch Stands	2	EA	\$	12,025	\$ 24,050	\$ 12,025	\$ 24,050	\$ 24,050	\$	48,100
3.2d	Station Service Transformer Stand	0	EA	\$	12,025	\$ -		\$ -	\$ 24,050	\$	-
3.2e	Bus Support 3ph	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
3.2f	Bus Support 1 Ph	0	EA	\$	2,775	\$ -	\$ 2,775	\$ -	\$ 5,550	\$	-
3.2g	Instrument Transformer Stand	9	EA	\$	1,295	\$ 11,655	\$ 1,295	\$ 11,655	\$ 2,590	\$	23,310
3.2h	Arrester Stand	3	EA	\$	1,295	\$ 3,885	\$ 1,295	\$ 3,885	\$ 2,590	\$	7,770
3.2j	Wave Trap Stand	1	EA	\$	5,550	\$ 5,550	\$ 5,550	\$ 5,550	\$ 11,100	\$	11,100
3.2k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
3.3	115kV										
3.3a	Substation A-Frame Structures - Stand alone	2	EA	\$	18,500	\$ 37,000	\$ 18,500	\$ 37,000	\$ 37,000	\$	74,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$	-
3.3c	Switch Stands	2	EA	\$	7,955	\$ 15,910	\$ 7,955	\$ 15,910	\$ 15,910	\$	31,820
3.3d	Fuse Stand	0	EA	\$	7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$	-
3.3e	Bus Support 3ph	0	EA	\$	3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$	-
3.3f	Bus Support 1 Ph	0	EA	\$		\$ -	\$ 1,850	\$ -	\$ 3,700	\$	_
3.3g	Instrument Transformer Stand	6	EA	\$	740	\$ 4,440		\$ 4,440	\$ 1,480	\$	8,880
3.3h	Arrester Stand	6	EA	\$	740	\$ 4,440	\$ 740	\$ 4,440	\$ 1,480	\$	8,880
3.3j	Wave Trap Stand	0	EA	\$	3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$	-
3.3k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
					,		,		,		
TOTAL - SUBST	TATION STRUCTURES					\$ 944,980		\$ 944,980		Ś	1,889,960
4. MAJOR EQU						, ,,,,,		, ,,,,,			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
4.1	345kV										
4.1a	Circuit Breakers	8	EA	\$	200,000	\$ 1,600,000	\$ 80,000	\$ 640,000	\$ 280,000	\$	2,240,000
4.1b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	\$	-
4.1c	345 kV - 230 kV Auto Transformer	1	EA	\$	3,400,000	\$ 3,400,000		\$ 750,000	\$ 4,150,000	<u> </u>	4,150,000
4.1d	345 kV - 115 kV Auto Transformer	2	EA	\$	3,400,000	\$ 6,800,000		\$ 1,500,000	\$ 4,150,000		8,300,000
4.2	230kV										
4.2a	Circuit Breakers	1	EA	\$	115,000	\$ 115,000	\$ 80,000	\$ 80,000	\$ 195,000	\$	195,000
4.2b	Capacitor Banks	0	EA	\$	-		\$ 80,000		\$ 80,000	i .	-
							,		,		
4.3	115kV										
4.3a	Circuit Breakers	0	EA	\$	52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$	-
4.3b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 60,000	\$ -	\$ 60,000		-
							·				
TOTAL - MAJO	R EQUIPTMENT					\$ 11,915,000		\$ 2,970,000		\$	14,885,000
	PTMENT / MATERIALS										,

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	2	EA	\$ 40,000	\$ 80,000	\$ 15,000	\$ 30,000	\$ 55,000	\$ 110,000
5.1b	Disconnect Switches - 3ph w/ manual operator	17	EA	\$ 35,000	\$ 595,000	\$ 17,500	\$ 297,500	\$ 52,500	\$ 892,500
5.1c	VT'S	6	EA	\$ 25,000	\$ 150,000	\$ 12,000	\$ 72,000	\$ 37,000	\$ 222,000
5.1d	CT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000
5.1e	CCVT'S	21	EA	\$ 13,000	\$ 273,000	\$ 8,000	\$ 168,000	\$ 21,000	\$ 441,000
5.1f	Arresters	15	EA	\$ 6,500	\$ 97,500	\$ 1,500	\$ 22,500	\$ 8,000	\$ 120,000
5.1g	Wave Traps	2	EA	\$ 13,000	\$ 26,000	\$ 8,000	\$ 16,000	\$ 21,000	\$ 42,000
5.1h	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000	\$ 50,000	\$ 50,000	\$ 250,000	\$ 250,000
5.1j									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	1	EA	\$ 35,000	\$ 35,000	\$ 15,000	\$ 15,000	\$ 50,000	\$ 50,000
5.2b	Disconnect Switches - 3ph w/ manual operator	1	EA	\$ 30,000	\$ 30,000	\$ 17,500	\$ 17,500	\$ 47,500	\$ 47,500
5.2c	VT'S	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.2d	CT'S	3	EA	\$ 13,000	\$ 39,000		\$ 24,000	\$ 21,000	\$ 63,000
5.2e	CCVT'S	3	EA	\$ 10,000	\$ 30,000	\$ 6,000	\$ 18,000	\$ 16,000	\$ 48,000
5.2f	Arresters	6	EA	\$ 5,000	\$ 30,000	\$ 6,000	\$ 36,000	\$ 11,000	\$ 66,000
5.2g	Wave Traps	1	EA	\$ 13,000	\$ 13,000	\$ 8,000	\$ 8,000	\$ 21,000	\$ 21,000
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	2	EA	\$ 33,000	\$ 66,000	\$ 15,000	\$ 30,000	\$ 48,000	\$ 96,000
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000	\$ -	\$ 17,500	\$ -	\$ 45,500	\$ -
5.3c	VT'S	6	EA	\$ 13,000	\$ 78,000		\$ 48,000	\$ 21,000	\$ 126,000
5.3d	CT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000
5.3e	CCVT'S	2	EA	\$ 8,000	\$ 16,000	\$ 8,000	\$ 16,000	\$ 16,000	\$ 32,000
5.3f	Arresters	12	EA	\$ 3,420	\$ 41,040	\$ 6,000	\$ 72,000	\$ 9,420	\$ 113,040
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	L EQUIPTMENT / MATERIALS				\$ 1,994,540		\$ 1,060,500		\$ 3,055,040
6. CONTROL H	OUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	1	EA	\$ 975,000	\$ 975,000	\$ 170,000	\$ 170,000	\$ 1,145,000	\$ 1,145,000
6.2	Protection and Telecom Equipment Panels	29	EA	\$ 35,000	\$ 1,015,000	\$ 10,000	\$ 290,000	\$ 45,000	\$ 1,305,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,000
6.4	Control Cables	1	LS	\$ 472,500	\$ 472,500	\$ 472,500	\$ 472,500	\$ 945,000	\$ 945,000
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$ 300,000
6.7	DC Distribution System	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$ 300,000
6.8	Security	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$ 15,000
6.9	Fire Alarm	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$ 15,000
6.10	Generator	1	EA	\$ 100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$ 180,000
				,			,	,	-
	ROL HOUSE / PANELS / GENERATOR				\$ 2,927,500		\$ 1,477,500		\$ 4,405,000
7. MISC ITEMS									

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Su	pply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	тс	OTAL
7.1	Conduit & Cable Trench System	1,950	LF	\$	185.00	\$ 360,750	\$ 170.00	\$ 331,500	\$ 355	\$	692,250
7.2	Rigid Bus, Fittings & Insulators	2,500	LF	\$	125.07	\$ 312,675	\$ 237.10	\$ 592,750	\$ 362	\$	905,425
7.3	Strain Bus, Connectors & Insulators	2,000	LF	\$	39.30	\$ 78,600	\$ 53.35	\$ 106,700	\$ 93	\$	185,300
7.4	Grounding System	25,000	LF	\$	6.93	·			\$ 40	\$	987,750
7.5	Strain Bus Insulators - 345kV	48	EA	\$	2,000		\$ 1,050		\$ 3,050	\$	146,400
7.6	Strain Bus Insulators - 230kV	6	EA	\$	1,400	\$ 8,400	\$ 750		\$ 2,150	\$	12,900
7.7	Strain Bus Insulators - 115kV	12	EA	\$	1,000	\$ 12,000	\$ 550	\$ 6,600	\$ 1,550	\$	18,600
7.8	Low Voltage AC Station Service	1	LS	\$	50,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$	125,000
7.9	SSVT Service	1	LS	\$	45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 90,000	\$	90,000
7.10	Control Conduits from Trench to Equipment	1	LS	\$	125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$	250,000
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$	180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$	360,000
7.12											
7.13											
7.14											
7.15											
7.16											
7.17											
7.18											
7.19											
7.20											
7.21											
7.22											
7.23											
7.24											
7.25											
TOTAL - MISC	TEMS					\$ 1,441,675		\$ 2,331,950		\$	3,773,625
D. Rottei	dam Substation - Install					\$ 24,563,589		\$ 19,454,385		\$	44,017,974
8. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
8.1	Mob / Demob	1.0	LS	\$	-	\$ -	\$ 440,180	\$ 440,180	\$ 440,180	\$	440,180
	Project Management, Material Handling & Amenities								·		
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 1,590,147	\$ 1,590,147	\$ 1,590,147	\$	1,590,147
8.3	Utility PM and Project Oversite	1	LS		_	\$ -	\$ 440,180	\$ 440,180	\$ 440,180	\$	440,180
8.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 440,180	\$ 440,180	\$ 440,180	\$	440,180
	Engineering										
8.5	Design Engineering	1	LS	\$	-	\$ -	\$ 3,521,438	\$ 3,521,438	\$ 3,521,438	\$	3,521,438
8.6	Lidar	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.7	Geotech	4	EA	\$	-	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$	14,000
8.8	Surveying/Staking	1	Site	\$	-	\$ -	\$ 308,126	\$ 308,126	\$ 308,126	\$	308,126
	Testing & Commissioning						,	, -	., -		
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 1,100,449	\$ 1,100,449	\$ 1,100,449	Ś	1,100,449
	Permitting and Additional Costs			l .			,	,,	,		,,
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	
8.11			LS	\$						\$	
	Environmental Mitigation	-						•			- 422.054
8.12	Warranties / LOC's	1	LS	\$		\$ -	\$ 132,054		\$ 132,054		132,054
8.13	Real Estate Costs (New)	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$	-
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$	-	\$ -	\$ 247,500	\$ 247,500	\$ 247,500		247,500 20 of 60

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate		Material Sup	ply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.15	Legal Fees	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$:	1,965,087	\$ 1,	965,087	\$ -	\$ -	\$ 1,965,087	\$ 1,965,087
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$	-	\$ 44,018	\$ 44,018	\$ 44,018	\$ 44,018
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,	965,087		\$ 8,278,271		\$ 10,243,358

Page 21 of 69

D. SS Rotterdam-Install

E. Rotterdam Substation - Removal

Estimate Revision: 7 Total: \$ 4,153,136

NAT & NYPA - T025 - (Segme	nt A, + 765kV)			
	Supply		Installation	Total
E. Rotterdam Substation - Removal				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ 1,472,750	\$ 1,472,750
2. SUBSTATION FOUNDATIONS	\$	-	\$ 617,400	\$ 617,400
3. SUBSTATION STRUCTURES	\$	-	\$ 534,900	\$ 534,900
4. MAJOR EQUIPTMENT	\$	-	\$ 147,000	\$ 147,000
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ 169,500	\$ 169,500
6. CONTROL HOUSE / PANELS	\$	-	\$ 150,000	\$ 150,000
7. MISC ITEMS	\$	-	\$ 519,480	\$ 519,480
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$ 542,106	\$ 542,106
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	-	\$ 4,153,136	\$ 4,153,136
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	-	\$ 4,153,136	\$ 4,153,136

ption	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
E. Rottei	rdam Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	6.3	ACRES	\$ -	\$ -	\$ 203,000	\$ 1,268,750	\$ 203,000	\$ 1,268,750
1.2	Station stone within substation fence.	2,000	CY	\$ -	\$ -	\$ 102	\$ 204,000	\$ 102	\$ 204,000
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ 1,472,750		\$ 1,472,750
2. SUBSTATIO	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2	230kV								
2.2a	Circuit Breaker Foundations	9	EA	\$ -	\$ -	\$ 7,200	\$ 64,800	\$ 7,200	\$ 64,800
2.2b	Capacitor Bank Foundations	2	EA	\$ -	\$ -	\$ 32,000	\$ 64,000	\$ 32,000	\$ 64,000
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	1	EA	\$ -	\$ -	\$ 22,000	\$ 22,000	\$ 22,000	\$ 22,000
2.2d	Caisson DE Foundations (for DE A frame str shared column)	5	EA	\$ -	\$ -	\$ 11,000	\$ 55,000	\$ 11,000	\$ 55,000
2.2e	Switch Stand Foundations	15	EA	\$ -	\$ -	\$ 5,200	\$ 78,000	\$ 5,200	\$ 78,000
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2g	Bus Support 3ph Foundations	4	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	59	EA	\$ -	\$ -	\$ 2,400	\$ 141,600	\$ 2,400	\$ 141,600
2.2j	Instrument Transformer Stand Foundations	15	EA	\$ -	\$ -	\$ 2,400	\$ 36,000	\$ 2,400	\$ 36,000
2.2k	Arrester Stand Foundations	6	EA	\$ -	\$ -	\$ 2,400	\$ 14,400	\$ 2,400	\$ 14,400
2.2m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e	Switch Stand Foundations	3	EA	\$ -	\$ -	\$ 5,200	\$ 15,600	\$ 5,200	\$ 15,600
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	3	EA	\$ -	\$ -	\$ 42,000	\$ 126,000	\$ 42,000	\$ 126,000
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CURC	TATION FOUNDATIONS				\$ -		\$ 617,400		\$ 617,400
	ATION FOUNDATIONS N STRUCTURES				\$ -		\$ 617,400		\$ 617,400
3. SUBSTATIO	345kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
									\$ -
						•			\$ -
3.1b	Substation A-Frame Structures - Shared Column Switch Stands	0	EA EA	\$ -		\$ -	\$ - \$ -	\$	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.1d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	1	EA	\$ -	\$ -	\$ 27,000	\$ 27,000	\$ 27,000	\$ 27,000
3.2b	Substation A-Frame Structures - Shared Column	5	EA	\$ -	\$ -	\$ 27,000	\$ 135,000	\$ 27,000	\$ 135,000
3.2c	Switch Stands	15	EA	\$ -	\$ -	\$ 9,750	\$ 146,250	\$ 9,750	\$ 146,250
3.2d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2e	Bus Support 3ph	4	EA	\$ -	\$ -	\$ 2,250	\$ 9,000	\$ 2,250	\$ 9,000
3.2f	Bus Support 1 Ph	59	EA	\$ -	\$ -	\$ 2,250	\$ 132,750	\$ 2,250	\$ 132,750
3.2g	Instrument Transformer Stand	15	EA	\$ -	\$ -	\$ 1,050	\$ 15,750	\$ 1,050	\$ 15,750
3.2h	Arrester Stand	6	EA	\$ -	\$ -	\$ 1,050	\$ 6,300	\$ 1,050	\$ 6,300
3.2j	Wave Trap Stand	3	EA	\$ -	\$ -	\$ 4,500	\$ 13,500	\$ 4,500	\$ 13,500
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	2	EA	\$ -	\$ -	\$ 15,000	\$ 30,000	\$ 15,000	\$ 30,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	3	EA	\$ -	\$ -	\$ 6,450	\$ 19,350	\$ 6,450	\$ 19,350
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				Ť	,	*	*	*	•
TOTAL - SUBS	TATION STRUCTURES				\$ -		\$ 534,900		\$ 534,900
4. MAJOR EQU					Ţ.		ÿ 33 1,300		33.,300
4.1	345kV								
4.2	230kV								
4.2a	Circuit Breakers	9	EA	\$ -	\$ -	\$ 7,000	\$ 63,000	\$ 7,000	\$ 63,000
4.2b	Capacitor Banks	2	EA	\$ -	\$ -	\$ 42,000	\$ 84,000	\$ 42,000	\$ 84,000
								•	·
4.3	115kV								
	R EQUIPTMENT				\$ -		\$ 147,000		\$ 147,000
	IPTMENT / MATERIALS						117,000		. 1.7,500
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0		\$ -		\$ 5,500		\$ 5,500	
5.1c	VT'S	0		\$ -	\$ -		\$ -		\$ -
5.1d	CT'S	0	EA	\$ -	+		\$ -		\$ -
5.1e	CCVT'S	0		\$ -	\$ -	\$ 2,500		\$ 2,500	
5.1f	Arresters	0		\$ -	\$ -	\$ 1,500		\$ 1,500	
	Wave Traps	0		\$ -	\$ -			\$ 2,500	
5.1g									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.1j									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,500
5.2b	Disconnect Switches - 3ph w/ manual operator	12	EA	\$ -	\$ -		\$ 66,000	\$ 5,500	
5.2c	VT'S	0	EA	\$ -	\$ -	\$ 3,300	\$ 00,000	\$ -	\$ -
5.2d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CCVT'S	8	EA		\$ -	\$ 1,500	\$ 12,000		
5.2e					<u>'</u>	, , , , , , , , , , , , , , , , , , , ,			
5.2f	Arresters	15	EA	\$ -	\$ -	\$ 2,500	\$ 37,500	\$ 2,500	
5.2g	Wave Traps	3	EA	\$ -	\$ -	\$ 2,500	\$ 7,500	\$ 2,500	
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									1
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	3	EA	\$ -	\$ -		\$ 16,500	\$ 5,500	\$ 16,500
5.3c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3e	CCVT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3f	Arresters	9	EA	\$ -	\$ -	\$ 1,500	\$ 13,500	\$ 1,500	\$ 13,500
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
J.JJ	ruses	0	EA	, -	, -	-	-	, -	-
							4 450 500		4 450 500
TOTAL - SMALL EQUIPTMENT / MATERIALS					\$ -		\$ 169,500		\$ 169,500
	HOUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	1	EA	\$ -	\$ -	,	\$ 150,000	\$ 150,000	
6.2	Protection and Telecom Equipment Panels	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.8	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONT 7. MISC ITEMS	FROL HOUSE / PANELS / GENERATOR				\$ -		\$ 150,000		\$ 150,000
7. IVIISC ITEIVIS									
7.1	Conduit & Cable Trench System	1	LS	\$ -	\$ -	\$ 42,000.00	\$ 42,000	\$ 42,000	\$ 42,000
7.2	Rigid Bus, Fittings & Insulators	3,200	LF	\$ -	\$ -	\$ 126.25	\$ 404,000	\$ 126	\$ 404,000
7.3	Strain Bus, Connectors & Insulators	800	LF	\$ -	\$ -	\$ 39.35	\$ 31,480	\$ 39	\$ 31,480
7.4	Grounding System	1	LS	\$ -	\$ -	\$ 42,000.00	\$ 42,000	\$ 42,000	\$ 42,000
7.5									
7.6									
7.7									
7.8									
	1			1	1	1	l	i	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC	TITEMS				\$ -		\$ 519,480		\$ 519,480
	rdam Substation - Removal				\$ -		\$ 3,611,030		\$ 3,611,030
8. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 36,110	\$ 36,110	\$ 36,110	\$ 36,110
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 130,448	\$ 130,448	\$ 130,448	\$ 130,448
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 36,110	\$ 36,110	\$ 36,110	\$ 36,110
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 36,110	\$ 36,110	\$ 36,110	\$ 36,110
	Engineering								
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 288,882	\$ 288,882	\$ 288,882	\$ 288,882
8.6	LiDAR	•	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500	
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 25,277	\$ -	\$ 25,277	\$ -
	Testing & Commissioning								
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 90,276	\$ -	\$ 90,276	\$ -
	Permitting and Additional Costs								
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 10,833	\$ 10,833	\$ 10,833	\$ 10,833
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17			LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 3,611	\$ 3,611	\$ 3,611	\$ 3,611
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 542,106		\$ 542,106

Page 26 of 69

E. SS Rotterdam-Removal

Estimate Revision:	7	Total:	\$ 2,607,956	
	NAT & NYPA - T025 - (Segme	nt A, + 765kV)		
		Sunnly	Installation	

NAT G NTA 1025 (Segn	ciic A,	· 705kV)		
		Supply	Installation	Total
F. Edic Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	2,025	\$ 5,625	\$ 7,650
2. SUBSTATION FOUNDATIONS	\$	100,098	\$ 107,200	\$ 207,298
3. SUBSTATION STRUCTURES	\$	44,400	\$ 44,400	\$ 88,800
4. MAJOR EQUIPTMENT	\$	200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPTMENT / MATERIALS	\$	280,000	\$ 133,500	\$ 413,500
6. CONTROL HOUSE / PANELS	\$	173,850	\$ 98,850	\$ 272,700
7. MISC ITEMS	\$	339,357	\$ 507,880	\$ 847,237
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	91,178	\$ 399,592	\$ 490,771
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	1,230,908	\$ 1,377,047	\$ 2,607,956
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	1,230,908	\$ 1,377,047	\$ 2,607,956

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	e Materia	al Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
F. Edic S	ubstation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$	-	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	75	CY	\$	27 \$	2,025			\$ 102	
1.3	Substation Fence	0	LF		00 \$	-	\$ 100		\$ 200	
1.4	Permanent Access Road - 20'-Wide (From Gordon RD)	0	LF	\$	\$ \$	-	\$ 285	\$ -	\$ 320	\$ -
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.15										
	PREP/ GRADING/ FENCING / CIVIL				Ś	2,025		\$ 5,625		\$ 7,650
	N FOUNDATIONS				Ť	2,023		\$ 3,023		7,030
	345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$ 14,9	10 \$	14,940	\$ 16,000	\$ 16,000	\$ 30,940	\$ 30,940
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,0	25 \$	-	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 26,1	15 \$	-	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,1	15 \$	-	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	6	EA	\$ 4,4	32 \$	26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$ 55,692
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ 4,4	32 \$	-	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	_ T	-	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	0	EA	\$ 4,4				\$ -	\$ 9,282	
2.1j	Instrument Transformer Stand Foundations	9	EA	\$ 4,4		40,338		\$ 43,200	\$ 9,282	
2.1k	Arrester Stand Foundations	3	EA	\$ 4,4		13,446		\$ 14,400	\$ 9,282	
2.1m	Wave Trap Stand Foundations	1	EA	\$ 4,4		4,482		\$ 4,800	\$ 9,282	
2.1n	Misc. Structure Foundations	0	EA	\$ -	Ş	-	\$ -	\$ -	\$ -	\$ -
2.1p										
2.2	230kV									
2.2 2.2a	Circuit Breaker Foundations	0	EA	\$ 11,9	52 \$		\$ 12,800	\$ -	\$ 24,752	ė
2.2a 2.2b	Capacitor Bank Foundations Capacitor Bank Foundations	0	EA EA	\$ 11,9			\$ 48,000		\$ 24,732	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,4		-	\$ 24,000		\$ 46,410	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA		10 \$		\$ 24,000		\$ 46,410	
2.2e	Switch Stand Foundations	0	EA	\$ 3,7			\$ 4,000		\$ 7,735	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,7		-	\$ 4,000	\$ -	\$ 7,735	
2.2g	Bus Support 3ph Foundations	0	EA	\$ -		-	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -		\$ -	\$ 7,735	
2.2n 2.2p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.20									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	
2.3b	Capacitor Bank Foundations	0	EA EA	\$ 33,615 \$ 16,434	\$ -	\$ 36,000	\$ -	. , ,	\$ - \$ -
2.3c 2.3d	Caisson DE Foundations (for DE A frame str stand alone) Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600 \$ 17,600	\$ - \$ -	\$ 34,034	<u> </u>
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	•
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	,	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	•
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -		\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -		\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -		\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ 76,194	\$ -	\$ 81,600	\$ -	\$ 157,794	\$ -
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b	60' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.6c	50' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CLIDS	TATION FOUNDATIONS				\$ 100,098		\$ 107,200		\$ 207,298
	IN STRUCTURES				3 100,038		3 107,200		\$ 207,236
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1c	Switch Stands	1	EA	\$ 14,800	\$ 14,800		\$ 14,800		\$ 29,600
3.1d	Station Service Transformer Stand	0	EA	\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
3.1f	Bus Support 1 Ph Instrument Transformer Stand	9	EA EA	\$ 3,700 \$ 1,850	\$ - \$ 16,650	\$ 3,700	\$ - \$ 16,650	\$ 7,400 \$ 3,700	\$ - \$ 33,300
3.1g 3.1h	Arrester Stand	3	EA	\$ 1,850	\$ 5,550		\$ 16,650 \$ 5,550	\$ 3,700	
3.1j	Wave Trap Stand	1	EA	\$ 7,400	\$ 7,400		\$ 7,400	\$ 14,800	\$ 14,800
3.1k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.2 3.2a	230kV	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2a 3.2b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA EA	+	\$ -	\$ 33,300		\$ 66,600 \$ 66,600	T
3.2c	Switch Stands	0	EA	\$ 33,300				\$ 24,050	
3.2d	Station Service Transformer Stand	0	EA	\$ 12,025				\$ 24,050	
3.2e	Bus Support 3ph	0	EA		\$ -			\$ -	
3.2f	Bus Support 1 Ph	0	EA	\$ 2,775				\$ 5,550	
3.2g	Instrument Transformer Stand	0	EA	\$ 1,295	\$ -			\$ 2,590	
3.2h	Arrester Stand	0	EA	\$ 1,295				\$ 2,590	
				1 4 5 5 5 5 6	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
3.2j	Wave Trap Stand	0	EA	\$ 5,550					
	Wave Irap Stand Misc. Structures	0	EA EA	\$ 5,550				\$ 11,100	

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000 !	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000 !	\$ -
3.3c	Switch Stands	0	EA	\$	7,955	\$ -	\$ 7,955	\$ -	\$ 15,910 !	\$ -
3.3d	Fuse Stand	0	EA	\$	7,955	\$ -	\$ 7,955	\$ -	\$ 15,910 !	\$ -
3.3e	Bus Support 3ph	0	EA	\$	3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$	1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$	740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0	EA	\$	740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3j	Wave Trap Stand	0	EA	\$	3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
TOTAL - SUBS	TATION STRUCTURES					\$ 44,400		\$ 44,400	Ş	\$ 88,800
4. MAJOR EQU	UIPTMENT									
4.1	345kV									
4.1a	Circuit Breakers	1	EA	\$	200,000	\$ 200,000	\$ 80,000	\$ 80,000	\$ 280,000	\$ 280,000
4.1b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$	-	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$	-	\$ -	\$ 750,000	\$ -		\$ -
4.2	230kV									
4.2a	Circuit Breakers	0	EA	\$	115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.2b	Capacitor Banks	0	EA	\$		\$ -	\$ 80,000	\$ -		\$ -
	T '	Ī		ľ			,		,	
4.3	115kV									
4.3a	Circuit Breakers	0	EA	\$	52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks	0	EA	Ś	-		\$ 60,000	š -		<u> </u>
	Capacitor Barno	1		1		Ť	 	Ÿ	ψ σο,σσο ,	<u>-</u>
TOTAL - MAJO	DR EQUIPTMENT					\$ 200,000		\$ 80,000		\$ 280,000
	JIPTMENT / MATERIALS					200,000		ψ 00,000	,	200,000
5.1	345kV									
5.1a	Line Switches - 3ph w/ motor operator	1	EA	Ś	40,000	\$ 40,000	\$ 15,000	\$ 15,000	\$ 55,000	\$ 55,000
5.1b	Disconnect Switches - 3ph w/ manual operator	1	EA	\$	35,000		\$ 17,500			\$ 52,500
5.1c	VT'S	3	EA	\$			\$ 12,000	\$ 36,000		\$ 111,000
5.1d	CT'S	3	EA	\$	13,000		\$ 8,000	\$ 24,000		\$ 63,000
5.1e	CCVT'S	3	EA	\$	13,000	\$ 39,000	\$ 8,000	\$ 24,000		\$ 63,000
5.1f	Arresters	6	EA	\$	6,500		\$ 1,500	\$ 9,000		\$ 48,000
5.1g	Wave Traps	1	EA	\$	13,000			\$ 8,000		\$ 21,000
5.1h	Station Service Transformers	0	EA	\$	200,000		\$ 50,000	\$ -		\$ -
5.1j	Station Service Hansionners		LA	+	200,000	7	5 50,000	7	250,000	<u>, </u>
3.1)		+		1						
5.2	230kV									
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$	35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$	30,000		\$ 17,500	\$ -		\$ -
5.2c	VT'S	0	EA	\$	13,000		\$ 8,000	Š -		\$ -
5.2d	CT'S	0	EA	\$	13,000		\$ 8,000			\$ -
5.2e	CCVT'S	0	EA	\$	10,000		\$ 6,000			\$ -
5.2f	Arresters	0	EA	\$			\$ 6,000	•		\$ -
5.2g	Wave Traps	0	EA	\$	13,000		\$ 8,000	\$ -		\$ -
5.2h	Station Service Transformers	0	EA	\$			\$ -	\$ -		\$ -
5.2j	Station service transformers	0	EA	13		ş -	· -	, -	· ,	, -
3.2]		+		_						
5.3	115kV									
5.3a			Γ^	Ś	22.000	\$ -	\$ 15,000	\$ -	\$ 48,000 !	\$ -
5.3a 5.3b	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	0 0	EA EA	\$	33,000 28,000		\$ 15,000	т	,	\$ -
		0								
5.3c	VT'S		EA	\$	13,000		,			
5.3d	CT'S	0		\$	13,000		\$ 8,000		\$ 21,000 5	
5.3e	CCVT'S	0		\$	8,000		\$ 8,000		\$ 16,000 5	
5.3f	Arresters				3,420		\$ 6,000		\$ 9,420	
5.3g	Wave Traps	0		\$	-					\$ -
5.3h	Station Service Transformers	0		\$						\$ -
5.3j	Fuses	0	EA	\$	-	\$ -	\$ -	\$ -	\$ - !	\$ -
	1	1		1						
TOTAL CRASS	FOUNDTMENT / MATERIALS					ć 200.000		ć 422 F00 l		442 500
	LL EQUIPTMENT / MATERIALS					\$ 280,000		\$ 133,500	Ş	\$ 413,500
6. CONTROL H	LL EQUIPTMENT / MATERIALS HOUSE / PANELS / GENERATOR CONTROL HOUSE	0	EA	\$	551,250		\$ 85,000			

		Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.3 125VDC	ection and Telecom Equipment Panels	3	EA	\$ 35,000	\$ 105,000	\$ 10,000	\$ 30,000	\$ 45,000	\$ 135,000
	DC Batteries	0	EA	\$ 75,000	\$ -	,		\$ 100,000	
	rol Cables	1	LS	\$ 68,850	\$ 68,850		\$ 68,850	\$ 137,700	\$ 137,700
	A and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Voltage AC Distribution istribution System	0	EA EA	\$ 50,000 \$ 50,000	\$ -	\$ 100,000 \$ 100,000	\$ - \$ -	\$ 150,000 \$ 150,000	\$ - \$ -
6.8 Security		0	EA	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	
6.9 Fire Ala		0	EA	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	
6.10 Genera		0	EA	\$ 100,000	\$ -	\$ 80,000		\$ 180,000	
							·	,	
TOTAL - CONTROL HOL	OUSE / PANELS / GENERATOR				\$ 173,850		\$ 98,850		\$ 272,700
7. MISC ITEMS									
7.1 Conduit	uit & Cable Trench System	800	LF	\$ 185.00	\$ 148,000	\$ 170.00	\$ 136,000	\$ 355	\$ 284,000
7.2 Rigid Bu	Bus, Fittings & Insulators	0	L.S.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	n Bus, Connectors & Insulators	2,500	LF	\$ 39.30	\$ 98,250			\$ 93	
	nding System	1	L.S.	\$ 10,395.00	\$ 10,395		\$ 73,305	\$ 83,700	
	n Bus Insulators - 345kV	24	EA EA	\$ 2,000 \$ 1,400	\$ 48,000 \$ -	\$ 1,050 \$ 750	\$ 25,200 \$ -	\$ 3,050 \$ 2,150	
	n Bus Insulators - 230kV n Bus Insulators - 115kV	0	EA EA	\$ 1,400		\$ 750		\$ 2,150	
	Voltage AC Station Service	0	LS	\$ 50,000	\$ -		\$ -	\$ 125,000	
7.9 SSVT Se		0	LS	\$ 45,000	\$ -	\$ 45,000	\$ -	\$ 90,000	
	rol Conduits from Trench to Equipment	1	LS	\$ 14,000	\$ 14,000		•	\$ 84,000	
	Materials (Above and Below Ground)	1	LS	\$ 20,712	\$ 20,712		\$ 70,000	\$ 90,712	
7.12									
7.13									
7.14									
7.15									
7.16 7.17									
7.17									
7.19									
7.20									
7.21									
7.22									
7.23									
7.24									
7.25 TOTAL - MISC ITEMS					ć 220.257		\$ 507.880		ć 047.227
					\$ 339,357		,,		\$ 847,237
F. Edic Substa	tation - Install				\$ 1,139,730		\$ 977,455		\$ 2,117,185
	GINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	ractor Mobilization / Demobilization		10		<u> </u>	A 24.4==	A 24	¢ 24.4==	A
	/ Demob cct Management, Material Handling & Amenities	1	LS	\$ -	\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$ 21,172
8 2 Project	ct Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler	1	LS			\$ 76,483	\$ 76,483	\$ 76,483	\$ 76,483
and Cos	Cost Manager, SHEQ Staff, and Admin Staff)	-							
	y PM and Project Oversite	1	LS		\$ -	\$ 21,172	\$ 21,172	\$ 21,172	
	Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$ 21,172
Enginee	ů .								
	n Engineering	1		\$ -	\$ -				
8.6 LiDAR 8.7 Geotec		- 4	LS EA	\$ -	\$ -		\$ - \$ 14,000		\$ - \$ 14,000
	ecn eying/Staking	1	Site	\$ -		\$ 3,500			
	ng & Commissioning	1	JILE	-	-	7 14,020	7 14,020	7 14,020	7 14,020
	ng & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 52,930	\$ 52,930	\$ 52,930	\$ 52,930
	itting and Additional Costs		-			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	. ,	. ,	,,,,,,
	onmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	onmental Mitigation	-	LS	\$ -			\$ -		\$ -
8.12 Warran	anties / LOC's	1	LS	\$ -	\$ -	\$ 6,352	\$ 6,352	\$ 6,352	\$ 6,352

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	ı	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.13	Real Estate Costs (New)	-	LS	\$	-	\$ -	\$ -	\$	-	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$	-	\$ -	\$ -	\$	-	\$ -	\$ -
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$	-	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$	-	\$ -	\$ -
8.17		-	LS	\$	-	\$ -	\$ -	\$	-	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 91	L,178	\$ 91,178	\$ -	\$	-	\$ 91,178	\$ 91,178
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 2,11	7 \$	2,117	\$ 2,117	\$ 2,117
TOTAL - MOB,	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 91,178		\$	399,592		\$ 490,771

Page 31 of 69

G. Edic Substation - Removal

Estimate Revision: 7 Total: \$ 41,311

NAT & NYPA - T025 - (Segme	nt A, + 765kV)			
	Supply		Installation	Total
G. Edic Substation - Removal				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ -	\$ -
2. SUBSTATION FOUNDATIONS	\$	-	\$ 14,200	\$ 14,200
3. SUBSTATION STRUCTURES	\$	-	\$ 6,750	\$ 6,750
4. MAJOR EQUIPTMENT	\$	-	\$ -	\$ -
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ 4,500	\$ 4,500
6. CONTROL HOUSE / PANELS	\$	-	\$ -	\$ -
7. MISC ITEMS	\$	-	\$ 10,500	\$ 10,500
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$ 5,361	\$ 5,361
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	-	\$ 41,311	\$ 41,311
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	-	\$ 41,311	\$ 41,311

	ption		

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
G. Edic S	ubstation - Removal								
1. SITE PREP/ C	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75		\$ 75	\$ -
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15					4				
	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
	N FOUNDATIONS								
	345kV	4	FA	\$ -	ć	\$ 14,200	\$ 14.200	\$ 14.200	\$ 14.200
	Circuit Breaker Foundations	1	EA	1	\$ -	, , , , ,	,	ÿ 1.,200	,
	Capacitor Bank Foundations	0	EA EA	'	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
	Caisson DE Foundations (for DE A frame str stand alone)			'	'		•		7
	Caisson DE Foundations (for DE A frame str shared column)	0	EA EA	\$ -	\$ - \$ -		\$ - \$ -	\$ - \$ -	\$ - \$ -
	Switch Stand Foundations Station Service Transformer Stand Foundation	0	EA EA		:	7	•	-	-
	Bus Support 3ph Foundations	0	EA EA	'	·		\$ - \$ -	\$ - \$ -	\$ - \$ -
	Bus Support 1 Ph Foundations	0	EA EA	\$ -	\$ -	\$ 2,400	\$ - \$ -	\$ 2,400	\$ -
2.1ii 2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ - \$ -	\$ 2,400	\$ -
	Arrester Stand Foundations	0	EA EA	\$ -	\$ -	_	\$ - \$ -	\$ -	\$ -
	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Wisc. Structure i ouridations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.15		0	LA.	,	7	7	7	7	7
	230kV								
	Circuit Breaker Foundations	0	EA	\$ -	\$ -	7 ./===	\$ -	\$ 7,200	\$ -
	Capacitor Bank Foundations	0	EA	\$ -	\$ -	7 0-,000	\$ -	\$ 32,000	\$ -
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000		\$ 22,000	\$ -
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ 11,000		\$ 11,000	\$ -
2.2e	Switch Stand Foundations	0	EA		\$ -	\$ 5,200		\$ 5,200	\$ -
	Station Service Transformer Stand Foundation	0	EA EA	\$ - \$ -	\$ - \$ -	\$ -	\$ -	\$ - \$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	
	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	115kV			_	_	1	_	1	
	Circuit Breaker Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Switch Stand Foundations	0	EA	\$ -	\$ -		\$ -	\$ 5,200	
	Fuse Stand Foundations	0	EA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
	Bus Support 3ph Foundations	0	EA EA	\$ - \$ -	\$ - \$ -			\$ - \$ -	\$ -
	Bus Support 1 Ph Foundations		EA	7		7	T .		•
	Instrument Transformer Stand Foundations Arrester Stand Foundations	0	EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
	Wave Trap Stand Foundations	0	EA EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	IMISS. Structure (Outhautions	0	EM	-	-	-	-	-	· -
2.4	Transformer Foundations								
	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.40	115KV O5KV Transformer Foundation W/ On Contamment	•	LA.	7	7	,	Ÿ	,	-
2.5	Control House Foundations / Pad								
	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		-					·		
2.6	Lightning Mast Foundations								
	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ATION FOUNDATIONS				\$ -		\$ 14,200		\$ 14,200
3. SUBSTATION									
	345kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Station Service Transformer Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph	3	EA	\$ -	\$ -	\$ 2,250	\$ 6,750		\$ 6,750
	Instrument Transformer Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ - \$ -	\$ -	\$ -
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2	230kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA EA		\$ -	\$ 27,000		\$ 27,000	
	Switch Stands	0		\$ -	\$ -			\$ 27,000	
	Station Service Transformer Stand	0		\$ -			\$ -	\$ -	
	Bus Support 3ph	0		\$ -	\$ -		\$ -	\$ -	
	Bus Support 1 Ph	0		\$ -		\$ 2,250		\$ 2,250	
	Instrument Transformer Stand	0		\$ -		\$ 1,050		\$ 1,050	
	Arrester Stand	0		\$ -	\$ -			\$ 1,050	
	Wave Trap Stand	0		\$ -	\$ -	\$ 4,500		\$ 4,500	
	Misc. Structures	0		\$ -	\$ -		\$ -		\$ -
3.2K I						ļ ·			
3.2k							l		

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	0	EA	\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ATION STRUCTURES				\$ -		\$ 6,750		\$ 6,750
4. MAJOR EQU									
4.1	345kV								
4.1a	Circuit Breakers	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	R EQUIPTMENT				\$ -		\$ -		\$ -
	PTMENT / MATERIALS								
5.1	345kV							·	
5.1a	Line Switches - 3ph w/ motor operator	0		\$ -			\$ -	\$ 5,500	
5.1b	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -	\$ 5,500		\$ 5,500	
5.1c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Arresters	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	
5.1h	Station Service Transformers	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	220127								
5.2	230kV	0	EA.	\$ -	\$ -	ć F.500	ć.	ć 5.500	\$ -
5.2a	Line Switches - 3ph w/ motor operator	0	EA EA	\$ - \$ -		\$ 5,500 \$ 5,500	\$ -	\$ 5,500 \$ 5,500	
5.2b	Disconnect Switches - 3ph w/ manual operator	0			·		\$ -		
5.2c 5.2d	VT'S CT'S	0	EA EA	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
5.2d 5.2e	CCVT'S	0	EA EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	•
5.2e 5.2f	Arresters	0		\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	
5.2g	Wave Traps	0	EA EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	
5.2g 5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ 2,300	\$ -	\$ 2,300	\$ -
5.2j	Station Service Hallstoffiers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.23		U	LM.	-	-	-		· -	-
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
5.3c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
	CT'S	0		\$ -	\$ -		\$ -		\$ -
	CCVT'S	0		\$ -	\$ -		\$ -		\$ -
	Arresters	0		\$ -	\$ -			\$ 1,500	
	Wave Traps	0		\$ -			\$ -		\$ -
	Station Service Transformers	0		\$ -			\$ -		\$ -
	Fuses	0		\$ -		\$ -	\$ -		\$ -
3.5,	1.000	0	LA	·	· ·	·	¥	* -	*
TOTAL - SMAI	L EQUIPTMENT / MATERIALS				\$ -		\$ 4,500		\$ 4,500
	OUSE / PANELS / GENERATOR						,500		,500
	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
		•				. 150,500	•	. 155,500	D 24 -£(0

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Protection and Telecom Equipment Panels	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Generator	0	EA	\$ -	\$ -	Š -	\$ -	\$ -	\$ -
0.10	deficiation	Ü	En	7	7	7	7	7	7
TOTAL - CONTE	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS	IOC HOUSE / PANEES / GENERATOR				÷ -		, -		-
	Const. it 0. Cohla Tananh Cartana	0	EA	ć	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
	Conduit & Cable Trench System			\$ -	•				
	Rigid Bus, Fittings & Insulators	1	LS	\$ -	\$ -		\$ 10,500	\$ 10,500	
	Strain Bus, Connectors & Insulators	0	EA	\$ -	\$ -		\$ -	\$ 39	
	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC	TEMS				\$ -		\$ 10,500		\$ 10,500
-					T				
G. Edic Si	ubstation - Removal				\$ -		\$ 35,950		\$ 35,950
8. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 360	\$ 360	\$ 360	\$ 360
	Project Management, Material Handling & Amenities								
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 1,299	\$ 1,299	\$ 1,299	\$ 1,299
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 360	\$ 360	\$ 360	\$ 360
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 360	\$ 360	\$ 360	\$ 360
	Engineering								
	Design Engineering	1	LS	\$ -	\$ -	\$ 2,876	\$ 2,876	\$ 2,876	\$ 2,876
8.6	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -		\$ -
	Surveying/Staking	-	Site	\$ -	\$ -			\$ 252	
	Testing & Commissioning		- Site	7	· ·	Ų 252	Ť	Ų 252	*
	Testing & Commissioning of T-Line and Equipment		LS	\$ -	\$ -	\$ 899	\$ -	\$ 899	\$ -
	Permitting and Additional Costs		LJ	, -	· -	2 655	-	Ş 633	-
	-	_	1.0	ć	\$ -	\$ -		ć	
	Environmental Licensing & Permitting Costs	-	LS LS	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ -
	Environmental Mitigation				•				
	Warranties / LOC's	1	LS	\$ -	\$ -			\$ 108	
	Real Estate Costs (New)	-	LS	\$ -	\$ -		\$ -	\$ -	\$ -
	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Allowance for Funds Used During Construction (AFUDC)		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17			LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -			\$ 36	
	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 5,361		\$ 5,361
	, .,,						-,501		-,-,-

Page 35 of 69
G. SS Edic-Removal

H. Princetown Switchyard - Install

Estimate Revision: 7 Total: \$ 15,771,722

NAT & NYPA - T025 - (Segme	nt A,	+ 765kV)				
	Supply			Installation		Total
H. Princetown Switchyard - Install						
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	163,560	\$	904,700	\$	1,068,260
2. SUBSTATION FOUNDATIONS	\$	1,193,706	\$	1,213,490	\$	2,407,196
3. SUBSTATION STRUCTURES	\$	582,750	\$	582,750	\$	1,165,500
4. MAJOR EQUIPTMENT	\$	800,000	\$	320,000	\$	1,120,000
5. SMALL EQUIPTMENT / MATERIALS	\$	1,382,000	\$	636,000	\$	2,018,000
6. CONTROL HOUSE / PANELS	\$	1,621,800	\$	1,043,550	\$	2,665,350
7. MISC ITEMS	\$	895,854	\$	1,373,004	\$	2,268,858
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	531,174	\$	2,527,384	\$	3,058,558
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	7,170,844	\$	8,600,878	\$	15,771,722
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL:	\$	7,170,844	\$	8,600,878		15,771,722

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	l Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	тс	OTAL
H. Prince	etown Switchyard - Install										
1. SITE PREP/	GRADING/ FENCING / CIVIL										
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	3.1	ACRES	\$	-	\$ -	\$ 203,000	\$ 629,300	\$ 203,000	\$	629,300
1.2	Station stone within substation fence.	1,080	CY	\$		\$ 29,160	\$ 75	\$ 81,000			110,160
1.3	Substation Fence	1,260	LF	\$	100	\$ 126,000	\$ 100	\$ 126,000	\$ 200	\$	252,000
1.4	Permanent Access Road - 20'-Wide (Extend Existing)	240	LF	\$	35	\$ 8,400	\$ 285	\$ 68,400	\$ 320	\$	76,800
1.5											
1.6											
1.7										—	
1.8										\vdash	
1.10										\vdash	
1.10										\vdash	
1.12											$\overline{}$
1.13											
1.14											
1.15											
	REP/ GRADING/ FENCING / CIVIL					\$ 163,560		\$ 904,700		\$	1,068,260
	N FOUNDATIONS										
2.1	765kV										
2.1a	Circuit Breaker Foundations		EA.	\$	22,410	\$ -	\$ 24,000		\$ 46,410		-
2.1b	Capacitor Bank Foundations		EA	\$	56,025 52,290		\$ 60,000 \$ 56,000		\$ 116,025 \$ 108,290		-
2.1c 2.1d	Caisson DE Foundations (for DE A frame str stand alone) Caisson DE Foundations (for DE A frame str shared column)		EA.	\$	52,290	\$ - \$ -	\$ 56,000 \$ 56,000	\$ - \$ -	\$ 108,290 \$ 108,290		-
2.1u 2.1e	Switch Stand Foundations (10) DE A Hame Str Shared Column)		EA.	Ś	8,964	\$ -	\$ 8,964	\$ -	\$ 17,928	-	
2.1f	Station Service Transformer Stand Foundation	0	EA.	Ś	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282		
2.1g	Bus Support 1ph Foundations (High Bus)		EA.	Ś	, .02	\$ -	\$ -	š -	\$ -	Ś	_
2.1h	Bus Support 1 Ph Foundations (Low Bus)		EA.	\$	8,964	\$ -	\$ 8,964	\$ -	\$ 17,928	\$	-
2.1j	Instrument Transformer Stand Foundations		EA.	\$	8,964	\$ -	\$ 8,964	\$ -	\$ 17,928	\$	-
2.1k	Arrester Stand Foundations		EA.	\$	8,964	\$ -	\$ 8,964	\$ -	\$ 17,928	\$	-
2.1m	Wave Trap Stand Foundations		EA.	\$	8,964	\$ -	\$ 8,964	\$ -	\$ 17,928	\$	-
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.1p										<u> </u>	
2.2	345kV										
2.2a	Circuit Breaker Foundations	4	EA.	\$	14,940	\$ 59,760					119,520
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820	\$ -	\$ 48,000		\$ 92,820		-
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	16	EA.	\$	-, -						836,640
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA.	\$	26,145	\$ -	\$ 26,145		\$ 52,290		-
2.2e	Switch Stand Foundations	48	EA.	\$	4,482	\$ 215,136					430,272
2.2f	Station Service Transformer Stand Foundation	6	EA.	\$	4,482	\$ 26,892	\$ 4,482	\$ 26,892	\$ 8,964	\$	53,784

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Bus Support 1ph Foundations (High Bus)	0	EA.	\$ -	\$ -		\$ -		\$ -
	Bus Support 1 Ph Foundations (Low Bus)	39	EA.	\$ 4,482	, , , , , ,		\$ 174,798		\$ 349,596
	Instrument Transformer Stand Foundations	36	EA.	\$ 4,482	\$ 161,352			\$ 8,964	
	Arrester Stand Foundations	12	EA.	\$ 4,482	\$ 53,784			\$ 8,964	\$ 107,568
	Wave Trap Stand Foundations	4	EA.	\$ 4,482	\$ 17,928				\$ 35,856
	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434			·	\$ 34,034	
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434				\$ 34,034	
	Switch Stand Foundations	0	EA	\$ 2,988			\$ -	\$ 6,188	
	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	765-345kV Transformer Foundation w/ Oil Containment		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	765-345kV Transformer Fire Wall		EA.	\$ 106,074	\$ -	\$ 113,600	\$ -	\$ 219,674	\$ -
2.4c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad / Generator / Station Service Distribution Line								
	Control House / Pad - 25' x 50'	1	EA	\$ 17,928	\$ 17,928			\$ 37,128	
	Generator Foundation	1	EA	\$ 16,434	\$ 16,434			\$ 34,034	\$ 34,034
	Station Service Distribution Line - 3ph.	1	LS	\$ -	\$ -	\$ 15,120	\$ 15,120	\$ 15,120	\$ 15,120
	Lightning Mast Foundations								
	70' Lightning Mast Foundation	6	EA	\$ 5,229	\$ 31,374			\$ 10,829	\$ 64,974
2.6b 2.6c				\$ - \$ -	\$ - \$ -		\$ - \$ -	\$ - \$ -	\$ - \$ -
2.60				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CLIDST	L TATION FOUNDATIONS				\$ 1,193,706		\$ 1,213,490		\$ 2,407,196
	N STRUCTURES				\$ 1,155,700		3 1,213,430		\$ 2,407,130
	765kV								
	Substation A-Frame Structures - Stand alone		EA.	\$ 111,000	\$ -	\$ 111,000	\$ -	\$ 222,000	\$ -
	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	1	EA.	. ,	•		\$ -	\$ 222,000	
				5 111.000	\$ -	S 111.000 I			
	Switch Stands		EA.	\$ 111,000 \$ 22,200	\$ - \$ -		\$ -		\$ -
3.1c	Switch Stands Station Service Transformer Stand				\$ -	\$ 22,200			
3.1c 3.1d	Station Service Transformer Stand		EA.	\$ 22,200	\$ - \$ -	\$ 22,200 \$ -	\$ - \$ -	\$ 44,400	\$ - \$ -
3.1c 3.1d 3.1e			EA. EA.	\$ 22,200 \$ -	\$ - \$ - \$ -	\$ 22,200 \$ - \$ 7,400	\$ - \$ - \$ -	\$ 44,400 \$ -	\$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f	Station Service Transformer Stand Bus Support 1ph (High Bus)		EA. EA. EA.	\$ 22,200 \$ - \$ 7,400	\$ - \$ - \$ -	\$ 22,200 \$ - \$ 7,400	\$ - \$ - \$ - \$ -	\$ 44,400 \$ - \$ 14,800	\$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g	Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (low Bus)		EA. EA. EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550	\$ - \$ - \$ -	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700	\$ - \$ - \$ - \$ -	\$ 44,400 \$ - \$ 14,800 \$ 11,100	\$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h	Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (low Bus) Instrument Transformer Stand		EA. EA. EA. EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 9,250	\$ - \$ - \$ - \$ -	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 9,250	\$ - \$ - \$ - \$ - \$ -	\$ 44,400 \$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500	\$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h	Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (low Bus) Instrument Transformer Stand Arrester Stand		EA. EA. EA. EA. EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700	\$ - \$ - \$ - \$ - \$ -	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 44,400 \$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400	\$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (low Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast		EA. EA. EA. EA. EA. EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 9,250	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 44,400 \$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (low Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast 345kV		EA. EA. EA. EA. EA. EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 44,400 \$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500 \$ 18,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2	Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (low Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast 345kV Substation A-Frame Structures - Stand alone	4	EA. EA. EA. EA. EA. EA. EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 44,400 \$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500 \$ 18,500 \$ 74,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b	Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (Iow Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA. EA. EA. EA. EA. EA. EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 44,400 \$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500 \$ 18,500 \$ 24,000 \$ 74,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c	Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (Iow Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands	0 8	EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000 \$ 37,000 \$ 37,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000 \$ 14,800	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 44,400 \$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500 \$ 18,500 \$ 74,000 \$ 29,600	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d	Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (low Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 8 1	EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 44,400 \$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500 \$ 18,500 \$ 29,600 \$ 29,600	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2e	Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 ph (low Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	0 8 1 0	EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 5,550	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 22,200 \$ \$ 7,400 \$ 5,550 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 5,550	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 44,400 \$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500 \$ 18,500 \$ 29,600 \$ 29,600 \$ 29,600 \$ 11,100	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2d 3.2e 3.2f	Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (low Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast 34SkV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph	0 8 1 0 39	EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250 \$ 9,250 \$ 14,800 \$ 14,800 \$ 14,800 \$ 5,550 \$ 3,700	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 5,550 \$ 3,700	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 44,400 \$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500 \$ 18,500 \$ 29,600 \$ 29,600 \$ 29,600 \$ 11,100 \$ 7,400	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2c 3.2d 3.2e 3.2f 3.2g	Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (low Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 1 Ph Instrument Transformer Stand	0 8 1 0 39 36	EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 14,800 \$ 1,850	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250 \$ 14,800 \$ 14,800 \$ 14,800 \$ 14,800 \$ 1,850	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 44,400 \$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500 \$ 18,500 \$ 29,600 \$ 29,600 \$ 29,600 \$ 11,100 \$ 3,700	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2e 3.2f 3.2g 3.2h	Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (low Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast 34SkV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph	0 8 1 0 39	EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 14,800 \$ 14,800 \$ 5,550 \$ 3,700 \$ 14,800	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 14,800 \$ 1,550 \$ 1,850	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 44,400 \$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500 \$ 18,500 \$ 29,600 \$ 29,600 \$ 29,600 \$ 11,100 \$ 7,400 \$ 3,700	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3	115kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500		\$ 18,500	\$ -	\$ 37,000	
	Switch Stands	0	EA	\$ 7,95		\$ 7,955	\$ -	\$ 15,910	
	Fuse Stand	0	EA	\$ 7,95		\$ 7,955	\$ -	\$ 15,910	
	Bus Support 3ph	0	EA	\$ 3,330		\$ 3,330		\$ 6,660	
	Bus Support 1 Ph	0	EA	\$ 1,850		\$ 1,850	\$ -	\$ 3,700	
	Instrument Transformer Stand	0	EA	\$ 740		\$ 740	Š -	\$ 1,480	
	Arrester Stand	0	EA	\$ 740		\$ 740	\$ -	\$ 1,480	
	Wave Trap Stand	0	EA	\$ 3,700		\$ 3,700	\$ -	\$ 7,400	
	Misc. Structures	0	EA	\$ 6,475		\$ 6,475	'	\$ 12,950	
3.5K	ivisc. Structures	•	LA.	5 0,47.	1	5 0,475	,	7 12,550	1
TOTAL - SUBST	ATION STRUCTURES				\$ 582,750		\$ 582,750		\$ 1,165,500
4. MAJOR EQUI					3 382,730		382,730		3 1,103,300
	345kV								
		4	EA	\$ 200,000	\$ 800,000	\$ 80,000	\$ 320,000	\$ 280,000	\$ 1,120,000
	Circuit Breakers	4		· · · · · · · · · · · · · · · · · · ·	\$ 800,000				
4.2b	Capacitor Banks		EA	\$ -	· -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.5	44Flar								
	115kV		F.*	6 50.55		A		A 442.555	
	Circuit Breakers	0	EA	\$ 52,000		\$ 60,000	\$ -	\$ 112,000	
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
	REQUIPTMENT				\$ 800,000		\$ 320,000		\$ 1,120,000
	PTMENT / MATERIALS								
	345kV								
5.2a	Line Switches - 3ph w/ motor operator	4	EA	\$ 40,000		\$ 15,000	\$ 60,000	\$ 55,000	
	Disconnect Switches - 3ph w/ manual operator	8	EA	\$ 35,000	\$ 280,000	\$ 17,500	\$ 140,000	\$ 52,500	
5.2c	VT'S	12	EA	\$ 25,000	\$ 300,000	\$ 12,000	\$ 144,000	\$ 37,000	\$ 444,000
5.2d	CT'S	12	EA	\$ 13,000	\$ 156,000	\$ 8,000	\$ 96,000	\$ 21,000	\$ 252,000
5.2e	CCVT'S	12	EA	\$ 13,000	\$ 156,000	\$ 8,000	\$ 96,000	\$ 21,000	\$ 252,000
5.2f	Arresters	12	EA	\$ 6,500	\$ 78,000	\$ 1,500	\$ 18,000	\$ 8,000	\$ 96,000
5.2g	Wave Traps	4	EA	\$ 13,000	\$ 52,000	\$ 8,000	\$ 32,000	\$ 21,000	\$ 84,000
5.2h	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000	\$ 50,000	\$ 50,000	\$ 250,000	\$ 250,000
5.2j									
	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ 33,000	- \$	\$ 15,000	\$ -	\$ 48,000	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000		\$ 17,500	\$ -	\$ 45,500	
	VT'S	0	EA	\$ 13,000		\$ 8,000	\$ -	\$ 21,000	\$ -
	CT'S	0	EA	\$ 13,000		\$ 8,000	\$ -	\$ 21,000	\$ -
5.3e	CCVT'S	0	EA	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 16,000	\$ -
5.3f	Arresters	0	EA	\$ 3,420	\$ -	\$ 6,000	\$ -	\$ 9,420	\$ -
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL	EQUIPTMENT / MATERIALS				\$ 1,382,000		\$ 636,000		\$ 2,018,000
6. CONTROL HO	DUSE / PANELS / GENERATOR								
	CONTROL HOUSE	1	EA	\$ 245,750	\$ 245,750	\$ 37,500	\$ 37,500	\$ 283,250	\$ 283,250
6.2	Protection and Telecom Equipment Panels	18	EA	\$ 35,000	\$ 630,000	\$ 10,000	\$ 180,000	\$ 45,000	\$ 810,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,000
	Control Cables	1		\$ 281,050					
	SCADA and Communications	0		\$ 281,030		\$ 281,030	· · · · · · · · · · · · · · · · · · ·	\$ 362,100	
		2		\$ 35,000					
	Low Voltage AC Distribution								
	DC Distribution System	2		\$ 50,000					
	Security Fin Alama	1	EA	\$ 7,500					
	Fire Alarm	1		\$ 7,500					
6.10	Generator	1	EA	\$ 100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$ 180,000
	AND HOUSE I DANIELS I OFFICE ATOM								
	ROL HOUSE / PANELS / GENERATOR				\$ 1,621,800		\$ 1,043,550		\$ 2,665,350
7. MISC ITEMS	345kV								

Item	ltem Description	Estimated Quantity	Unit of Measure	Material S	Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
7.15	Conduit & Cable Trench System	1,200	LF	\$	125.07	\$ 150,084	\$ 170.00	\$ 204,000	\$ 295	\$	354,084
7.16	Rigid Bus, Fittings & Insulators	1,000	LF	\$	125.07	\$ 125,070	\$ 237.10	\$ 237,100	\$ 362	\$	362,170
7.17	Strain Bus, Connectors & Insulators	1,600	LF	\$	61.50	\$ 98,400	\$ 78.69	\$ 125,904	\$ 140	\$	224,304
7.18	Grounding System	10,000	LF	\$		\$ 69,300		-	\$ 40	\$	395,100
7.19	Strain Bus Insulators - 345kV	24	EA	\$	2,000	\$ 48,000		\$ 25,200	\$ 3,050		73,200
7.20	Low Voltage AC Station Service	1	LS	\$	50,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$	125,000
7.21	SSVT Service	1	LS	\$	50,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$	125,000
7.22	Control Conduits from Trench to Equipment	1	LS	\$	125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$	250,000
7.23	Misc. Materials (Above and Below Ground)	1	LS	\$	180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$	360,000
7.24											
7.25											
7.26										1	
7.27											
7.28											
7.29											
TOTAL - MISC	ITEMS					\$ 895,854		\$ 1,373,004		\$	2,268,858
H. Prince	etown Switchyard - Install					\$ 6,639,670		\$ 6,073,494		\$	12,713,164
B. MOB/DEMO	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
8.1	Mob / Demob	1.0	LS	\$	-	\$ -	\$ 127,132	\$ 127,132	\$ 127,132	\$	127,132
	Project Management, Material Handling & Amenities										
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 459,262	\$ 459,262	\$ 459,262	\$	459,262
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 127,132	\$ 127,132	\$ 127,132	Ś	127,132
8.4	Site Accommodation, Facilities, Storage	1	LS	Ś	-	\$ -	\$ 127,132		\$ 127,132		127,132
	Engineering			<u> </u>		•	, ,	, -	, -		
8.5	Design Engineering	1	LS	Ś	-	\$ -	\$ 1,017,053	\$ 1,017,053	\$ 1,017,053	Ś	1,017,053
8.6	LiDAR	-	LS	\$	-	\$ -	Ś -	\$ -	\$ -	\$	-
8.7	Geotech	4	EA	\$	-	\$ -	\$ 3,500	\$ 14,000	\$ 3,500		14,000
8.8	Surveying/Staking	1	Site	s	_	\$ -	\$ 88,992	\$ 88,992	\$ 88,992		88.992
	Testing & Commissioning	_		T		Ť	7 00,000	7 00,000	7 00,000	<u> </u>	
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	Ś	-	\$ -	\$ 317,829	\$ 317,829	\$ 317,829	Ś	317,829
	Permitting and Additional Costs		-	<u> </u>		•	, , , , , , , , , , , , , , , , , , , ,	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , , , , , , , , , , , , , , , , , , ,	<u> </u>	
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	Ś	-
8.11	Environmental Mitigation	-	LS	Ś	-	\$ -	\$ -	\$ -	\$ -	Ś	_
8.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 38,139	'	\$ 38,139	<u> </u>	38,139
8.13	Real Estate Costs (New)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	Ś	-
8.14	Real Estate Costs (Incumbent Utility)	1	LS	Ś	-	\$ -	\$ 198,000	\$ 198,000	\$ 198,000	<u> </u>	198,000
8.15	Legal Fees		LS	\$	-	\$ -	\$ -	\$ -	\$ -	Ś	-
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	Ś	-	\$ -	\$ -	\$ -	\$ -	Ś	-
8.17	The state of the s		LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	_
8.18	Sales Tax on Materials	1	LS	Ś	531,174	\$ 531,174	•	\$ -	\$ 531,174		531,174
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	+*	332,274	\$ -	\$ 12,713	\$ 12,713	\$ 12,713		12,713
		1				Ψ	1 4 12,/13	1 4 12,/13	1 4 12,713	1 7	12,/13

Page 39 of 69
H. SS Princetown-Install

J. Porter Substation - Install

Estimate Revision: 7 Total: \$ 86,210

NAT & NYPA - T025 - (Segment A, + 765kV)									
		Supply		Installation	Total				
J. Porter Substation - Install									
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$	-			
2. SUBSTATION FOUNDATIONS	\$	-	\$	-	\$	-			
3. SUBSTATION STRUCTURES	\$	-	\$	-	\$	-			
4. MAJOR EQUIPTMENT	\$	-	\$	-	\$	-			
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	-	\$	-			
6. CONTROL HOUSE / PANELS	\$	-	\$	-	\$	-			
7. MISC ITEMS	\$	15,008	\$	56,904	\$	71,912			
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,201	\$	13,097	\$	14,298			
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-			
SUBTOTAL:	\$	16,209	\$	70,001	\$	86,210			
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-			
TOTAL:	\$	16,209	\$	70,001		86,210			

|--|

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
J. Porter	Substation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ 27	\$ -	\$ 75		\$ 102	
1.3	Substation Fence	0	LF	\$ 100	\$ -	\$ 100	\$ -	\$ 200	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
	 REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
	N FOUNDATIONS						, -		, -
	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ 14,940	\$ -	\$ 16,000	\$ -	\$ 30,940	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,025	\$ -		\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	0	EA	\$ 4,482	\$ -		\$ -	\$ 9,282	
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ 4,482	\$ -	7 .,		\$ 9,282	
	Arrester Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	
2.1m	Wave Trap Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	
	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -

2.42 Bis Support Air Foundations	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.20						\$ -				
2.25 Amount Stand Foundations					,		, , , , , , , , , , , , , , , , , , , ,			
2.20 Many Tags State Foundations					,				. ,	
2.20 Most Structure Foundations						т				
2.3 131W						Ÿ	, , , , , , , , , , , , , , , , , , , ,	•		
23 STANCE STREET TRANSPORTER TO CONTINUES 1		Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.30 Circust Person Fromer Store Plant Controllers 0	2.2p									
2.38 Capacito Grant Annual Processing S. F. F. S.	2.3	115kV								
2.8. Casson Ok Foundations (for Dr. A Farme set - Harde acces) D. IA. S. 16,648 S. S. 17,000 S. S. 34,048 S.	2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.46 Causson Oil Foundations (Fee Dis A Tamore strshared columns) 0 6.A 5 16,434 5 5 17,000 5 5 18,004 5 2.26 Vertical Stand Foundations 0 0 0 0 0 0 0 0 2.26 Vertical Stand Foundations 0 0 0 0 0 0 2.27 Vertical Stand Foundations 0 0 0 0 0 0 2.28 Vertical Stand Foundations 0 0 0 0 0 2.29 Vertical Stand Foundations 0 0 0 0 0 2.20 Vertical Stand Foundations 0 0 0 0 0 2.21 Instrument Transformer Stand Foundations 0 0 0 0 2.22 Vertical Stand Foundations 0 0 0 0 2.23 Vertical Stand Foundations 0 0 0 0 2.24 Vertical Stand Foundations 0 0 0 0 2.25 Vertical Stand Foundations 0 0 0 0 2.26 Vertical Stand Foundations 0 0 0 0 2.27 Vertical Standard Foundations 0 0 0 0 2.28 Vertical Standard Foundations 0 0 0 0 2.29 Vertical Standard Foundations 0 0 0 0 2.20 Vertical Standard Foundations 0 0 0 0 2.21 Vertical Standard Foundations 0 0 0 0 0 2.22 Vertical Standard Foundations 0 0 0 0 0 2.24 Vertical Standard Foundations 0 0 0 0 0 0 2.24 Vertical Standard Foundations 0 0 0 0 0 2.24 Vertical Standard Foundations 0 0 0 0 0 0 0 0 2.24 Vertical Standard Foundations 0 0 0 0 0 0 0 0 0	2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2-be South-Stand Foundations 0 6A \$ 2,888 \$ \$ 3,200 \$ \$ \$ 6,188 \$ \$ 2,37 \$ \$ \$ \$ \$ \$ \$ \$ \$		Caisson DE Foundations (for DE A frame str stand alone)			, .	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -		
2.31 Fase Stand Foundations 0 EA 5 2,988 5 5 3,200 5 5 5,188 5 2,288 5 5 3,200 5 5 5,188 5 2,288 5 5 3,200 5 5 5,188 5 2,288 5 5 3,200 5 5 5,188 5 2,288 5 5 3,200 5 5 5,188 5 2,288 5 5 3,200 5 5 5,188 5 2,288 5 5 3,200 5 5 5,188 5 2,288 5 5 3,200 5 5 5,200 5 5 5,200 5 5 5,200 5 5 5,200 5 5 5,200 5 5 5,200 5 5 5,200 5 5 5,200 5 5 5 5,200 5 5 5 5,200 5 5 5,2	2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA		\$ -				
2.38 Bus Seport 2 Ph Provindations									,	
2.39 Bus Support 1 Pit Foundations 0 EA 5 2,988 5 5 3,200 5 5 5,188 5 2,38 1 1 1 1 1 1 1 1 1										
2.3 Instrument Transformer Stand Foundations									,	
2.28						T .				
2.3m Wave Trap Stand Foundations 0 EA 5 2,388 5 5 3,200 5 5 6,188 5 2,38 Miss. Structure Foundations 0 EA 5 5 5 5 5 5 5 5 5										
2.39 Station Service Poundations 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$, , , , , , , , , , , , , , , , , , , ,		,	_	1 -,	
2.30 Mic. Structure Soundations 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$						•				
2.4 Transformer Foundations								_		
2.48 345-2804 Transformer Foundation w/ Oil Containment 0 EA 5 97,110 5 5 104,000 5 5 31,4700 5 2.48 2384/1514 Transformer Foundation w/ Oil Containment 0 EA 5 7,00 5 5 5 5 5 5 5 5 5	2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
24b 345-113kV Transformer Foundation w/ Oil Contamment 0 EA 5 74,700 5 5 80,000 5 5 51,700 5 2.6c 20xx-113kV Transformer Foundation w/ Oil Contamment 0 EA 5 5 5 5 5 2.6d 115kV-69kV Transformer Foundation w/ Oil Contamment 0 EA 5 5 5 5 5 2.5d 115kV-69kV Transformer Foundation w/ Oil Contamment 0 EA 5 5 5 5 5 2.5d Control House Foundation / Pad 0 EA 5 76,194 5 5 81,400 5 5 35,7794 2.5e Control House Foundation 0 EA 5 16,000 5 5 17,000 5 5 33,000 2.5d Control House Foundation 0 EA 5 16,000 5 5 17,000 5 5 33,000 2.5d Control House Foundation 0 EA 5 5,000 5 5 17,000 5 5 33,000 2.5d Transformer Foundation 0 EA 5 5,229 5 5 5,000 5 5 10,820 5 2.5d Transformer Foundation 0 EA 5 5,229 5 5 5,000 5 5 10,820 5 2.5d Transformer Foundation 0 EA 5 5,229 5 5 5,000 5 5 10,820 5 2.5d Transformer Foundation 0 EA 5 5 5 5 5 5 5 2.5d Transformer Foundation 0 EA 5 5 5 5 5 5 5 2.5d Transformer Foundation 0 EA 5 5 5 5 5 5 5 5 2.5d Transformer Foundation 0 EA 5 5 5 5 5 5 5 5 5 2.5d Transformer Foundation 0 EA 5 5 5 5 5 5 5 5 5 2.5d Transformer Foundation 0 EA 5 5 5 5 5 5 5 5 2.5d Transformer Foundation 0 EA 5 5 5 5 5 5 5 5 5 3.1d Substation AFrame Structures - Stand alone 0 EA 5 37,000 5 5 37,000 5 5 37,000 5 3.1d Substation AFrame Structures - Stand alone 0 EA 5 37,000 5 5 37,000 5 5 37,000 5 3.1d Substation AFrame Structures - Stand alone 0 EA 5 3,000 5 5 3,000 5 5 3,000 5 3.1d Substation AFrame Structures - Stand alone 0 EA 5 3,000 5 5 3,000 5 5 3,000 5 3.1d Substation	2.4	Transformer Foundations								
2.4c 230W-115W Transformer Foundation w/ Oil Containment	2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.5	2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.5 Control House Foundations Pad	2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5a Control House / Fad	2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5a Control House / Fad										
2.5b Generator Foundations Company Com	2.5	Control House Foundations / Pad								
2.6 Ughtning Mast Foundations						\$ -				
2.6a 70 Lightning Mast Foundation 0 EA S 5,229 S S 5,600 S S 10,829 S 2,66 0 EA S S S S S S S S S	2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6a 70' Lightning Mast Foundation 0 EA S 5,229 S S S 5,600 S S 10,829 S 2,60 C S S S S S S S S S	2.6	Lightning Mast Foundations								
2.66			0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
STAIL - SUBSTATION FOUNDATIONS S - S - S S S S S S S			0	EA		\$ -		\$ -		\$ -
3.10 STREPTON FREUTURES	2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.10 STREPTON FREUTURES										
3.11 345kV						\$ -		\$ -		\$ -
3.1a Substation A-Frame Structures - Stand alone 0 EA \$ 37,000 \$ - \$ \$ 37,000 \$ - \$ \$ 74,000 \$ \$ 3.1b Substation A-Frame Structures - Shared Column 0 EA \$ 37,000 \$ - \$ \$ 37,000 \$ - \$ \$ 74,000 \$ \$ 3.1c Switch Stands 0 EA \$ 14,800 \$ - \$ \$ 14,800 \$ - \$ \$ 29,600 \$ \$ \$ 3.1d Station Service Transformer Stand 0 EA \$ 14,800 \$ - \$ \$ 14,800 \$ - \$ \$ 29,600 \$ \$ \$ \$ 3.1d Station Service Transformer Stand 0 EA \$ 14,800 \$ - \$ \$ 14,800 \$ - \$ \$ 29,600 \$ \$ \$ 3.1d Station Service Transformer Stand 0 EA \$ 14,800 \$ - \$ \$ 14,800 \$ - \$ \$ 29,600 \$ \$ \$ \$ 3.1d Station Service Transformer Stand 0 EA \$ 14,800 \$ - \$ \$ 14,800 \$ - \$ \$ 29,600 \$ \$ \$ \$ 3.1f Station Service Transformer Stand 0 EA \$ 3,700 \$ \$ - \$ \$ 3,700 \$ \$ - \$ \$ 7,400 \$ \$ \$ 3.1f Station Service Transformer Stand 0 EA \$ 3,700 \$ \$ - \$ \$ 3,700 \$ \$ - \$ \$ 7,400 \$ \$ \$ 3.1g Instrument Transformer Stand 0 EA \$ 1,850 \$ - \$ \$ 1,850 \$ - \$ \$ 3,700 \$ \$ \$ \$ \$ \$ \$ \$ 1,850 \$ - \$ \$ 3,700 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$										
3.1b Substation A-Frame Structures - Shared Column 0 EA S 37,000 S - S 74,000 S 3.1c Switch Stands 0 EA S 14,800 S - S 14,800 S - S 29,600 S 3.1d Station Service Transformer Stand 0 EA S 14,800 S - S 29,600 S 3.1d Sustion Station Service Transformer Stand 0 EA S 14,800 S - S 29,600 S 3.1d Sustion Station Service Transformer Stand 0 EA S - S - S - S 3.1f Bus Support 3ph 0 EA S - S - S - S - S 3.1g Instrument Transformer Stand 0 EA S 1,850 S - S 3,700 S - S 3,700 S 3.1g Instrument Transformer Stand 0 EA S 1,850 S - S 3,700 S 3.1j Wave Trap Stand 0 EA S 1,850 S - S 3,700 S 3.1j Wave Trap Stand 0 EA S 1,850 S - S 1,850 S - S 3,700 S 3.1k Misc. Structures 0 EA S 6,475 S - S 1,4800 S 3.2d Substation A-Frame Structures - Shared Column 0 EA S 33,300 S - S 33,300 S - S 66,600 S 3.2d Station Service Transformer Stand 0 EA S 1,2025 S - S 24,050 S 3.2d Station Service Transformer Stand 0 EA S 1,2025 S - S 24,050 S 3.2d Station Service Transformer Stand 0 EA S 1,205 S - S 5,550 S 3.2d Instrument Transformer Stand 0 EA S 1,295 S - S 5,550 S 3.2d Instrument Transformer Stand 0 EA S 1,295 S - S 5,550 S 3.2l Mayer Trap Stand 0 EA S 1,295 S - S 1,295 S S 5,550 S 3.2l Wave Trap Stand 0 EA S 1,295 S - S 1,295 S S 5,550 S 3.2l Wave Trap Stand 0 EA S 1,295 S - S 1,295 S S 5,550 S 3.2l Wave Trap Stand 0 EA S 1,295 S - S 5,550 S 3.2l Wave Trap Stand 0 EA S 1,295 S - S 5,550 S 3.2l Wave Trap Stand 0 EA S 1,295 S S 5,550 S S 5,550 S 3.2			_			-				
3.1c Switch Stands										
3.1d Station Service Transformer Stand 0 EA S 14,800 S - S 29,600 S						•				
3.1e Bus Support 3ph 0 EA \$ - \$ - \$ 5 - \$ \$ \$ \$ \$ \$ \$ \$ \$, , , , , , , , , , , , , , , , , , , ,	-	, , , , , , , , , , , , , , , , , , , ,	_	,	
3.1f Bus Support 1 Ph						•				
3.1g Instrument Transformer Stand 0 EA \$ 1,850 \$ -						т		_		
3.1h Arrester Stand 0 EA S 1,850 S - S 1,850 S - S 3,700 S 3.1j Wave Trap Stand 0 EA S 7,400 S - S 7,400 S - S 14,800 S 3.1k Misc. Structures 0 EA S 6,475 S - S 12,950 S 3.2k 230kV						т				
3.1j Wave Trap Stand 0 EA \$ 7,400 \$ - \$ 7,400 \$ - \$ 14,800 \$ 3.1k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$ 3.2k 230kV									7	
3.1k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$										
3.2 230kV						7				
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ - \$ 36,600 \$ \$ 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ \$ 3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ \$ 3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ \$										
3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 36,600 \$ 3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ - \$ </td <td></td> <td></td> <td></td> <td></td> <td>A</td> <td>•</td> <td></td> <td>•</td> <td>A</td> <td>4</td>					A	•		•	A	4
3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ \$ 3.2e Bus Support 3ph 0 EA \$ -					· · · · · · · · · · · · · · · · · · ·					
3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ \$ 3.2e Bus Support 3 ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ \$										
3.2e Bus Support 3ph 0 EA \$ -										
3.2f Bus Support 1 Ph 0 EA \$ 2,775 \$ - \$ 2,775 \$ - \$ 5,550 \$ 3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$										
3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$					'					
3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$										
3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$										
3.2k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$		Misc. Structures	0							
0 20 0,772 0 - 0 0,773 0 - 0 12,753 0 5	J.4N	misc. sauctures	0	LA	9 0,473	-	0,473	-	7 12,530	-

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3e	Bus Support 3ph	0	EA	\$ 3,330		\$ 3,330	\$ -	\$ 6,660	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -		\$ -		\$ -
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
	TATION STRUCTURES				\$ -		\$ -		\$ -
4. MAJOR EQU									
4.1	345kV								
4.1a	Circuit Breakers	0		•	\$ -	\$ 80,000	\$ -		\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -		\$ -		\$ -
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -			\$ -		\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	230kV							4	
4.2a	Circuit Breakers	0	EA FA	\$ -	\$ -	\$ 80,000	\$ -		\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.2	44Flat								
4.3	115kV	0	F.A.	Ć.	ć	ć co.000	ć	ć co.000	^
4.3a	Circuit Breakers	0	EA		\$ - \$ -	\$ 60,000 \$ 60,000	\$ - \$ -		\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL MAJO	R EQUIPTMENT				\$ -		\$ -		\$ -
	IPTMENT / MATERIALS				5 -		\$ -		, -
5. SWALL EQU 5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ 40,000	\$ -	\$ 15,000	\$ -	\$ 55,000	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 35,000	•		\$ -		\$ -
5.1c	VT'S	0	EA	\$ -	\$ -		\$ -		\$ -
5.1d	CT'S	0	EA	\$ 13,000	т	\$ 8,000	\$ -		\$ -
5.1e	CCVT'S	0	EA	\$ 13,000			\$ -	\$ 21,000	
5.1f	Arresters	0	EA	\$ 6,500	\$ -		\$ -		\$ -
5.1g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.1h	Station Service Transformers	0	EA	\$ 200,000	\$ -	\$ 50,000	Š -		<u>\$</u> -
5.1j	Station Service manufacturers		15	200,000	Ť	30,000	<u> </u>	Ç 250,000	*
5.2									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,000		\$ 17,500	<u>'</u>	\$ 47,500	
5.2c	VT'S	0	EA	\$ 13,000		\$ 8,000			\$ -
5.2d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -		\$ -
5.2e	CCVT'S	0	EA		\$ -	\$ 6,000	\$ -		\$ -
5.2f	Arresters	0	EA	\$ 5,000	\$ -	\$ 6,000	\$ -		\$ -
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -		\$ -
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
5.2j									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ 33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000	\$ -	\$ 17,500	\$ -	\$ 45,500	\$ -
5.3c	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.3d	CT'S	0		\$ 13,000	\$ -	\$ 8,000		\$ 21,000	\$ -
5.3e	CCVT'S	0	EA	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 16,000	
5.3f	Arresters	0	EA	\$ 3,420	\$ -	\$ 6,000	\$ -	\$ 9,420	\$ -
5.3g	Wave Traps	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	L EQUIPTMENT / MATERIALS				\$ -		\$ -		\$ -
6. CONTROL H	OUSE / PANELS / GENERATOR								
									D 42 -£ (0

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	CONTROL HOUSE	0	EA	\$	551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -
0.1	CONTROL HOUSE	0	LA	Ť	331,230	,	\$ 83,000	-	3 030,230	,
6.2	Protection and Telecom Equipment Panels	0	EA	\$	35,000	\$ -	\$ 10,000	\$ -	\$ 45,000	\$ -
6.3	125VDC Batteries	0	EA	\$	75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
	Control Cables	0	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
6.7	DC Distribution System	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
6.8	Security	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.9	Fire Alarm	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.10	Generator	0	EA	\$	100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
TOTAL - CONTR	OL HOUSE / PANELS / GENERATOR					\$ -		\$ -		\$ -
7. MISC ITEMS										
	Conduit & Cable Trench System	0	LF	\$	185.00	\$ -	\$ 170.00	\$ -	\$ 355	\$ -
7.2	Rigid Bus, Fittings & Insulators	1	LS	\$	15,008.40	\$ 15,008	\$ 56,904.00	\$ 56,904	\$ 71,912	\$ 71,912
7.3	Strain Bus, Connectors & Insulators	0	LF	\$	13.38	\$ -	\$ 39.35	\$ -	\$ 53	\$ -
7.4	Grounding System	0	LF	\$	6.93	\$ -	\$ 32.58	\$ -	\$ 40	\$ -
7.5	Strain Bus Insulators - 345kV	0	EA	\$	2,000	\$ -	\$ 1,050	\$ -	\$ 3,050	\$ -
7.6	Strain Bus Insulators - 230kV	0	EA	\$	1,400	\$ -	\$ 750	\$ -	\$ 2,150	\$ -
7.7	Strain Bus Insulators - 115kV	0	EA	\$	1,000	\$ -	\$ 550	\$ -	\$ 1,550	\$ -
7.8	Low Voltage AC Station Service	0	LS	\$	50,000	\$ -	\$ 75,000	\$ -	\$ 125,000	\$ -
7.9	SSVT Service	0	LS	\$	45,000	\$ -	\$ 45,000	\$ -	\$ 90,000	\$ -
	Control Conduits from Trench to Equipment	0	LS	\$	125,000	\$ -	\$ 125,000	\$ -	\$ 250,000	\$ -
	Misc. Materials (Above and Below Ground)	0	LS	\$	180,000	\$ -	\$ 180,000	\$ -	\$ 360,000	\$ -
7.12										
7.13										
7.14 7.15										
7.15										
7.17										
7.17										
7.19										
7.20										
7.21										
7.22										
7.23										
7.24										
7.25										4
TOTAL - MISC I						\$ 15,008		\$ 56,904		\$ 71,912
J. Porter	Substation - Install					\$ 15,008		\$ 56,904		\$ 71,912
8. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization									
	Mob / Demob	1	LS	\$	-	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
	Project Management, Material Handling & Amenities									
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 2,598	\$ 2,598	\$ 2,598	\$ 2,598
8.3	Utility PM and Project Oversite	1	LS	1		\$ -	\$ 719	\$ 719	\$ 719	\$ 719
	Site Accommodation, Facilities, Storage	1		\$		\$ -	\$ 719			
	Engineering			T i			-	-		-
	Design Engineering	1	LS	\$	-	\$ -	\$ 5,753	\$ 5,753	\$ 5,753	\$ 5,753
	Lidar	-	LS	\$	-	\$ -		\$ -		\$ -
8.7	Geotech	-	EA	\$	-	\$ -	\$ 3,500	\$ -	\$ 3,500	\$ -
	Surveying/Staking	1	Site	\$	-	\$ -	\$ 503	\$ 503	\$ 503	\$ 503
	Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 1,798	\$ 1,798	\$ 1,798	\$ 1,798

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Permitting and Additional Costs								
8.10	Environmental Licensing & Permitting Costs	٠	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 216	\$ 216	\$ 216	\$ 216
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 1,201	\$ 1,201	\$ -	\$ -	\$ 1,201	\$ 1,201
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 72	\$ 72	\$ 72	\$ 72
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 1,201		\$ 13,097		\$ 14,298

Page 44 of 69

J. SS Porter-Install

K. Porter Substation - Removal

Estimate Revision: 7 Total: \$ 545,044

NAT & NYPA - T025 - (Segment A, + 765kV)										
	Supply		Installation		Total					
K. Porter Substation - Removal										
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ -	\$	-					
2. SUBSTATION FOUNDATIONS	\$	-	\$ 126,600	\$	126,600					
3. SUBSTATION STRUCTURES	\$	-	\$ 206,100	\$	206,100					
4. MAJOR EQUIPTMENT	\$	-	\$ 43,500	\$	43,500					
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ 59,500	\$	59,500					
6. CONTROL HOUSE / PANELS	\$	-	\$ -	\$	-					
7. MISC ITEMS	\$	-	\$ 38,613	\$	38,613					
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$ 70,732	\$	70,732					
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-					
SUBTOTAL:	\$	-	\$ 545,044	\$	545,044					
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-					
TOTAL:	\$	-	\$ 545,044	\$	545,044					

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	r Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15	DED LODA DINIO LETANONIO LONGIA				A		A		
	REP/ GRADING/ FENCING / CIVIL N FOUNDATIONS				\$ -		\$ -		\$ -
	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1a 2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0		\$ -	т		\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	Š -	\$ -		\$ -	\$ -	Š -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph Foundations	0	EA	Š -	\$ -		\$ -	\$ -	š -
	Bus Support 1 Ph Foundations	0		\$ -	т		\$ -	\$ -	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	š -	š -		\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	•	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
2.2a	Circuit Breaker Foundations	3	EA	\$ -	\$ -	\$ 7,200	\$ 21,600	\$ 7,200	\$ 21,600
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000		\$ 32,000	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000		\$ 22,000	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	5	EA	\$ -	\$ -		\$ 55,000		
2.2e	Switch Stand Foundations	5	EA	\$ -	\$ -	\$ 5,200	\$ 26,000	\$ 5,200	\$ 26,000
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0		\$ -	\$ -	\$ 2,400		\$ 2,400	\$ -
2.2j	Instrument Transformer Stand Foundations	4	EA	\$ -	\$ -	\$ 2,400	\$ 9,600	\$ 2,400	\$ 9,600
2.2k	Arrester Stand Foundations	6	EA	\$ -	\$ -	\$ 2,400	\$ 14,400	\$ 2,400	\$ 14,400
2.2m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -			\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	'	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	'	\$ -	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200		\$ 5,200	\$ -
2.3f	Fuse Stand Foundations	0		\$ -	\$ -	\$ -		\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	0		\$ -	\$ -	\$ -		\$ -	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	· .	\$ -	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4		0	EA.	ć	ć	ć	\$ -	<u> </u>	\$ -
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	7	\$ - \$ -	7
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0		\$ -	\$ -	Ÿ		Ÿ	
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA EA	\$ - \$ -	\$ - \$ -		'	\$ 42,000 \$ -	
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	U	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5a	Generator Foundation	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
2.50	deficiator i oundation	0	LA	-	-	-	-	· -	-
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	·	\$ -	\$ -
		-		Ť	*	*	*	*	*
TOTAL - SUBST	TATION FOUNDATIONS				\$ -		\$ 126,600		\$ 126,600
	N STRUCTURES						, ,,,,,,,		, ,,,,,,
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -	\$ -		\$ -	\$ -
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
3.1d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
3.1f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g	Instrument Transformer Stand	0		\$ -	\$ -	\$ -		\$ -	\$ -
3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 27,000	'	\$ 27,000	
3.2b	Substation A-Frame Structures - Shared Column	5	EA	\$ -		\$ 27,000			
3.2c	Switch Stands	6		\$ -	\$ -				
3.2d	Station Service Transformer Stand	0		\$ -				\$ -	
3.2e	Bus Support 3ph	0		\$ -				\$ -	
3.2f	Bus Support 1 Ph	0		\$ -		\$ 2,250		\$ 2,250	
3.2g	Instrument Transformer Stand	6		\$ -		\$ 1,050		\$ 1,050	
3.2h	Arrester Stand	6		\$ -		\$ 1,050		\$ 1,050	
3.2j	Wave Trap Stand	0		\$ -		\$ 4,500		\$ 4,500	
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<u> </u>									D 46 -£60

3.3a Su 3.3b Su 3.3c Sv			Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3b St 3.3c Sv	15kV								
3.3c Sv	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3 34 [2:	witch Stands	0	EA	\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
J.Ju Fl	use Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	nstrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Arrester Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Nave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k M	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TION CERTIFICATION								
	TION STRUCTURES				\$ -		\$ 206,100		\$ 206,100
4. MAJOR EQUIP									
	M45kV			_	_	4		_	4
	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d	22014/								
	230kV	3	EA	\$ -	\$ -	\$ 14,500	\$ 43,500	\$ 14,500	\$ 43,500
	Circuit Breakers	3			т	\$ 14,500 \$ 42,000	+,	\$ 14,500	
4.20 Ca	Capacitor Banks	U	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
4.2	15[A]								
	L15kV		EA.	ć	ć	ć	ć	ć	A
	Circuit Breakers Capacitor Banks	0		\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
4.30	apacitor banks	U	EA	3 -	, -	3 -	ş -	, -	-
TOTAL - MAJOR E	FOLIDTMENT				\$ -		\$ 43,500		\$ 43,500
	TMENT / MATERIALS				\$ -		\$ 43,500		\$ 43,500
	1WENT / WATERIALS								
	ine Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -		\$ -	\$ 5,500	
	/T'S	0	EA	\$ -	\$ -	\$ 3,300	\$ -	\$ 3,300	\$ -
	T'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	
	Arresters	0		\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	
	Nave Traps	0	EA	\$ -	\$ -		\$ -	\$ 2,500	
	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j	NATION SELVICE TRAISIONNESS		2,	*	· ·	,	Ÿ	Ÿ	*
5.2 23	230kV								
	ine Switches - 3ph w/ motor operator	2	EA	\$ -	\$ -	\$ 5,500	\$ 11,000	\$ 5,500	\$ 11,000
	Disconnect Switches - 3ph w/ manual operator	3	EA	\$ -	\$ -		\$ 16,500	\$ 5,500	
	/T'S	2	EA	\$ -	\$ -	\$ 1,500		\$ 1,500	
	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
	CCVT'S	6	EA	\$ -	\$ -	•	\$ 9,000	\$ 1,500	
	Arresters	6		\$ -	\$ -	\$ 2,500	\$ 15,000	\$ 2,500	
	Nave Traps	2	EA	\$ -	\$ -	\$ 2,500		\$ 2,500	
	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3 11	115kV								
	ine Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500		\$ 5,500	
	/T'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CT'S	0		\$ -	\$ -		\$ -		\$ -
	CCVT'S	0		\$ -			\$ -		\$ -
	Arresters	0		\$ -		\$ 1,500		\$ 1,500	
	Nave Traps	0		\$ -	\$ -		\$ -		\$ -
	Station Service Transformers	0		\$ -		\$ -	\$ -		\$ -
	uses	0		\$ -	\$ -		\$ -		\$ -
TOTAL - SMALL E	EQUIPTMENT / MATERIALS				\$ -		\$ 59,500		\$ 59,500

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6. CONTROL HO	DUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
6.2	Protection and Telecom Equipment Panels	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	SCADA and Communications	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Low Voltage AC Distribution	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CONT	ROL HOUSE / PANELS / GENERATOR				1		-		
7. MISC ITEMS	OL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
	Constitute O. Cololla Turanah Contains	0	EA.	Ś -	\$ -	ć 42.000.00	ć	ć 42.000	
	Conduit & Cable Trench System Rigid Bus, Fittings & Insulators	0	EA L.S.	\$ -	\$ - \$ -	\$ 42,000.00 \$ 18,937.50	\$ - \$ 18,938	\$ 42,000 \$ 18,938	
	Strain Bus, Connectors & Insulators	1		\$ -	\$ -	\$ 18,937.50		\$ 18,938	
	Grounding System	0	EA	\$ -	\$ -	\$ 19,675.00	\$ 19,675	\$ 19,675	
7.5	Grounding System	U	EA	-	· -	3 42,000.00	, -	3 42,000	-
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC	TEMS				\$ -		\$ 38,613		\$ 38,613
V Dortor	Substation - Removal				\$ -		\$ 474,313		\$ 474,313
					, ·		\$ 474,313		\$ 474,515
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization			_	_				
	Mob / Demob	1	LS	\$ -	\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
	Project Management, Material Handling & Amenities								
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 17,135	\$ 17,135	\$ 17,135	\$ 17,135
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
	Engineering								
	Design Engineering	1		\$ -			\$ 37,945	\$ 37,945	
	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Surveying/Staking	-	Site	\$ -	\$ -	\$ 3,320	\$ -	\$ 3,320	\$ -
	Testing & Commissioning								
	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 11,858	\$ -	\$ 11,858	\$ -
	Permitting and Additional Costs								
	Environmental Licensing & Permitting Costs	-	LS	\$ -		\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 1,423		\$ 1,423	
	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17	Colon Taylor Mathematica	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ - \$ 474	\$ - \$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ - \$ -	\$ 474		\$ 474	
TOTAL - MOB/I	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 70,732		\$ 70,732

L. Interconnection Edic Station

Estimate Revision: 7 Total: \$ 2,100,762

NAT & NYPA - T025 - (Segment	NAT & NYPA - T025 - (Segment A, + 765kV)										
		Supply		Installation		Total					
L. Interconnection Edic Station											
1. CLEARING & ACCESS	\$	-	\$	367,850	\$	367,850					
2. FOUNDATIONS	\$	168,366	\$	170,169	\$	338,536					
3. STRUCTURES	\$	501,469	\$	321,821	\$	823,289					
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$	-					
5. INSULATORS, FITTINGS, HARDWARE	\$	160,000	\$	94,400	\$	254,400					
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	66,387	\$	250,300	\$	316,687					
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-					
SUBTOTAL:	\$	896,222	\$	1,204,541	\$	2,100,762					
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-					
TOTAL:	\$	896,222	\$	1,204,541	\$	2,100,762					

			Description of Wor	k:						
Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply F	ate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
L. Interc	onnection Edic Station									
1. CLEARING 8	& ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	- !	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$	- !	\$ -	\$ 5,000	· ·	·	
1.3	Access Road	-	LF	7		\$ -	\$ 45		\$ 45	
1.4	Silt Fence	3,500.0	LF	7	_	\$ -	\$ 4			
1.5	Matting - Access and ROW	3,500.0	LF			\$ -	\$ 70			
1.6	Matting - To Work Area	300.0	LF	7	_	\$ -	\$ 70			· , , , , , , , , , , , , , , , , , , ,
1.7	Snow Removal	-	LS	7		\$ -	\$ 516,800		\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	7		\$ -	\$ 10,000			\$ 5,000
1.9	Work Pads	20,000.0	SF	7	,	\$ -	\$ 4			\$ 70,400
1.10	Restoration for Work Pad areas	4,000.0	SF	7		\$ -	\$ 0.2	\$ 600		\$ 600
1.11	Temporary Access Bridge	-	EA	T		\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	<u> </u>		\$ -	\$ 14,445	\$ -		\$ -
1.13	Stabilized Construction Entrance	-	EA	7	- !	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	T		\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA		000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA		750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$	- !	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18						\$ -		\$ -		\$ -
1.19						\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$	27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEAN	RING & ACCESS				:	\$ -		\$ 367,850		\$ 367,850
2. FOUNDATION	DNS									
2.1	Foundation – Drilled Pier – 8'X 27'	3	EA	\$ 41,	332	\$ 123,995	\$ 41,774	\$ 125,322	\$ 83,106	\$ 249,317
2.2	Foundation – Drilled Pier – 8'X 29'	1	EA	\$ 44,	372	\$ 44,372	\$ 44,847	\$ 44,847	\$ 89,219	\$ 89,219
2.3	Rock Excavation Adder	-	СҮ	\$	- !	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.4										
2.5										
2.6					_					
2.7										
2.8					_					
2.9					_					
2.10					_					
2.11				-	_					
2.12				1						
2.13										

Page 49 of 69

Item	Item Description	Estimated Quantity	Unit of Measure	Material Su	upply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.14										
2.15	DATIONS					¢ 169.366		\$ 170,169		ć 220 F26
TOTAL - FOUN 3. STRUCTURE						\$ 168,366		\$ 170,169		\$ 338,536
3.1	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) – 105′	3	Structure	\$	98,883	\$ 296,648	\$ 59,330	\$ 177,989	\$ 158,212	\$ 474,636
3.2	2-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15 °-60°) - 115'	1	Structure	\$	202,797	\$ 202,797	\$ 121,678			\$ 324,475
3.3	Install Grounding and Grounding Accessories	4	Pole	\$	506	\$ 2,024	\$ 5,539	\$ 22,154		\$ 24,178
3.4	<u> </u>					\$ -		\$ -	,	\$ -
3.5										
3.6						\$ -		\$ -		\$ -
3.7						\$ -		\$ -		\$ -
3.8						\$ -		\$ -		\$ -
3.9						\$ -		\$ -		\$ -
3.10						\$ - \$ -		\$ - \$ -		\$ - \$ -
3.11 3.12						\$ - \$ -		\$ - \$ -		\$ -
3.13						\$ -		\$ -		\$ -
3.14						\$ -		\$ -		\$ -
								T		*
3.15						\$ -		\$ -		\$ -
TOTAL - STRUC						\$ 501,469		\$ 321,821		\$ 823,289
	R, SHIELDWIRE, OPGW									
4.1	345kV - (2) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$		\$ -	\$ 5.00			\$ -
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$	1.55	\$ -	\$ 5.00	\$ -		\$ -
4.3	(1) 3/8" EHS7 Steel	-	LF Mile	\$	0.72	\$ - \$ -	\$ 5.00 \$ 30,000	\$ -		\$ - \$ -
4.5	Remove Existing Cable From Existing Structures Remove Existing OPGW Cable	-	Mile	\$	-	\$ - \$ -	\$ 30,000 \$ 12,000	\$ - \$ -	\$ 30,000.00	\$ - \$ -
4.7	Remove Existing 61 GW Cable Remove Existing EH7	-	Mile	Ś	-	\$ -	\$ 12,000	\$ -		\$ -
4.8	nemove Existing 217		· · · · · ·	7		Ÿ	7 12,000	Ť	\$ 12,000.00	*
4.9		-								
4.10	Rider Poles - Relocated	-	Set	\$	-	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$	1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
	UCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
	, FITTINGS, HARDWARE									
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)									
5.3	115kV Tangent (1-Group of 9-Bells Each Assembly) 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	60	Assembly	\$	1,800	\$ 108,000	\$ 720	\$ 43,200	\$ 2,520	\$ 151,200
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	00	Assembly	1	1,000	7 100,000	7 720	7 43,200	2,320	7 151,200
5.5	OPGW Assembly - Tangent	-	Assembly	\$	200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	4	Assembly	\$	250	\$ 1,000	\$ 150	\$ 600		\$ 1,600
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$	250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.8	OPGW Splice Boxes	-	Set	\$	1,750	\$ -	\$ 1,746	\$ -	\$ 3,496	\$ -
5.9	OPGW Splice & Test	-	EA	\$	1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	\$ -
5.10	Spacer - Conductor	-	EA	\$	50	\$ -	\$ 35			\$ -
5.11	Vibration Dampers - Conductor	-	EA	\$	35	\$ -	\$ 35	\$ -	\$ 70	\$ -
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$	27	\$ -	\$ 35	\$ -	\$ 62	\$ -
5.13	Guys, Anchors, and Accessories	-	EA	\$	720	\$ -	\$ 885	\$ -	\$ 1,605	\$ -
5.14	Misc. materials (Signs and Markers)	-	Mile	\$	770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$ -
5.15			-	T.		\$ -	, ,,,,,,	\$ -	, ,,,,,	\$ -
5.16										
5.17			· ·			\$ -		\$ -		\$ -
5.18						\$ -		\$ -		\$ -
5.19	Interconnection Arrangements	1	EA	\$,		\$ 50,000		\$ 100,000	\$ 100,000
5.20	ATOR FITTINGS HARRIMARS					\$ -		\$ -		\$ -
	ATOR, FITTINGS, HARDWARE					\$ 160,000		\$ 94,400		\$ 254,400
L. Interc	onnection Edic Station					\$ 829,835		\$ 954,240		\$ 1,784,075
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization						•			
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
	Project Management, Material Handling & Amenities									
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 64,450	\$ 64,450	\$ 64,450	\$ 64,450

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	e Ma	aterial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
	Engineering									
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 89,204	\$ 89,204	\$ 89,204	\$ 89,204
6.6	LiDAR	-	LS	\$ -	\$	-	\$ 5,352	\$ -	\$ 5,352	\$ -
6.7	Geotech	1	Location	\$ -	\$	-	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 12,489	\$ 12,489	\$ 12,489	\$ 12,489
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 5,352	\$ 5,352	\$ 5,352	\$ 5,352
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 66,38	7 \$	66,387	\$ -	\$ -	\$ 66,387	\$ 66,387
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 1,784	\$ 1,784	\$ 1,784	\$ 1,784
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	66,387		\$ 250,300		\$ 316,687

Page 51 of 69

M. Interconnection New Scotland Station

Estimate Revision: 7 Total: \$ 3,070,215

NAT & NYPA - T025 -	(Segment A, + 76	55kV)				
		Supply		Installation		Total
M. Interconnection New Scotland Station						
1. CLEARING & ACCESS	\$	-	\$	367,850	\$	367,850
2. FOUNDATIONS	\$	365,657	\$	473,093	\$	838,749
3. STRUCTURES	\$	655,465	\$	445,628	\$	1,101,092
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	3,555	\$	26,100	\$	29,655
5. INSULATORS, FITTINGS, HARDWARE	\$	161,130	\$	95,795	\$	256,925
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	94,864	\$	381,079	\$	475,944
CONTRACTOR MARK-UP (OH&P)	\$	-	\$		\$	-
SUBTOTAL:	\$	1,280,670	\$	1,789,545	\$	3,070,215
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL:	Ś	1.280.670	Ś	1.789.545	Ś	3.070.215

D	escr	ipt	ion o	t W	or	k:
---	------	-----	-------	-----	----	----

Item	Item Description	Estimated Quantity	Unit of Measure	Mat	erial Supply Rate	Material Sup	ply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	ТОТА	AL
M. Inter	connection New Scotland Station											
1. CLEARING 8	ACCESS											
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$	-	\$ 15,000	\$ -	\$ 15,000	\$	-
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$	-	\$	-	\$ 5,000	\$ 10,000	\$ 5,000	\$	10,000
1.3	Access Road	-	LF	\$	-	\$	-	\$ 45	\$ -	\$ 45	\$	-
1.4	Silt Fence	3,500.0	LF	\$	-	\$	-	\$ 4	\$ 14,000	\$ 4	\$	14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$	-	\$	-	\$ 70	\$ 245,000	\$ 70	\$	245,000
1.6	Matting - To Work Area	300.0	LF	\$	-	\$	-	\$ 70	\$ 21,000	\$ 70	\$	21,000
1.7	Snow Removal	-	LS	\$	-	\$	-	\$ 516,800	\$ -	\$ 516,800	\$	-
1.8	ROW Restoration	0.5	Mile	\$	-	\$	-	\$ 10,000	\$ 5,000	\$ 10,000	\$	5,000
1.9	Work Pads	20,000.0	SF	\$	-	\$	-	\$ 4	\$ 70,400	\$ 4	\$	70,400
1.10	Restoration for Work Pad areas	4,000.0	SF	\$	-	\$	-	\$ 0.2	\$ 600	\$ 0	\$	600
1.11	Temporary Access Bridge	-	EA	\$	-	\$	-	\$ 20,035	\$ -	\$ 20,035	\$	-
1.12	Air Bridge	-	EA	\$	-	\$	-	\$ 14,445	\$ -	\$ 14,445	\$	-
1.13	Stabilized Construction Entrance	-	EA	\$	-	\$	-	\$ 4,580	\$ -	\$ 4,580	\$	-
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$	-	\$	-	\$ 4,130	\$ -	\$ 4,130	\$	-
1.15	Gates	-	EA	\$	2,000	\$	-	\$ 2,500	\$ -	\$ 4,500	\$	-
1.16	Culverts / Misc. Access	-	EA	\$	750	\$	-	\$ 1,250	\$ -	\$ 2,000	\$	-
1.17	Concrete Washout Station	1	EA	\$	-	\$	-	\$ 1,850	\$ 1,850	\$ 1,850	\$	1,850
1.18						\$	-		\$ -		\$	-
1.19						\$	-		\$ -		\$	-
1.20	Crushed Rock	0	CY	\$	27	\$	-	\$ 75		\$ 102	\$	-
TOTAL - CLEA	RING & ACCESS					\$	-		\$ 367,850		\$	367,850
2. FOUNDATION	ONS											
2.1	Foundation – Drilled Pier – 8'X 50'	3	EA	\$	-,		229,501		\$ 231,959		\$	461,459
2.2	Foundation – Drilled Pier – 8'X 89'	1	EA	\$	136,156	\$	136,156	\$ 137,614	\$ 137,614	\$ 273,770	\$	273,770
2.3	Rock Excavation Adder	51.8	CY	\$	-	\$	-	\$ 2,000	\$ 103,520	\$ 2,000	\$	103,520
2.4												
2.5												
2.6												
2.7												
2.8												
2.9				-								
2.10				-								
2.11												
2.13												
2.14												$\overline{}$

Page 52 of 69

ltem	Item Description	Estimated Quantity	Unit of Measure	Mater	ial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
2.15											
TOTAL - FOUN						\$ 365,657		\$ 473,093		\$	838,749
3. STRUCTURE		-	<u> </u>		170.006	A 504.077	400.045	4 222 445	201.011		27.1.722
3.1	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115' 1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	3	Structure	\$,	\$ 534,077 \$ 116,328		\$ 320,446			854,522
3.2	Install Grounding and Grounding Accessories	10	Structure Structure	\$	116,328 506			\$ 69,797 \$ 55,385			186,125 60,445
3.4	Install Grounding and Grounding Accessories	10	Structure	17	300	\$ -	3,333	\$ 33,363	3 0,043	,	00,443
3.5						· ·		Ÿ			
3.6						\$ -		\$ -			
3.7						\$ -		\$ -			
3.8						\$ -		\$ -			
3.9						\$ -		\$ -		L	
3.10						\$ -		\$ -		↓	
3.11						\$ -		\$ -		—	
3.12						\$ -		\$ -		—	
3.13				1		\$ -		\$ -			
3.14				1		\$ -		\$ -		<u> </u>	
3.15				1		\$ -		\$ -		1	
TOTAL - STRU	CTURES					\$ 655,465		\$ 445,628		\$	1,101,092
4. CONDUCTO	R, SHIELDWIRE, OPGW					, , , , ,		, , , , ,			
4.1	345kV - (2) 954kcmil 54/7 ACSS "Cardinal"	1,500	LF	\$	1.90	\$ 2,850	\$ 5.00	\$ 7,500	\$ 6.90	\$	10,350
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$	1.35	\$ -	\$ 5.00				-
4.3	(1) 3/8" EHS7 Steel	1,500	LF	\$	0.47						8,205
4.5	Remove Existing 345kV Cable From Existing Structures	0.3	Mile	\$	-	\$ -	\$ 30,000	, , , , , , , , , , , , , , , , , , , ,			7,500
4.6	Remove Existing OPGW Cable	-	Mile	\$		\$ -	\$ 12,000		\$ 12,000.00		-
4.7	Remove Existing EH7	0.3	Mile	\$	-	\$ -	\$ 12,000	\$ 3,600	\$ 12,000.00	<u>\$</u>	3,600
4.8											
4.10	Rider Poles - Relocated	-	Set	Ś	-	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$	
4.11	Rider Poles	-	EA	Ś	1,750		\$ 3,500		\$ 5,250.00		
	UCTOR, SHIELDWIRE, OPGW:			Ť	1,750	\$ 3,555		\$ 26,100	7 0,2000	Ś	29,655
5. INSULATOR	, FITTINGS, HARDWARE					, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, , , ,			
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$	1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$	-
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$		\$ -	\$ 560		\$ 1,460		-
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	60	Assembly	\$,	\$ 108,000					151,200
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$	900	\$ -	\$ 560				-
5.5	OPGW Assembly - Tangent	-	Assembly	\$	200		\$ 150		\$ 350		-
5.6	OPGW Assembly - Angle / DE	-	Assembly	\$		\$ -	\$ 150				-
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$	250						1,600
5.8 5.9	OPGW Splice Boxes OPGW Splice & Test	-	Set EA	\$	1,750 1,400	•	\$ 1,746 \$ 2,520		\$ 3,496 \$ 3,920		-
5.10	Spacer - Conductor	9	EA	\$	50				\$ 3,320		765
5.11	Vibration Dampers - Conductor	48	EA	Ś	35				\$ 70		3,360
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$	27		\$ 35	· ' '	\$ 62		-
		-									
5.13	Guys, Anchors, and Accessories	-	EA	\$	720	\$ -	\$ 885	\$ -	\$ 1,605	\$	-
5.14	Misc. materials (Signs and Markers)	-	Mile	\$	770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$	-
5.15						\$ -		\$ -		\$	-
5.16	Interconnection Arrangements	1	EA	\$	50,000	\$ 50,000	\$ 50,000		\$ 100,000		100,000
5.17				-		\$ -		\$ -		\$	-
5.18				1		\$ -	1	\$ -		\$	-
5.19				1		\$ - \$ -	+	\$ -		\$	-
5.20	 ATOR, FITTINGS, HARDWARE					\$ - \$ 161,130		\$ 95,795		\$	256,925
										,	
	connection New Scotland Station					\$ 1,185,806		\$ 1,408,465		\$	2,594,271
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization			1.			1.			<u> </u>	
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$	25,943
——	Project Management, Material Handling & Amenities			+			+				
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 93,718	\$ 93,718	\$ 93,718	\$	93,718

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$ 25,943
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$ 25,943
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 129,714	\$ 129,714	\$ 129,714	\$ 129,714
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 7,783	\$ 7,783	\$ 7,783	\$ 7,783
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 18,160	\$ 18,160	\$ 18,160	\$ 18,160
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 7,783	\$ 7,783	\$ 7,783	\$ 7,783
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 94,864	\$ 94,864	\$ -	\$ -	\$ 94,864	\$ 94,864
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 2,594	\$ 2,594	\$ 2,594	\$ 2,594
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 94,864		\$ 381,079		\$ 475,944

Page 54 of 69
M. In. New Scotland SS

N. Interconnection Rotterdam Station

NAT & NYPA - T025 - (Segment A, + 765kV) Total: \$ 4,553,958

evision:	7	Total:	Ş	4,553,958	
	NAT & NYPA - T025 - (Segment	A, + 765kV)			
		Supply		Installation	Total
	N. Interconnection Rotterdam Station				
	1. CLEARING & ACCESS	\$ -	\$	1,233,050	\$ 1,233,050
	2. FOUNDATIONS	\$ 192,145	\$	325,963	\$ 518,108
	3. STRUCTURES	\$ 546,722	\$	837,150	\$ 1,383,872
	4. CONDUCTOR, SHIELDWIRE, OPGW	\$ 65,923	\$	437,250	\$ 503,173
	5. INSULATORS, FITTINGS, HARDWARE	\$ 165,730	\$	118,480	\$ 284,210
	6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 77,642	\$	553,904	\$ 631,545
	CONTRACTOR MARK-UP (OH&P)	\$ -	\$	-	\$ -
	SUBTOTAL:	\$ 1,048,161	\$	3,505,797	\$ 4,553,958
	CONTINGENCY ON ENTIRE PROJECT	\$ -	\$	-	\$ -

Description of Work:

Estimate

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
N. Interd	onnection Rotterdam Station								
1. CLEARING 8	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	7.0	Acre	\$ -	\$ -	\$ 15,000	\$ 105,000	\$ 15,000	\$ 105,000
1.2	Clearing the ROW - Light (mowing)	5.0	Acre	\$ -	\$ -	\$ 5,000	\$ 25,000	\$ 5,000	\$ 25,000
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45		\$ 45	
1.4	Silt Fence	4,800.0	LF	\$ -	\$ -	\$ 4	\$ 19,200		
1.5	Matting - Access and ROW	4,800.0	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	2,400.0	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800		\$ 516,800	
1.8	ROW Restoration	1.0	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	160,000.0	SF	\$ -	\$ -	\$ 4	1,		\$ 563,200
1.10	Restoration for Work Pad areas	32,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 4,800		\$ 4,800
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580	\$ -	\$ 4,580	
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130		\$ 4,130	
1.15	Gates	-	EA	\$ 2,000		\$ 2,500		\$ 4,500	
1.16	Culverts / Misc. Access	-	EA	\$ 750		\$ 1,250		\$ 2,000	
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	
1.18					\$ -		\$ -		\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	СҮ	\$ 27	*	\$ 75		\$ 102	
	ING & ACCESS				\$ -		\$ 1,233,050		\$ 1,233,050
2. FOUNDATIO	,	-							
2.1	10' ED Rock BF	6	EA	\$ 358	\$ 2,145	\$ 3,575	\$ 21,450	\$ 3,933	\$ 23,595
2.2	15' ED Rock BF	18		\$ 536		·	\$ 96,525		
2.3	20' ED Rock BF	4	EA	\$ 715	\$ 2,860	\$ 7,150	\$ 28,600	\$ 7,865	\$ 31,460
2.4	Foundation – Drilled Pier – 8'X 29'	4	EA	\$ 44,372	\$ 177,487	\$ 44,847	\$ 179,388	\$ 89,219	\$ 356,875
2.5	Rock Excavation Adder	-	CY	\$ -	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.6					\$ -		\$ -		\$ -
2.7					\$ -		\$ -		\$ -
2.8					\$ -		\$ -		\$ -
2.9					\$ -		\$ -		\$ -
2.10					\$ -		\$ -		\$ -
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -

3,505,797 \$

4,553,958

1,048,161 \$

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supp	oly Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.13						\$ -		\$ -		\$ -
2.14						\$ -		\$ -		\$ -
2.15 TOTAL - FOUN	DATIONS					\$ - \$ 192,145		\$ - \$ 325,963		\$ - \$ 518,108
3. STRUCTURE						3 192,143		\$ 323,903		3 316,106
3.1	15kV 3-CKT TANGENT DIST WOOD POLE	3	Pole	\$	3,500	\$ 10,500	\$ 3,600	\$ 10,800	\$ 7,100	\$ 21,300
3.2	15Kv 3-CKT MA DIST WOOD POLE	1	Pole	\$	3,500	\$ 3,500	\$ 3,600	\$ 3,600		\$ 7,100
3.3	15kV 3-CKT DE - WOOD POLE	2	Pole	\$	3,500	\$ 7,000	\$ 3,600	\$ 7,200		\$ 14,200
3.4	115kV 1-CKT TANGENT - WOOD POLE	5	Pole	\$	4,500	\$ 22,500	\$ 4,400	\$ 22,000	-7	\$ 44,500
3.5	115kV 1-CKT MA - WOOD POLE 115kV 1-CKT DE - WOOD POLE	2 11	Pole Pole	\$	4,500 5,500	\$ 9,000 \$ 60,500	\$ 4,400 \$ 5,000	\$ 8,800 \$ 55,000		\$ 17,800 \$ 115,500
3.7	115kV 2-CKT TANGENT - WOOD POLE	4	Pole	\$	5,500	\$ 22,000	\$ 5,000	\$ 20,000		\$ 42,000
3.8	115kV 2-CKT DE - STEEL POLE	4	Pole	<u> </u>	98,883	\$ 395,530	\$ 59,330			\$ 632,848
3.9	Remove Existing Structure	24	EA	ľ		\$ -	\$ 12,300	\$ 295,200		\$ 295,200
3.10						\$ -		\$ -		\$ -
3.11						\$ -		\$ -		\$ -
3.12	Install Grounding and Grounding Accessories	32	Structure	\$	506	\$ 16,192	\$ 5,539	\$ 177,232	,	\$ 193,424
3.13						\$ -		\$ -		\$ -
3.14						\$ -		\$ -		\$ -
3.15 TOTAL - STRU	CTURES					\$ - \$ 546,722		\$ - \$ 837,150		\$ - \$ 1,383,872
	R, SHIELDWIRE, OPGW					3 340,722		\$ 657,130		3 1,303,672
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	23,400	LF	\$	1.90	\$ 44,460	\$ 5.00	\$ 117,000	\$ 6.90	\$ 161,460
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$	1.35	\$ -	\$ 5.00	\$ -	\$ 6.35	\$ -
4.3	(1) 3/8" EHS7 Steel	7,800	LF	\$	0.47	\$ 3,666	\$ 5.00	\$ 39,000		\$ 42,666
4.5	Remove Existing Cable	6.6	Mile	\$		\$ -	\$ 30,000	\$ 197,700	·	\$ 197,700
4.6	Remove Existing EH7	2.2	Mile	\$		\$ -	\$ 12,000	\$ 26,400	, , , , , , ,	\$ 26,400
4.7	15kV - (1) 477kcmil 26/7 ACSR "Hawk" 15kV - (1) 336kcmil 26/7 ACSR "Linnet"	9,630 1,800	LF LF	\$	1.62 1.22	\$ 15,601 \$ 2,196	\$ 5.00 \$ 5.00	\$ 48,150 \$ 9,000		\$ 63,751 \$ 11,196
4.8	13KV - (1) 336KCHIII 26/7 ACSK LIIIIIEL	1,800	LF	3	1.22	\$ 2,190	\$ 5.00	\$ 9,000	\$ 0.22	\$ 11,196
4.10	Rider Poles - Relocated	-	Set	s	-	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$	1,750	\$ -	\$ 3,500	\$ -		\$ -
	UCTOR, SHIELDWIRE, OPGW:					\$ 65,923		\$ 437,250		\$ 503,173
	, FITTINGS, HARDWARE									
5.1	115kV Tangent (1-Group of 9-Bells Each Assembly)	33	Assembly	\$	1,000	\$ 33,000	\$ 560	\$ 18,480	, , , , , , , , , , , , , , , , , , , ,	\$ 51,480
5.2	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 15kV Tangent	66	Assembly	\$	1,000 100	\$ 66,000 \$ 1,200	\$ 560 \$ 75	\$ 36,960 \$ 900		\$ 102,960 \$ 2,100
5.4	15kV Dead-end & Angle Insulators	18	Assembly Assembly	\$	100	\$ 1,800	\$ 75			\$ 3,150
5.5	Neutral, Distribution, Tangent	4	Assembly	Š	100	\$ 400	\$ 75			\$ 700
5.6	Neutral, Distribution, DE/Side	2	Assembly	\$	100	\$ 200	\$ 75			\$ 350
5.7	Jumper, DE/Angle, 3PH	4	Assembly	\$	100	\$ 400	\$ 75	\$ 300	\$ 175	\$ 700
5.8	OPGW Assembly - Tangent	2	Assembly	\$	200	\$ 400	\$ 150			\$ 700
5.9	OSHW Assembly - Tangent	11	Assembly	\$	250	\$ 2,750	\$ 150	\$ 1,650	\$ 400	\$ 4,400
5.10	OHSW Assembly - Angle / DE	38	Assembly	\$	250	\$ 9,500	\$ 150 \$ 1.746	\$ 5,700		\$ 15,200
5.11	OPGW Splice Boxes	-	Set	<u>'</u>	_,	\$ -	- ,- · · ·			\$ -
5.12	OPGW Splice & Test	-	EA	\$	1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	<u>\$</u> -
5.13 5.14	Spacer - Conductor Vibration Dampers - Conductor	-	EA EA	\$	50 35	\$ - \$ -	\$ 35 \$ 35			\$ - \$ -
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA EA	\$	27	\$ - \$ -	\$ 35			\$ -
5.16	Guys, Anchors, and Accessories	14.0	EA	\$	720	\$ 10,080	\$ 885	\$ 12,390		\$ 22,470
5.17	Misc. materials (Signs and Markers)	-	Mile	\$	770	\$ -	\$ 1,006	\$ -		\$ -
5.18						\$ -		\$ -		\$ -
5.19	Interconnection Arrangements	8	EA	\$		\$ 40,000	\$ 5,000			\$ 80,000
5.20 5.21				-		<u>\$</u> -		\$ - \$ -		\$ - \$ -
5.21				1		\$ - \$ -		\$ -		\$ - \$ -
5.23						\$ -		\$ -		\$ -
	ATOR, FITTINGS, HARDWARE					\$ 165,730		\$ 118,480		\$ 284,210
N. Interd	connection Rotterdam Station					\$ 970,519		\$ 2,951,893		\$ 3,922,412
6. MOB/DEM	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization									
	•									Page 56 of 60

Item	Item Description	Estimated Quantity	Unit of Measure	Material Sup	oply Rate	Material Supply Cost	Labor & Eq Supply		Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$	39,224	\$ 39,224	\$ 39,224	\$ 39,224
	Project Management, Material Handling & Amenities										
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$	141,697	\$ 141,697	\$ 141,697	\$ 141,697
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$	39,224	\$ 39,224	\$ 39,224	\$ 39,224
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$	39,224	\$ 39,224	\$ 39,224	\$ 39,224
	Engineering										
6.5	Design Engineering	1	LS	\$		\$ -	\$	196,121	\$ 196,121	\$ 196,121	\$ 196,121
6.6	Lidar	1	LS	\$	-	\$ -	\$	11,767	\$ 11,767	\$ 11,767	\$ 11,767
6.7	Geotech	1	Location	\$	-	\$ -	\$	3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$	27,457	\$ 27,457	\$ 27,457	\$ 27,457
	Testing & Commissioning										
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$	40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs										
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$		\$ -	\$	-	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$	11,767	\$ 11,767	\$ 11,767	\$ 11,767
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
6.17		-	LS	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$	77,642	\$ 77,642	\$	-	\$ -	\$ 77,642	\$ 77,642
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$	3,922	\$ 3,922	\$ 3,922	\$ 3,922
OTAL - MOE	B/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 77.642			\$ 553,904		\$ 631,545

Page 57 of 69

System Upgrade Facilities (765kV Corona Mitigation)

Estimate Revision: 7 Total: \$ 103,575,563

SYSTEM UPGI	RADE FACILITIES	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
SUF 1	Transmission								
1.1	765kV S/C (2)-Steel H-Pole Tangent Structure (125ft.) w/ Foundation	48.00	EA	\$ 238,985	\$ 11,471,280	\$ 194,435	\$ 9,332,880	\$ 433,420	\$ 20,804,160
1.2	765kV S/C (2)-Steel H-Pole Tangent Structure (145ft.) w/ Foundation	10.00	EA	\$ 275,985	\$ 2,759,850	\$ 216,635	\$ 2,166,350	\$ 492,620	\$ 4,926,200
1.3	765kV S/C (2)-Steel H-Pole Tangent Structure (265ft.) w/ Foundation	1.00	EA	\$ 585,200	\$ 585,200	\$ 451,850	\$ 451,850	\$ 1,037,050	\$ 1,037,050
1.4	765kV S/C (2)-Steel H-Pole Tangent Structure (275ft.) w/ Foundation	1.00	EA	\$ 540,700	\$ 540,700	\$ 398,150	\$ 398,150	\$ 938,850	\$ 938,850
1.5	765kV S/C 3-Steel Pole Medium Angle Structure (130ft.) W/ Foundation	15.00	EA	\$ 947,650	\$ 14,214,750	\$ 776,150	\$ 11,642,250	\$ 1,723,800	\$ 25,857,000
1.6	765kV S/C 3-Steel Pole Medium Angle Structure (150ft.) W/ Foundation	2.00	EA	\$ 1,086,400	\$ 2,172,800	\$ 859,400	\$ 1,718,800	\$ 1,945,800	\$ 3,891,600
1.7	Conductor and Accessories	1.00	LS	\$ 5,209,340	\$ 5,209,340	\$ 5,819,250	\$ 5,819,250	\$ 11,028,590	\$ 11,028,590
1.8	Hardware Replacement on Existing Tangent Structures (From Church Rd to New Scotland Bypass)	1.00	LS	\$ 3,150,000	\$ 3,150,000	\$ 4,725,000	\$ 4,725,000	\$ 7,875,000	\$ 7,875,000
1.9	Hardware Replacement on Existing Angle/Deadend Structures (From Church Rd to New Scotland Bypass)	1.00	LS	\$ 1,530,000	\$ 1,530,000	\$ 2,652,000	\$ 2,652,000	\$ 4,182,000	\$ 4,182,000
1.10	Removal of Existing Structures and Conductor (From New Scotland Bypass to Knickerbocker)	1.00	LS	\$ -	\$ -	\$ 2,320,000	\$ 2,320,000	\$ 2,320,000	\$ 2,320,000
	Subtotal Direct Cost				\$ 41,633,920		\$ 41,226,530		\$ 82,860,450
1.11	Indirect Cost (25% of Direct Cost)								\$ 20,715,113
	TOTAL:								\$ 103.575.563

System Upgrade Facilities (Various Stations for Edic/Marcy to New Scotland)

Estimate Revision: 7 Total: \$ 6,899,000

SYSTEM UPGF	RADE FACILITIES	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
SUF SS1	Marcy 345kV Bay 3300 - Reconductor Strain Bus	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 664,560	\$ 665,000
	UNS-18 Marcy-New Scotland Line					ļ		,	
SUF SS1	Removals	1	LS	Ş -	\$ -	Ş -	Ş -	\$ 30,000	
SUF SS1	Engineering, T&C, PM, Indirects (25%)		LS %						\$ 174,000
SUF SS1	SUF SS1 - TOTAL:				\$ -		\$ -		\$ 869,000
	Marcy 345kV Bay 3100 - Reconductor Strain Bus, Replace (3) breakers and wave								
SUF SS2	trap	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 2,946,086	\$ 2,947,000
	UE1-7- Marcy-Edic Line								
SUF SS2	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 120,720	\$ 121,000
SUF SS2	Engineering, T&C, PM, Indirects (25%)		LS %						\$ 767,000
SUF SS2	SUFSS 2 - TOTAL:				\$ -		\$ -		\$ 3,835,000
SUF SS3	Edic 345kV Bay - UE1-7- Marcy-Edic Line	1	LS					\$ 1,661,294	\$ 1,662,000
3UF 333	Replace (2) breakers and wave trap	1	LS					\$ 1,001,294	\$ 1,002,000
SUF SS3	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 93,120	\$ 94,000
SUF SS3	Engineering, T&C, PM, Indirects (25%)		LS %						\$ 439,000
SUF SS3	SUF SS3 - TOTAL:				\$ -		\$ -		\$ 2,195,000
SUF SS4		-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
SUF SS4	Removals		LS %					\$ -	\$ -
SUF SS4	Engineering, T&C, PM, Indirects (25%)		LS %						\$ -
SUF SS4	SUF SS4 - TOTAL:				\$ -		\$ -		\$ -
SUF SS5		-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
SUF SS5	Removals		LS %					\$ -	\$ -
SUF SS5	Engineering, T&C, PM, Indirects (25%)		LS %						\$ -
SUF SS5	SUF SS4 - TOTAL:				\$ -		\$ -		\$ -
	STATIONS SUF DIRECT TOTAL:								\$ 5,519,000
	STATIONS SUF INDIRECT TOTAL:								\$ 1,380,000
	STATIONS SUF TOTAL								\$ 6,899,000

Page 59 of 69

R. Knickerbocker Substation - Install

Estimate Revision: 7 Total: \$ 82,734,279

NAT & NYPA - T025 - (Segment A, + 765kV)										
	Supply			Installation		Total				
R. Knickerbocker Substation - Install										
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	926,950	\$	10,925,250	\$	11,852,200				
2. SUBSTATION FOUNDATIONS	\$	3,740,976	\$	3,864,890	\$	7,605,866				
3. SUBSTATION STRUCTURES	\$	1,874,050	\$	1,874,050	\$	3,748,100				
4. MAJOR EQUIPTMENT	\$	12,366,667	\$	2,400,000	\$	14,766,667				
5. SMALL EQUIPTMENT / MATERIALS	\$	4,105,500	\$	1,165,500	\$	5,271,000				
6. CONTROL HOUSE / PANELS	\$	3,114,700	\$	1,556,200	\$	4,670,900				
7. MISC ITEMS	\$	7,876,951	\$	11,375,341	\$	19,252,292				
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	2,720,463	\$	12,846,791	\$	15,567,255				
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-				
SUBTOTAL:	\$	36,726,257	\$	46,008,022	\$	82,734,279				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL:	\$	36,726,257	\$	46,008,022	\$	82,734,279				

D	escri	pti	on o	l W	or	k:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
R. Knick	erbocker Substation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	45	ACRES	\$ -	\$ -	\$ 203,000	\$ 9,135,000	\$ 203,000	\$ 9,135,000
1.2	Station stone within substation fence.	14,600	CY	\$ 27	\$ 394,200			\$ 102	
1.3	Substation Fence	5,100	LF	\$ 100	\$ 510,000	\$ 100	\$ 510,000	\$ 200	\$ 1,020,000
1.4									
1.5									
1.6	Permanent Access Road - 20'-Wide (From Muitzeskill RD)	650	LF	\$ 35	\$ 22,750	\$ 285	\$ 185,250	\$ 320	\$ 208,000
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15	DEED CONTROL SERVICE CONTROL				4 005.050		40.005.050		44.052.200
	TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL 2. SUBSTATION FOUNDATIONS				\$ 926,950		\$ 10,925,250		\$ 11,852,200
2.1	765kV								
2.1a	Circuit Breaker Foundations	3	EA.	\$ 22,410	\$ 67,230	\$ 24,000	\$ 72,000	\$ 46,410	\$ 139,230
2.1b	Capacitor Bank Foundations	0	EA.	\$ 56,025			\$ 72,000	\$ 116,025	
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA.	\$ 52,290		, ,		\$ 108,290	
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA.	\$ 52,290		, ,	\$ -	\$ 108,290	
2.1e	Switch Stand Foundations	36	EA.	\$ 8,964				\$ 17,928	
2.1f	Sweet State Contactions			7 0,51	7	7	7		7 0.0,100
2.1g	Bus Support 1ph Foundations (High Bus)	54	EA.	\$ -	\$ -	\$ -	Ś -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations (Low Bus)	70	EA.	\$ 8,964	\$ 627,480	\$ 8,964	\$ 627,480	\$ 17,928	\$ 1,254,960
2.1j	Instrument Transformer Stand Foundations	15	EA.	\$ 8,964	\$ 134,460	\$ 8,964	\$ 134,460	\$ 17,928	\$ 268,920
2.1k	Arrester Stand Foundations	3	EA.	\$ 8,964	\$ 26,892	\$ 8,964	\$ 26,892	\$ 17,928	\$ 53,784
2.1m	Wave Trap Stand Foundations	1	EA.	\$ 8,964	\$ 8,964	\$ 8,964	\$ 8,964	\$ 17,928	\$ 17,928
2.1n									
2.1p	Misc. Structure Foundations	0	EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	345kV								
2.2a	Circuit Breaker Foundations	4	EA.	\$ 14,940				\$ 29,880	
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820		\$ 48,000		\$ 92,820	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	8	EA.	\$ 26,145				\$ 52,290	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA.	\$ 26,145		\$ 26,145		\$ 52,290	
2.2e	Switch Stand Foundations	48	EA.	\$ 4,482	\$ 215,136	\$ 4,482	\$ 215,136	\$ 8,964	\$ 430,272

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2f	Station Service Transformer Stand Foundation	0	EA.	\$ 4,482	\$ -	\$ 4,482	\$ -	\$ 8,964	\$ -
2.2g	Bus Support 1ph Foundations (High Bus)	27	EA.	\$ -	·	\$ -	\$ -		\$ -
2.2h	Bus Support 1 Ph Foundations (Low Bus)	51	EA.	\$ 4,482	\$ 228,582		\$ 228,582	\$ 8,964	
2.2j	Instrument Transformer Stand Foundations	24	EA.	\$ 4,482			\$ 107,568		\$ 215,136
2.2k	Arrester Stand Foundations	6	EA.	\$ 4,482	\$ 26,892		\$ 26,892	\$ 8,964	
2.2m	Wave Trap Stand Foundations	2	EA.	\$ 4,482		\$ 4,482	\$ 8,964	\$ 8,964	\$ 17,928
2.2n	Misc. Structure Foundations	2	EA.	\$ 8,964	\$ 17,928	\$ 8,964	\$ 17,928	\$ 17,928	\$ 35,856
2.2p									
2.4	Transformer Foundations	_		07.440	A 670 770	404.000	4 700,000	A 204 440	4 4407 770
2.4a	765-345kV Transformer Foundation w/ Oil Containment	7	EA.	\$ 97,110	\$ 679,770	\$ 104,000	\$ 728,000	\$ 201,110	\$ 1,407,770
2.4b	765-345kV Transformer Fire Wall	6	EA.	\$ 106,074	\$ 636,444	\$ 113,600	\$ 681,600	\$ 219,674	\$ 1,318,044
2.4-				\$ -	ć	*		^	^
2.4c 2.4d				\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.40				3 -	, -	ş -	ş -	\$ -	· -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ 74,700	\$ 74,700	\$ 80,000	\$ 80,000	\$ 154,700	\$ 154,700
2.5a 2.5b	Generator Foundation	1	EA	\$ 74,700	\$ 16,434		\$ 17,600	\$ 34,034	\$ 134,700
2.30	Concretes Foundation		L/A	7 10,434	y 10,434	7 17,000	7 17,000	y 34,034	y 34,034
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	12	EA	\$ 5,229	\$ 62,748	\$ 5,600	\$ 67,200	\$ 10,829	\$ 129,948
2.6b	70 Eightinig Mast Foundation			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				Š -	\$ -	\$ -	\$ -	\$ -	\$ -
				Ť	7	- -	T	Ť	*
TOTAL - SUBST	TATION FOUNDATIONS				\$ 3,740,976		\$ 3,864,890		\$ 7,605,866
	N STRUCTURES				, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, ,,,,,,,,
3.1	765kV								
3.1a	Substation A-Frame Structures - Stand alone	1	EA.	\$ 111,000	\$ 111,000	\$ 111,000	\$ 111,000	\$ 222,000	\$ 222,000
3.1b	Substation A-Frame Structures - Shared Column	0	EA.	\$ 111,000	\$ -	\$ 111,000		\$ 222,000	
3.1c	Switch Stands	6	EA.	\$ 22,200	\$ 133,200	\$ 22,200	\$ 133,200	\$ 44,400	\$ 266,400
3.1d					•		,		
3.1e	Bus Support 1ph (High Bus)	54	EA.	\$ 7,400	\$ 399,600	\$ 7,400	\$ 399,600	\$ 14,800	\$ 799,200
3.1f	Bus Support 1 Ph (low Bus)	70	EA.	\$ 5,550	\$ 388,500	\$ 5,550	\$ 388,500	\$ 11,100	\$ 777,000
3.1g	Instrument Transformer Stand	15	EA.	\$ 3,700	\$ 55,500	\$ 3,700	\$ 55,500	\$ 7,400	\$ 111,000
3.1h	Arrester Stand	3	EA.	\$ 3,700	\$ 11,100	\$ 3,700	\$ 11,100	\$ 7,400	\$ 22,200
3.1j	Wave Trap Stand	1	EA.	\$ 9,250	\$ 9,250	\$ 9,250	\$ 9,250	\$ 18,500	\$ 18,500
3.1k	Lightning Mast	12	EA.	\$ 9,250	\$ 111,000	\$ 9,250	\$ 111,000	\$ 18,500	\$ 222,000
3.2	345kV								
3.2a	Substation A-Frame Structures - Stand alone	2	EA	\$ 37,000	\$ 74,000		\$ 74,000	\$ 74,000	
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	
3.2c	Switch Stands	8	EA	\$ 14,800	\$ 118,400		\$ 118,400	\$ 29,600	
3.2d	Station Service Transformer Stand	1	EA	\$ 14,800	\$ 14,800			\$ 29,600	
3.2e	Bus Support 3ph	27	EA	\$ 5,550	\$ 149,850		\$ 149,850	\$ 11,100	
3.2f	Bus Support 1 Ph	51	EA	\$ 3,700	\$ 188,700			\$ 7,400	
3.2g	Instrument Transformer Stand	24	EA	\$ 1,850	\$ 44,400		\$ 44,400	\$ 3,700	
3.2h	Arrester Stand	6	EA	\$ 1,850	\$ 11,100		\$ 11,100	\$ 3,700	
3.2j	Wave Trap Stand	2	EA	\$ 7,400	\$ 14,800	\$ 7,400	\$ 14,800	\$ 14,800	\$ 29,600
3.2k	Misc. Structures	6	EA	\$ 6,475	\$ 38,850	\$ 6,475	\$ 38,850	\$ 12,950	\$ 77,700
TOTAL 0115	LATION CTRUCTURES				A				A
TOTAL - SUBST 4. MAJOR EQU	FATION STRUCTURES				\$ 1,874,050		\$ 1,874,050		\$ 3,748,100
	765kV	2	Ε^	¢ 000.000	¢ 2.700.000	ć 110.000	\$ 330,000	ć 1,010,000	\$ 3,030,000
	Circuit Breakers	3	EA.	\$ 900,000					
4.1b	Capacitor Banks	0 7	EA.	7	\$ - \$ 8,866,667		т		<u> </u>
4.1c 4.1d	765-345kV Transformer (1ph)	/	EA.	\$ 1,266,667	\$ 6,600,007	250,000	ς 1,/30,000	φ 1,510,007	\$ 10,616,667
4.1d 4.2	345kV								
		4	EA	\$ 200,000	\$ 800,000	\$ 80,000	\$ 320,000	\$ 280,000	\$ 1,120,000
		1 4	ĽA	200,000 ب	000,000	00,000 ب	320,000	۷۵۷,000	1,120,000
4.2a	Circuit Breakers	0	ΕΛ	ċ	ċ	ć 00.000	ć	¢ 00.000	ć
	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.2a 4.2b		0	EA	\$ -	\$ - \$ 12,366,667	\$ 80,000	\$ -	\$ 80,000	\$ - \$ 14,766,667

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	765kV								
	Line Switches - 3ph w/ motor operator	1	EA	\$ 400,000	\$ 400,000		\$ 50,000	\$ 450,000	
	Disconnect Switches - 3ph w/ manual operator	6	EA	\$ 350,000	\$ 2,100,000		\$ 270,000	\$ 395,000	\$ 2,370,000
	VT'S	3	EA	\$ 13,000	\$ 39,000		\$ 48,000	\$ 29,000	\$ 87,000
	CT'S	3		\$ 13,000	\$ 39,000		\$ 36,000	\$ 25,000	
	CCVT'S	9	EA	\$ 12,000	\$ 108,000		\$ 108,000	\$ 24,000	
	Arresters	10	EA	\$ 15,000	\$ 150,000		\$ 120,000	\$ 27,000	
	Wave Traps	1	EA	\$ 15,000	\$ 15,000	\$ 12,000	\$ 12,000	\$ 27,000	\$ 27,000
5.1h 5.1j									
5.2	345kV								
	Line Switches - 3ph w/ motor operator	2	EA	\$ 40,000	\$ 80,000	\$ 15,000	\$ 30,000	\$ 55,000	\$ 110,000
	Disconnect Switches - 3ph w/ manual operator	8	EA	\$ 35,000	\$ 280,000		\$ 140,000	\$ 52,500	\$ 420,000
	VT'S	6		\$ 25,000	\$ 150,000		\$ 72,000	\$ 37,000	
	CT'S	6	EA	\$ 13,000	\$ 78,000		\$ 48,000	\$ 21,000	
5.2e	CCVT'S	12	EA	\$ 13,000	\$ 156,000		\$ 96,000	\$ 21,000	
	Arresters	13	EA	\$ 6,500	\$ 84,500		\$ 19,500	\$ 8,000	\$ 104,000
	Wave Traps	2		\$ 13,000	\$ 26,000		\$ 16,000	\$ 21,000	\$ 42,000
	Station Service Transformers	2	EA	\$ 200,000	\$ 400,000		\$ 100,000	\$ 250,000	\$ 500,000
	EQUIPTMENT / MATERIALS DUSE / PANELS / GENERATOR				\$ 4,105,500		\$ 1,165,500		\$ 5,271,000
6.1	CONTROL HOUSE	1	EA	\$ 1,053,000	\$ 1,053,000	\$ 162,000	\$ 162,000	\$ 1,215,000	\$ 1,215,000
	Protection and Telecom Equipment Panels	29	EA	\$ 35,000	\$ 1,015,000		\$ 290,000	\$ 45,000	· · · ·
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,000
6.4	Control Cables	1	LS	\$ 546,700	\$ 546,700	\$ 546,700	\$ 546,700	\$ 1,093,400	\$ 1,093,400
6.5	SCADA and Communications	1	EA	\$ 35,000	\$ 35,000	\$ 12,500	\$ 12,500	\$ 47,500	\$ 47,500
6.6	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$ 300,000
6.7	DC Distribution System	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$ 300,000
6.8	Security	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$ 15,000
6.9	Fire Alarm	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$ 15,000
6.10	Generator	1	EA	\$ 100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$ 180,000
	ROL HOUSE / PANELS / GENERATOR				\$ 3,114,700		\$ 1,556,200		\$ 4,670,900
7. MISC ITEMS					4				
7.1	Conduit & Cable Trench System	6,000	LF	\$ 185.00	\$ 1,110,000	\$ 231.27	\$ 1,387,620	\$ 416.27	\$ 2,497,620
7.2	Rigid Bus, Fittings & Insulators	6,500	LF	\$ 515.95	\$ 3,353,675	\$ 237.10	\$ 1,541,150	\$ 753.05	\$ 4,894,825
7.3	Strain Bus, Connectors & Insulators	2,000	LF	\$ 61.50	\$ 123,000	\$ 78.69	\$ 157,380	\$ 140.19	\$ 280,380
7.4	Grounding System	167,000	LF	\$ 6.93	\$ 1,157,310	\$ 32.58	\$ 5,440,860	\$ 39.51	\$ 6,598,170
7.5	Strain Bus Insulators	18	EA	\$ 4,000	\$ 72,000	\$ 2,100	\$ 37,800	\$ 6,100	\$ 109,800
	Control Conduits from Trench to Equipment	1	LS	\$ 125,000	\$ 125,000		\$ 125,000	\$ 250,000	
	Misc. Materials (Above and Below Ground)	1	LS	\$ 180,000	\$ 180,000		\$ 180,000	\$ 360,000	
7.8		<u> </u>		100,000	. 100,000	. 100,000	. 200,000	. 555,560	. 555,000
7.9									
7.10									
7.11									
7.12									
7.13									
7.13									
7. MISC ITEMS	345kV								
	Conduit & Cable Trench System	4,500	LF	\$ 125.07	\$ 562,815	\$ 170.00	\$ 765,000	\$ 295	\$ 1,327,815
7.15	Rigid Bus, Fittings & Insulators	4,300	LF	\$ 125.07	\$ 537,801		\$ 1,019,530	\$ 362	\$ 1,557,331
	Strain Bus, Connectors & Insulators	2,900	LF	\$ 61.50	\$ 178,350		\$ 228,201	\$ 140	, ,
/.1/	Salam Das, Connectors & Historica	2,900	LF	01.50	7 170,350	78.69	220,201	140	÷ 400,551

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
7.18	Grounding System	0	LF	\$ 6.93	\$ -	\$ 32.58	\$ -	\$ 40	\$ -
7.19	Strain Bus Insulators - 345kV	36	EA	\$ 2,000	\$ 72,000	\$ 1,050	\$ 37,800	\$ 3,050	\$ 109,800
7.20	Low Voltage AC Station Service	1	LS	\$ 50,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$ 125,000
7.21	SSVT Service	1	LS	\$ 50,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$ 125,000
7.22	Control Conduits from Trench to Equipment	1	LS	\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$ 250,000
7.23	Misc. Materials (Above and Below Ground)	1	LS	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$ 360,000
7.24									
7.25									
7.26									
7.27									
7.28									
7.29									
TOTAL - MISC	TITEMS				\$ 7,876,951		\$ 11,375,341		\$ 19,252,292
R. Knick	erbocker Substation - Install				\$ 34,005,794		\$ 33,161,231		\$ 67,167,025
8. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 671,670	\$ 671,670	\$ 671,670	\$ 671,670
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 2,426,405	\$ 2,426,405	\$ 2,426,405	\$ 2,426,405
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 671,670	\$ 671,670	\$ 671,670	\$ 671,670
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 671,670	\$ 671,670	\$ 671,670	\$ 671,670
	Engineering								
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 5,373,362	\$ 5,373,362	\$ 5,373,362	\$ 5,373,362
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 470,169	\$ 470,169	\$ 470,169	\$ 470,169
	Testing & Commissioning								
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 1,679,176	\$ 1,679,176	\$ 1,679,176	\$ 1,679,176
	Permitting and Additional Costs								
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 201,501	\$ 201,501	\$ 201,501	\$ 201,501
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17	Carrying Charges	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 2,720,463	\$ 2,720,463	\$ -	\$ -	\$ 2,720,463	\$ 2,720,463
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 67,167	\$ 67,167	\$ 67,167	\$ 67,167
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 2,720,463		\$ 12,846,791		\$ 15,567,255

Page 63 of 69

Q. SS Knickerbocker-Install

NAT & NYPA - T025 - (Segment A, + 765kV)

S. Marcy Substation - Install

Estimate Revision: 7 Total: \$ 21,526,138

NAT & NYPA - T025 - (Segme	NAT & NYPA - T025 - (Segment A, + 765kV)										
	Supply		Installation			Total					
S. Marcy Substation - Install											
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	134,000	\$	991,250	\$	1,125,250					
2. SUBSTATION FOUNDATIONS	\$	2,312,712	\$	2,405,568	\$	4,718,280					
3. SUBSTATION STRUCTURES	\$	1,283,900	\$	1,283,900	\$	2,567,800					
4. MAJOR EQUIPTMENT	\$	900,000	\$	110,000	\$	1,010,000					
5. SMALL EQUIPTMENT / MATERIALS	\$	1,361,000	\$	392,000	\$	1,753,000					
6. CONTROL HOUSE / PANELS	\$	432,250	\$	364,750	\$	797,000					
7. MISC ITEMS	\$	3,112,180	\$	2,468,996	\$	5,581,176					
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	762,883	\$	3,210,749	\$	3,973,633					
CONTRACTOR MARK-UP (OH&P)	\$		\$	-	\$	-					
SUBTOTAL:	\$	10,298,925	\$	11,227,213	\$	21,526,138					
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-					
TOTAL:	\$	10,298,925	\$	11,227,213	\$	21,526,138					

ption	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
S. Marcy	Substation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	3.8	ACRES	\$ -	\$ -	\$ 203,000	\$ 761,250	\$ 203,000	\$ 761,250
1.2	Station stone within substation fence.	2,000	CY	\$ 27				\$ 102	
1.3	Substation Fence	800	LF	\$ 100	\$ 80,000	\$ 100	\$ 80,000	\$ 200	\$ 160,000
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
	REP/ GRADING/ FENCING / CIVIL				\$ 134,000		\$ 991,250		\$ 1,125,250
	N FOUNDATIONS								
2.1	765kV						4	4	
	Circuit Breaker Foundations	1	EA.	\$ 22,410	\$ 22,410		\$ 24,000	\$ 46,410	
2.1b	Capacitor Bank Foundations	0	EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	24	EA.	\$ 52,290	\$ 1,254,960		\$ 1,344,000	\$ 108,290 \$ 108,290	
	Caisson DE Foundations (for DE A frame str shared column)		EA.	\$ 52,290 \$ 8,964	\$ -	7 30,000	\$ -	7	
2.1e 2.1f	Switch Stand Foundations	18	EA.	\$ 8,964	\$ 161,352	\$ 8,964	\$ 161,352	\$ 17,928	\$ 322,704
			E A	ć		ć	ć	\$ -	*
2.1g	Bus Support 1ph Foundations (High Bus)	0 74	EA.	\$ - \$ 8.964	\$ -	\$ -	\$ -	т	\$ -
2.1h	Bus Support 1 Ph Foundations (Low Bus)		EA.	7	\$ 663,336		\$ 663,336	\$ 17,928 \$ 17.928	
2.1j 2.1k	Instrument Transformer Stand Foundations	15 3	EA. EA.	\$ 8,964 \$ 8,964	\$ 134,460 \$ 26,892		\$ 134,460 \$ 26,892	\$ 17,928 \$ 17,928	
2.1k 2.1m	Arrester Stand Foundations	2	EA.	\$ 8,964	\$ 26,892		\$ 26,892	\$ 17,928	
2.1m 2.1n	Wave Trap Stand Foundations	0	EA.	\$ 8,964	\$ 17,928	\$ 8,904	\$ 17,928	\$ 17,928	\$ 33,836
2.1n	Misc. Structure Foundations	0	EA.	, -	, -	, -	, -	, -	,
2.1p									
2.2	345kV								
2.2a	Circuit Breaker Foundations	0	EA.	\$ 14,940	\$ -	\$ 14,940	\$ -	\$ 29,880	\$ -
2.2b	Capacitor Bank Foundations	0	EA.	\$ 56,025		\$ 60,000		\$ 116,025	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA.	\$ 26,145		\$ 26,145		\$ 52,290	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA.	\$ 26,145		\$ 26,145		\$ 52,290	
2.2e	Switch Stand Foundations	0	EA.	\$ 4,482		\$ 4,482		\$ 8,964	
2.2f	Station Service Transformer Stand Foundation	0	EA.	\$ 4,482	Š -	\$ 4,482		\$ 8,964	
	Bus Support 1ph Foundations (High Bus)	0	EA.	\$ -	\$ -	\$ -	\$ -	\$ 8,504	\$ -
2.2h	Bus Support 1 Ph Foundations (Low Bus)	0	EA.	\$ 4,482	\$ -		\$ -	\$ 8,964	т
2.211	I say support 1 : conductions (com bus)		LA.	1,402	1 *	1,402		3,304	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2j	Instrument Transformer Stand Foundations	0	EA.	\$ 4,482	\$ -	\$ 4,482	\$ -	\$ 8,964	\$ -
2.2k	Arrester Stand Foundations	0	EA.	\$ 4,482	\$ -	\$ 4,482	\$ -	\$ 8,964	\$ -
2.2m	Wave Trap Stand Foundations	0	EA.	\$ 4,482	\$ -	\$ 4,482	\$ -	\$ 8,964	\$ -
2.2n	Misc. Structure Foundations	0	EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
	as with the same of the same o								
2.3a	115kV Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ - \$ -	\$ 69,615	
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600		\$ 34,034	
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	765-345kV Transformer Foundation w/ Oil Containment	0	EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	765-345kV Transformer Fire Wall	0	EA.	\$ 106,074	\$ -	\$ 113,600	\$ -	\$ 219,674	\$ -
2.4c		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.5b	Generator Foundation	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	6	EA	\$ 5,229	\$ 31,374	\$ 5,600	\$ 33,600	\$ 10,829	\$ 64,974
2.6b		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TATION FOUNDATIONS				\$ 2,312,712		\$ 2,405,568		\$ 4,718,280
	N STRUCTURES								
3.1	765kV		F.4	444.000	d	444.000	4 555,000	4 222 222	4 222 222
3.1a 3.1b	Substation A-Frame Structures - Stand alone	6	EA. EA.	\$ 111,000 \$ 111,000	\$ 666,000 \$ -	\$ 111,000 \$ 111,000	\$ 666,000 \$ -	\$ 222,000 \$ 222,000	
3.1c	Substation A-Frame Structures - Shared Column Switch Stands	3	EA.	\$ 111,000	\$ 66,600		'	\$ 222,000	
3.1d	Switch Stanus	3	LA.	22,200	\$ 00,000	\$ 22,200	5 00,000	3 44,400	3 133,200
3.1e	Bus Support 1ph (High Bus)	0	EA.	\$ 7,400	\$ -	\$ 7,400	\$ -	\$ 14,800	\$ -
3.1f	Bus Support 1 Ph (low Bus)	74	EA.	\$ 5,550	\$ 410,700		\$ 410,700		\$ 821,400
3.1g	Instrument Transformer Stand	15	EA.	\$ 3,700	\$ 55,500		\$ 55,500	\$ 7,400	
3.1h	Arrester Stand	3	EA.	\$ 3,700	\$ 11,100	\$ 3,700	\$ 11,100	\$ 7,400	\$ 22,200
3.1j	Wave Trap Stand	2	EA.	\$ 9,250	\$ 18,500		\$ 18,500	\$ 18,500	\$ 37,000
3.1k	Lightning Mast	6	EA.	\$ 9,250	\$ 55,500	\$ 9,250	\$ 55,500	\$ 18,500	\$ 111,000
3.2	345kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	
3.2b	Substation A-Frame Structures - Shared Column	0	EA		\$ -	\$ 37,000		\$ 74,000	
3.2c	Switch Stands	0	EA	\$ 14,800				\$ 29,600	
3.2d	Station Service Transformer Stand	0	EA	\$ 14,800				\$ 29,600	
3.2e	Bus Support 3ph	0	EA	\$ 5,550		\$ 5,550		\$ 11,100	
3.2f	Bus Support 1 Ph Instrument Transformer Stand	0	EA EA	\$ 3,700 \$ 1,850				\$ 7,400 \$ 3,700	
3.2g 3.2h	Arrester Stand	0	EA EA	\$ 1,850	\$ -			\$ 3,700	
3.2n 3.2j	Wave Trap Stand	0	EA	\$ 1,850				\$ 3,700	
3.2k	Misc. Structures	0	EA	\$ 6,475		\$ 6,475		\$ 12,950	
				-,		.,		,	
3.3	115kV								

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Substation A-Frame Structures - Stand alone	0		\$	18,500	т	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0		\$	18,500		\$ 18,500	\$ -		\$ -
	Switch Stands	0		\$	7,955		\$ 7,955		\$ 15,910	\$ -
	Fuse Stand	0		\$	7,955		\$ 7,955		\$ 15,910	\$ -
	Bus Support 3ph	0		\$	3,330		\$ 3,330		. ,	
	Bus Support 1 Ph	0		\$	1,850		\$ 1,850			\$ -
	Instrument Transformer Stand	0		\$	740		\$ 740		\$ 1,480	
	Arrester Stand	0		\$	7.10	т	\$ 740	\$ -		\$ -
	Wave Trap Stand	0		\$	3,700		\$ 3,700	\$ -		\$ -
3.3k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
TOTAL CURST	ATION STRUCTURES					4 202 000		4 1202 000		4 2557.000
4. MAJOR EQUI						\$ 1,283,900		\$ 1,283,900		\$ 2,567,800
	765kV		F.A.	ć	000 000	ć 000.000	ć 440.000	ć 440.000	ć 4.040.000	ć 4.040.000
	Circuit Breakers	1		\$,	\$ 900,000	\$ 110,000 \$ -			\$ 1,010,000
	Capacitor Banks	0		\$			\$ 250,000	\$ - \$ -	Ÿ	\$ - \$ -
	765-345kV Transformer (1ph)	U	EA.	٦	-	\$ -	\$ 250,000	, -	\$ 250,000	\$ -
4.1d 4.2	345kV									
		0	EA	\$	200,000	\$ -	\$ 80,000	\$ -	\$ 280,000	\$ -
	Circuit Breakers Capacitor Banks	0		\$				\$ -	\$ 280,000 \$ 80,000	\$ - \$ -
4.20	Capacitor Banks	U	EA	13		, -	\$ 80,000	, -	\$ 80,000	-
4.3	115kV									
	Circuit Breakers	0	EA	\$	52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
	Capacitor Banks	0		\$			\$ 60,000	\$ -	\$ 60,000	\$ -
4.50	Capacitor Bariks	U	EA	13	-	, -	\$ 00,000	· -	\$ 00,000	-
TOTAL - MAJOR	REQUIPMENT					\$ 900,000		\$ 110,000		\$ 1,010,000
	PTMENT / MATERIALS					3 300,000		3 110,000		7 1,010,000
	765kV			_						
	Line Switches - 3ph w/ motor operator	1	EA	\$	400,000	\$ 400,000	\$ 50,000	\$ 50,000	\$ 450,000	\$ 450,000
	Disconnect Switches - 3ph w/ manual operator	2		\$			\$ 45,000	\$ 90,000		\$ 790,000
	VT'S	3	EA	\$	13,000					\$ 87,000
	CT'S	3		\$				\$ 36,000		\$ 75,000
	CCVT'S	9		\$	12,000		\$ 12,000	\$ 108,000		\$ 216,000
	Arresters	3	EA	\$	15,000	\$ 45,000	\$ 12,000	\$ 36,000	\$ 27,000	\$ 81,000
	Wave Traps	2	EA	\$	15,000	\$ 30,000	\$ 12,000	\$ 24,000	\$ 27,000	\$ 54,000
5.1h						,			,	,
5.1j										
5.2	345kV									
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$	40,000	\$ -	\$ 15,000	\$ -	\$ 55,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$	35,000	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.2c	VT'S	0	EA	\$	-	\$ -	\$ 12,000	\$ -	\$ 12,000	\$ -
5.2d	CT'S	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
	CCVT'S	0		\$	13,000		,	\$ -		\$ -
5.2f	Arresters	0	EA	\$	6,500	\$ -	\$ 1,500	\$ -	\$ 8,000	\$ -
	Wave Traps	0		\$,		\$ 8,000	\$ -	\$ 21,000	\$ -
	Station Service Transformers	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j										
	115kV									
	Line Switches - 3ph w/ motor operator	0		\$	33,000		\$ 15,000	\$ -		\$ -
	Disconnect Switches - 3ph w/ manual operator	0		\$	28,000		, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 45,500	\$ -
	VT'S	0		\$	13,000			\$ -		\$ -
	CT'S	0		\$	13,000		\$ 8,000		\$ 21,000	
	CCVT'S	0		\$	8,000		\$ 8,000		\$ 16,000	
	Arresters	0		\$	3,420		\$ 6,000		\$ 9,420	
	Wave Traps	0		\$				\$ -		\$ -
	Station Service Transformers	0		\$				\$ -		\$ -
5.3j	Fuses	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
	FOUNDTAINT / MATERIALS			_		4 254		4 202		4 752 555
	EQUIPTMENT / MATERIALS					\$ 1,361,000		\$ 392,000		\$ 1,753,000
	OUSE / PANELS / GENERATOR		FA.	6		ć	ć	ć	ć	¢.
	CONTROL HOUSE	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply F	ate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
6.2	Protection and Telecom Equipment Panels	3	EA		000	\$ 105,000	\$ 12,500	\$ 37,500			142,500
6.3	125VDC Batteries	0			\rightarrow	\$ -	\$ 25,000	\$ -	\$ 100,000	\$	-
6.4	Control Cables	1	LS		250				\$ 654,500		654,500
6.5	SCADA and Communications	0	EA	·		\$ -	\$ -	\$ -	\$ -	\$	-
6.6	Low Voltage AC Distribution	0	EA		000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$	-
6.7	DC Distribution System	0	EA		000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$	-
6.8	Security	0	EA		500		\$ 7,500		\$ 15,000	\$	-
6.9	Fire Alarm	0	EA			\$ -	\$ 7,500	\$ -	\$ 15,000	\$	-
6.10	Generator	0	EA	\$ 100,	000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$	-
	DOLLIGHT ADARTIC ACTIVITATION				_						
	ROL HOUSE / PANELS / GENERATOR					\$ 432,250		\$ 364,750		\$	797,000
7. MISC ITEMS							4		4		
7.1	Conduit & Cable Trench System	1,400	LF	\$ 185	.00	\$ 259,000	\$ 231.27	\$ 323,778	\$ 416.27	Ş	582,778
7.2	Rigid Bus, Fittings & Insulators	4,500	LF	\$ 515	.95	\$ 2,321,775	\$ 237.10	\$ 1,066,950	\$ 753.05	\$	3,388,725
7.3	Strain Bus, Connectors & Insulators	3,750	LF	\$ 61	.50	\$ 230,625	\$ 78.69	\$ 295,088	\$ 140.19	\$	525,713
7.4	Grounding System	16,000	LF	\$ 6	5.93	\$ 110,880	\$ 32.58	\$ 521,280	\$ 39.51	\$	632,160
7.5	Strain Bus Insulators	0	EA	\$ 4,	000	\$ -	\$ 2,100	\$ -	\$ 6,100	\$	-
7.6	Control Conduits from Trench to Equipment	1	LS	\$ 81,	900	\$ 81,900	\$ 81,900	\$ 81,900	\$ 163,800	\$	163,800
7.7	Misc. Materials (Above and Below Ground)	1	LS	\$ 108,	000	\$ 108,000	\$ 180,000	\$ 180,000	\$ 288,000	\$	288,000
7.8											
7.9											
7.10											
7.11											
7.12											
7.13											
7.14					_						
7. MISC ITEMS											
7.15	Conduit & Cable Trench System	0	LF	\$ 125	.07	\$ -	\$ 170.00	\$ -	\$ 295	\$	-
7.16	Rigid Bus, Fittings & Insulators	0	LF	\$ 125	5.07	\$ -	\$ 237.10	\$ -	\$ 362	\$	-
7.17	Strain Bus, Connectors & Insulators	0	LF	\$ 61	50	\$ -	\$ 78.69	\$ -	\$ 140	\$	-
7.18	Grounding System	0	LF	\$ 6	5.93	\$ -	\$ 32.58	\$ -	\$ 40	\$	-
7.19	Strain Bus Insulators - 345kV	0	EA	\$ 2,	000	\$ -	\$ 1,050	\$ -	\$ 3,050	\$	-
7.20	Low Voltage AC Station Service	0	LS	\$ 50,	000	\$ -	\$ 75,000	\$ -	\$ 125,000	\$	-
7.21	SSVT Service	0	LS	\$ 50,	000	\$ -	\$ 75,000	\$ -	\$ 125,000	\$	-
7.22	Control Cables	0	LS	\$ 531,	300	\$ -	\$ 531,300	\$ -	\$ 1,062,600	\$	-
7.23	Control Conduits from Trench to Equipment	0	LS	\$ 125,	000	\$ -	\$ 125,000	\$ -	\$ 250,000	\$	-
7.24	Misc. Materials (Above and Below Ground)	0	LS	\$ 180,	000	\$ -	\$ 180,000	\$ -	\$ 360,000	\$	-
7.25											
7.26											
7.27											
7.28		·									
7.29											
TOTAL - MISC	ITEMS					\$ 3,112,180		\$ 2,468,996		\$	5,581,176
	Substation - Install					\$ 9,536,042		\$ 8,016,464		\$	17,552,506
8. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization			ļ							
8.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 175,525	\$ 175,525	\$ 175,525	\$	175,525
8.2	Project Management, Material Handling & Amenities Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 634,083	\$ 634,083	\$ 634,083	\$	634,083
<u> </u>	,			-	\rightarrow		A .====				
8.3	Utility PM and Project Oversite	1	LS				\$ 175,525				175,525
8.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 175,525	\$ 175,525	\$ 175,525	Ş	175,525
	Engineering			ļ	\dashv			4			
8.5	Design Engineering	1		+ '		\$ -	\$ 1,404,200				1,404,200
8.6	LiDAR	-	LS	·				\$ -		\$	-
8.7	Geotech	4	EA	\$	-	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	Ş	14,000

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	ate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
8.8	Surveying/Staking	1	Site	\$ -	- :	\$ -	\$ 122,868	\$ 122,868	\$ 122,868	\$	122,868
	Testing & Commissioning										
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	-	\$ -	\$ 438,813	\$ 438,813	\$ 438,813	\$	438,813
	Permitting and Additional Costs										
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	- :	\$ -	\$ -	\$ -	\$ -	\$	-
8.11	Environmental Mitigation	-	LS	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.12	Warranties / LOC's	1	LS	\$ -	- [\$ -	\$ 52,658	\$ 52,658	\$ 52,658	\$	52,658
8.13	Real Estate Costs (New)	-	LS	\$ -	- :	\$ -	\$ -	\$ -	\$ -	\$	-
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	- [\$ -	\$ -	\$ -	\$ -	\$	-
8.15	Legal Fees	-	LS	\$ -	- :	\$ -	\$ -	\$ -	\$ -	\$	-
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	- [\$ -	\$ -	\$ -	\$ -	\$	-
8.17		-	LS	\$ -	- :	\$ -	\$ -	\$ -	\$ -	\$	-
8.18	Sales Tax on Materials	1	LS	\$ 762,8	383	\$ 762,883	\$ -	\$ -	\$ 762,883	\$	762,883
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 17,553	\$ 17,553	\$ 17,553	\$	17,553
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 762,883		\$ 3,210,749		\$	3,973,633

Page 68 of 69

	NAT & NYPA - T025 - (Segment A, + 765kV)
	ESTIMATE ASSUMPTIONS & CLARIFICATIONS
1	Cost Estimate is based on 2017 rates.
2	Construction schedule is in accordance with proposed schedule - we have assumed continuous working with no breaks in the schedule. Six months have been added to the construction
	schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.).
3	We have assumed a typical work week of five-(5) days per week at ten-(10) hours per day (5 x 10 hour days).
4	All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017.
5	We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type.
6	Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not enough
	information to provide a quantified estimate for this item, allowance is included in the contingency monies.
7	Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for formal
	quotes.
8	Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing.
9	A Contractor Mark-Up (OH&P) of 15% has been included in the Total section.
	We have assumed that all project details provided are accurate unless noted otherwise.
	Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%)
12	A contractor allowance of 1% for mobilization and demobilization has been included in the total section.
13	A contractor allowance of 3.132% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safety
	inspector, compliance inspector, environmental inspector, and SWPP inspector.
14	An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section.
	A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section.
16	An allowance of 5% for transmission design and engineering has been included in the total section.
17	An allowance of 8% for substation design and engineering has been included in the total section.
18	An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section.
19	An allowance of 0.3% for LIDAR of the transmission line has been included in the total section.
	An allowance of 3.75% for substation testing and commissioning has been included in the total section.
	An allowance of \$20,000.00 per circuit for transmission line testing and commissioning has been included in the total section.
	New York state sales tax of 8% is included in all material pricing.
23	An allowance of 1.5% for insurance is included in the DPS sheet.
24	The SUF estimates for the stations are rough order of magnitude estimates. No engineering was performed and SECo did not have access to record drawings.



		NY Power Authority and North American Transmission (T026)	
		Description	Total Amount (In thousand \$)
	1	Transmission Lines	
	1.1	Clearing & Access	\$50,021
	1.2	Foundations	\$23,713
	1.3	Structures	\$60,645
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$35,492
	1.5	Insulators, Fitting and Hardwares	\$11,907
		Subtotal (1)	\$181,777
	2	Substations	
st	2.1	Rotterdam Substation	\$48,340
Direct Cost	2.2	Edic Substation	\$2,153
irec	2.3	Princetown Substation	\$0
	2.4	New Scotland Substation	\$5,264
	2.5	Porter Substation	\$546
	2.6	Knickerbocker Substation	\$0
	2.7	Marcy Substation	\$0
	2.8	Substation Interconnections	\$8,301
		Subtotal (2)	\$64,603
		Total (1+2)	\$246,381
		Contractors Mark-up (15% of Total 1+2)	\$36,957
		Total Direct Cost (A)	\$283,338
	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$2,464
l ͺ l	3.2	Project Management, Material Handling & Amenities	\$18,148
Cos	3.3	Engineering	\$16,643
Indirect Cost	3.4	Testing & Commissioning	\$1,523
Indii	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$19,753
	3.6	Compensation for use of NYPA Structures (1 Circuit)	\$8,919
	3.7	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,920
		Total Indirect Cost (3)	\$75,369
		Subtotal Project Cost (B=A+3) 2017 \$	\$358,707
	4	Network Upgrade Facilities (NUF)	
	4.1	NUF proposed as element of the Project (Marcy and Edic Terminals)	\$7,727
	4.2	NUF identified during Evaluation	\$0
		Subtotal NUF Cost (C)	\$7,727
		Total Project Cost (B+C) 2017 \$	\$366,434
		Total Project Cost 2018 \$	\$377,427

5/22/2018 Page 1 of 60

Estimate Revision: 7

	NAT & NYPA - T026 - (Segment A, Base)) - Direct Costs	Total Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Edic to Princetown	\$ 122,946,653
Direct Labor, Material & Equipment Costs	B. Transmission Line Princetown to Rotterdam	\$ 20,488,282
Direct Labor, Material & Equipment Costs	C. Transmission Line Princetown to New Scotland	\$ 38,342,499
Direct Labor, Material & Equipment Costs	D. Rotterdam Substation - Install	\$ 44,728,474
Direct Labor, Material & Equipment Costs	E. Rotterdam Substation - Removal	\$ 3,611,030
Direct Labor, Material & Equipment Costs	F. Edic Substation - Install	\$ 2,117,185
Direct Labor, Material & Equipment Costs	G. Edic Substation - Removal	\$ 35,750
Direct Labor, Material & Equipment Costs	H. New Scotland Substation - Install	\$ 5,182,753
Direct Labor, Material & Equipment Costs	I. New Scotland Substation - Removal	\$ 81,300
Direct Labor, Material & Equipment Costs	J. Porter Substation - Install	\$ 71,912
Direct Labor, Material & Equipment Costs	K. Porter Substation - Removal	\$ 474,313
Direct Labor, Material & Equipment Costs	L. Interconnection Edic Station	\$ 1,784,075
Direct Labor, Material & Equipment Costs	M. Interconnection New Scotland Station	\$ 2,594,271
Direct Labor, Material & Equipment Costs	N. Interconnection Rotterdam Station	\$ 3,922,412
Direct Labor, Material & Equipment Costs	O. System Upgrade Facilities (Various Lines for Edic to New Scotland)	\$ -
Direct Labor, Material & Equipment Costs	P. System Upgrade Facilities (Various Stations for Edic to New Scotland)	\$ 5,519,000
	SUBTOTAL	\$ 251,899,910
	CONTRACTOR MARK-UP (OH&P	\$ 37,784,986
	CONTINGENCY ON ENTIRE PROJECT	\$ -
	TOTAL DIRECT:	\$ 289,684,896

	NAT & NYPA - T026 - (Segment A, Base) - Indirect Costs	7	otal Each Segment
Indirect Costs	A. Transmission Line Edic to Princetown	\$	38,230,749
Indirect Costs	B. Transmission Line Princetown to Rotterdam	\$	4,591,422
Indirect Costs	C. Transmission Line Princetown to New Scotland	\$	9,378,594
Indirect Costs	D. Rotterdam Substation - Install	\$	11,157,029
Indirect Costs	E. Rotterdam Substation - Removal	\$	605,422
Indirect Costs	F. Edic Substation - Install	\$	527,893
Indirect Costs	G. Edic Substation - Removal	\$	5,958
Indirect Costs	H. New Scotland Substation - Install	\$	1,274,027
Indirect Costs	I. New Scotland Substation - Removal	\$	13,549
Indirect Costs	J. Porter Substation - Install	\$	15,559
Indirect Costs	K. Porter Substation - Removal	\$	79,048
Indirect Costs	L. Interconnection Edic Station	\$	347,969
Indirect Costs	M. Interconnection New Scotland Station	\$	521,432
Indirect Costs	N. Interconnection Rotterdam Station	\$	700,321
Indirect Costs	O. System Upgrade Facilities (Various Lines for Edic to New Scotland)	\$	-
Indirect Costs	P. System Upgrade Facilities (Various Stations for Edic to New Scotland)	\$	1,380,000
Indirect Costs	Legal and Permitting (Includes Legal, Envir. Lisc. & Permit., and Envir. Mitagation)	\$	7,919,694
	TOTAL INDIRECT	T: \$	76,748,667

TOTAL ESTIMATED COST: \$ 366,433,564

A. Transmission Line Edic to Princetown

Estimate	7	Total:	\$ 161,177,402

NAT & NYPA - T026 - (Seg	ment i	A, Base)		
		Supply	Installation	Total
A. Transmission Line Edic to Princetown				
1. CLEARING & ACCESS	\$	41,500	\$ 35,680,876	\$ 35,722,376
2. FOUNDATIONS	\$	3,098,282	\$ 10,723,946	\$ 13,822,229
3. STRUCTURES	\$	14,839,646	\$ 25,190,231	\$ 40,029,876
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	4,932,087	\$ 20,895,790	\$ 25,827,877
5. INSULATORS, FITTINGS, HARDWARE	\$	5,125,311	\$ 2,418,984	\$ 7,544,295
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	2,242,946	\$ 35,987,803	\$ 38,230,749
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	30,279,773	\$ 130,897,630	\$ 161,177,402
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	30,279,773	\$ 130,897,630	\$ 161,177,402

0.0%

	Descr	iption of	f Worl	c:
--	-------	-----------	--------	----

ltem	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
A. Trans	mission Line Edic to Princetown								
1. CLEARING 8	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	8.0	Acre	\$ -	\$ -	\$ 15,000	\$ 120,000	\$ 15,000	\$ 120,000
1.2	Clearing the ROW - Light (mowing)	194.0	Acre		\$ -	\$ 5,000	\$ 970,000	\$ 5,000	\$ 970,000
1.3	Access Road	70,540.8	LF	\$ -	\$ -	\$ 45			
1.4	Silt Fence	352,704.0	LF	\$ -	\$ -		\$ 1,410,816		\$ 1,410,816
1.5	Matting - Access and ROW	282,163.2	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	25,200.0	LF	\$ -	\$ -	\$ 70		\$ 70	
1.7	Snow Removal	66.8	Mile	\$ -	\$ -	\$ 16,000			
1.8	ROW Restoration	66.8	Mile	\$ -	\$ -	\$ 10,000		\$ 10,000	
1.9	Work Pads	1,680,000.0	SF	\$ -	\$ -		\$ 5,913,600	\$ 4	. , ,
1.10	Restoration for Work Pad areas	336,000.0	SF EA	\$ - \$ -	\$ -	\$ 0.15 \$ 20,035		\$ 0 \$ 20,035	1,
1.11	Temporary Access Bridge Air Bridge	-	EA EA	\$ -	\$ - \$ -	\$ 20,035		\$ 20,035	,
1.12	Stabilized Construction Entrance	50	EA EA	\$ -	\$ -	\$ 4,580		\$ 4,580	
1.13	Maintenance and Protection of Traffic on Public Roads	100	EA	\$ -	\$ -	\$ 4,130		\$ 4,130	
1.15	Culverts / Misc. Access	10	EA	\$ 750	·			\$ 2,000	
1.16	Gates	17	EA	\$ 2,000				\$ 4,500	
1.17	Concrete Washout Station	50	EA	\$ -	\$ -	\$ 1,850		\$ 1,850	
	RING & ACCESS:			,	\$ 41,500	,,,,,,	\$ 35,680,876	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	\$ 35,722,376
2. FOUNDATIO	DNS								
2.1	Direct Embed Foundations - 4' x 16'	416	EA	\$ 941	\$ 391,345	\$ 7,398	\$ 3,077,513	\$ 8,339	\$ 3,468,858
2.2	Direct Embed Foundations - 4' x 17'	2	EA	\$ 995	\$ 1,990	\$ 7,833	\$ 15,666	\$ 8,828	\$ 17,656
2.3	Direct Embed Foundations - 4' x 19'	52	EA	\$ 1,104	\$ 57,404			\$ 9,807	\$ 509,979
2.4	Direct Embed Foundations - 4' x 21'	4	EA	\$ 1,213		\$ 9,574		\$ 10,786	
2.5	Direct Embed Foundations - 4' x 23'	16	EA	\$ 1,322	 	\$ 10,444	\$ 167,105	\$ 11,766	\$ 188,249
2.6	Direct Embed Foundations - 4' x 25'	4	EA	\$ 1,430	\$ 5,721	\$ 11,314		\$ 12,745	\$ 50,979
2.7	Direct Embed Foundations - 6' x 18'	6	EA	\$ 1,857				\$ 20,461	
2.8	Direct Embed Foundations - 6' x 19'	6	EA	\$ 1,952	\$ 11,711	\$ 19,583	\$ 117,496	\$ 21,534	\$ 129,207
2.9	Direct Embed Foundations - 6' x 20'	14	EA	\$ 2,046	-			\$ 22,608	
2.10	Direct Embed Foundations - 6' x 21'	15	EA	\$ 2,141	\$ 32,110			\$ 23,681	· · · · · · · · · · · · · · · · · · ·
2.11	Direct Embed Foundations - 6' x 22'	7	EA	\$ 2,235	<u> </u>	\$ 22,520	\$ 157,640	\$ 24,755	
2.12	Direct Embed Foundations - 6' x 25'	6	EA	\$ 2,518				\$ 27,976	
2.13	Direct Embed Foundations - 6' x 26'	1	EA	\$ 2,613	<u> </u>			\$ 29,049	
		3	EA EA	\$ 2,613	-	\$ 26,437	\$ 26,437	\$ 29,049	\$ 29,049
2.14	Direct Embed Foundations - 6' x 28'			- ' '					
2.15	Direct Embed Foundations - 6' x 29'	3	EA	\$ 2,896		\$ 29,374		\$ 32,270	\$ 96,809
2.16	Direct Embed Foundations - 6' x 33'	3	EA	\$ 3,273	-			\$ 36,564	\$ 109,691
2.17	Direct Embed Foundations - 7' x 27'	2	EA	\$ 3,337				\$ 40,652	
2.18	Direct Embed Foundations - 7' x 28'	1	EA	\$ 3,452	 			\$ 42,101	\$ 42,101
2.19	Direct Embed Foundations - 7' x 49'	1	EA	\$ 5,880	\$ 5,880	\$ 66,635	\$ 66,635	\$ 72,515	
									Page 3 of 60

223 Distallary 7-24 PT	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
District 1.5 Dist	2.20	Direct Embed Foundations - 7' x 61'	1	EA	\$ 7,267	\$ 7,267	\$ 82,628	\$ 82,628	\$ 89,894	\$ 89,894
2-23	2.21	Drilled Pier - 6' x 20'	54	EA	\$ 18,064	\$ 975,459	\$ 18,261	\$ 986,079	\$ 36,325	\$ 1,961,539
2.23	2.22	Drilled Pier - 7' x 19'	15	EA	\$ 23,416	\$ 351,246	\$ 23,671	\$ 355,070	\$ 47,088	\$ 706,315
2.28	2.23	Drilled Pier - 7' x 21'	12	EA	\$ 25,758	\$ 309,096	\$ 26,038	\$ 312,461	\$ 51,796	\$ 621,558
228 Orlfedere - F. a. S. 2. 2. 2. 2. 2. 2. 2.	2.24	Drilled Pier - 7' x 22'	6	EA		\$ 161,573	\$ 27,222	\$ 163,332	\$ 54,151	\$ 324,905
2.72 Outself Nor " # STY	2.26	Drilled Pier - 7' x 23'	3	EA	\$ 28,100	\$ 84,299	\$ 28,406	\$ 85,217	\$ 56,505	\$ 169,516
2.20 Orline fire ** x T	2.27	Drilled Pier - 7' x 33'	6	EA	\$ 39,808	\$ 238,847	\$ 40,241	\$ 241,447	\$ 80,049	\$ 480,295
2.0 Didded fine: "#. 197	2.28	Drilled Pier - 7' x 42'	3	EA	\$ 50,345	\$ 151,036	\$ 50,893	\$ 152,680	\$ 101,239	\$ 303,716
2.00 Didled New - 9-127 2.11 Rock Incordance Address 1,342	2.29	Drilled Pier - 8' x 27'	2	EA	\$ 42,819	\$ 85,637	\$ 57,340	\$ 114,680	\$ 100,158	\$ 200,317
2.51 Rock Priciary William Assistant (0**) - 115 1.542 CY 5 - 5 - 5 2,000 5 2,000 5 5 2,000 5 5 2,000 5 5 2,000 5 5 2,000 5 5 2,000 5 5 2,000	2.30	Drilled Pier - 8' x 29'	2	EA	\$ 45,877	\$ 91,754	\$ 61,436	\$ 122,871	\$ 107,313	\$ 214,625
STREAM	2.31	Rock Excavation Adder	1,342	CY	\$ -	\$ -	\$ 2,000	\$ 2,684,000	\$ 2,000	\$ 2,684,000
1	TOTAL - FOUN	DATIONS:				\$ 3,098,282		\$ 10,723,946		\$ 13,822,229
1.00T 365W VERTICAL MODES (1973) - 1207	3. STRUCTURE	S								
3.1 SCRT SERV VERTICAL MARKER (19-47) - 1157 10 10 Structure 5 SA275 5 174,770 5 34,954 5 194,862 5 92,220 5 5 5 5 5 5 5 5 5		1-CKT 345KV VERTICAL TANGENT (0°-1°) - 115'	7	Structure			\$ 30,014	\$ 210,101	\$ 80,038	\$ 560,269
1. CAT JASSOV VERITICAL RANGE (17-13)- 1357 10 57 Productive 5 60,888 5 80,503 5 50,503 5 50,503 5 5 50,503 5 5 50,503 5 5 5 5 5 5 5 5 5	3.2	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 120'	4	Structure	\$ 52,207	\$ 208,828	\$ 31,324	\$ 125,297	\$ 83,531	\$ 334,125
1	3.3	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 130'	3	Structure	\$ 58,257	\$ 174,770	\$ 34,954	\$ 104,862	\$ 93,210	\$ 279,631
2.6CT SHOW VERTICAL SMALL ANGELE (1-157)-1397 3 Structure 5 72,039 5 72,039 5 123,247 5 115,020 5 133,147 5 115,020 5 3.7	3.4	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 135'	10	Structure	\$ 60,884	\$ 608,835	\$ 36,530	\$ 365,301	\$ 97,414	\$ 974,136
3	3.5	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 145'	1	Structure	\$ 64,473	\$ 64,473	\$ 38,684	\$ 38,684	\$ 103,156	\$ 103,156
3.1 COT 3650 VERTICAL MOUL ANGLE (12-15)-132	3.6	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 115'	1	Structure	\$ 72,039	\$ 72,039	\$ 43,223	\$ 43,223	\$ 115,262	\$ 115,262
3.9 SCG 368/SVERTICAL MEDIUM ANGIE DEADERO (15*07)-157 1 STRUCTURE \$ 116.328 \$ 09.797 \$ 09.797 \$ 186.125 \$ 20.707 \$ 1 18.125 \$ 20.707 \$ 1 18.125 \$ 20.707 \$	3.7	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 130'	3	Structure	\$ 85,082	\$ 255,245	\$ 51,049	\$ 153,147	\$ 136,130	\$ 408,391
3.10 S.CTT ASSEV VERTICAL MEDIUM ANGEL DEADEN (15*-607) - 120* 1 Structure 5 20,833 5 20,033 5 124,820 5 312,823 312,823 312,823 312,823 312,823 312,823 312,823 312,823 312,823 312,823 312,823 312,823 312,823 312,823	3.8	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 135'	1	Structure	\$ 92,278	\$ 92,278	\$ 55,367	\$ 55,367	\$ 147,645	\$ 147,645
3.11 Cott 3450V MERICAL MEDIUM ANGEL DEADEN (15*-607) -1507 1 Structure 5 28,835 5 28,835 5 28,835 5 14,845 5 33,252 5 33,151 5 33,152 5 33,153 3	3.9	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$ 116,328	\$ 116,328	\$ 69,797	\$ 69,797	\$ 186,125	\$ 186,125
3.12 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.13 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.14 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.15 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.16 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.17 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.18 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.19 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.10 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.11 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.12 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.13 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.14 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.15 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.16 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.17 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.18 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.19 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.10 1.CCT 345FV FFRAME TANGENT (0°1-1)** 3.10 1.CCT 345FV FFRAME TANGENT (0°1-1)** 4 50 50 50 50 50 50 50	3.10	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 120'	1	Structure	\$ 127,558	\$ 127,558	\$ 76,535	\$ 76,535	\$ 204,092	\$ 204,092
3.13 1-CRT 355VV-HFRAME TANGENT (0°-17) -80° 2 Structure 5 24.776 5 14.685 5 30.911 5	3.11	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 150'	1	Structure	\$ 208,033	\$ 208,033	\$ 124,820	\$ 124,820	\$ 332,852	\$ 332,852
3.14 LCXT 345KV H-RAME TANGENT (0'-1') - 80' 169 Structure \$ 2,526 \$ 4,989,894 \$ 17,716 \$ 2,993,936 \$ 47,242 \$ 1,315 LCXT 345KV H-RAME TANGENT (0'-1') - 89' 36 Structure \$ 32,708 \$ 1,177.488 \$ 1	3.12	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 160'	1	Structure	\$ 238,595	\$ 238,595	\$ 143,157	\$ 143,157	\$ 381,751	\$ 381,751
3.15 1-CKT 345KV H-FRAME TANGENT (0'-1')-84' 169 Structure 5 22,708 5 4,989,894 17,716 5 2,993,936 5 47,242 5 1-15 1-	3.13	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 75'	1	Structure	\$ 24,476	\$ 24,476	\$ 14,685	\$ 14,685	\$ 39,161	\$ 39,161
3.16 LCKT 345KV H-FRAME TANGENT (0°-1')-89" 23 Structure S 32,00 S 1.17,488 S 1.56,25 S 706,493 S S.2,333 S 3.17 LCKT 345KV H-FRAME TANGENT (0°-1')-98" 23 Structure S 34,540 S 794,409 S 20,724 S 47,65,645 S 55,263 S 3.18 LCKT 345KV H-FRAME TANGENT (0°-1')-108" 4 Structure S 37,500 S 374,999 S 22,500 S 224,997 S 59,999 S 3.19 LCKT 345KV H-FRAME TANGENT (0°-1')-102" 4 Structure S 43,501 S 175,602 S 26,340 S 105,361 S 70,241 S 3.20 LCKT 345KV H-FRAME TANGENT (0°-1')-107" 2 Structure S 45,360 S 105,361 S 70,241 S 3.20 LCKT 345KV H-FRAME TANGENT (0°-1')-107" 2 Structure S 45,360 S 31,815 S 52,233 S 73,497 S 3.21 LCKT 345KV H-FRAME SMALL ANGE (1°-15')-80" 2 Structure S 55,241 S 110,482 S 33,145 S 66,289 S 88,386 S 3.23 LCKT 345KV H-FRAME SMALL ANGE (1°-15')-80" 2 Structure S 55,241 S 110,482 S 34,688 S 590,063 S 92,500 S 3.23 LCKT 345KV H-FRAME SMALL ANGE (1°-15')-80" 2 Structure S 61,050 S 122,100 S 36,680 S 93,670 S 97,680 S 3.23 LCKT 345KV H-FRAME SMALL ANGE (1°-15')-100" 2 Structure S 65,220 S 130,240 S 36,072 S 77,844 S 104,192 S 3.25 LCKT 345KV H-FRAME SMALL ANGE (1°-15')-100" 1 Structure S 68,635 S 68,635 S 41,181 S 109,816 S 3.25 LCKT 345KV H-FRAME SMALL ANGE (1°-15')-100" 1 Structure S 68,635 S 68,635 S 41,181 S 41,181 S 109,816 S 3.27 LCKT 345KV H-FRAME SMALL ANGE (1°-15')-100" 1 Structure S 68,635 S 68,635 S 41,181 S 41,181 S 109,816 S 3.27 LCKT 345KV H-FRAME SMALL ANGE (1°-15')-100" 1 Structure S 69,079 S 207,237 S 41,447 S 124,144 S 104,145 S	3.14	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 80'	2	Structure	\$ 25,826	\$ 51,652	\$ 15,496	\$ 30,991	\$ 41,322	\$ 82,643
3.17 1-CKT 345KV H-FRAME TANGENT (0'-1') -98' 10 Structure S 37,500 \$ 374,995 \$ 22,500 \$ 224,997 \$ 59,999 \$ \$ 3.18 1-CKT 345KV H-FRAME TANGENT (0'-1') -102' 4 Structure \$ 37,500 \$ 374,995 \$ 22,500 \$ 224,997 \$ 59,999 \$ \$ 3.19 1-CKT 345KV H-FRAME TANGENT (0'-1') -102' 4 Structure \$ 43,901 \$ 175,602 \$ 2,640 \$ 103,361 \$ 70,241 \$ 3.20 1-CKT 345KV H-FRAME TANGENT (0'-1') -102' 2 Structure \$ 45,936 \$ 91,871 \$ 27,561 \$ 55,123 \$ 73,497 \$ \$ \$ 3.21 1-CKT 345KV H-FRAME SMALL ANGE (1'-15') -80' 2 Structure \$ 55,241 \$ 110,482 \$ 33,145 \$ 60,289 \$ 8,883 \$ \$ 32,21 1-CKT 345KV H-FRAME SMALL ANGE (1'-15') -80' 2 Structure \$ 55,241 \$ 110,482 \$ 33,145 \$ 60,289 \$ 8,883 \$ \$ 32,21 1-CKT 345KV H-FRAME SMALL ANGE (1'-15') -90' 2 Structure \$ 57,813 \$ 1,098,438 \$ 34,688 \$ 659,063 \$ 92,500 \$ \$ \$ 32,20 \$ \$ \$ 32,20 \$ \$ \$ 32,20 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	3.15	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 84'	169	Structure	\$ 29,526	\$ 4,989,894	\$ 17,716	\$ 2,993,936	\$ 47,242	\$ 7,983,830
3.18 1-CKT 345KV H-FRAME TANGENT (0"-1") - 10?	3.16	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 89'	36	Structure	\$ 32,708	\$ 1,177,488	\$ 19,625	\$ 706,493	\$ 52,333	\$ 1,883,981
3.19 1-CKT 345KV H-FRAME TANGENT (0°-1") - 102" 4 Structure 5 43,901 \$ 175,602 \$ 26,340 \$ 105,361 \$ 70,241 \$ 3.20 1-CKT 345KV H-FRAME TANGENT (0°-1") - 107" 2 Structure 5 43,936 \$ 91,871 \$ 27,561 \$ 55,223 \$ 73,497 \$ 3.21 1-CKT 345KV H-FRAME SMALL ANGE (1°-15") - 80" 2 Structure 5 55,241 \$ 110,482 \$ 33,445 \$ 66,289 \$ 5 88,386 \$ 3 3.22 1-CKT 345KV H-FRAME SMALL ANGE (1°-15") - 80" 2 Structure 5 57,813 \$ 1,098,488 \$ 569,063 \$ 92,500 \$ 3.22 1-CKT 345KV H-FRAME SMALL ANGE (1°-15") - 80" 2 Structure 5 57,813 \$ 1,098,488 \$ 569,063 \$ 97,580 \$ 3.24 1-CKT 345KV H-FRAME SMALL ANGE (1°-15") - 90" 2 Structure 5 65,100 \$ 122,100 \$ 36,630 \$ 73,260 \$ 97,680 \$ 3.24 1-CKT 345KV H-FRAME SMALL ANGE (1°-15") - 90" 2 Structure 5 65,100 \$ 130,240 \$ 39,072 \$ 78,144 \$ 104,192 \$ 3.25 1-CKT 345KV H-FRAME SMALL ANGE (1°-15") - 100" 1 Structure 5 65,510 \$ 130,240 \$ 39,072 \$ 78,144 \$ 104,192 \$ 3.25 1-CKT 345KV H-FRAME SMALL ANGE (1°-15") - 100" 1 Structure 5 66,555 \$ 86,635 \$ 44,181 \$ 41,181 \$ 10,9816 \$ 3.26 1-CKT 345KV H-FRAME SMALL ANGE (1°-15") - 100" 1 Structure 5 66,555 \$ 86,635 \$ 44,181 \$ 41,181 \$ 10,9816 \$ 3.27 1-CKT 345KV H-FRAME SMALL ANGE (1°-15") - 105" 1 Structure 5 72,872 \$ 72,872 \$ 43,723 \$ 43,723 \$ 116,594 \$ 3.27 1-CKT 345KV 3-POLE TANGENT DEADEND (1°-5") - 75" 2 Structure 5 65,100 \$ 130,240 \$ 39,072 \$ 78,144 \$ 110,584 \$ 104,192 \$ 3.28 1-CKT 345KV 3-POLE TANGENT DEADEND (1°-5") - 80" 3 Structure 5 69,079 \$ 207,237 \$ 44,477 \$ 124,492 \$ 110,526 \$ 3.28 1-CKT 345KV 3-POLE TANGENT DEADEND (1°-5") - 80" 3 Structure 5 69,079 \$ 207,237 \$ 44,497 \$ 124,492 \$ 110,526 \$ 3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (1°-5") - 80" 4 Structure 5 75,739 \$ 302,956 \$ 45,443 \$ 181,774 \$ 121,182 \$ 3.30 1-CKT 345KV 3-POLE TANGENT DEADEND (1°-5") - 80" 4 Structure 5 75,739 \$ 302,956 \$ 45,443 \$ 181,774 \$ 121,182 \$ 3.30 1-CKT 345KV 3-POLE TANGENT DEADEND (1°-5") - 80" 4 Structure 5 75,739 \$ 302,956 \$ 45,443 \$ 181,774 \$ 121,182 \$ 3.33 1-CKT 345KV 3-POLE TANGENT DEADEND (1°-5") - 80" 4 Structure 5 75,739 \$ 302,956 \$ 45,443 \$ 181,774 \$ 121,182 \$ 3.33 1-CKT 3	3.17	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 93'	23	Structure	\$ 34,540	\$ 794,409	\$ 20,724	\$ 476,645	\$ 55,263	\$ 1,271,054
3.20 1-CKT 345KV H-FRAME SMALL ANGIE (1*15*) -80* 2 Structure S 5,241 S 110,482 S 33,145 S 66,289 S 88,386 S 3. 3.21 1-CKT 345KV H-FRAME SMALL ANGIE (1*15*) -80* 2 Structure S 5,241 S 110,482 S 33,145 S 66,289 S 88,386 S 3. 3.22 1-CKT 345KV H-FRAME SMALL ANGIE (1*15*) -90* 2 Structure S 61,050 S 122,100 S 36,680 S 73,260 S 97,680 S 3. 3.24 1-CKT 345KV H-FRAME SMALL ANGIE (1*15*) -90* 2 Structure S 61,050 S 122,100 S 36,680 S 73,260 S 97,680 S 3. 3.25 1-CKT 345KV H-FRAME SMALL ANGIE (1*15*) -90* 2 Structure S 61,050 S 122,100 S 36,680 S 73,260 S 97,680 S 3. 3.26 1-CKT 345KV H-FRAME SMALL ANGIE (1*15*) -90* 2 Structure S 65,120 S 130,240 S 39,072 S 78,144 S 104,192 S 3. 3.25 1-CKT 345KV H-FRAME SMALL ANGIE (1*15*) -100* 1 Structure S 66,555 S 66,555 S 41,181 S 109,816 S 3. 3.26 1-CKT 345KV H-FRAME SMALL ANGIE (1*15*) -100* 1 Structure S 66,555 S 68,555 S 41,181 S 109,816 S 3. 3.27 1-CKT 345KV H-FRAME SMALL ANGIE (1*15*) -105* 1 Structure S 72,872 S 72,872 S 43,723 S 43,723 S 116,594 S 3. 3.28 1-CKT 345KV 3-POLE TANGENT DEADEND (0*5*) -80* 3 Structure S 69,079 S 207,237 S 41,447 S 124,342 S 110,526 S 3. 3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (0*5*) -80* 4 Structure S 75,739 S 302,956 S 45,443 S 181,774 S 121,182 S 3. 3.20 1-CKT 345KV 3-POLE TANGENT DEADEND (0*5*) -80* 4 Structure S 75,739 S 302,956 S 45,443 S 181,774 S 121,182 S 3. 3.21 1-CKT 345KV 3-POLE TANGENT DEADEND (0*5*) -80* 4 Structure S 75,739 S 302,956 S 45,443 S 181,774 S 121,182 S 3. 3.21 1-CKT 345KV 3-POLE MEDIUM ANGIE DEADEND (15*60*) -90* 4 Structure S 105,802 S 634,809 S 58,442 S 58,442 S 155,844 S 3. 3.23 1-CKT 345KV 3-POLE MEDIUM ANGIE DEADEND (15*60*) -90* 1 Structure S 105,802 S 634,809 S	3.18	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 98'	10	Structure	\$ 37,500	\$ 374,995	\$ 22,500	\$ 224,997	\$ 59,999	\$ 599,992
3.21 1_CKT 345KV H-FRAME SMALL ANGLE (1'-15') - 80' 2 Structure \$ 55,241 \$ 110,482 \$ 33,145 \$ 66,289 \$ 88,386 \$ 3.22 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') - 80' 9 2 Tructure \$ 57,813 \$ 1,088,438 \$ 34,688 \$ 659,063 \$ 92,500 \$ 3.23 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') - 90' 9 2 Structure \$ 61,050 \$ 122,000 \$ 36,030 \$ 73,260 \$ 97,680 \$ 3.24 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') - 90' 9 2 Structure \$ 61,050 \$ 122,000 \$ 36,030 \$ 73,260 \$ 97,680 \$ 3.24 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') - 90' 9 2 Structure \$ 65,020 \$ 130,240 \$ 39,072 \$ 78,144 \$ 104,192 \$ 3.25 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') - 100' 1 Structure \$ 68,635 \$ 68,635 \$ 41,181 \$ 109,816 \$ 3.26 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') - 100' 1 Structure \$ 72,272 \$ 72,872 \$ 43,723 \$ 43,723 \$ 43,723 \$ 143,723 \$ 43,723 \$ 143,723 \$ 43,723 \$ 143,723 \$ 43,723 \$ 143,723 \$ 43,723 \$ 143,723 \$ 43,723 \$ 143,723 \$ 43,723 \$ 143,723 \$ 43,723 \$ 143,723 \$ 43,723 \$ 143,723 \$ 43,723 \$ 143,723 \$ 43,723 \$ 143,723 \$ 43,723 \$ 143,723 \$ 43,723 \$ 143,723 \$ 43,723 \$ 14	3.19	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 102'	4	Structure	\$ 43,901	\$ 175,602	\$ 26,340	\$ 105,361	\$ 70,241	\$ 280,963
3.22 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') - 85' 2 Structure \$ 57,813 \$ 1,098,438 \$ 34,688 \$ 659,063 \$ 92,500 \$ 3.23 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') - 90' 2 Structure \$ 61,500 \$ 122,100 \$ 36,630 \$ 73,260 \$ 97,680 \$ 9 \$ 3.24 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') - 100' 1 Structure \$ 65,120 \$ 130,240 \$ 39,072 \$ 78,144 \$ 104,192 \$ 3.25 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') - 100' 1 Structure \$ 68,635 \$ 68,635 \$ 68,635 \$ 41,181 \$ 41,181 \$ 109,816 \$ 3.26 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') - 100' 1 Structure \$ 72,872 \$ 72,872 \$ 72,872 \$ 43,723 \$ 43,723 \$ 116,594 \$ \$ 3.25 1-CKT 345KV 3-POLE TANGENT DEADEND (0'-5') - 75' 2 STRUCTURE \$ 66,512 \$ 120,005 \$ 36,000 \$ 73,815 \$ 98,420 \$ \$ 3.28 1-CKT 345KV 3-POLE TANGENT DEADEND (0'-5') - 80' 3 STRUCTURE \$ 61,513 \$ 123,005 \$ 36,000 \$ 73,815 \$ 98,420 \$ \$ 3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (0'-5') - 80' 3 STRUCTURE \$ 61,513 \$ 123,005 \$ 36,000 \$ 124,342 \$ 110,526 \$ \$ 3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (0'-5') - 80' 3 STRUCTURE \$ 61,513 \$ 123,005 \$ 36,000 \$ 124,342 \$ 110,526 \$ \$ 3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (0'-5') - 80' 3 STRUCTURE \$ 69,009 \$ 207,237 \$ 41,447 \$ 124,342 \$ 110,526 \$ \$ 3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (0'-5') - 80' 4 STRUCTURE \$ 75,739 \$ 302,956 \$ 45,443 \$ 181,774 \$ 124,182 \$ \$ 3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (0'-5') - 80' 4 STRUCTURE \$ 75,739 \$ 302,956 \$ 45,443 \$ 181,774 \$ 124,182 \$ \$ 3.30 1-CKT 345KV 3-POLE TANGENT DEADEND (0'-5') - 80' 4 STRUCTURE \$ 75,739 \$ 302,956 \$ 45,443 \$ 181,774 \$ 124,182 \$ \$ 3.30 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15'-60') - 80' 4 STRUCTURE \$ 97,403 \$ 97,403 \$ 97,403 \$ 98,402 \$ 130,388 \$ \$ 325,570 \$ 48,896 \$ 195,582 \$ 130,388 \$ \$ 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15'-60') - 80' 4 STRUCTURE \$ 17,253 \$ 70,3518 \$ 70,3518 \$ 70,3518 \$ 169,382 \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ \$ 159,382 \$ 1	3.20	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 107'	2	Structure	\$ 45,936	\$ 91,871	\$ 27,561	\$ 55,123	\$ 73,497	\$ 146,994
3.23 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') -90' 2 Structure \$ 61,050 S 122,100 \$ 36,630 \$ 73,260 \$ 97,680 \$ 3.24 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') -90' 2 Structure \$ 65,120 S 130,240 S 39,072 \$ 78,144 \$ 104,192 \$ 3.25 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') -100' 1 Structure \$ 65,120 S 130,240 S 39,072 \$ 78,144 \$ 104,192 \$ 3.25 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') -100' 1 Structure \$ 65,120 S 130,240 S 39,072 \$ 78,144 \$ 104,192 \$ 3.25 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') -100' 1 Structure \$ 68,635 S 68,635 S 41,181 S 41,181 S 109,816 \$ 3.26 1-CKT 345KV H-FRAME SMALL ANGLE (1'-15') -105' 1 Structure \$ 72,872 S 72,872 S 43,723 S 43,723 S 116,594 \$ 3.27 1-CKT 345KV 3-FOLE TANGENT DEADEND (0'-5') -75' 2 Structure \$ 61,513 S 123,025 S 36,908 S 73,815 S 98,420 \$ 3.28 1-CKT 345KV 3-POLE TANGENT DEADEND (0'-5') -80' 3 Structure \$ 69,079 \$ 207,237 S 41,447 \$ 124,342 S 110,526 \$ 3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (0'-5') -85' 4 Structure \$ 75,739 S 302,956 S 45,443 S 181,774 S 121,182 \$ 3.30 1-CKT 345KV 3-POLE TANGENT DEADEND (0'-5') -90' 4 Structure \$ 81,493 S 325,970 S 48,896 S 195,582 S 130,388 \$ 3.31 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15'-60') -80' 1 Structure \$ 105,802 S 63,480 S 63,481 S 380,885 S 169,822 S 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15'-60') -95' 1 Structure \$ 117,253 S 703,518 S 70,352 S 422,111 S 187,605 S 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15'-60') -95' 1 Structure \$ 117,253 S 703,518 S 70,352 S 422,111 S 187,605 S 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15'-60') -95' 1 Structure \$ 117,253 S 703,518 S 70,352 S 422,111 S 187,605 S 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15'-60') -95' 1 STRUCTURE \$ 117,253 S 703,518 S 70,352 S 422,111 S 187,605 S 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15'-60') -95' 1 STRUCTURE \$ 117,253 S 703,518 S 70,352 S 422,111 S 187,605 S 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15'-60') -95' 1 STRUCTURE \$ 117,253 S 703,518 S 70,352 S 422,111 S 187,605 S 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15'-60')	3.21	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 80'	2	Structure	\$ 55,241	\$ 110,482	\$ 33,145	\$ 66,289	\$ 88,386	\$ 176,771
3.24 1-CKT 345KV H-FRAME SMALL ANGLE (1*-15") - 95" 2 Structure \$ 65,120 \$ 130,240 \$ 39,072 \$ 78,144 \$ 104,192 \$ 3.25	3.22	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 85'	19	Structure	\$ 57,813	\$ 1,098,438	\$ 34,688	\$ 659,063	\$ 92,500	\$ 1,757,500
3.24 1-CKT 345KV H-FRAME SMALL ANGLE (1*-15*) - 95* 2 Structure \$ 65,120 \$ 130,240 \$ 39,072 \$ 78,144 \$ 104,192 \$ 3.25 1-CKT 345KV H-FRAME SMALL ANGLE (1*-15*) - 100* 1 Structure \$ 68,635 \$ 68,635 \$ 41,181 \$ 41,181 \$ 109,816 \$ 3.26 1-CKT 345KV H-FRAME SMALL ANGLE (1*-15*) - 105* 1 Structure \$ 72,872 \$ 72,872 \$ 43,723 \$ 43,723 \$ 116,594 \$ 3.27 1-CKT 345KV 3-POLE TANGENT DEADEND (0*-5*) - 57* 2 Structure \$ 61,513 \$ 123,025 \$ 36,908 \$ 73,815 \$ 98,420 \$ 3.28 1-CKT 345KV 3-POLE TANGENT DEADEND (0*-5*) - 80* 3 Structure \$ 69,079 \$ 207,237 \$ 41,447 \$ 124,342 \$ 110,526 \$ 3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (0*-5*) - 80* 3 Structure \$ 69,079 \$ 207,237 \$ 41,447 \$ 124,342 \$ 110,526 \$ 3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (0*-5*) - 80* 4 Structure \$ 75,739 \$ 302,956 \$ 45,443 \$ 181,774 \$ 121,182 \$ 3.30 1-CKT 345KV 3-POLE TANGENT DEADEND (0*-5*) - 80* 4 Structure \$ 81,493 \$ 325,970 \$ 48,896 \$ 195,582 \$ 130,388 \$ 3.31 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 80* 1 Structure \$ 97,403 \$ 97,403 \$ 58,442 \$ 58,442 \$ 155,844 \$ 3.32 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 80* 6 Structure \$ 105,802 \$ 634,809 \$ 63,481 \$ 380,885 \$ 169,282 \$ 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 105,802 \$ 634,809 \$ 63,481 \$ 380,885 \$ 169,282 \$ 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 117,253 \$ 703,518 \$ 70,5518 \$ 70,5518 \$ 70,5518 \$ 70,552 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 129,408 \$ 178,026 \$ 106,815 \$ 70,552 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 129,408 \$ 178,026 \$ 106,815 \$ 70,552 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 129,408 \$ 178,026 \$ 106,815 \$ 70,552 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 178,026 \$ 178,026 \$ 106,815 \$ 70,552 \$ 284,841 \$ 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 178,0	3.23	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 90'	2	Structure	\$ 61,050	\$ 122,100	\$ 36,630	\$ 73,260	\$ 97,680	\$ 195,360
3.26 1-CKT 345KV H-FRAME SMALL ANGLE (1*-15*) - 105* 1 Structure \$ 72,872 \$ 72,872 \$ 43,723 \$ 43,723 \$ 116,594 \$ 3.27 1-CKT 345KV 3-POLE TANGENT DEADEND (0*-5*) - 80* 2 Structure \$ 61,513 \$ 123,025 \$ 36,908 \$ 73,815 \$ 98,420 \$ 3.28 1-CKT 345KV 3-POLE TANGENT DEADEND (0*-5*) - 80* 3 Structure \$ 69,079 \$ 207,237 \$ 41,447 \$ 124,342 \$ 110,526 \$ 3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (0*-5*) - 80* 4 Structure \$ 75,739 \$ 302,956 \$ 45,443 \$ 181,774 \$ 121,182 \$ 3.30 1-CKT 345KV 3-POLE TANGENT DEADEND (0*-5*) - 90* 4 Structure \$ 81,493 \$ 325,970 \$ 48,896 \$ 195,582 \$ 130,388 \$ 3.31 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 80* 1 Structure \$ 97,403 \$ 97,403 \$ 58,442 \$ 58,442 \$ 155,844 \$ 3.32 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 105,802 \$ 634,809 \$ 63,481 \$ 380,885 \$ 169,282 \$ 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 117,253 \$ 703,518 \$ 70,352 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 117,253 \$ 703,518 \$ 70,352 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 117,253 \$ 703,518 \$ 70,352 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 117,253 \$ 703,518 \$ 70,352 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 117,253 \$ 703,518 \$ 70,352 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 117,253 \$ 703,518 \$ 70,552 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 117,253 \$ 703,518 \$ 70,552 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 117,253 \$ 703,518 \$ 70,552 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15*-60*) - 90* 6 Structure \$ 117,253 \$ 70,500 \$ 77,645 \$ 77,645 \$ 77,645 \$ 77,645 \$ 77,645 \$ 77,645 \$ 77,645 \$ 77,645 \$ 77,645 \$ 77,645 \$ 77,645 \$ 77,645 \$ 77,645 \$ 77,645 \$ 77,645 \$ 77,64	3.24		2	Structure	\$ 65,120	\$ 130,240	\$ 39,072	\$ 78,144	\$ 104,192	\$ 208,384
3.26 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 50° 2 Structure \$ 72,872 \$ 72,872 \$ 43,723 \$ 43,723 \$ 116,594 \$ 3.27 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 80° 3 Structure \$ 61,513 \$ 123,025 \$ 36,908 \$ 73,815 \$ 98,420 \$ 3.28 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 80° 3 Structure \$ 69,079 \$ 207,237 \$ 41,447 \$ 124,342 \$ 110,526 \$ 3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 80° 4 Structure \$ 75,739 \$ 302,956 \$ 45,443 \$ 181,774 \$ 121,182 \$ 3.30 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 80° 4 Structure \$ 81,493 \$ 325,970 \$ 48,896 \$ 195,582 \$ 130,388 \$ 3.31 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 80° 1 Structure \$ 97,403 \$ 97,403 \$ 98,442 \$ 58,442 \$ 155,844 \$ 3.32 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 80° 6 Structure \$ 105,802 \$ 634,809 \$ 63,481 \$ 380,885 \$ 169,282 \$ 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90° 6 Structure \$ 117,253 \$ 703,518 \$ 70,352 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90° 6 Structure \$ 117,253 \$ 703,518 \$ 70,352 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90° 6 Structure \$ 117,253 \$ 703,518 \$ 70,352 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90° 6 Structure \$ 117,253 \$ 703,518 \$ 70,352 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90° 6 Structure \$ 117,253 \$ 703,518 \$ 77,645 \$ 77,645 \$ 207,052 \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90° 6 Structure \$ 129,408 \$ 129,408 \$ 77,645 \$ 77,645 \$ 207,052 \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90° 6 STructure \$ 129,408 \$ 129,408 \$ 77,645 \$ 77,645 \$ 207,052 \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90° 6 STructure \$ 129,408 \$ 129,408 \$ 77,645 \$ 77,645 \$ 207,052 \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90° 6 STructure \$ 129,408 \$ 129,408 \$ 77,645 \$ 77,645 \$ 207,052 \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90° 6 STructure \$ 129,408 \$ 129,408 \$ 77,645 \$ 77,645 \$ 2								·		
3.27 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 75° 2 Structure \$ 61,513 \$ 123,025 \$ 36,908 \$ 73,815 \$ 98,420 \$ 3.28 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 80° 3 Structure \$ 69,079 \$ 207,237 \$ 41,447 \$ 124,342 \$ 110,526 \$ 3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 85° 4 Structure \$ 75,739 \$ 302,956 \$ 45,443 \$ 181,774 \$ 124,342 \$ 110,526 \$ 3.30 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 80° 4 Structure \$ 81,493 \$ 325,970 \$ 48,896 \$ 195,582 \$ 130,388 \$ 3.31 1-CKT 345KV 3-POLE TANGENT DEADEND (15°-60°) - 80° 1 Structure \$ 97,403 \$ 97,403 \$ 58,442 \$ 58,442 \$ 155,844 \$ 3.32 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 85° 6 Structure \$ 105,802 \$ 634,809 \$ 63,481 \$ 380,885 \$ 169,282 \$ 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90° 6 Structure \$ 117,253 \$ 703,518 \$ 70,352 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 95° 1 Structure \$ 129,408 \$ 129,408 \$ 77,645 \$ 77,645 \$ 207,052 \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 95° 1 Structure \$ 129,408 \$ 129,408 \$ 77,645 \$ 77,645 \$ 207,052 \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115° 1 Structure \$ 129,408 \$ 129,408 \$ 77,645 \$ 77,645 \$ 207,052 \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115° 1 Structure \$ 129,408 \$ 129,408 \$ 77,645 \$ 77,645 \$ 207,052 \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115° 1 Structure \$ 129,408 \$ 129,408 \$ 77,645 \$ 77,645 \$ 207,052 \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115° 1 Structure \$ 129,408 \$ 129,408 \$ 77,645 \$ 207,052 \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115° 1 Structure \$ 129,408 \$ 1	3.26	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 105'	1	Structure	\$ 72,872	\$ 72,872	\$ 43,723	\$ 43,723	\$ 116,594	\$ 116,594
3.28 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 80° 3 Structure \$ 69,079 \$ 207,237 \$ 41,447 \$ 124,342 \$ 110,526 \$ 3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 85° 4 Structure \$ 75,739 \$ 302,956 \$ 45,443 \$ 181,774 \$ 121,182 \$ 3.30 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 80° 4 Structure \$ 81,493 \$ 325,970 \$ 48,896 \$ 195,582 \$ 130,388 \$ 3.31 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 80° 4 Structure \$ 97,403 \$ 97,	3.27		2	Structure	\$ 61,513	\$ 123,025	\$ 36,908	\$ 73,815	\$ 98,420	\$ 196,840
3.29 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 85' 3.30 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 90' 4 Structure \$ 81,493 \$ 325,970 \$ 48,896 \$ 195,582 \$ 130,388 \$ 3.31 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 80' 1 Structure \$ 97,403 \$ 97,403 \$ 58,442 \$ 58,442 \$ 155,844 \$ 3.32 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 85' 6 Structure \$ 105,802 \$ 634,809 \$ 63,481 \$ 380,885 \$ 169,282 \$ 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 95' 1 Structure \$ 117,233 \$ 703,518 \$ 703,518 \$ 70,352 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 95' 1 Structure \$ 117,2408 \$ 129,408 \$ 77,645 \$ 77,645 \$ 207,052 \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115' 1 Structure \$ 178,026 \$ 178,026 \$ 106,815 \$ 106,815 \$ 284,841 \$ 3.36 Remove Existing Foundation 50 EA \$ - \$ - \$ 7,500 \$ 375,000 \$ 7,500 \$ 3.37 Remove Existing Structure and Accessories 994 EA \$ - \$ - \$ 5 5,539 \$ 3,688,641 \$ 6,045 \$ 1.54 CONDUCTOR, SHIELDWIRE, OPGW								·		
3.30 1-CKT 345KV 3-POLE TANGENT DEADEND (10°-5°) - 90' 4 Structure \$ 81,493 \$ 325,970 \$ 48,896 \$ 195,582 \$ 130,388 \$ \$ 3.31 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 80' 1 Structure \$ 97,403 \$ 97,403 \$ 58,442 \$ 58,442 \$ 155,844 \$ 3.32 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 85' 6 Structure \$ 105,802 \$ 634,809 \$ 63,481 \$ 380,885 \$ 169,282 \$ \$ 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90' 6 Structure \$ 117,253 \$ 703,518 \$ 703,518 \$ 70,352 \$ 422,111 \$ 187,605 \$ \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 95' 1 Structure \$ 129,408 \$ 77,645 \$ 77,645 \$ 207,052 \$ \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115' 1 Structure \$ 178,026 \$ 178,026 \$ 106,815 \$ 106,815 \$ 284,841 \$ \$ 3.36 Remove Existing Foundation \$ 50 EA \$ - \$ - \$ - \$ \$ 7,500 \$ 375,000 \$ 7,500 \$ \$ 3.37 Remove Existing Structure and Accessories \$ 994 EA \$ - \$ - \$ - \$ \$ 12,500 \$ 12,425,000 \$ 12,425,000 \$ \$ 12,500 \$ \$ 106,815		1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 85'								
3.31 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 80°	3.30		4	Structure	\$ 81,493	\$ 325,970	\$ 48,896	\$ 195,582	\$ 130,388	\$ 521,552
3.32 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 85' 6 Structure \$ 105,802 \$ 634,809 \$ 634,809 \$ 634,81 \$ 380,885 \$ 169,282 \$ 3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90' 6 Structure \$ 117,253 \$ 703,518 \$ 70,352 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 95' 1 Structure \$ 129,408 \$ 129,408 \$ 77,645 \$ 77,645 \$ 207,052 \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115' 1 Structure \$ 178,026 \$ 178,026 \$ 106,815 \$ 106,815 \$ 284,841 \$ 3.36 Remove Existing Foundation \$ 50 EA \$ - \$ - \$ 7,500 \$ 375,000 \$ 7,500 \$ 3.37 Remove Existing Structure and Accessories \$ 994 EA \$ - \$ - \$ 12,500 \$ 12,425,000 \$ 12,425,000 \$ 12,500 \$ 13,38 Install Grounding and Grounding Accessories \$ 666 Pole \$ 506 \$ 336,996 \$ 5,539 \$ 3,688,641 \$ 6,045 \$ 100,40			1							\$ 155,844
3.33 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90' 6 Structure \$ 117,253 \$ 703,518 \$ 70,352 \$ 422,111 \$ 187,605 \$ 3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 95' 1 Structure \$ 129,408 \$ 129,408 \$ 77,645 \$ 77,645 \$ 207,052 \$ 3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115' 1 Structure \$ 178,026 \$ 178,026 \$ 106,815 \$ 106,815 \$ 284,841 \$ 3.36 Remove Existing Foundation 50 EA \$ - \$ - \$ 7,500 \$ 375,000 \$ 7,500 \$ 333,000 \$ 7,500 \$ 333,000 \$ 7,500 \$ 333,000 \$ 12,425,000 \$ 12,425,000 \$ 12,500 \$ 12,500 \$ 12,500 \$ 12,500 \$ 12,500 \$ 12,500 \$ 106,815 \$ 106	3.32	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 85'	6	Structure	\$ 105,802	\$ 634,809	\$ 63,481	\$ 380,885	\$ 169,282	\$ 1,015,694
3.34 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 95'	3.33		6	Structure	\$ 117,253	\$ 703,518	\$ 70,352	\$ 422,111	\$ 187,605	\$ 1,125,629
3.35 1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115' 1 Structure \$ 178,026 \$ 178,026 \$ 106,815 \$ 284,841 \$ 3.36 Remove Existing Foundation 50 EA \$ - \$ - \$ 7,500 \$ 375,000 \$ 7,500 \$ 3.37 Remove Existing Structure and Accessories 994 EA \$ - \$ - \$ 12,500 \$ 12,425,000 \$ 12,425,000 \$ 12,500 \$ 13.38 Install Grounding and Grounding Accessories 666 Pole \$ 506 \$ 336,996 \$ 5,539 \$ 3,688,641 \$ 6,045 \$ 100.000 \$ 100	3.34		1	Structure			\$ 77,645	\$ 77,645	\$ 207,052	\$ 207,052
3.36 Remove Existing Foundation 50 EA \$ - \$ - \$ 7,500 \$ 375,000 \$ 7,500 \$ 375,000 \$ 12,425,000 \$ 12,50	3.35	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure						
3.38 Install Grounding and Grounding Accessories 666 Pole \$ 506 \$ 336,996 \$ 5,539 \$ 3,688,641 \$ 6,045 \$ TOTAL - STRUCTURES: 4. CONDUCTOR, SHIELDWIRE, OPGW \$ 14,839,646 \$ 25,190,231 \$ 4 \$ 4					\$ -					
TOTAL - STRUCTURES: \$ 14,839,646 \$ 25,190,231 \$ 4 4. CONDUCTOR, SHIELDWIRE, OPGW \$ 0	3.37	Remove Existing Structure and Accessories	994	EA	\$ -	\$ -	\$ 12,500	\$ 12,425,000	\$ 12,500	\$ 12,425,000
4. CONDUCTOR, SHIELDWIRE, OPGW			666	Pole	\$ 506	\$ 336,996	\$ 5,539	\$ 3,688,641	\$ 6,045	\$ 4,025,637
	TOTAL - STRUC	CTURES:				\$ 14,839,646		\$ 25,190,231		\$ 40,029,876
4.1 345kV - (1) 954kcmil 54/7 ACSS "Cardinal" (Edic to 12.6 Miles) 2.228.688 LF 5 1.90 5 4.234.507 5 5.00 5 11.143.440 5 6.90 6 1	4. CONDUCTO	R, SHIELDWIRE, OPGW								
	4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal" (Edic to 12.6 Miles)	2,228,688	LF	\$ 1.90	\$ 4,234,507	\$ 5.00	\$ 11,143,440	\$ 6.90	\$ 15,377,947

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rat	te	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL	
4.2	(1) OPGW 36 Fiber AC-33/38/571 (Edic to 12.6 Miles)	301,594	LF	\$ 1.3	35	\$ 407,152	\$ 5.00	\$ 1,507,970) \$ 6.35	\$ 1,	1,915,122
4.3	(1) 3/8" EHS7 Steel (Edic to 12.6 Miles)	271,656	LF		\rightarrow	\$ 127,678		\$ 1,358,280	_		1,485,958
4.4	(7.7)	,,,,,		,		, ,,,,,	,	,,,,,,,	1		,,
4.5											
4.6					_						
4.7	Remove Existing Conductor and Accessories	121.0	Mile	Ś .	-	\$ -	\$ 30,000	\$ 3,630,000	\$ 30,000.00	\$ 3.	3,630,000
4.8	Remove Existing OPGW and Accessories	108.4	Mile	· · · · · · · · · · · · · · · · · · ·	-	-	\$ 12,000	\$ 1,300,800			1,300,800
4.9	-	108.4	Mile		\rightarrow		·	\$ 1,300,800			1,300,800
	Remove Existing OHSW and Accessories	108.4	iville	\$	-	\$ -	\$ 12,000	\$ 1,500,600	3 12,000.00	\$ 1,	,,500,600
4.10					\dashv						
4.11					-						
4.12					_						
4.13	Rider Poles (187 Locations)	93	Set		50		\$ 3,500			-	488,250
4.14	Rider Poles - Relocated	94	Set	\$.	\rightarrow	т	\$ 3,500	\$ 329,000		-	329,000
TOTAL: COND	DUCTOR, SHIELDWIRE, OPGW:					\$ 4,932,087		\$ 20,895,790)	\$ 25,	5,827,877
	R, FITTINGS, HARDWARE										
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	1,276	Assembly	\$ 1,80	00	\$ 2,296,800	\$ 720	\$ 918,720	\$ 2,520	\$ 3,	3,215,520
5.2	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	480	Assembly	\$ 1,80	00	\$ 864,000	\$ 720	\$ 345,600	\$ 2,520	\$ 1,	1,209,600
5.3			Assembly			\$ -		\$ -	\$ -	\$	-
5.4	OPGW Assembly - Tangent	304	Assembly	\$ 20	00	\$ 60,800	\$ 150	\$ 45,600	\$ 350	\$	106,400
5.5	OPGW Assembly - Angle / DE	64	Assembly	\$ 25	50	\$ 16,000	\$ 150	\$ 9,600	\$ 400	\$	25,600
5.6	OHSW Assembly - Tangent	274	Assembly	\$ 20	00	\$ 54,800	\$ 150	\$ 41,100	\$ 350	\$	95,900
5.7	OHSW Assembly - Angle / DE	56	Assembly	_	\rightarrow	\$ 14,000	\$ 150	\$ 8,400	_	Ś	22,400
5.8	OPGW Splice Boxes	27	Assembly	\$ 1,74	-	\$ 47,146	\$ 2,274	\$ 61,398		Ś	108,544
5.9	OPGW Splice & Test	27	EA	\$ 2,52	\rightarrow	\$ 68,040	\$ 2,520	\$ 68,040		-	136,080
5.10	Spacer - Conductor	5,244	EA		\rightarrow	\$ 262,200	\$ 35	\$ 183,540		-	445,740
5.11	Vibration Dampers - Conductor	4,164	EA		-	\$ 145,740	\$ 35	\$ 145,740			291,480
5.12	·	1,087	EA		27		\$ 35		_	\$	67,394
	Shield wire / OPGW Dampers, Misc. Fittings				-						
5.13	Replace - Mono Pole Vertical Tangent (1-Group of 18-Bells Each Assembly)	480	Assembly	\$ 1,80	-	\$ 864,000	\$ 720	\$ 345,600			1,209,600
5.14	Replace - Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	195	Assembly	\$ 1,80	\rightarrow	7,	\$ 720	\$ 140,400			491,400
5.15	Guys, Anchors, and Accessories	-	EA	\$ 91	-	\$ -	\$ 1,058	\$ -	\$ 1,970	\$	-
5.16	Misc. materials (Signs and Markers)	66.8	Mile	\$ 77	-	\$ 51,436	\$ 1,006	\$ 67,203			118,637
TOTAL - INSU	ILATORS, FITTINGS, HARDWARE:					\$ 5,125,311		\$ 2,418,984	1	\$ 7,	7,544,295
A. Trans	smission Line Edic to Princetown					\$ 28,036,826		\$ 94,909,827	,	\$ 122,	2,946,653
	IOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
o. Wiody DEW	Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	\$ -	-	\$ -	\$ 1,229,467	\$ 1,229,467	\$ 1,229,467	ė 1	1,229,467
0.1		1	LS	\$ -	-	\$ -	\$ 1,229,467	\$ 1,229,40	3 1,229,467	\$ 1,	.,229,467
6.2	Project Management, Material Handling & Amenities Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 6,597,194	\$ 6,597,194	\$ 6,597,194	\$ 6,	5,597,194
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 1,229,467	\$ 1,229,467	\$ 1,229,467	\$ 1,	1,229,467
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -		\$ -	\$ 1,229,467	\$ 1,229,467	\$ 1,229,467	\$ 1,	1,229,467
	Engineering				T						
6.5	Design Engineering	1	LS	\$ -	寸	\$ -	\$ 6,147,333	\$ 6,147,333	\$ \$ 6,147,333	\$ 6,	5,147,333
6.6	Lidar	1	LS	\$ -	寸	\$ -	\$ 368,840	\$ 368,840			368,840
6.7	Geotech	67	Location	\$ -	-		\$ 3,500	\$ 234,500			234,500
6.8	Surveying/Staking	1	LS	\$ -	_		\$ 860,627	·			860,627
	Testing & Commissioning	-		1	\dashv	•	,32,		1 223,027		
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\dashv	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	4	40,000
0.5	Permitting and Additional Costs	1	LJ	-	\dashv	-	÷ 40,000	40,000	40,000	7	-0,000
C 10			16	+	\dashv	ć	ć	ć	<u> </u>	6	
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	-			\$ -	•	\$	-
6.11	Environmental Mitigation	-	LS	\$ -	-		\$ -	\$ -	\$ -	\$	-
6.12	Warranties / LOC's	1	LS	\$ -			\$ 368,840				368,840
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	-		\$ -	\$ -	\$ -	\$	
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -		\$ -	\$ 8,640,000	\$ 8,640,000	\$ 8,640,000	\$ 8,	3,640,000

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Materia	ial Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
6.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.17	Compensation for use of 1 Ckt - NYPA Structures (92 Structures)	1	LS	\$ -	\$	-	\$ 8,919,123	\$ 8,919,123	\$ 8,919,123	\$ 8,919,123
6.18	Sales Tax on Materials	1	LS	\$ 2,242,946	\$	2,242,946	\$ -	\$ -	\$ 2,242,946	\$ 2,242,946
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 122,947	\$ 122,947	\$ 122,947	\$ 122,947
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	2,242,946		\$ 35,987,803		\$ 38,230,749

Page 6 of 60

A. TL Edic-Princetown

B. Transmission Line Princetown to Rotterdam

Estimate Revision:

7

Total: \$ 25,079,704

NAT & NYPA - T026 - (Segment A	A, Base)				
		Supply	Installation	Total	
B. Transmission Line Princetown to Rotterdam					
1. CLEARING & ACCESS	\$	6,000	\$ 3,038,200	\$ 3,044,200	
2. FOUNDATIONS	\$	417,002	\$ 3,778,708	\$ 4,195,711	
3. STRUCTURES	\$	3,876,135	\$ 4,280,943	\$ 8,157,078	
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	722,365	\$ 2,620,705	\$ 3,343,070	
5. INSULATORS, FITTINGS, HARDWARE	\$	1,199,031	\$ 549,192	\$ 1,748,223	
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	497,643	\$ 4,093,779	\$ 4,591,422	
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -	
SUBTOTAL:	\$	6,718,177	\$ 18,361,527	\$ 25,079,704	
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -	
TOTAL:	\$	6,718,177	\$ 18,361,527	\$ 25,079,704	

0.0%

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
B. Trans	mission Line Princetown to Rotterdam								
1. CLEARING 8	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	24.0	Acre	\$ -	\$ -	\$ 5,000	\$ 120,000	,	
1.3	Access Road	5,280	LF	\$ -	\$ -	\$ 45			
1.4	Silt Fence	26,400	LF	\$ -	\$ -	\$ 4			
1.5	Matting - Access and ROW	21,120	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	2,775	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	5	Mile	\$ -	\$ -	\$ 16,000			
1.8	ROW Restoration	5	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	185,000	SF	\$ -	\$ -		\$ 651,200		,
1.10	Restoration for Work Pad areas	37,000	SF	\$ -	\$ -	\$ 0.2			
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	•	\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance	10	EA	\$ -	\$ -	\$ 4,580			
1.14	Maintenance and Protection of Traffic on Public Roads	10	EA	\$ - \$ 2.000	\$ -	\$ 4,130			
1.15	Gates	- 8	EA EA	\$ 2,000 \$ 750	\$ -	2,500		\$ 4,500 \$ 2,000	
1.16 1.17	Culverts / Misc. Access Concrete Washout Station	10	EA EA	\$ 750	\$ 6,000	\$ 1,250			
	RING & ACCESS:	10	EA	\$ -	\$ 6,000	\$ 1,850	\$ 18,500	\$ 1,850	\$ 18,500
2. FOUNDATIO					\$ 6,000		\$ 3,038,200		\$ 3,044,200
2.1	Direct Embed Foundations - 6' x 18'	56	EA	\$ 1,857	\$ 104,018	\$ 18,603	\$ 1,041,794	\$ 20,461	\$ 1,145,812
2.2	Direct Embed Foundations - 6' x 20'	4	EA	\$ 2,046	\$ 8,185	\$ 20,562			
2.3	Direct Embed Foundations - 6' x 22'	8	EA	\$ 2,235	\$ 17,880	\$ 22,520			
2.4	Direct Embed Foundations - 7' x 25'	4	EA	\$ 3,105	\$ 12,422				
2.5	Drilled Pier - 6' x 19'	6	EA	\$ 17,204	\$ 103,223	\$ 17,391	\$ 104,347		\$ 207,570
2.6	Drilled Pier - 8' x 27'	4	EA	\$ 42,819	\$ 171,274	\$ 57,340	\$ 229,359	\$ 100,158	\$ 400,633
2.7	Rock Excavation Adder	1,001.1	CY	\$ -	\$ -	\$ 2,000	\$ 2,002,200	\$ 2,000	\$ 2,002,200
TOTAL - FOUN	DATIONS:				\$ 417,002		\$ 3,778,708		\$ 4,195,711
3. STRUCTURE	S								
3.1	2x 1-CKT 345KV DELTA TANGENT (0°-1°) - 115'	24	Structure	\$ 85,544	\$ 2,053,056	\$ 51,326	\$ 1,231,834	\$ 136,870	\$ 3,284,890
3.2	2x 1-CKT 345KV DELTA TANGENT (0°-1°) - 135'	2	Structure	\$ 106,005	\$ 212,010	\$ 63,603	\$ 127,206	\$ 169,608	\$ 339,216
3.3	2x 1-CKT 345KV DELTA SMALL ANGLE (1°-15°) - 115'	2	Structure	\$ 141,673	\$ 283,346	\$ 85,004	\$ 170,008		
3.4	2x 1-CKT 345KV VERTICAL TANGENT DEADEND (0°-5°) - 115'	4	Structure	\$ 109,816	\$ 439,264	\$ 65,890			· · · · · · · · · · · · · · · · · · ·
3.5	2x 1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (0 -5) - 115'	2	Structure	\$ 232,656	\$ 465,312	\$ 139,594	\$ 279,187		
3.6	2x 1-CKT 345KV VERTICAL MIEDIOM ANGLE DEADEND (13 -00) - 115	1	Structure	\$ 176,342	\$ 176,342	\$ 105,805	\$ 105,805		
	` '			T -: -/- :-	, ,				
3.7	2x 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 65′	1	Structure	ŷ 33,138	\$ 99,493	ÿ 55,050			
3.8	2x 1-CKT 345KV DELTA TANGENT (0°-1°) HD- 115′	1	Structure	\$ 105,820	\$ 105,820	\$ 63,492	\$ 63,492	\$ 169,312	\$ 169,312

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.9	Remove Existing Foundation	22	EA	\$	-	\$ -	\$ 7,500	\$ 163,500	\$ 7,500	\$ 163,500
3.10	Remove Existing Structure and Accessories	109	EA	\$	-	\$ -	\$ 12,500	\$ 1,362,500	\$ 12,500	\$ 1,362,500
3.11	Install Grounding and Grounding Accessories	82	Pole	\$	506	\$ 41,492	\$ 5,539	\$ 454,157	\$ 6,045	\$ 495,649
	CTURES PRINCTOWN TO NEW SCOTLAND:					\$ 3,876,135		\$ 4,280,943		\$ 8,157,078
4. CONDUCTO	DR, SHIELDWIRE, OPGW									
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal" (R1 - R36)	339,293	LF	\$	1.90	\$ 644,657	\$ 5.00	\$ 1,696,465	\$ 6.90	\$ 2,341,122
4.2	(1) OPGW 36 Fiber AC-33/38/571 (R1 - R36)	28,274	LF	\$	1.35	\$ 38,170	\$ 5.00	\$ 141,370	\$ 6.35	\$ 179,540
4.3	(1) 3/8" EHS7 Steel (R1 - R36)	28,274	LF	\$	0.47	\$ 13,289	\$ 5.00	\$ 141,370	\$ 5.47	\$ 154,659
4.5	Remove Existing Conductor and Accessories	10.0	Mile	\$	-	\$ -	\$ 30,000	\$ 300,000	\$ 30,000.00	\$ 300,000
4.6	Remove Existing OPGW and Accessories	10.0	Mile	\$	-	\$ -	\$ 12,000	\$ 120,000	\$ 12,000.00	\$ 120,000
4.7	Remove Existing OHSW and Accessories	10.0	Mile	\$	-	\$ -	\$ 12,000	\$ 120,000	\$ 12,000.00	\$ 120,000
4.8	Rider Poles	15	EA	Ś	1,750		\$ 3,500	\$ 52,500		\$ 78,750
4.9	Rider Poles - Relocated	14	Set	Ś		\$ -	\$ 3,500	\$ 49,000		\$ 49,000
	UCTOR, SHIELDWIRE, OPGW:	14	Jet	۶	-	\$ 722,365	\$ 3,500	\$ 2,620,705	\$ 3,300.00	\$ 3,343,070
	R, FITTINGS, HARDWARE					\$ 722,303		\$ 2,020,703		3 3,343,070
		240	Assambly	<u></u>	1 800	¢ 626.400	¢ 720	¢ 250.560	ć 2.520	¢ 976.060
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	348	Assembly	\$	-,	\$ 626,400	\$ 720	\$ 250,560		\$ 876,960
5.2	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	240	Assembly	\$	1,800	\$ 432,000	\$ 720	\$ 172,800	·	\$ 604,800
5.3	OPGW Assembly - Tangent	29	Assembly	\$	200	\$ 5,800	\$ 150	\$ 4,350	·	\$ 10,150
5.4	OPGW Assembly - Angle / DE	16	Assembly	\$	250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.5	OHSW Assembly - Tangent	29	Assembly	\$	200	\$ 5,800	\$ 150	\$ 4,350	\$ 350	\$ 10,150
5.6	OHSW Assembly - Angle / DE	16	Assembly	\$	250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.7	OPGW Splice Boxes	8	Assembly	\$	1,746	\$ 13,969	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161
5.8	OPGW Splice & Test	8	EA	\$	2,520		\$ 2,520	\$ 20,160		\$ 40,320
5.9	Spacer - Conductor	1,002	EA	Ś	50		\$ 35	\$ 35,070		\$ 85,170
5.10		852	EA	Ś	35	· · · · · · · · · · · · · · · · · · ·	\$ 35	\$ 29,820		\$ 59,640
	Vibration Dampers - Conductor							,		
5.11	Shieldwire / OPGW Dampers, Misc. Fittings	116	EA	\$	27		\$ 35	\$ 4,060		\$ 7,192
5.12	Guys, Anchors, and Accessories	-	EA	\$		\$ -	\$ 1,058	\$ -	. ,	\$ -
5.13	Misc. materials (Signs and Markers)	5.0	Mile	\$	770		\$ 1,006	\$ 5,030	\$ 1,776	\$ 8,880
TOTAL - INSU	LATORS, FITTINGS, HARDWARE:					\$ 1,199,031		\$ 549,192		\$ 1,748,223
	mission Line Princetown to Rotterdam					\$ 6,220,534		\$ 14,267,748		\$ 20,488,282
6. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
	Contractor Mobilization / Demobilization		1.0	-		ć	ć 204.002	ć 204.002	ć 204.002	ć 204.002
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 204,883	\$ 204,883	\$ 204,883	\$ 204,883
6.2	Project Management, Material Handling & Amenities Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost	1	16				\$ 1.099.381	ć 1,000,381	ć 1,000,391	ć 1,000,391
6.2	Manager, SHEQ Staff, and Admin Staff)		LS				\$ 1,099,381	\$ 1,099,381	\$ 1,099,381	\$ 1,099,381
6.3	Utility PM and Project Oversite	1	LS	+		\$ -	\$ 204,883	\$ 204,883	\$ 204,883	\$ 204,883
6.4	Site Accommodation, Facilities, Storage	1	LS	Ś	-	\$ -	\$ 204,883	\$ 204,883		\$ 204,883
	Engineering	1		+*-		•	. 20.,303	. 20.,505	. 20.,000	. 20.,000
6.5	Design Engineering	1	LS	Ś	-	\$ -	\$ 1,024,414	\$ 1,024,414	\$ 1,024,414	\$ 1,024,414
6.6	LiDAR	1	LS	Ś	-	\$ -	\$ 61,465	\$ 61,465		\$ 61,465
6.7	Geotech	5	Location	Ś	-	\$ -	\$ 3,500	\$ 17,500	\$ 3,500	\$ 17,500
	Surveying/Staking	1	LS	Ś		\$ -	\$ 143,418	, , , , , , , , , , , , , , , , , , , ,	, ,,,,,	\$ 143,418
6.8		1	LS	,	-	-	\$ 143,418	\$ 143,418	\$ 143,416	\$ 143,416
	Testing & Commissioning			1.					_	
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs			+		A .	_	4	,	•
6.10	Environmental Licensing & Permitting Costs	-	LS	\$		\$ -	\$ -	\$ -		\$ -
6.11	Environmental Mitigation Warranties / LOC's	-	LS	\$		\$ -	\$ -	\$ -		\$ -
6.12 6.13	Real Estate Costs (New ROW)	1 1	LS LS	\$		\$ - \$ -	\$ 61,465 \$ -	\$ 61,465 \$ -		\$ 61,465 \$ -
6.14	Real Estate Costs (New ROW) Real Estate Costs (Incumbent Utility ROW)	1	LS	\$		\$ -	\$ 1,011,000	\$ 1,011,000		
				\$						
6.15	Legal Fees	-	LS	_		\$ -				\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$		\$ -	\$ -	\$ -		\$ -
6.17	Colos Toy on Materials	-	LS	\$		\$ -	\$ -	\$ -		\$ -
6.18	Sales Tax on Materials	1	LS	\$	497,643	\$ 497,643	\$ -	\$ -	\$ 497,643	\$ 497,643

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply	Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	- \$	20,488	\$ 20,488	\$ 20,488	\$ 20,488
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 497	643		\$ 4,093,779		\$ 4,591,422

Page 9 of 60

NAT & NYPA - T026 - (Segment A, Base) C. Transmission Line Princetown to New Scotland

Estimate Revision: 7 Total: \$ 47,721,093

NAT & NYPA - T026 - (Segment A,	A, Base)								
		Supply		Installation		Total			
C. Transmission Line Princetown to New Scotland									
1. CLEARING & ACCESS	\$	31,000	\$	11,223,694	\$	11,254,694			
2. FOUNDATIONS	\$	1,194,705	\$	4,499,949	\$	5,694,653			
3. STRUCTURES	\$	6,879,617	\$	5,578,039	\$	12,457,656			
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	1,564,842	\$	4,756,290	\$	6,321,132			
5. INSULATORS, FITTINGS, HARDWARE	\$	1,767,073	\$	847,291	\$	2,614,365			
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	914,979	\$	8,463,615	\$	9,378,594			
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-			
SUBTOTAL:	\$	12,352,215	\$	35,368,878	\$	47,721,093			
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-			
TOTAL:	\$	12,352,215	\$	35,368,878	\$	47,721,093			

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply	/ Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	то	DTAL
C. Transi	mission Line Princetown to New Scotland										
1. CLEARING &	ACCESS										
1.1	Clearing the ROW - Heavy (mowing & clearing)	26.0	Acre	\$	-	\$ -	\$ 15,000	\$ 390,000	\$ 15,000	\$	390,000
1.2	Clearing the ROW - Light (mowing)	57.0	Acre	\$	-	\$ -	\$ 5,000	\$ 285,000	\$ 5,000	\$	285,000
1.3	Access Road	20,803.2	LF	\$	-	\$ -	\$ 45	\$ 936,144	\$ 45	\$	936,144
1.4	Silt Fence	104,016.0	LF	\$	-	\$ -	\$ 4			\$	416,064
1.5	Matting - Access and ROW	83,212.8	LF	\$	-	\$ -	\$ 70				5,824,896
1.6	Matting - To Work Area	3,375.0	LF	\$	-	\$ -	\$ 70	\$ 236,250	\$ 70	\$	236,250
1.7	Snow Removal	19.7	Mile	\$	-	\$ -	\$ 16,000	\$ 315,200			315,200
1.8	ROW Restoration	19.7	Mile	\$	-	\$ -	\$ 10,000	\$ 197,000	\$ 10,000	\$	197,000
1.9	Work Pads	645,000.0	SF	\$	-	\$ -	\$ 4	\$ 2,270,400	\$ 4	\$	2,270,400
1.10	Restoration for Work Pad areas	129,000.0	SF	\$	-	\$ -	\$ 0.2	\$ 19,350	\$ 0	\$	19,350
1.11	Temporary Access Bridge	-	EA	\$	-	\$ -	\$ 20,035	\$ -	\$ 20,035	\$	-
1.12	Air Bridge	2	EA	\$	-	\$ -	\$ 14,445	\$ 28,890	\$ 14,445	\$	28,890
1.13	Stabilized Construction Entrance	-	EA	\$	-	\$ -	\$ 4,580	\$ -	\$ 4,580	\$	-
1.14	Maintenance and Protection of Traffic on Public Roads	50	EA	\$	-	\$ -	\$ 4,130	\$ 206,500	\$ 4,130	\$	206,500
1.15	Gates	11	EA	\$	2,000	\$ 22,000	\$ 2,500	\$ 27,500	\$ 4,500	\$	49,500
1.16	Culverts / Misc. Access	12	EA	\$	750	\$ 9,000	\$ 1,250	\$ 15,000	\$ 2,000	\$	24,000
1.17	Concrete Washout Station	30	EA	\$	-	\$ -	\$ 1,850	\$ 55,500	\$ 1,850	\$	55,500
TOTAL - CLEAR	ING & ACCESS:					\$ 31,000		\$ 11,223,694		\$ 1	11,254,694
2. FOUNDATIO	NS .										
2.1	Direct Embed Foundations - 4' x 16'	100	EA	\$	941	\$ 94,073	\$ 7,398	\$ 739,787	\$ 8,339	\$	833,860
2.2	Direct Embed Foundations - 4' x 19'	14	EA	\$	1,104	\$ 15,455	\$ 8,703	\$ 121,847	\$ 9,807	\$	137,302
2.3	Direct Embed Foundations - 4' x 21'	2	EA	\$	1,213	\$ 2,425	\$ 9,574	\$ 19,147	\$ 10,786	\$	21,573
2.4	Direct Embed Foundations - 6' x 18'	9	EA	\$	1,857	\$ 16,717	\$ 18,603	\$ 167,431	\$ 20,461	\$	184,148
2.5	Direct Embed Foundations - 6' x 20'	14	EA	\$	2,046	\$ 28,648	\$ 20,562	\$ 287,864	\$ 22,608	\$	316,512
2.6	Direct Embed Foundations - 6' x 21'	25	EA	\$	2,141	\$ 53,516	\$ 21,541	\$ 538,521	\$ 23,681	\$	592,037
2.7	Direct Embed Foundations - 6' x 22'	4	EA	\$	2,235	\$ 8,940	\$ 22,520	\$ 90,080	\$ 24,755	\$	99,020
2.8	Direct Embed Foundations - 6' x 25'	5	EA	\$	2,518	\$ 12,591	\$ 25,457	\$ 127,287	\$ 27,976	\$	139,878
2.9	Direct Embed Foundations - 6' x 29'	1	EA	\$	2,896	\$ 2,896	\$ 29,374	\$ 29,374	\$ 32,270	\$	32,270
2.10	Direct Embed Foundations - 6' x 34'	4	EA	\$	3,273	\$ 13,093	\$ 33,290	\$ 133,162	\$ 36,564	\$	146,255
2.11	Direct Embed Foundations - 6' x 42'	3	EA	\$	4,123	\$ 12,369	\$ 42,103	\$ 126,308	\$ 46,225	\$	138,676
2.12	Direct Embed Foundations - 7' x 25'	1	EA	\$	3,105	\$ 3,105	\$ 34,650	\$ 34,650	\$ 37,756	\$	37,756
2.13	Direct Embed Foundations - 7' x 27'	1	EA	\$	3,337	\$ 3,337	\$ 37,316	\$ 37,316	\$ 40,652	\$	40,652
2.14	Direct Embed Foundations - 7' x 28'	1	EA	\$	3,452	\$ 3,452	\$ 38,648	\$ 38,648	\$ 42,101	\$	42,101
2.15	Drilled Pier - 6' x 20'	6	EA		8,064	\$ 108,384		\$ 109,564			217,949
2.16	Drilled Pier - 7' x 19'	15	EA		3,416						706,315
2.17	Drilled Pier - 7' x 24'	3	EA		9,270						176,579
2.18	Drilled Pier - 8' x 27'	1	EA		2,819						86,103
2.19	Drilled Pier - 8' x 83'	1	EA		8,456						300,475
2,20	Drilled Pier - 8' x 89'	1	EA		7,631						321,938

Item	Item Description	Estimated Quantity	Unit of Measure	Mater	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
2.21	Drilled Pier - 9' x 34'	1	EA	\$	67,740	\$ 67,740	\$ 90,713	\$ 90,713	\$ 158,454	\$	158,454
2.22	Rock Excavation Adder	482.40	СУ	\$	-		\$ 2,000		\$ 2,000	\$	964,800
TOTAL - FOUI	NDATIONS:					\$ 1,194,705		\$ 4,499,949		\$	5,694,653
3. STRUCTUR	ES										
3.1	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 115'	7	Structure	\$	50,024	\$ 350,168	\$ 30,014	\$ 210,101		\$	560,269
3.2	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 120' 1-CKT 345KV VERTICAL TANGENT (0°-1°) - 125'	5 8	Structure	\$	52,207 55,685		\$ 31,324 \$ 33,411	\$ 156,621 \$ 267,288		\$	417,656 712,768
3.4	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 130'	9	Structure Structure	\$	58,257		\$ 34,954	\$ 314,585		\$	838,894
3.5	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 135'	4	Structure	\$	60,884			\$ 146,120			389,654
3.6	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 145'	1	Structure	\$	64,473		\$ 38,684	\$ 38,684			103,156
3.7	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 115'	1	Structure	\$	72,039		\$ 43,223	\$ 43,223		\$	115,262
3.8	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 135'	1	Structure	\$	92,278		\$ 55,367	\$ 55,367	\$ 147,645	\$	147,645
3.9	1-CKT 345KV VERTICAL TANGENT DEADEND (0°-5°) - 120'	1	Structure	\$	58,164		\$ 34,898	\$ 34,898			93,062
3.10 3.11	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 105'	1 43	Structure	\$	98,883 29,526		\$ 59,330 \$ 17,716	\$ 59,330 \$ 761,771			158,212 2,031,389
3.12	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 84' 1-CKT 345KV H-FRAME TANGENT (0°-1°) - 89'	5	Structure Structure	\$	32,708						261,664
3.13	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 93'	5	Structure	\$	34,540		\$ 20,724				276,316
3.14	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 107'	5	Structure	\$	45,936			\$ 137,807			367,484
3.15	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 80'	3	Structure	\$	55,241		\$ 33,145		\$ 88,386	\$	265,157
3.16	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 80'	5	Structure	\$	69,079			\$ 207,237		\$	552,632
3.17	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 85'	1	Structure	\$	75,739		\$ 45,443	\$ 45,443		\$	121,182
3.18	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 80'	5	Structure	\$	97,403		\$ 58,442	\$ 292,208			779,220
3.19 3.20	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 95'	1	Structure	\$	129,408			\$ 77,645 \$ 106.815			207,052
3.21	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115' 2-CKT 115KV/345KV VERTICAL TANGENT (0°-1°) - 115'	7	Structure Structure	\$	178,026 54,631		\$ 106,815 \$ 32,778	\$ 106,815 \$ 229,448	\$ 284,841 \$ 87,409	\$	284,841 611,862
3.22	2-CKT 115KV/345KV VERTICAL TANGENT (0 -1) - 115 2-CKT 115KV/345KV VERTICAL TANGENT (0 -1) - 125'	4	Structure	\$	62,604		\$ 37,562		\$ 100,166	\$	400,666
3.23	2-CKT 115KV/345KV VERTICAL TANGENT (0°-1°) - 135'	1	Structure	\$	68,894			\$ 41,336			110,230
3.24	2-CKT 115KV/345KV VERTICAL SMALL ANGLE (1°-15°) - 155'	1	Structure	\$	149,480	\$ 149,480	\$ 89,688	\$ 89,688	\$ 239,168	\$	239,168
3.25	2-CKT 115KV/345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$	173,808	\$ 173,808	\$ 104,285	\$ 104,285	\$ 278,092	\$	278,092
3.26	2-CKT 115KV/345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 125'	1	Structure	\$	202,797			\$ 121,678			324,475
3.27	115KV DUMMY DE, Drilled Pier, 85'	2	Structure	\$	58,164	\$ 116,328	\$ 34,898	\$ 69,797	\$ 93,062	\$	186,125
3.28	Remove Existing Foundation	4	EA	\$	-	\$ -	\$ 7,500	\$ 30,000	\$ 7,500		30,000
3.29	Remove Existing Structure and Accessories	24	EA	\$	-	\$ -	\$ 12,500				300,000
3.30	Install Grounding and Grounding Accessories	214	Pole	\$	506	\$ 108,284	\$ 5,539	\$ 1,185,239	\$ 6,045	\$	1,293,523
TOTAL - STRU						\$ 6,879,617		\$ 5,578,039		\$	12,457,656
	OR, SHIELDWIRE, OPGW	554.054				4 257 742		4 2200 770	4	•	4.555.400
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal" (ENS-336 to ENS-464) (1) OPGW 36 Fiber AC-33/38/571 (ENS-336 to ENS-464)	110,326	LF LF	\$	1.90				\$ 6.90	\$	4,567,483 700,570
				<u> </u>							
4.3	(1) 3/8" EHS7 Steel (ENS-336 to ENS-464)	75,398	LF	\$	0.47	\$ 35,437	\$ 5.00	\$ 376,990	\$ 5.47	\$	412,427
4.4		-		\$	-	\$ -	\$ -	\$ -	\$ -	\$	
4.5	115kV - (1) 954kcmil 54/7 ACSS "Cardinal" (ENS-336 to ENS-464)	41,580	LF	\$	1.90		\$ 5.00	\$ 207,900	\$ 6.90	\$	286,902
4.6	(1) OPGW 36 Fiber AC-33/38/571 (ENS-336 to ENS-464)	-	LF	\$	1.35	\$ -	\$ 5.00	\$ -	\$ 6.35	\$	-
4.7	(1) 3/8" EHS7 Steel (ENS-336 to ENS-464)	-	LF	\$	0.47		\$ 5.00	\$ -	\$ 5.47	\$	-
4.8	Remove Existing Conductor and Accessories	2.5	Mile	\$	-	\$ -	\$ 30,000	\$ 75,000			75,000
4.9	Remove Existing OPGW and Accessories	2.5	Mile	\$	-	\$ -	\$ 12,000	\$ 30,000	\$ 12,000.00	\$	30,000
4.10	Remove Existing OHSW and Accessories	2.5	Mile	\$	-	\$ -	\$ 12,000	\$ 30,000	\$ 12,000.00	\$	30,000
4.11	Rider Poles (50 Locations)	25	Set	\$	1,750		\$ 3,500	\$ 87,500	\$ 5,250.00	\$	131,250
4.12	Rider Poles - Relocated	25	Set	\$	-		\$ 3,500		\$ 3,500.00		87,500
	DUCTOR, SHIELDWIRE, OPGW:			_		\$ 1,564,842		\$ 4,756,290		\$	6,321,132
5. INSULATOR	R, FITTINGS, HARDWARE 345kV Tangent (1-Group of 18-Bells Each Assembly)	538	Assembly	\$	1,800	\$ 968,400	\$ 720	\$ 387,360	\$ 2,520	ė	1,355,760
5.2	115kV Tangent (1-Group of 16-bells Each Assembly)	78	Assembly	Ś	900						113,880
				ļ ·		·		·			
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	255	Assembly	\$	1,800						642,600
5.4 5.5	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	21	Assembly Assembly	+>	900	\$ 18,900 \$ -	\$ 560		\$ 1,460 \$ -	\$	30,660
5.6			Assembly			\$ -		'	\$ -	\$	
3.0			Assembly			· -		· -	· ·		11 -6(0

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Materi	ial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.7	OPGW Assembly - Tangent	110	Assembly	\$ 200	\$	22,000	\$ 150	\$ 16,500	\$ 350	\$ 38,500
5.8	OPGW Assembly - Angle / DE	34	Assembly	\$ 250	\$	8,500	\$ 150	\$ 5,100	\$ 400	\$ 13,600
5.9	OHSW Assembly - Tangent	61	Assembly	\$ 200	\$	12,200	\$ 150	\$ 9,150	\$ 350	\$ 21,350
5.10	OHSW Assembly - Angle / DE	24	Assembly	\$ 250	\$	6,000	\$ 150	\$ 3,600	\$ 400	\$ 9,600
5.11	OPGW Splice Boxes	8	Assembly	\$ 1,746	\$	13,969	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161
5.12	OPGW Splice & Test	8	EA	\$ 2,520	\$	20,160	\$ 2,520	\$ 20,160	\$ 5,040	\$ 40,320
5.13	Spacer - Conductor	1,773	EA	\$ 50	\$	88,650	\$ 35	\$ 62,055	\$ 85	\$ 150,705
5.14	Vibration Dampers - Conductor	1,596	EA	\$ 35	\$	55,860	\$ 35	\$ 55,860	\$ 70	\$ 111,720
5.15	Shieldwire / OPGW Dampers, Misc. Fittings	293	EA	\$ 27	\$	7,911	\$ 35	\$ 10,255	\$ 62	\$ 18,166
5.16	Guys, Anchors, and Accessories	-	EA	\$ 912	\$	-	\$ 1,058	\$ -	\$ 1,970	\$ -
5.17	Misc. materials (Signs and Markers)	19.9	Mile	\$ 770	\$	15,323	\$ 1,006	\$ 20,019	\$ 1,776	\$ 35,342
OTAL - INSU	LATORS, FITTINGS, HARDWARE:				\$	1,767,073		\$ 847,291		\$ 2,614,365
C. Trans	mission Line Princetown to New Scotland				\$	11,437,237		\$ 26,905,263		\$ 38,342,499
. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$	-	\$ 383,425	\$ 383,425	\$ 383,425	\$ 383,425
	Project Management, Material Handling & Amenities									
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 2,057,420	\$ 2,057,420	\$ 2,057,420	\$ 2,057,420
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 383,425	\$ 383,425	\$ 383,425	\$ 383,425
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 383,425	\$ 383,425	\$ 383,425	\$ 383,425
	Engineering									
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 1,917,125	\$ 1,917,125	\$ 1,917,125	\$ 1,917,125
6.6	LiDAR	1	LS	\$ -	\$	-	\$ 115,027	\$ 115,027	\$ 115,027	\$ 115,027
6.7	Geotech	20	Location	\$ -	\$	-	\$ 3,500	\$ 70,000	\$ 3,500	\$ 70,000
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 268,397	\$ 268,397	\$ 268,397	\$ 268,397
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 115,027	\$ 115,027	\$ 115,027	\$ 115,027
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$	-	\$ 215,000	\$ 215,000	\$ 215,000	\$ 215,000
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$	-	\$ 2,477,000	\$ 2,477,000	\$ 2,477,000	\$ 2,477,000
6.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.17	Ť '	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 914,979		914,979	\$ -	\$ -	\$ 914,979	
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	1	\$	-	\$ 38,342	•	\$ 38,342	
	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	-		1	Ś		,- 12	\$ 8,463,615	1	\$ 9,378,594

D. Rotterdam Substation - Install

Estimate Revision: 7 Total: \$ 55,885,503

NAT & NYPA - T026 - (Seg	ment A,	. Base)		
		Supply	Installation	Total
D. Rotterdam Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	2,896,891	\$ 8,763,755	\$ 11,660,646
2. SUBSTATION FOUNDATIONS	\$	2,443,003	\$ 2,616,200	\$ 5,059,203
3. SUBSTATION STRUCTURES	\$	944,980	\$ 944,980	\$ 1,889,960
4. MAJOR EQUIPTMENT	\$	11,915,000	\$ 2,970,000	\$ 14,885,000
5. SMALL EQUIPTMENT / MATERIALS	\$	1,994,540	\$ 1,060,500	\$ 3,055,040
6. CONTROL HOUSE / PANELS	\$	2,927,500	\$ 1,477,500	\$ 4,405,000
7. MISC ITEMS	\$	1,441,675	\$ 2,331,950	\$ 3,773,625
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,965,087	\$ 9,191,942	\$ 11,157,029
CONTRACTOR MARK-UP (OH&P)	\$		\$ -	\$ -
SUBTOTAL:	\$	26,528,676	\$ 29,356,827	\$ 55,885,503
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	26,528,676	\$ 29,356,827	\$ 55,885,503

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Mat	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
D. Rotte	rdam Substation - Install									
1. SITE PREP/ O	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	7.4	ACRES	\$	-	\$ -	\$ 203,000	\$ 1,497,125	\$ 203,000	\$ 1,497,125
1.2	Station stone within substation fence.	3,175	СҮ	\$	27	\$ 85,725	\$ 75	\$ 238,125	\$ 102	\$ 323,850
1.3	Substation Fence	2,130	LF	\$	100	\$ 213,000	\$ 100	\$ 213,000	\$ 200	\$ 426,000
1.4	Retaining Wall (1065' x 13')	1	LS	\$	406,755	\$ 406,755	\$ 925,345	\$ 925,345	\$ 1,332,100	\$ 1,332,100
1.5	Compacted Fill (124,583cy Sand)	124,583	CY	\$	17	\$ 2,117,911	\$ 20	\$ 2,491,660	\$ 37	\$ 4,609,571
1.6	Permanent Access Road - 20'-Wide (From Gordon RD)	2,100	LF	\$	35	\$ 73,500	\$ 285	\$ 598,500	\$ 320	\$ 672,000
1.7	Natural Gas Transmission Line Relocation	1	LS	\$	-		\$ 2,800,000	\$ 2,800,000	\$ 2,800,000	\$ 2,800,000
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 2,896,891		\$ 8,763,755		\$ 11,660,646
2. SUBSTATION	N FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	8	EA	\$	14,940	\$ 119,520	\$ 16,000	\$ 128,000	\$ 30,940	\$ 247,520
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	32	EA	\$	26,145	\$ 836,640	\$ 28,000	\$ 896,000	\$ 54,145	\$ 1,732,640
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	102	EA	\$	4,482	\$ 457,164	\$ 4,800	\$ 489,600	\$ 9,282	\$ 946,764
2.1f	Station Service Transformer Stand Foundation	1	EA	\$	4,482	\$ 4,482	\$ 4,800	\$ 4,800	\$ 9,282	\$ 9,282
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	42	EA	\$	4,482	\$ 188,244	\$ 4,800	\$ 201,600	\$ 9,282	\$ 389,844
2.1j	Instrument Transformer Stand Foundations	33	EA	\$	4,482	\$ 147,906	\$ 4,800	\$ 158,400	\$ 9,282	\$ 306,306
2.1k	Arrester Stand Foundations	6	EA	\$	4,482	\$ 26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$ 55,692
2.1m	Wave Trap Stand Foundations	2	EA	\$	4,482	\$ 8,964	\$ 4,800	\$ 9,600	\$ 9,282	\$ 18,564
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p										

Page 13 of 60

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2	230kV								
2.2a	Circuit Breaker Foundations	1	EA	\$ 11,952	\$ 11,952	\$ 12,800	\$ 12,800	\$ 24,752	\$ 24,752
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$ 22,410	\$ 89,640	\$ 24,000	\$ 96,000	\$ 46,410	\$ 185,640
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	8	EA	\$ 3,735	\$ 29,880	\$ 4,000	\$ 32,000	\$ 7,735	\$ 61,880
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations	9	EA	\$ 3,735	\$ 33,615	\$ 4,000	\$ 36,000	\$ 7,735	\$ 69,615
2.2k	Arrester Stand Foundations	3	EA	\$ 3,735	\$ 11,205	\$ 4,000	\$ 12,000	\$ 7,735	\$ 23,205
2.2m	Wave Trap Stand Foundations	1	EA	\$ 3,735	\$ 3,735	\$ 4,000	\$ 4,000	\$ 7,735	\$ 7,735
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$ 16,434	\$ 65,736	\$ 17,600	\$ 70,400	\$ 34,034	\$ 136,136
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e	Switch Stand Foundations	4	EA	\$ 2,988	\$ 11,952	\$ 3,200	\$ 12,800	\$ 6,188	\$ 24,752
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3j	Instrument Transformer Stand Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3k	Arrester Stand Foundations	6	EA	\$ 2,988	\$ 17,928		\$ 19,200	\$ 6,188	\$ 37,128
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		-							
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	1	EA	\$ 97,110	\$ 97,110	\$ 104,000	\$ 104,000	\$ 201,110	\$ 201,110
2.4b	345-115kV Transformer Foundation w/ Oil Containment	2	EA	\$ 74,700	\$ 149,400	\$ 80,000	\$ 160,000	\$ 154,700	\$ 309,400
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	·								
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ 97,110	\$ 97,110	\$ 104,000	\$ 104,000	\$ 201,110	\$ 201,110
2.5b	Generator Foundation	1	EA	\$ 16,000	\$ 16,000	\$ 17,000	\$ 17,000	\$ 33,000	\$ 33,000
							-		•
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TATION FOUNDATIONS				\$ 2,443,003		\$ 2,616,200		\$ 5,059,203
3. SUBSTATIO	N STRUCTURES 345kV								
3.1a	Substation A-Frame Structures - Stand alone	8	EA	\$ 37,000	\$ 296,000	\$ 37,000	\$ 296,000	\$ 74,000	\$ 592,000
3.1b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ 296,000	\$ 37,000		\$ 74,000	
		17	EA EA	\$ 37,000	T				
3.1c	Switch Stands	17	ŁΑ) 14,800	\$ 251,600	\$ 14,800	ع 251,600	\$ 29,600	503,20 ج

Item	Item Description E	stimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
3.1d	Station Service Transformer Stand	1	EA	\$	14,800	\$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600	\$	29,600
3.1e	Bus Support 3ph	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
3.1f	Bus Support 1 Ph	42	EA	\$	3,700	\$ 155,400	\$ 3,700	\$ 155,400	\$ 7,400	\$	310,800
3.1g	Instrument Transformer Stand	33	EA	\$	1,850	\$ 61,050	\$ 1,850	\$ 61,050	\$ 3,700	\$	122,100
3.1h	Arrester Stand	6	EA	\$	1,850	\$ 11,100	\$ 1,850	\$ 11,100	\$ 3,700	\$	22,200
3.1j	Wave Trap Stand	2	EA	\$	7,400	\$ 14,800	\$ 7,400	\$ 14,800	\$ 14,800	\$	29,600
3.1k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
3.2	230kV										
3.2a	Substation A-Frame Structures - Stand alone	1	EA	\$	33,300	\$ 33,300	\$ 33,300	\$ 33,300	\$ 66,600	\$	66,600
3.2b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA	Ś	33,300	\$ 33,300	\$ 33,300	\$ 33,300	\$ 66,600	Ś	-
3.2b 3.2c	Switch Stands	2	EA EA	\$	12,025	\$ 24,050	\$ 33,300	\$ 24,050	\$ 24,050	Ś	48,100
		0		Ś						\$	
3.2d	Station Service Transformer Stand		EA	+	12,025	\$ -	, , , , ,	\$ -		\$	-
3.2e	Bus Support 3ph	0	EA	\$	2 775	\$ -	\$ -	\$ -	\$ -	\$	-
3.2f	Bus Support 1 Ph	0	EA	\$	2,775	\$ -	\$ 2,775	\$ -	\$ 5,550	\$	- 22 240
3.2g	Instrument Transformer Stand	9	EA	\$	1,295	\$ 11,655		\$ 11,655	\$ 2,590	\$	23,310
3.2h	Arrester Stand	3	EA	\$	1,295	\$ 3,885	\$ 1,295	\$ 3,885	\$ 2,590	\$	7,770
3.2j	Wave Trap Stand	1	EA	\$	5,550	\$ 5,550	\$ 5,550	\$ 5,550	\$ 11,100	\$	11,100
3.2k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
3.3	115kV										
3.3a	Substation A-Frame Structures - Stand alone	2	EA	\$	18,500	\$ 37,000	\$ 18,500	\$ 37,000	\$ 37,000	\$	74,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$	-
3.3c	Switch Stands	2	EA	\$	7,955	\$ 15,910	\$ 7,955	\$ 15,910	\$ 15,910	\$	31,820
3.3d	Fuse Stand	0	EA	\$	7,955	\$ -		\$ -	\$ 15,910	\$	-
3.3e	Bus Support 3ph	0	EA	\$	3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$	-
3.3f	Bus Support 1 Ph	0	EA	\$	1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$	-
3.3g	Instrument Transformer Stand	6	EA	\$	740	\$ 4,440	\$ 740	\$ 4,440	\$ 1,480	\$	8,880
3.3h	Arrester Stand	6	EA	\$	740	\$ 4,440	\$ 740	\$ 4,440	\$ 1,480	\$	8,880
3.3j	Wave Trap Stand	0	EA	\$	3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$	-
3.3k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
	TATION STRUCTURES					\$ 944,980		\$ 944,980		\$	1,889,960
4. MAJOR EQU											
4.1	345kV				200.000	4 500 000	4 00.000	d 540,000	4 200 000	_	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
4.1a	Circuit Breakers	8	EA .	\$	200,000	\$ 1,600,000		\$ 640,000	\$ 280,000		2,240,000
4.1b	Capacitor Banks	0	EA	\$		\$ -	\$ 80,000	\$ -	\$ 80,000	\$	-
4.1c	345 kV - 230 kV Auto Transformer	1	EA	\$	3,400,000	\$ 3,400,000	\$ 750,000	\$ 750,000	\$ 4,150,000	\$	4,150,000
4.1d	345 kV - 115 kV Auto Transformer	2	EA	\$	3,400,000	\$ 6,800,000	\$ 750,000	\$ 1,500,000	\$ 4,150,000	\$	8,300,000
4.2	230kV										
4.2a	Circuit Breakers	1	EA .	\$	115,000	\$ 115,000	\$ 80,000	\$ 80,000	\$ 195,000		195,000
4.2b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	\$	-
4.3	115kV										
4.3a	Circuit Breakers	0	EA	\$	52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$	-
4.3b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 60,000	\$ -	\$ 60,000	\$	-
	REQUIPTMENT					\$ 11,915,000		\$ 2,970,000		\$	14,885,000
	IPTMENT / MATERIALS										
5.1	345kV		F.		10.00=	ć 20.555	A 45.000	ć 20.055	A		4-0-00-
5.1a	Line Switches - 3ph w/ motor operator	2	EA	\$	40,000	\$ 80,000	\$ 15,000	\$ 30,000	\$ 55,000	\$	110,000

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.1b	Disconnect Switches - 3ph w/ manual operator	17	EA	\$ 35,000	\$ 595,000	\$ 17,500	\$ 297,500	\$ 52,500	\$ 892,50
5.1c	VT'S	6	EA	\$ 25,000	\$ 150,000	\$ 12,000	\$ 72,000	\$ 37,000	\$ 222,00
5.1d	CT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,00
5.1e	CCVT'S	21	EA	\$ 13,000	\$ 273,000	\$ 8,000	\$ 168,000	\$ 21,000	\$ 441,00
5.1f	Arresters	15	EA	\$ 6,500	\$ 97,500	\$ 1,500	\$ 22,500	\$ 8,000	\$ 120,000
5.1g	Wave Traps	2	EA	\$ 13,000	\$ 26,000	\$ 8,000	\$ 16,000	\$ 21,000	\$ 42,00
5.1h	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000	\$ 50,000	\$ 50,000	\$ 250,000	\$ 250,00
5.1j									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	1	EA	\$ 35,000	\$ 35,000	\$ 15,000	\$ 15,000	\$ 50,000	\$ 50,00
5.2b	Disconnect Switches - 3ph w/ manual operator	1	EA	\$ 30,000	\$ 30,000	\$ 17,500	\$ 17,500	\$ 47,500	\$ 47,50
5.2c	VT'S	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,00
5.2d	CT'S	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,00
5.2e	CCVT'S	3	EA	\$ 10,000	\$ 30,000	\$ 6,000	\$ 18,000	\$ 16,000	\$ 48,00
5.2f	Arresters	6	EA	\$ 5,000	\$ 30,000	\$ 6,000	\$ 36,000	\$ 11,000	\$ 66,00
5.2g	Wave Traps	1	EA	\$ 13,000	\$ 13,000	\$ 8,000	\$ 8,000	\$ 21,000	\$ 21,00
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	2	EA	\$ 33,000	\$ 66,000	\$ 15,000	\$ 30,000	\$ 48,000	\$ 96,00
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000	\$ -	\$ 17,500	\$ -	\$ 45,500	\$ -
5.3c	VT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,00
5.3d	CT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,00
5.3e	CCVT'S	2	EA	\$ 8,000	\$ 16,000	\$ 8,000	\$ 16,000	\$ 16,000	\$ 32,00
5.3f	Arresters	12	EA	\$ 3,420	\$ 41,040	\$ 6,000	\$ 72,000	\$ 9,420	\$ 113,04
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				\$ 1,994,540		\$ 1,060,500		\$ 3,055,04
6. CONTROL H	OUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	1	EA	\$ 975,000	\$ 975,000	\$ 170,000	\$ 170,000	\$ 1,145,000	\$ 1,145,00
6.2	Protection and Telecom Equipment Panels	29	EA	\$ 35,000	\$ 1,015,000	\$ 10,000	\$ 290,000	\$ 45,000	\$ 1,305,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,00
6.4	Control Cables	1	LS	\$ 472,500	\$ 472,500	\$ 472,500	\$ 472,500	\$ 945,000	\$ 945,00
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$ 300,000
6.7	DC Distribution System	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$ 300,000
6.8	Security	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$ 15,00
6.9	Fire Alarm	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$ 15,00
6.10	Generator	1	EA	\$ 100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$ 180,000
TOTAL - CONT	ROL HOUSE / PANELS / GENERATOR				\$ 2,927,500		\$ 1,477,500		\$ 4,405,000
7.1	Conduit & Cable Trench System	1,950	LF	\$ 185.00	\$ 360,750	\$ 170.00	\$ 331,500	\$ 355	\$ 692,25
7.2	Rigid Bus, Fittings & Insulators	2,500	LF	\$ 125.07	\$ 312,675	\$ 237.10	\$ 592,750	\$ 362	\$ 905,42

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
7.3	Strain Bus, Connectors & Insulators	2,000	LF	\$ 39.30	\$ 78,600	\$ 53.35	\$ 106,700	\$ 93	\$ 185,3
7.4	Grounding System	25,000	LF	\$ 6.93	\$ 173,250	\$ 32.58	\$ 814,500	\$ 40	\$ 987,7
7.5	Strain Bus Insulators - 345kV	48	EA	\$ 2,000	\$ 96,000	\$ 1,050	\$ 50,400	\$ 3,050	\$ 146,4
7.6	Strain Bus Insulators - 230kV	6	EA	\$ 1,400	\$ 8,400	\$ 750	\$ 4,500	\$ 2,150	\$ 12,9
7.7	Strain Bus Insulators - 115kV	12	EA	\$ 1,000	\$ 12,000	\$ 550	\$ 6,600	\$ 1,550	\$ 18,6
7.8	Low Voltage AC Station Service	1	LS	\$ 50,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$ 125,0
7.9	SSVT Service	1	LS	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 90,000	\$ 90,0
7.10	Control Conduits from Trench to Equipment	1	LS	\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$ 250,0
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$ 360,0
7.12									
7.13									
7.14									
7.15									
7.16									
7.17									
7.18									
7.19									
7.20									
TOTAL - MISC	ITEMS				\$ 1,441,675		\$ 2,331,950		\$ 3,773,6
D. Rotte	rdam Substation - Install				\$ 24,563,589		\$ 20,164,885		\$ 44,728,4
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
•	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 447,285	\$ 447,285	\$ 447,285	\$ 447,2
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 2,400,085	\$ 2,400,085	\$ 2,400,085	\$ 2,400,0
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 447,285	\$ 447,285	\$ 447,285	\$ 447,2
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 447,285	\$ 447,285	\$ 447,285	\$ 447,2
	Engineering	_		1	, ·	7 111,250	7,255	7,255	
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,578,278	\$ 3,578,278	\$ 3,578,278	\$ 3,578,2
8.6	LiDAR		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,0
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 313,099	\$ 313,099	\$ 313,099	\$ 313,0
0.0	Testing & Commissioning		5110	<u> </u>	<u> </u>	ψ 515,633	\$ 515,633	φ 515,633	V 515,5
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 1,118,212	\$ 1,118,212	\$ 1,118,212	\$ 1,118,2
0.5	Permitting and Additional Costs		20	Ÿ	<u> </u>	ψ 1,110,E1E	ψ 1,110,E1E	ψ 1,110,212	7 2,210,2
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	s -
8.11	Environmental Mitigation	_	LS	\$ -	\$ -	\$ -	\$ -	\$ -	ś -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 134,185	\$ 134,185	\$ 134,185	\$ 134,1
8.13	Real Estate Costs (New)		LS	\$ -	\$ -	\$ 134,165	\$ 134,185	\$ 134,165	\$ 134,1
8.14	Real Estate Costs (New) Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ - \$ -	\$ 247,500	\$ 247,500	\$ 247,500	\$ 247,5
8.14	Legal Fees	1	LS	\$ -	\$ - \$ -	\$ 247,500	\$ 247,500	\$ 247,500	\$ 247,5
	-	-	LS	\$ -	\$ - \$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ - \$ -	-	· ·	•	-
0.17						- S		s -	\$ -
8.17	Calca Tau an Makasiala			<u> </u>	T	· ·	·	ć 4.0CE.007	ć 1000 o
8.17 8.18 8.19	Sales Tax on Materials Fees for permits, including roadway, railroad, building or other local permits	1	LS LS	\$ 1,965,087	\$ 1,965,087	\$ -	\$ -	\$ 1,965,087 \$ 44,728	\$ 1,965,0 \$ 44,7

E. Rotterdam Substation - Removal

Estimate Revision: 7 Total: \$ 4,216,452

NAT & NYPA - T026 - (Seg.	6 - (Segment A, Base)							
	Supply		Installation		Total			
E. Rotterdam Substation - Removal								
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ 1,472,750	\$	1,472,750			
2. SUBSTATION FOUNDATIONS	\$	-	\$ 617,400	\$	617,400			
3. SUBSTATION STRUCTURES	\$	-	\$ 534,900	\$	534,900			
4. MAJOR EQUIPTMENT	\$	-	\$ 147,000	\$	147,000			
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ 169,500	\$	169,500			
6. CONTROL HOUSE / PANELS	\$	-	\$ 150,000	\$	150,000			
7. MISC ITEMS	\$	-	\$ 519,480	\$	519,480			
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$ 605,422	\$	605,422			
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$				
SUBTOTAL:	\$	-	\$ 4,216,452	\$	4,216,452			
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-			
TOTAL:	\$		\$ 4,216,452	\$	4,216,452			

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
E. Rotter	dam Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	6.3	ACRES	\$ -	\$ -	\$ 203,000	\$ 1,268,750	\$ 203,000	\$ 1,268,750
1.2	Station stone within substation fence.	2,000	CY	\$ -	\$ -	\$ 102	\$ 204,000	\$ 102	\$ 204,000
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ 1,472,750		\$ 1,472,750
2. SUBSTATION	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2	230kV								
2.2a	Circuit Breaker Foundations	9	EA	\$ -	\$ -	\$ 7,200	\$ 64,800	\$ 7,200	\$ 64,800
2.2b	Capacitor Bank Foundations Capacitor Bank Foundations	2	EA	\$ -	\$ -		\$ 64,000	\$ 32,000	-
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	1	EA	\$ -	\$ -	\$ 22,000	\$ 22,000	\$ 22,000	\$ 22,000
2.2d	Caisson DE Foundations (for DE A frame str stand alone) Caisson DE Foundations (for DE A frame str shared column)	5	EA	\$ -	\$ -	\$ 11,000	\$ 55,000	\$ 11,000	
2.2e	Switch Stand Foundations	15	EA	\$ -	\$ -	\$ 5,200	\$ 78,000	\$ 5,200	\$ 78,000
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ 78,000	\$ -	\$ -
2.2g	Bus Support 3ph Foundations	4	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2g 2.2h	Bus Support 1 Ph Foundations	59	EA	\$ -	\$ -	\$ 2,400	\$ 141,600	\$ 2,400	\$ 141,600
	Instrument Transformer Stand Foundations	15	EA	\$ - \$ -	\$ -	\$ 2,400	\$ 36,000	\$ 2,400	\$ 36,000
2.2j 2.2k	Arrester Stand Foundations	6	EA	\$ -	\$ - \$ -	\$ 2,400	\$ 36,000	\$ 2,400	\$ 14,400
2.2K 2.2m		0	EA		\$ - \$ -	, , , , , ,			\$ 14,400
	Wave Trap Stand Foundations			•		•		•	
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	AAFIN								
2.3	115kV	0	EA.	Ć.	Ć.	Ć.	ć	Č.	
2.3a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e	Switch Stand Foundations	3	EA	\$ -	\$ -	\$ 5,200	\$ 15,600	\$ 5,200	\$ 15,600
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations				_	_	_	_	
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA .	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	3	EA	\$ -	\$ -	\$ 42,000	\$ 126,000	\$ 42,000	\$ 126,000
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad				_		_		
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightwing Most Foundations								
2.6a	Lightning Mast Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	70' Lightning Mast Foundation	_	EA	ļ ·			1		
2.6b		0		\$ -			\$ -		
2.6c		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBS	TATION FOUNDATIONS				\$ -		\$ 617,400		\$ 617,400
	ON STRUCTURES						,,,,,,		,,,,,,
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	1	EA	\$ -	\$ -	\$ 27,000	\$ 27,000	\$ 27,000	\$ 27,000
3.2b	Substation A-Frame Structures - Shared Column	5	EA	\$ -	\$ -	\$ 27,000	\$ 135,000	\$ 27,000	\$ 135,000
3.2c	Switch Stands	15	EA	\$ -	\$ -	\$ 9,750	\$ 146,250	\$ 9,750	\$ 146,250
3.2d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2e	Bus Support 3ph	4	EA	\$ -	\$ -	\$ 2,250	\$ 9,000	\$ 2,250	\$ 9,000
3.2f	Bus Support 1 Ph	59	EA	\$ -	\$ -	\$ 2,250	\$ 132,750	\$ 2,250	\$ 132,750
3.2g	Instrument Transformer Stand	15	EA	\$ -	\$ -	\$ 1,050	\$ 15,750	\$ 1,050	\$ 15,750
3.2h	Arrester Stand	6	EA	\$ -	\$ -	\$ 1,050	\$ 6,300	\$ 1,050	\$ 6,300
3.2j	Wave Trap Stand	3	EA	\$ -	\$ -	\$ 4,500	\$ 13,500	\$ 4,500	\$ 13,500
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	2	EA	\$ -	\$ -	\$ 15,000	\$ 30,000	\$ 15,000	\$ 30,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	3	EA	\$ -	\$ -	\$ 6,450	\$ 19,350	\$ 6,450	\$ 19,350
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBS	TATION STRUCTURES				\$ -		\$ 534,900		\$ 534,900
4. MAJOR EQU					*		7 33 1,533		7 00 ,,000
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	9	EA	\$ -	\$ -	\$ 7,000	\$ 63,000	\$ 7,000	\$ 63,000
4.2b	Capacitor Banks	2	EA	\$ -	\$ -	\$ 42,000	\$ 84,000	\$ 42,000	\$ 84,000
	· ·					,,,,,	. ,,,,,,,	,	
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				<u> </u>					
TOTAL - MAIO	DR EQUIPTMENT				\$ -		\$ 147,000		\$ 147,000
	IPTMENT / MATERIALS				,		7 147,000		Ţ 147,000
5.1	345kV								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Arresters	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,50
5.2b	Disconnect Switches - 3ph w/ manual operator	12	EA	\$ -	\$ -	\$ 5,500	\$ 66,000	\$ 5,500	\$ 66,00
5.2c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S	8	EA	\$ -	\$ -	\$ 1,500	\$ 12,000	\$ 1,500	\$ 12,00
5.2f	Arresters	15	EA	\$ -	\$ -	\$ 2,500	\$ 37,500	\$ 2,500	\$ 37,50
5.2g	Wave Traps	3	EA	\$ -	\$ -	\$ 2,500	\$ 7,500	\$ 2,500	\$ 7,50
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j	Station Service Housionners	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2,		-	271	Ţ	<u> </u>	<u> </u>	Ÿ	<u> </u>	*
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,50
5.3c	VT'S	0	EA	\$ -	\$ -	\$ 3,300	\$ 10,300	\$ -	\$ -
				-		\$ -	\$ -	•	
5.3d 5.3e	ccvs's	0	EA EA	\$ -	\$ - \$ -	\$ -	\$ -	\$ - \$ -	\$ - \$ -
					\$ - \$ -		·	*	
5.3f	Arresters	9	EA		T	,	\$ 13,500	\$ 1,500	
5.3g	Wave Traps	0	EA	ļ *	\$ - \$ -	Ÿ	Ÿ	-	*
5.3h	Station Service Transformers	0	EA	\$ -	т	T	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				\$ -		\$ 169,500		\$ 169,50
6. CONTROL H	OUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	1	EA	\$ -	\$ -	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,00
6.2	Protection and Telecom Equipment Panels	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.8	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONT	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ 150,000		\$ 150,00
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	1	LS	\$ -	\$ -	\$ 42,000.00	\$ 42,000	\$ 42,000	\$ 42,00
7.2	Rigid Bus, Fittings & Insulators	3,200	LF	\$ -	\$ -	\$ 126.25	\$ 404,000	\$ 126	\$ 404,00

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & E Suppl	Equipment y Rate	Labor & Equipment Cost	Total Unit Rate	Т	TOTAL
7.3	Strain Bus, Connectors & Insulators	800	LF	\$ -	\$ -	\$	39.35	\$ 31,480	\$ 39	\$	31,480
7.4	Grounding System	1	LS	\$ -	\$ -	\$	42,000.00	\$ 42,000	\$ 42,000	\$	42,000
7.5											
7.6											
7.7											
7.8											
7.9											
7.10											
7.11											
7.12											
7.13											
7.14											
7.15											
TOTAL - MISC	ITEMS				\$ -			\$ 519,480		\$	519,480
E. Rotte	rdam Substation - Removal				\$ -			\$ 3,611,030		\$	3,611,030
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$	36,110	\$ 36,110	\$ 36,110	\$	36,110
	Project Management, Material Handling & Amenities										
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS		\$ -	\$	193,764	\$ 193,764	\$ 193,764	\$	193,764
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$	36,110	\$ 36,110	\$ 36,110	\$	36,110
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$	36,110	\$ 36,110	\$ 36,110	\$	36,110
	Engineering								•		
8.5	Design Engineering	1	LS	\$ -	\$ -	\$	288,882	\$ 288,882	\$ 288,882	\$	288,882
8.6	LIDAR	-	LS	\$ -	\$ -	\$	-	\$ -	\$ -	\$	-
8.7	Geotech		EA	\$ -	\$ -	\$	3,500	\$ -	\$ 3,500	\$	-
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$	25,277	\$ -	\$ 25,277	\$	-
	Testing & Commissioning								•		
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$	90,276	\$ -	\$ 90,276	\$	-
	Permitting and Additional Costs								•		
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$	-	\$ -	\$ -	\$	-
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$	-	\$ -	\$ -	\$	-
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$	10,833	\$ 10,833	\$ 10,833	\$	10,833
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$	-	\$ -	\$ -	\$	<u> </u>
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$	-	\$ -	\$ -	\$	-
8.15	Legal Fees	-	LS	\$ -	\$ -	\$	-	\$ -	\$ -	\$	-
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$		\$ -	\$ -	\$	-
8.17		_	LS	\$ -	\$ -	\$	-	\$ -	\$ -	\$	-
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	Ś	-	\$ -	\$ -	\$	_
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$	3,611	\$ 3,611	\$ 3,611	-	3,611
	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -			\$ 605,422	, · · · · · · · · · · · · · · · · · · ·	Ś	605,422

NAT & NYPA - T026 - (Segment A, Base) F. Edic Substation - Install

Total: \$ 2,645,078

NAT & NYPA - T02	6 - (Segment A,	Base)			
		Supply	Installation		Total
F. Edic Substation - Install					
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	2,025	\$ 5,625	\$	7,650
2. SUBSTATION FOUNDATIONS	\$	100,098	\$ 107,200	\$	207,298
3. SUBSTATION STRUCTURES	\$	44,400	\$ 44,400	\$	88,800
4. MAJOR EQUIPTMENT	\$	200,000	\$ 80,000	\$	280,000
5. SMALL EQUIPTMENT / MATERIALS	\$	280,000	\$ 133,500	\$	413,500
6. CONTROL HOUSE / PANELS	\$	173,850	\$ 98,850	\$	272,700
7. MISC ITEMS	\$	339,357	\$ 507,880	\$	847,237
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	91,178	\$ 436,715	\$	527,893
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-
SUBTOTAL:	\$	1,230,908	\$ 1,414,170	\$	2,645,078
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-
TOTAL:	Ś	1,230,908	\$ 1,414,170	Ś	2,645,078

escr)			

Estimate Revision:

Item	item Description	Estimated Quantity	Unit of Measure	Material Suppl	ly Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
F. Edic S	ubstation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$	-	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	75	CY	\$	27	\$ 2,025	\$ 75	\$ 5,625	\$ 102	\$ 7,650
1.3	Substation Fence	0	LF	\$	100	\$ -	\$ 100	\$ -	\$ 200	\$ -
1.4										
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
	 REP/ GRADING/ FENCING / CIVIL					\$ 2.025		\$ 5,625		\$ 7,650
	N FOUNDATIONS					\$ 2,023		3,023		7,030
	345kV									
2.1a	Circuit Breaker Foundations	1	EA	Ś :	14.940	\$ 14,940	\$ 16.000	\$ 16,000	\$ 30.940	\$ 30.940
2.1b	Capacitor Bank Foundations	0	EA	\$!	56,025	\$ -		\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$:	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	6	EA	\$	4,482	\$ 26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$ 55,692
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1j	Instrument Transformer Stand Foundations	9	EA		4,482	\$ 40,338	, , , , , , , , , , , , , , , , , , , ,		\$ 9,282	
2.1k	Arrester Stand Foundations	3	EA		4,482	\$ 13,446		\$ 14,400	\$ 9,282	
2.1m	Wave Trap Stand Foundations	1	EA	+	4,482	\$ 4,482	\$ 4,800	\$ 4,800	\$ 9,282	
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p										
2.2	230kV					_				
2.2a	Circuit Breaker Foundations	0	EA		11,952	•	\$ 12,800		\$ 24,752	
2.2b	Capacitor Bank Foundations	0	EA		44,820	·		\$ -	\$ 92,820	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA		22,410	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 46,410	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA FA		22,410 3,735		\$ 24,000 \$ 4,000		\$ 46,410 \$ 7,735	
2.2e	Switch Stand Foundations	0	LA EA	>	3,/35		3 4,000	\$ -	ş /,/35	\$ -

2.2f Station Service Transformer Stand Foundation	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	5 7,735 5 7,735 6 7,735 7,735 7,735 6 10,829 6 69,615 6 34,034 6 34,034 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.2g Bus Support 3ph Foundations 0 EA S - S - S	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	5 7,735 5 7,735 6 7,735 6 7,735 7,735 6 10,829 6 69,615 6 34,034 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.2h Bus Support 1 Ph Foundations 0 EA S 3,735 S S 4,000 S	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	5 7,735 6 7,735 6 7,735 7,735 7,735 7,735 7,735 7,735 8 10,829 8 69,615 8 34,034 8 34,034 8 6,188 8 6,188 8 6,188 8 6,188 8 6,188 8 6,188 8 6,188 8 6,188 8 6,188	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.2k	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	5 7,735 6 7,735 6 7,735 6 10,829 6 69,615 6 34,034 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.2m Wave Trap Stand Foundations 0 EA \$ 3,735 \$ - \$ \$ 4,000 \$ \$ 2.2h Misc. Structure Foundations 0 EA \$ - \$ 5 - \$ \$ \$ \$ \$ \$ \$ \$ \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	5 7,735 5 10,829 5 69,615 5 34,034 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.2n Misc. Structure Foundations 0 EA \$ - \$ - \$ - \$ \$ \$ \$ \$ \$ \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	\$ 10,829 \$ 69,615 \$ 34,034 \$ 6,188 \$ 6,188 \$ 6,188 \$ 6,188 \$ 6,188 \$ 6,188 \$ 6,188 \$ 6,188	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.2p	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	5 10,829 6 69,615 5 34,034 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.3 115kV 2.3a Circuit Breaker Foundations 0 EA \$ 5,229 \$ - \$ 5,600 \$ 2.3b Capacitor Bank Foundations 0 EA \$ 33,615 \$ - \$ 36,000 \$ 2.3c Caisson DE Foundations (for DE A frame str stand alone) 0 EA \$ 16,434 \$ - \$ 17,600 \$ 2.3d Caisson DE Foundations (for DE A frame str shared column) 0 EA \$ 16,434 \$ - \$ 17,600 \$ 2.3e Switch Stand Foundations 0 EA \$ 1,6434 \$ - \$ 17,600 \$ 2.3e Switch Stand Foundations 0 EA \$ 1,298 \$ - \$ 1,7600 \$ 2.3f Fuse Stand Foundations 0 EA \$ 2,988 \$ - \$ 3,200 \$ \$ 2,988 \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	6 69,615 34,034 3 4,034 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.3a Circuit Breaker Foundations 0 EA \$ 5,229 \$ - \$ 5,600 \$ \$ \$ \$ \$ \$ \$ \$ \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	6 69,615 34,034 3 4,034 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.3a Circuit Breaker Foundations 0 EA \$ 5,229 \$ - \$ 5,600 \$ \$ 2.3b Capacitor Bank Foundations 0 EA \$ 33,615 \$ - \$ 36,000 \$ \$ \$ \$ \$ \$ \$ \$ \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	6 69,615 34,034 3 4,034 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.3b Capacitor Bank Foundations 0 EA \$ 33,615 \$ - \$ 36,000 \$ \$ \$ \$ \$ \$ \$ \$ \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	6 69,615 34,034 3 4,034 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.3c Caisson DE Foundations (for DE A frame str stand alone) 0 EA \$ 16,434 \$ - \$ 17,600 \$ \$ 2.3d Caisson DE Foundations (for DE A frame str shared column) 0 EA \$ 16,434 \$ - \$ 17,600 \$ \$ \$ \$ \$ \$ \$ \$ \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	34,034 34,034 5 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.3d Caisson DE Foundations (for DE A frame str shared column) 0 EA \$ 16,434 \$ - \$ 17,600 \$ \$ \$ \$ \$ \$ \$ \$ \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	34,034 6,188 6,188 6,188 6,188 6,188 6,188 6,188 6,188 6,188	\$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.3e Switch Stand Foundations 0 EA \$ 2,988 \$ - \$ 3,200 \$ \$ \$ \$ \$ \$ \$ \$ \$	- \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188	\$ - \$ - \$ - \$ - \$ - \$ -
2.3f Fuse Stand Foundations 0 EA S 2,988 S - S 3,200 S	- \$ - \$ - \$ - \$ - \$ - \$	6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188	\$ - \$ - \$ - \$ -
2.3g Bus Support 3ph Foundations 0 EA S 2,988 S - S 3,200 S 2.3h Bus Support 1 Ph Foundations 0 EA S 2,988 S - S 3,200 S 2.3j Instrument Transformer Stand Foundations 0 EA S 2,988 S - S 3,200 S 2.3k Arrester Stand Foundations 0 EA S 2,988 S - S 3,200 S 2.3m Wave Trap Stand Foundations 0 EA S 2,988 S - S 3,200 S 2.3m Wave Trap Stand Foundations 0 EA S 2,988 S - S 3,200 S 2.3n Station Service Foundations 0 EA S - S - S - S 2.3p Misc. Structure Foundations 0 EA S - S - S 2.3p Misc. Structure Foundations 0 EA S - S - S 2.4d Transformer Foundation Transformer Foundation w/ Oil Containment 0 EA S 97,110 S - S 104,000 S 2.4b 345-115kV Transformer Foundation w/ Oil Containment 0 EA S 74,700 S - S 80,000 S 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA S - S - S - S - S 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA S - S - S - S - S 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA S - S - S - S - S - S 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA S - S - S - S - S 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA S - S - S - S 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA S - S - S - S 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA S - S - S - S 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA S - S - S - S 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA S - S - S - S 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA S - S - S - S 2.4c 230kV-115kV	- \$ - \$ - \$ - \$ - \$ - \$	6 6,188 6 6,188 6 6,188 6 6,188 6 6,188 6 6,188	\$ - \$ - \$ - \$ -
2.3h Bus Support 1 Ph Foundations 0 EA \$ 2,988 \$ - \$ 3,200 \$ 2.3j Instrument Transformer Stand Foundations 0 EA \$ 2,988 \$ - \$ 3,200 \$ 2.3k Arrester Stand Foundations 0 EA \$ 2,988 \$ - \$ 3,200 \$ 2.3m Wave Trap Stand Foundations 0 EA \$ 2,988 \$ - \$ 3,200 \$ 2.3m Station Service Foundations 0 EA \$ 2,988 \$ - \$ 3,200 \$ 2.3p Misc. Structure Foundations 0 EA \$ - \$ - \$ - \$ - \$ 2.4p Misc. Structure Foundations 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	- \$ - \$ - \$ - \$ - \$	6,188 6,188 6,188 6,188 6,188	\$ - \$ - \$
2.3j Instrument Transformer Stand Foundations 0 EA \$ 2,988 \$ - \$ 3,200 \$ \$ \$ \$ \$ \$ \$ \$ \$	- \$ - \$ - \$	6,188 6,188 6,188 6,188	\$ - \$ -
2.3k Arrester Stand Foundations 0 EA \$ 2,988 \$ - \$ 3,200 \$ 2.3m Wave Trap Stand Foundations 0 EA \$ 2,988 \$ - \$ 3,200 \$ 2.3n Station Service Foundations 0 EA \$ - \$ <td< td=""><td>- \$ - \$ - \$</td><td>6,188 6,188 5 -</td><td>\$ -</td></td<>	- \$ - \$ - \$	6,188 6,188 5 -	\$ -
2.3m Wave Trap Stand Foundations 0 EA \$ 2,988 \$ - \$ 3,200 \$ 2.3n Station Service Foundations 0 EA \$ - \$ <t< td=""><td>- \$ - \$</td><td>6,188</td><td></td></t<>	- \$ - \$	6,188	
2.3n Station Service Foundations 0 EA \$ -	- \$	-	Ş -
2.3p Misc. Structure Foundations 0 EA \$ - \$ - \$ - \$ 2.4 Transformer Foundations 0 EA \$ 97,110 \$ - \$ 104,000 \$ 2.4b 345-115kV Transformer Foundation w/ Oil Containment 0 EA \$ 74,700 \$ - \$ 80,000 \$ 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA \$ - \$ - \$			<u> </u>
2.4 Transformer Foundations	- \$		\$ -
2.4a 345-230kV Transformer Foundation w/ Oil Containment 0 EA \$ 97,110 \$ - \$ 104,000 \$ 2.4b 345-115kV Transformer Foundation w/ Oil Containment 0 EA \$ 74,700 \$ - \$ 80,000 \$ 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA \$ -		-	\$ -
2.4a 345-230kV Transformer Foundation w/ Oil Containment 0 EA \$ 97,110 \$ - \$ 104,000 \$ 2.4b 345-115kV Transformer Foundation w/ Oil Containment 0 EA \$ 74,700 \$ - \$ 80,000 \$ 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA \$ -			
2.4b 345-115kV Transformer Foundation w/ Oil Containment 0 EA \$ 74,700 \$ - \$ 80,000 \$ 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA \$ - \$ - \$ - \$ - \$		* 201.110	A
2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA \$ - \$ - \$ - \$	- \$	· · · · · · · · · · · · · · · · · · ·	
	- \$,	\$ -
2.4d 115kV-69kV Transformer Foundation Wy Oil Containment U EA \$ - \$ - \$	- \$ - \$		\$ -
	- \$	-	\$ -
2.5 Control House Foundations / Pad			
2.5a Control House / Pad 0 EA \$ 76,194 \$ - \$ 81,600 \$	- \$	5 157,794	\$ -
2.5a Control nouser / rau 0 EA \$ 170,154 3 - 3 63,000 \$ 2.5b Generator Foundation 0 EA \$ 16,000 \$ - \$ 17,000 \$	- \$		
2.50 Centration of Contraction		33,000	7
2.6 Lightning Mast Foundations			
2.6a 70° Lightning Mast Foundation 0 EA \$ 5,229 \$ - \$ 5,600 \$	- \$	10,829	\$ -
2.6b 60'tightning Mast Foundation 0 EA \$ - \$ - \$ - \$	- \$		\$ -
2.6c 50' Lightning Mast Foundation 0 EA \$ - \$ - \$ - \$	- \$		\$ -
TOTAL - SUBSTATION FOUNDATIONS \$ 100,098 \$	107,200		\$ 207,298
3. SUBSTATION STRUCTURES			
3.1 345kV			
3.1a Substation A-Frame Structures - Stand alone 0 EA \$ 37,000 \$ - \$ 37,000 \$	- \$	74,000	\$ -
3.1b Substation A-Frame Structures - Shared Column 0 EA \$ 37,000 \$ - \$ 37,000 \$	- \$		
3.1c Switch Stands 1 EA \$ 14,800 \$ 14,800 \$ 14,800 \$	14,800 \$		\$ 29,600
3.1d Station Service Transformer Stand 0 EA \$ 14,800 \$ - \$ 14,800 \$	- \$	29,600	\$ -
3.1e Bus Support 3ph 0 EA \$ - \$ - \$ - \$	- \$	-	\$ -
3.1f Bus Support 1 Ph 0 EA \$ 3,700 \$ - \$ 3,700 \$	- \$	7,400	\$ -
3.1g Instrument Transformer Stand 9 EA \$ 1,850 \$ 16,650 \$ 1,850 \$	16,650 \$	3,700	\$ 33,300
3.1h Arrester Stand 3 EA \$ 1,850 \$ 5,550 \$ 1,850 \$	5,550 \$	3,700	\$ 11,100
3.1j Wave Trap Stand 1 EA \$ 7,400 \$ 7,400 \$ 7,400 \$	7,400 \$		\$ 14,800
3.1k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$	- \$	12,950	\$ -
3.2 230kV			
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ - \$ 33,300 \$	- \$		
3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 33,300 \$	- \$		
3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$	- \$		
3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$	- \$		
3.2e Bus Support 3ph 0 EA \$ - \$ - \$	- \$		
3.2f Bus Support 1 Ph 0 EA \$ 2,775 \$ - \$ 2,775 \$	- \$		
3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$	- \$		
	- \$		
3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$			
	- \$ - \$	12,950	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500		\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	0		\$ 7,955		\$ 7,955	\$ -	\$ 15,910	\$ -
3.3d	Fuse Stand	0	EA	\$ 7,955			\$ -	\$ 15,910	
3.3e	Bus Support 3ph	0		\$ 3,330		\$ 3,330	\$ -	\$ 6,660	
3.3f	Bus Support 1 Ph	0		\$ 1,850		\$ 1,850		\$ 3,700	
3.3g	Instrument Transformer Stand	0		\$ 740		\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0	EA	\$ 740		\$ 740		\$ 1,480	
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
TOTAL - SUBST	ATION STRUCTURES				\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQU	IPTMENT								
4.1	345kV								
4.1a	Circuit Breakers	1	EA	\$ 200,000	\$ 200,000	\$ 80,000	\$ 80,000	\$ 280,000	\$ 280,000
4.1b	Capacitor Banks	0		\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ 115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
	R EQUIPTMENT				\$ 200,000		\$ 80,000		\$ 280,000
	PTMENT / MATERIALS								
	345kV								
5.1a	Line Switches - 3ph w/ motor operator	1		\$ 40,000				\$ 55,000	
5.1b	Disconnect Switches - 3ph w/ manual operator	1		\$ 35,000		\$ 17,500		\$ 52,500	
5.1c	VT'S	3		\$ 25,000		\$ 12,000	\$ 36,000	\$ 37,000	\$ 111,000
5.1d	CT'S	3	EA	\$ 13,000				\$ 21,000	
5.1e	CCVT'S	3	EA	\$ 13,000		\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1f	Arresters	6		\$ 6,500			\$ 9,000	\$ 8,000	\$ 48,000
5.1g	Wave Traps	1	EA	\$ 13,000		\$ 8,000	\$ 8,000	\$ 21,000	\$ 21,000
5.1h	Station Service Transformers	0	EA	\$ 200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j									
5.2	230kV	<u> </u>							
5.2a	Line Switches - 3ph w/ motor operator	0		\$ 35,000		\$ 15,000		\$ 50,000	
5.2b	Disconnect Switches - 3ph w/ manual operator	0		\$ 30,000		\$ 17,500		\$ 47,500	
5.2c	VT'S	0		\$ 13,000		\$ 8,000	\$ -	\$ 21,000	\$ -
5.2d	CT'S	0		\$ 13,000		\$ 8,000	\$ -	\$ 21,000	\$ -
5.2e	CCVT'S	0	EA	\$ 10,000		\$ 6,000	\$ -	\$ 16,000	\$ -
5.2f	Arresters	0		\$ 5,000		\$ 6,000	\$ -	\$ 11,000	\$ -
5.2g	Wave Traps	0		\$ 13,000				\$ 21,000	
5.2h	Station Service Transformers	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	AATIM.								
5.3	115kV		F.*	6 22	6	ć	<u>^</u>	ć 10.555	^
	Line Switches - 3ph w/ motor operator	0		\$ 33,000		\$ 15,000	\$ -	\$ 48,000	
	Disconnect Switches - 3ph w/ manual operator	0		\$ 28,000		\$ 17,500		\$ 45,500	
	VT'S	0		\$ 13,000		\$ 8,000		\$ 21,000	
	CT'S	0		\$ 13,000		\$ 8,000		\$ 21,000	
	CCVT'S	0		\$ 8,000		\$ 8,000		\$ 16,000	
	Arresters	0		\$ 3,420		\$ 6,000		\$ 9,420	
5.3g	Wave Traps	0		\$ -	\$ -		\$ -		\$ -
	Station Service Transformers	0		\$ -	\$ -		\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL COSC	FOUNDTMENT / MATERIAL C				¢ 200.555		ć 100 FTT		d
TOTAL - SMALL	EQUIPTMENT / MATERIALS				\$ 280,000		\$ 133,500		\$ 413,500

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6. CONTROL HO	DUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -
	Protection and Telecom Equipment Panels	3	EA	\$ 35,000	\$ 105,000	\$ 10,000	\$ 30,000		\$ 135,000
6.3	125VDC Batteries	0	EA	\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	Control Cables	1	LS	\$ 68,850	\$ 68,850		\$ 68,850	\$ 137,700	\$ 137,700
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ 50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
	DC Distribution System	0	EA	\$ 50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
	Security	0	EA	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
	Fire Alarm	0	EA	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
TOTAL - CONTR	ROL HOUSE / PANELS / GENERATOR				\$ 173,850		\$ 98,850		\$ 272,700
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	800	LF	\$ 185.00	\$ 148,000	\$ 170.00	\$ 136,000	\$ 355	\$ 284,000
	Rigid Bus, Fittings & Insulators	0	L.S.	\$ 75,042.00	\$ -	\$ 142,260.00	\$ -	\$ 217,302	\$ -
					ć 00.350				
7.3	Strain Bus, Connectors & Insulators	2,500	LF	\$ 39.30	\$ 98,250	\$ 53.35	\$ 133,375	\$ 93	\$ 231,625
7.4	Grounding System	1	L.S.	\$ 10,395.00	\$ 10,395	\$ 73,305.00	\$ 73,305	\$ 83,700	\$ 83,700
7.5	Strain Bus Insulators - 345kV	24	EA	\$ 2,000	\$ 48,000	\$ 1,050	\$ 25,200	\$ 3,050	\$ 73,200
7.6	Strain Bus Insulators - 230kV	0	EA	\$ 1,400	\$ -	\$ 750	\$ -	\$ 2,150	\$ -
7.7	Strain Bus Insulators - 115kV	0	EA	\$ 1,000	\$ -	\$ 550	\$ -	\$ 1,550	\$ -
7.8	Low Voltage AC Station Service	0	LS	\$ 50,000	\$ -	\$ 75,000	\$ -	\$ 125,000	\$ -
7.9	SSVT Service	0	LS	\$ 45,000	\$ -	\$ 45,000	\$ -	\$ 90,000	\$ -
7.10	Control Conduits from Trench to Equipment	1	LS	\$ 14,000	\$ 14,000	\$ 70,000	\$ 70,000	\$ 84,000	\$ 84,000
	Misc. Materials (Above and Below Ground)	1	LS	\$ 20,712	\$ 20,712	\$ 70,000	\$ 70,000	\$ 90,712	\$ 90,712
7.12	,			,	,	,			
7.13									
7.14									
7.15									
7.16									
7.17									
7.18									
7.19									
7.20									
7.21									
7.22									
7.23									
7.24									
7.25									
TOTAL - MISC	TEMS				\$ 339,357		\$ 507,880		\$ 847,237
E Edic Si	ıbstation - Install				\$ 1,139,730		\$ 977,455		\$ 2,117,185
					ÿ 1,133,730		\$ 377,433		Ç 2,117,103
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization		1.6	ć	^	ć 24.472	ć 24.472	ć 24.472	ć 24.472
	Mob / Demob	1	LS	\$ -	\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$ 21,172
—	Project Management, Material Handling & Amenities								
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler	_							
	and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 113,606	\$ 113,606	\$ 113,606	\$ 113,606
			1.5		<u>^</u>	6 24.172	6 24.470	ć 24.470	ć 24.550
	Utility PM and Project Oversite	1	LS	ć	\$ -	\$ 21,172	\$ 21,172	\$ 21,172	
	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$ 21,172
	Engineering Posign Fagineering		1.0	ć	ć	ć 400.275	ć 400.375	ć 400.075	ć 400.3==
	Design Engineering	1	LS	\$ -	\$ -	\$ 169,375	ć	¢	
	LiDAR	-	LS	\$ -			\$ -		\$ -
	Geotech	4	EA	\$ -		\$ 3,500			
	Surveying/Staking	1	Site	\$ -	\$ -	\$ 14,820	\$ 14,820	\$ 14,820	\$ 14,820
	Testing & Commissioning		1.6	ć	ć	ć F2 020	ć F2 020	ć F2.020	ć F2.020
	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 52,930	\$ 52,930	\$ 52,930	\$ 52,930
	Permitting and Additional Costs		1.0	ć	ć	ć	ć	ć	¢
	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -			\$ -	
	Environmental Mitigation	-	LS	\$ -			\$ -		\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -				
	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.14	Real Estate Costs (Incumbent Utility)		LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 9	1,178	\$ 91,178	\$ -	\$ -	\$ 91,178	\$ 91,178
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 2,117	\$ 2,117	\$ 2,117	\$ 2,117
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 91,178		\$ 436,715		\$ 527,893

Page 27 of 60

NAT & NYPA - T026 - (Segment A, Base) Total: \$ 41,708

NAT & NYPA - T026	- (Segment A, Bas	e)				
		Supply		Installation		Total
G. Edic Substation - Removal						
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$	-
2. SUBSTATION FOUNDATIONS	\$	-	\$	14,000	\$	14,000
3. SUBSTATION STRUCTURES	\$	-	\$	6,750	\$	6,750
4. MAJOR EQUIPTMENT	\$		\$	-	\$	-
5. SMALL EQUIPTMENT / MATERIALS	\$		\$	4,500	\$	4,500
6. CONTROL HOUSE / PANELS	\$		\$	-	\$	-
7. MISC ITEMS	\$		\$	-	\$	10,500
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$	5,958	\$	5,958
CONTRACTOR MARK-UP (OH&P)	\$		\$	-	\$	-
SUBTOTAL:	\$		\$	31,208	\$	41,708
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL:	Ś		Ś	31.208	Ś	41,708

ì	escri	ntion	of W	ork.
	CJCII	puon	U	O. K.

Estimate Revision:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
G. Edic S	ubstation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
	Station stone within substation fence.			\$ -	\$ -	\$ 75		\$ 75	
	Substation Fence			\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8							ļ		
1.9									
1.10				ļ				ļ	
1.11				ļ					
1.12							 		
1.13				<u> </u>			 		
1.14							 		
	 PREP/ GRADING/ FENCING / CIVIL				\$ -		Ś -		\$ -
	N FOUNDATIONS				\$ -		3 -		\$ -
	345kV								
	Circuit Breaker Foundations	1	EA	\$ -	\$ -	\$ 14,000	\$ 14,000	\$ 14,000	\$ 14,000
	Capacitor Bank Foundations	0		Š -	\$ -	\$ -	\$ -	\$ 14,000	\$ -
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	š -	\$ -	\$ -	\$ -	\$ -
	Switch Stand Foundations	0	EA	\$ -	\$ -	Ś -	\$ -		\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	230kV								
	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200	\$ -	\$ 7,200	\$ -
	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000		\$ 32,000	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000		\$ 22,000	
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ 11,000	\$ -	\$ 11,000	\$ -
	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200		\$ 5,200	
		0	EA	\$ -	\$ -	Ś -	\$ -	s -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2g	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -		\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -		\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	
2.2k	Arrester Stand Foundations	0	EA	\$ -	\$ -		\$ -	\$ 2,400	
2.2m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.2p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3b	Capacitor Bank Foundations Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0		\$ -	\$ -	\$ -	\$ -		\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -		\$ -
2.3f	Fuse Stand Foundations	0		\$ -	\$ -	\$ -	\$ -		\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3h	Bus Support 1 Ph Foundations	0		\$ -	\$ -	\$ -	\$ -		\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	š -		\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3p	Misc. Structure Foundations	0		\$ -	\$ -	\$ -	\$ -		\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -		\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
	·								
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightning Mast Foundations								
2.6a									
	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.6b	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	70' Lightning Mast Foundation		EA	•				\$ -	•
2.6b 2.6c		0	EA	\$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.6b 2.6c TOTAL - SUBS	TATION FOUNDATIONS	0	EA	\$ -	\$ -	\$ -	\$ -	\$ - \$ -	\$ -
2.6b 2.6c TOTAL - SUBS 3. SUBSTATIO	TATION FOUNDATIONS ON STRUCTURES	0	EA	\$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.6b 2.6c TOTAL - SUBS 3. SUBSTATIO 3.1	TATION FOUNDATIONS N STRUCTURES 345kV	0 0	EA EA	\$ -	\$ - \$ -	\$ -	\$ - \$ - \$ 14,000	\$ -	\$ - \$ - \$ 14,000
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone	0	EA EA	\$ - \$	\$ - \$ - \$ -	\$ -	\$ - \$ - \$ 14,000	\$ -	\$ - \$ - \$ 14,000
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0 0	EA EA	\$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ -	\$ - \$ 14,000 \$ - \$ - \$ -	\$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000 \$ - \$ -
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands	0 0 0 0 0 0	EA EA EA EA EA	\$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ -
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1a 3.1a 3.1b 3.1c 3.1d	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 0 0 0 0 0	EA EA EA EA EA EA EA EA	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ -
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1d	TATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 5 - \$ 5 -	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ -
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph	0 0 0 0 0 0 0 0 0 3	EA	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5	\$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ 5	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 5 - \$ 5 5 - \$ 5 5 - \$ 5 5 - \$ -	\$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ 5 - \$
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand	0 0 0 0 0 0 0 0 0 0 0 0 0	EA	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ 5 - \$ 7 - 8 7 -	\$ - \$ - \$ 14,000
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 0 0 0 0 0 0 0 0 0	EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 5 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ 5 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5	\$ - \$ - \$ - \$ - \$ - \$ - \$ 5 5 - \$ 7 5 - \$ 7 5 - \$ 7 5 - \$ 7 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 -	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ 5 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5
2.6b 2.6c TOTAL - SUBS' 3.SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand	0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ -	\$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 0 0 0 0 0 0 0 0 0	EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 5 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ 5 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ 5 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1h 3.1j	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures	0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ -	\$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5
2.6b 2.6c TOTAL - SUBS' 3.SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV	0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ -	\$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ 5 - \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ 5 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ 5 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1f 3.1g 3.1h 3.1s 3.1h 3.1h 3.1h 3.2 3.2a 3.2b	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ - \$ - \$ - \$ - \$ 5 - \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,000 \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ 5
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ - \$ - \$ - \$ - \$ 5 - \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,000 \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ - \$ - \$ - \$ \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ \$ -	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ 2,250 \$ - \$ - \$ 5	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1h 3.2 3.2a 3.2a 3.2b 3.2c	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ - \$ - \$ - \$ \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,000 \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2e	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ - \$ - \$ - \$ 5 -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,000 \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1f 3.1g 3.1h 3.1h 3.1h 3.2 3.2a 3.2b 3.2c 3.2d 3.2c 3.2d 3.2c 3.2d 3.2e 3.2f	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Bus Support 1 Ph	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ - \$ - \$ - \$ \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2a 3.2c 3.2d 3.2c 3.2d 3.2e 3.2f 3.2g	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 1 Ph Instrument Transformer Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ - \$ - \$ - \$ \$ -	\$ - \$ - \$ - \$ 5 -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2c 3.2d 3.2e 3.2f 3.2g 3.2h	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 1 Ph Instrument Transformer Stand Misc. Structures	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ - \$ - \$ - \$ \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 14,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

3.3a			Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	115kV								
3.3b	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Switch Stands	0	EA	\$ -	\$ -		\$ -	\$ 6,450	
	Fuse Stand	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
	Bus Support 3ph	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
	Bus Support 1 Ph	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Arrester Stand	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ATION STRUCTURES				\$ -		\$ 6,750		\$ 6,750
. MAJOR EQUI									
	345kV			4	_	4		4	
	Circuit Breakers	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d	22014								
	230kV Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
				•	\$ -		·		
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
4.2	11Fla/								
	115kV	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Circuit Breakers Capacitor Banks	0	EA		1				
4.50	Capacitor Bariks	U	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OTAL - MAIOR	REQUIPTMENT				\$ -		\$ -		\$ -
	PTMENT / MATERIALS				, -		· -		, -
	345kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -		\$ -	\$ 5,500	
	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CCVT'S	0	EA	\$ -	\$ -		\$ -	\$ 2,500	
	Arresters	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	
	Wave Traps	0	EA	\$ -	\$ -		\$ -	\$ 2,500	
	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j		0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
0.2,				T	*	*	· ·	_ T	
5.2	230kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CCVT'S	0	EA	\$ -	\$ -		\$ -	\$ 1,500	
	Arresters	0	EA	\$ -	\$ -		\$ -	\$ 2,500	
	Wave Traps	0	EA	\$ -	\$ -		\$ -	\$ 2,500	
	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -		\$ -		\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.3c	VT'S	0		\$ -	\$ -		\$ -		\$ -
	CT'S	0		\$ -			\$ -		\$ -
	CCVT'S	0		\$ -	\$ -		\$ -		\$ -
	Arresters	0		\$ -	\$ -	\$ 1,500		\$ 1,500	
	Wave Traps	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
	Station Service Transformers	0		\$ -	\$ -		\$ -		\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	EQUIPTMENT / MATERIALS				\$ -		\$ 4,500		\$ 4,500
. CONTROL HO	DUSE / PANELS / GENERATOR								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
6.2	Protection and Telecom Equipment Panels	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.8	Security	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
0.10	Generator	0	EA	, -	, -	, -	· -	, -	•
TOTAL CONT	 ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
					\$ -		\$ -		\$ -
7. MISC ITEMS				_					
7.1	Conduit & Cable Trench System	0	EA	\$ -	\$ -		\$ -	\$ 42,000	
7.2	Rigid Bus, Fittings & Insulators	1	LS	\$ -	\$ -	\$ 10,500.00		\$ 10,500	
7.3	Strain Bus, Connectors & Insulators	0	EA	\$ -	\$ -		\$ -	\$ 39	
7.4	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC	ITEMAC				\$ -		\$ 10,500		\$ 10,500
	ubstation - Removal				\$ -		\$ 35,750		\$ 35,750
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 358	\$ 358	\$ 358	\$ 358
0.1	Project Management, Material Handling & Amenities	-		*	· ·	9 330	Ų 330	-	V 330
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS		\$ -	\$ 1,918	\$ 1,918	\$ 1,918	\$ 1,918
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 358	\$ 358	\$ 358	\$ 358
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -		\$ 358	\$ 358	
0.4	Engineering	1	L)	-	-	338	y 336	y 330	7 330
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,860	\$ 2,860	\$ 2,860	\$ 2,860
8.6	Lidar	-	Mile	\$ -	\$ -	\$ 2,860	\$ 2,860	\$ 2,860	\$ 2,860
8.6			Site		т				•
	Geotech Supraving (Staking	-		\$ -	Ÿ	\$ -			
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 250	\$ -	\$ 250	\$ -
—	Testing & Commissioning				<u> </u>		_		
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 894	\$ -	\$ 894	\$ -
	Permitting and Additional Costs				<u> </u>				
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 107	\$ 107	\$ 107	\$ 107
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17			LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	т	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits		LS	7	\$ -		\$ -	\$ 36	
	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	-	LS		\$ -	35	\$ 5,958	35	\$ 5,958
TOTAL - IVIOB/	DEINIOD, ENGINEERING, PERIVITI TING, TAC, PIVI & INDIRECTS:				· -		5,958 د		ə 5,958

Page 31 of 60

H. New Scotland Substation - Install

Estimate Revision: 7 Total: \$ 6,456,780

NAT & NYPA - T026 - (Segment A, Base)										
	Supply	Installation	Total							
H. New Scotland Substation - Install										
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ 4,050	\$ 11,250	\$ 15,300							
2. SUBSTATION FOUNDATIONS	\$ 406,368	\$ 435,200	\$ 841,568							
3. SUBSTATION STRUCTURES	\$ 199,800	\$ 199,800	\$ 399,600							
4. MAJOR EQUIPTMENT	\$ 600,000	\$ 240,000	\$ 840,000							
5. SMALL EQUIPTMENT / MATERIALS	\$ 353,000	\$ 192,500	\$ 545,500							
6. CONTROL HOUSE / PANELS	\$ 726,650	\$ 500,400	\$ 1,227,050							
7. MISC ITEMS	\$ 525,680	\$ 788,055	\$ 1,313,735							
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 225,244	\$ 1,048,783	\$ 1,274,027							
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -							
SUBTOTAL:	\$ 3,040,792	\$ 3,415,988	\$ 6,456,780							
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -							
TOTAL:	\$ 3,040,792	\$ 3,415,988	\$ 6,456,780							

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
H. New S	Scotland Substation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	150	CY	\$ 27				\$ 102	
1.3	Substation Fence	0	LF	\$ 100	\$ -	\$ 100		\$ 200	
1.4	Permanent Access Road - 20'-Wide (From Gordon RD)	0	LF	\$ 35	\$ -	\$ 285	\$ -	\$ 320	\$ -
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
	REP/ GRADING/ FENCING / CIVIL				\$ 4,050		\$ 11,250		\$ 15,300
2. SUBSTATIO	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	3	EA	\$ 14,940	\$ 44,820		\$ 48,000	\$ 30,940	
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$ 26,145	\$ 104,580		\$ 112,000	\$ 54,145	
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,145	\$ -		\$ -	\$ 54,145	
2.1e	Switch Stand Foundations	24	EA	\$ 4,482	\$ 107,568	\$ 4,800	\$ 115,200	\$ 9,282	
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ 4,482	\$ -	\$ 4,800		\$ 9,282	
2.1g	Bus Support 3ph Foundations	0	EA	\$ -		\$ -	\$ -	<u> </u>	\$ -
2.1h	Bus Support 1 Ph Foundations	15	EA	\$ 4,482	\$ 67,230			\$ 9,282	
2.1j	Instrument Transformer Stand Foundations	12	EA	\$ 4,482	\$ 53,784		\$ 57,600	\$ 9,282	
2.1k	Arrester Stand Foundations	3	EA	\$ 4,482	\$ 13,446		\$ 14,400	\$ 9,282	
2.1m	Wave Trap Stand Foundations	1	EA	\$ 4,482	\$ 4,482		\$ 4,800	\$ 9,282	
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,952	\$ -	\$ 12,800		\$ 24,752	
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 46,410	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -		\$ -	\$ 46,410	
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	. ,	\$ -	\$ 7,735	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735			\$ -	\$ 7,735	
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -			\$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	
	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	
	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	
	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -			\$ 6,188	
	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	
	Station Service Foundations	0	EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Control House Foundations / Pad	0	ГА	\$ 76,194	\$ -	¢ 91.600	\$ -	\$ 157,794	\$ -
2.5a 2.5b	Control House / Pad Generator Foundation	0	EA EA	\$ 76,194 \$ 16,000	\$ - \$ -	\$ 81,600 \$ 17,000	\$ - \$ -	\$ 157,794 \$ 33,000	\$ -
2.30	Generator Foundation	0	EA	3 10,000	· -	3 17,000	, -	3 33,000	-
	Lightning Mast Foundations								
	70' Lightning Mast Foundation	2	EA	\$ 5,229	\$ 10,458	\$ 5,600		\$ 10,829	
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBST	 Fation foundations				\$ 406,368		\$ 435,200		\$ 841,568
	N STRUCTURES				\$ 100,500		155,250		ψ 011,500
	345kV								
3.1a	Substation A-Frame Structures - Stand alone	1	EA	\$ 37,000	\$ 37,000	\$ 37,000	\$ 37,000	\$ 74,000	\$ 74,000
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
	Switch Stands	4	EA	\$ 14,800	\$ 59,200	\$ 14,800	\$ 59,200	\$ 29,600	
	Station Service Transformer Stand	0	EA	\$ 14,800	\$ -			\$ 29,600	
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph	15	EA	\$ 3,700	\$ 55,500			\$ 7,400	
	Instrument Transformer Stand	12	EA	\$ 1,850	\$ 22,200			\$ 3,700	
	Arrester Stand Wave Trap Stand	3	EA EA	\$ 1,850 \$ 7,400	\$ 5,550 \$ 7,400		\$ 5,550 \$ 7,400	\$ 3,700 \$ 14,800	\$ 11,100 \$ 14,800
	Lightning Masts - 70'	2	EA	\$ 7,400	\$ 7,400		\$ 7,400	\$ 14,800	
J.1K	Ligitumig wasts - 70	2	EM	9 0,475	7 12,330	9 0,475	7 12,550	7 12,330	25,900
	230kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	
	Substation A-Frame Structures - Shared Column	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	
	Switch Stands	0		\$ 12,025				\$ 24,050	
	Station Service Transformer Stand	0	EA	\$ 12,025		\$ 12,025		\$ 24,050	
	Bus Support 3ph Bus Support 1 Ph	0		\$ -	\$ - \$ -		\$ -	\$ -	
	Bus Support 1 Ph Instrument Transformer Stand	0	EA EA	\$ 2,775 \$ 1,295	\$ - \$ -	\$ 2,775 \$ 1,295		\$ 5,550 \$ 2,590	
	Arrester Stand	0	EA EA	\$ 1,295		\$ 1,295		\$ 2,590	
	Wave Trap Stand	0		\$ 1,295				\$ 2,590	
	Misc. Structures	0		\$ 6,475		\$ 6,475		\$ 12,950	•
		,	-	5,775		. 5,175		. 12,330	· · · · · · · · · · · · · · · · · · ·
J.2K									

Item	Item Description	Estimated Quantity	Unit of Measure	Mater	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	0	EA	\$	7,955		· · · · · · · · · · · · · · · · · · ·	\$ -		\$ -
3.3d	Fuse Stand	0		\$	7,955		\$ 7,955	\$ -	\$ 15,910	
3.3e	Bus Support 3ph	0		\$	3,330		\$ 3,330	\$ -	\$ 6,660	\$ -
3.3f	Bus Support 1 Ph	0		\$	1,850		\$ 1,850	\$ -	\$ 3,700	\$ -
3.3g	Instrument Transformer Stand	0		\$	740		\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0		\$	740		\$ 740	•		\$ -
3.3j	Wave Trap Stand	0	EA	\$	3,700		\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
TOTAL CURC	TATION CTRUCTURES									
	TATION STRUCTURES					\$ 199,800		\$ 199,800		\$ 399,600
4. MAJOR EQU										
4.1	345kV	2	E4	ć	200,000	ć coo.ooo	ć 00.000	ć 240.000	ć 200.000	ć 040.000
4.1a	Circuit Breakers	3	EA	\$	200,000		\$ 80,000	\$ 240,000	\$ 280,000	
4.1b	Capacitor Banks	0		\$		т	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0		\$			\$ 750,000	\$ -	\$ 750,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$	-	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2a	230kV Circuit Breakers	0	EA	\$	115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
		0						\$ - \$ -		
4.2b	Capacitor Banks	U	EA	\$, -	\$ 80,000	· -	\$ 80,000	\$ -
4.3	115kV									
4.3a	Circuit Breakers	0	EA	\$	52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks	0		\$			\$ 60,000			<u> </u>
4.50	Capacitor banks	U	EA	۶	-	, -	\$ 00,000	ş -	\$ 00,000	-
TOTAL - MAIO	I R EQUIPTMENT					\$ 600,000		\$ 240,000		\$ 840,000
	PTMENT / MATERIALS					\$ 000,000		\$ 240,000		\$ 640,000
5.1	345kV									
5.1a	Line Switches - 3ph w/ motor operator	1	EA	\$	40,000	\$ 40,000	\$ 15,000	\$ 15,000	\$ 55,000	\$ 55,000
5.1b	Disconnect Switches - 3ph w/ manual operator	3	EA	\$	35,000	\$ 105,000	\$ 17,500	\$ 52,500	\$ 52,500	\$ 157,500
5.1c	VT'S	3	EA	\$			\$ 12,000	\$ 36,000	\$ 25,000	\$ 75,000
5.1d	CT'S	3	EA	\$	13,000		\$ 8,000		\$ 21,000	\$ 63,000
5.1e	CCVT'S	6	EA	\$	13,000					\$ 126,000
5.1f	Arresters	6		\$			\$ 1,500	\$ 9,000	\$ 8,000	\$ 48,000
5.1g	Wave Traps	1	EA	\$	13,000				\$ 21,000	
5.1h	Station Service Transformers	0		\$			\$ 50,000	\$ -		\$ -
5.1j	Station Service Transformers	0		\$	15,000	т	\$ 7,500	т	\$ 22,500	\$ -
				1		*	* .,,,,,,	-	+ ==,555	*
5.2	230kV									
5.2a	Line Switches - 3ph w/ motor operator	0	EA	Ś	35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0		\$	30,000		\$ 17,500		\$ 47,500	\$ -
5.2c	VT'S	0		\$	13,000		\$ 8,000	\$ -		\$ -
5.2d	CT'S	0		\$	13,000		\$ 8,000	\$ -		\$ -
5.2e	CCVT'S	0		\$	10,000		\$ 6,000			\$ -
5.2f	Arresters	0		\$			\$ 6,000	\$ -	. ,	\$ -
5.2g	Wave Traps	0		\$	13,000	\$ -	\$ 8,000	\$ -		\$ -
5.2h	Station Service Transformers	0	EA	\$			\$ -	\$ -	\$ -	\$ -
5.2j		0		\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV									
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$	33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$	28,000	\$ -	\$ 17,500	\$ -	\$ 45,500	\$ -
5.3c	VT'S	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
	CT'S	0		\$	13,000		\$ 8,000	\$ -	\$ 21,000	
5.3e	CCVT'S	0	EA	\$	8,000		\$ 8,000		\$ 16,000	\$ -
5.3f	Arresters	0	EA	\$	3,420	\$ -	\$ 6,000	\$ -	\$ 9,420	\$ -
5.3g	Wave Traps	0	EA	\$	-	\$ -	\$ -		\$ -	
5.3h	Station Service Transformers	0		\$				\$ -		\$ -
5.3j	Fuses	0	EA	\$		\$ -		\$ -	\$ -	\$ -
TOTAL - SMALI	L EQUIPTMENT / MATERIALS					\$ 353,000		\$ 192,500		\$ 545,500
	OUSE / PANELS / GENERATOR CONTROL HOUSE									

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Protection and Telecom Equipment Panels	5	EA	\$	35,000	\$ 175,000	\$ 10,000	\$ 50,000	\$ 45,000	\$ 225,000
6.3	125VDC Batteries	0	EA	\$	75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	Control Cables	1	LS	\$	207,900	\$ 207,900	\$ 207,900	\$ 207,900	\$ 415,800	\$ 415,800
6.5	SCADA and Communications	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	1	EA	\$	50,000	\$ 50,000	\$ 100,000	\$ 100,000	\$ 150,000	\$ 150,000
6.7	DC Distribution System	1	EA	\$	50,000	\$ 50,000	\$ 100,000	\$ 100,000	\$ 150,000	\$ 150,000
6.8	Security	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.9	Fire Alarm	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.10	Generator	0	EA	\$	100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
	 ROL HOUSE / PANELS / GENERATOR					\$ 726,650		\$ 500,400		\$ 1,227,050
7. MISC ITEMS										
7.1	Conduit & Cable Trench System	1		\$	55,500.00					
7.2	Rigid Bus, Fittings & Insulators	1		\$	62,535.00				\$ 181,085	\$ 181,085
7.3	Strain Bus, Connectors & Insulators	1		\$			\$ 114,135.00			\$ 206,385
7.4	Grounding System	1		\$	10,395.00					\$ 59,265
7.5	Strain Bus Insulators - 345kV	0		\$		\$ -	\$ 1,050		\$ 3,050	\$ -
7.6	Strain Bus Insulators - 230kV	0		\$	1,400	\$ -	\$ 750		\$ 2,150	<u> </u>
7.7	Strain Bus Insulators - 115kV	0		\$		\$ -	\$ 550	\$ -	\$ 1,550	\$ -
7.8	Low Voltage AC Station Service	0		\$	50,000		\$ 75,000		\$ 125,000	\$ -
7.9	SSVT Service	0		\$	45,000		\$ 45,000	•	\$ 90,000	
7.10	Control Conduits from Trench to Equipment	1		\$	125,000	. ,	\$ 125,000	\$ 125,000	\$ 250,000	\$ 250,000
7.11	Misc. Materials (Above and Below Ground)	1		\$	180,000				\$ 360,000	
7.12	Install new communication tower foundation.	1	LS			\$ -	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000
7.13	Relocate exiting communication tower.	1	LS			\$ -	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000
7.14										
7.15										
7.16										
7.17										
7.18										
7.19										
7.20										
7.21										
7.22										
7.23										
7.24										
7.25										
TOTAL - MISC	ITEMS					\$ 525,680		\$ 788,055		\$ 1,313,735
	Scotland Substation - Install					\$ 2,815,548		\$ 2,367,205		\$ 5,182,753
8. IVIOB/DEIVIC	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
0.1	Contractor Mobilization / Demobilization	1	1.0	Ś			ć 54.000	ć 54.000	ć 54.020	ć 54.000
8.1	Mob / Demob Project Management, Material Handling & Amenities	1	LS	1 2	-	\$ -	\$ 51,828	\$ 51,828	\$ 51,828	\$ 51,828
8.2	Project Management, Waterian Handling & Amenities Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 278,101	\$ 278,101	\$ 278,101	\$ 278,101
8.3	Utility PM and Project Oversite	1				\$ -	\$ 51,828		\$ 51,828	\$ 51,828
8.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 51,828	\$ 51,828	\$ 51,828	\$ 51,828
	Engineering									
8.5	Design Engineering	1	LS	\$	-	\$ -	\$ 414,620	\$ 414,620	\$ 414,620	\$ 414,620
8.6	Lidar	-	LS	\$			\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$		\$ -	\$ 3,500		\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$	-	\$ -	\$ 36,279	\$ 36,279	\$ 36,279	\$ 36,279
	Testing & Commissioning			1						
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 129,569	\$ 129,569	\$ 129,569	\$ 129,569
	Permitting and Additional Costs			1						
	Environmental Licensing & Permitting Costs	-	LS	\$				\$ -	\$ -	\$ -
8.10				1.6		-	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$						
8.11 8.12	Environmental Mitigation Warranties / LOC's	1	LS	\$	-	\$ -	\$ 15,548	\$ 15,548	\$ 15,548	\$ 15,548
8.11 8.12 8.13	Environmental Mitigation Warranties / LOC's Real Estate Costs (New)	1	LS LS	\$	-	\$ - \$ -	\$ 15,548 \$ -	\$ 15,548 \$ -	\$ 15,548 \$ -	\$ 15,548 \$ -
8.11 8.12	Environmental Mitigation Warranties / LOC's	1	LS	\$	-	\$ - \$ - \$	\$ 15,548	\$ 15,548 \$ - \$ -	\$ 15,548	\$ 15,548 \$ - \$ -

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supp	ly Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 2	25,244	\$ 225,244	\$ -	\$ -	\$ 225,244	\$ 225,244
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 5,183	\$ 5,183	\$ 5,183	\$ 5,183
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 225,244		\$ 1,048,783		\$ 1,274,027

Page 36 of 60
H. SS New Scot.-Install

NAT & NYPA - T026 - (Segment A, Base) Total: \$ 94,849

NAT & NYPA - T026 - (Segment A, Base)								
		Supply		Installation		Total		
I. New Scotland Substation - Removal								
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$	-		
2. SUBSTATION FOUNDATIONS	\$	-	\$	28,800	\$	28,800		
3. SUBSTATION STRUCTURES	\$	-	\$	27,000	\$	27,000		
4. MAJOR EQUIPTMENT	\$	-	\$	-	\$	-		
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	4,500	\$	4,500		
6. CONTROL HOUSE / PANELS	\$	-	\$	-	\$	-		
7. MISC ITEMS	\$	-	\$	21,000	\$	21,000		
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$	13,549	\$	13,549		
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$			
SUBTOTAL:	\$	-	\$	94,849	\$	94,849		
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-		
TOTAL:	\$		\$	94,849	\$	94,849		

Descri	ption of	Wo	rk:
--------	----------	----	-----

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
I. New S	cotland Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000		\$ 203,000	
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75		\$ 75	
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15					¢ .				A
	PREP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
	N FOUNDATIONS 345kV								
2.1 2.1a	Circuit Breaker Foundations	0	EA	Ś -	\$ -	\$ -	\$ -	ć	\$ -
			EA EA	T .	Ť	7	H :	\$ - \$ -	
2.1b 2.1c	Capacitor Bank Foundations Caisson DE Foundations (for DE A frame str stand alone)	0	EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -
	Caisson DE Foundations (for DE A frame str stand alone) Caisson DE Foundations (for DE A frame str shared column)	0	EA EA	1:		-		-	-
2.1d	Switch Stand Foundations Switch Stand Foundations	0		1	7		1	T	-
2.1e 2.1f	Station Service Transformer Stand Foundation	0	EA EA	·	\$ - \$ -	1	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.1f 2.1g	Bus Support 3ph Foundations	0	EA EA	\$ -	\$ -	+:	F:	\$ -	\$ -
2.1g 2.1h	Bus Support 1 Ph Foundations	12	EA EA	\$ -	\$ -		\$ -	\$ 2,400	
2.1ii	Instrument Transformer Stand Foundations	0	EA EA	\$ -	\$ -	\$ 2,400	\$ 28,800	\$ 2,400	\$ 28,800
2.1j 2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Wave Trap Stand Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p	Wisc. Structure i ouridations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Z.1p		0	EM	-	-	-	- ب	, -	· -
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200	\$ -	\$ 7,200	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000		\$ 32,000	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 32,000		\$ 22,000	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ 11,000		\$ 11,000	
2.20	constant server and the server and server an		LA			11,000		7 11,000	7

Page 37 of 60

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200			\$ -
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	, , , , ,	\$ -		\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ - \$ -	\$ - \$ -	\$ 2,400			\$ -
2.2k 2.2m	Arrester Stand Foundations Wave Trap Stand Foundations	0	EA EA	\$ - \$ -	\$ - \$ -	\$ 2,400 \$ -	\$ - \$ -	, , , , ,	\$ - \$ -
2.2m	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.2p	Wisc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.29		Ů	L/ \	,	Ť	Ť	<u> </u>	•	*
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3e	Switch Stand Foundations	0	EA	\$ -	\$ -		\$ -		\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -		\$ - \$ -
2.3k 2.3m	Arrester Stand Foundations Wave Trap Stand Foundations	0	EA EA	\$ -	\$ - \$ -	\$ -	\$ - \$ -	т	\$ - \$ -
2.3m	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.56	Wisc. Structure Foundations		LA	,	7	,	7	7	,
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0		\$ -	\$ -	\$ -	\$ -		\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
TOTAL - SUBS	TATION FOUNDATIONS				\$ -		\$ 28,800		\$ 28,800
	N STRUCTURES								
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0		\$ -	\$ -	\$ -	\$ -		\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
3.1c 3.1d	Switch Stands Station Service Transformer Stand	0	EA EA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -		\$ - \$ -
3.1u 3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ - \$ -		\$ -
3.1e	Bus Support 1 Ph	12	EA	\$ -	\$ -	\$ 2,250	\$ 27,000		\$ 27,000
3.1g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ 2,230	\$ 27,000		\$ 27,000
3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0		\$ -	\$ -	\$ 27,000		\$ 27,000	
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ 27,000		\$ 27,000	
3.2c	Switch Stands	0		\$ -	\$ -	\$ 9,750		\$ 9,750	
3.2d	Station Service Transformer Stand	0		\$ -	\$ -		\$ -		\$ -
3.2e	Bus Support 3ph Bus Support 1 Ph	0		\$ - \$ -	\$ - \$ -	\$ - \$ 2.250		\$ - \$ 2,250	
3.2f 3.2g	Instrument Transformer Stand	0		\$ -	\$ -	\$ 2,250 \$ 1,050		\$ 2,250 \$ 1,050	
3.2g 3.2h	Arrester Stand	0		\$ -	\$ -	\$ 1,050		\$ 1,050	
3.2j	Wave Trap Stand	0		\$ -	\$ -	\$ 4,500		\$ 4,500	
	Interesting			1.*	I *	7,500	Ŧ	7,500	D 20 CCO

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Switch Stands	0		\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	
	Fuse Stand Bus Support 3ph	0	EA EA	\$ -	\$ -	\$ -	\$ - \$ -	\$ -	\$ - \$ -
	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Instrument Transformer Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Wave Trap Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBST	ATION STRUCTURES				\$ -		\$ 27,000		\$ 27,000
4. MAJOR EQU					J		27,000		27,000
	345kV								
	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Capacitor Banks	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c 4.1d		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	230kV								
	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
	115kV				_	4		4	
	Circuit Breakers	0	EA EA	\$ - \$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ -	\$ - \$ -
4.50	Capacitor Banks	U	EA	\$ -	\$ -	ş -	ş -	-	.
TOTAL - MAJO	R EQUIPTMENT				\$ -		\$ -		\$ -
5. SMALL EQUI	PTMENT / MATERIALS								
	345kV								
	Line Switches - 3ph w/ motor operator	0		\$ -	\$ -			\$ 5,500	
	Disconnect Switches - 3ph w/ manual operator VT'S	0	EA EA	\$ -	\$ -	\$ 5,500 \$ -	\$ -	\$ 5,500 \$ -	\$ - \$ -
	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CCVT'S	0		\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	
	Arresters	3	EA	\$ -	\$ -		\$ 4,500	\$ 1,500	
	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2	230kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -	\$ 5,500		\$ 5,500	
	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CCVT'S	0	EA EA	\$ -	\$ - \$ -	\$ 1,500 \$ 2,500	\$ -	\$ 1,500 \$ 2,500	\$ -
	Arresters Wave Traps	0	EA	\$ -	\$ - \$ -	\$ 2,500 \$ 2,500	\$ - \$ -	\$ 2,500 \$ 2,500	
5.2h	Station Service Transformers	0		\$ -	\$ -	\$ 2,300	\$ -	\$ 2,500	\$ -
5.2j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	115kV								
	Line Switches - 3ph w/ motor operator	0		\$ -	\$ -		\$ -		\$ -
	Disconnect Switches - 3ph w/ manual operator VT'S	0		\$ -	\$ - \$ -		\$ -	\$ 5,500 \$ -	\$ - \$ -
	VTS CT'S	0		\$ -	\$ -		\$ -		\$ -
	CCVT'S	0		\$ -			\$ -		\$ -
	Arresters	0		\$ -	\$ -			\$ 1,500	
5.3g	Wave Traps	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Station Service Transformers	0		\$ -			\$ -		\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				l					D 20 - £ (0

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
TOTAL - SMALI	L EQUIPTMENT / MATERIALS				\$ -		\$ 4,500		\$ 4,500
6. CONTROL H	OUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
	Protection and Telecom Equipment Panels	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	125VDC Batteries	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cable	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	DC Distribution System	0		\$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
	Security	0	EA EA	7	\$ - \$ -	7		•	
	Fire Alarm Generator		EA EA	\$ - \$ -	т	\$ - \$ -		т	\$ - \$ -
6.10	Generator	0	EA	\$ -	\$ -	ş -	\$ -	\$ -	\$ -
TOTAL - CONT	L ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS					Ţ.		ý.		7
7.1	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
	Rigid Bus, Fittings & Insulators	1	LS	\$ -	\$ -	\$ 21,000.00	\$ 21,000	\$ 21,000	\$ 21,000
7.2	Strain Bus, Connectors & Insulators	0	LS	\$ -	\$ -	\$ 21,000.00	\$ -	\$ 21,000	\$ -
	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00		\$ 42,000	
7.5	5	-				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, , , , , , , , , , , , , , , , , , , ,	
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC	ITEMS				\$ -		\$ 21,000		\$ 21,000
I. New So	cotland Substation - Removal				\$ -		\$ 81,300		\$ 81,300
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
	Mob / Demob	1	LS	\$ -	\$ -	\$ 813	\$ 813	\$ 813	\$ 813
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 4,362	\$ 4,362	\$ 4,362	\$ 4,362
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 813	\$ 813	\$ 813	\$ 813
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 813	\$ 813	\$ 813	\$ 813
	Engineering								
	Design Engineering	1	LS	\$ -	\$ -	\$ 6,504	\$ 6,504	\$ 6,504	\$ 6,504
8.6	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 569	\$ -	\$ 569	\$ -
	Testing & Commissioning								
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 2,033	\$ -	\$ 2,033	\$ -
	Permitting and Additional Costs								
	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 244		\$ 244	
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17	Color Tour on Materials	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ - \$ -	\$ -	\$ - \$ -	7	\$ - \$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS			\$ 81		\$ 81	\$ 13,549
TOTAL - IVIUB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 13,549		ا 15,549

NAT & NYPA - T027 - (Segment A, Double Circuit)

J. Porter Substation - Install

Estimate Revision: 7 Total: \$ 87,471

NAT & NYPA - T027 - (Segment A, Double Circuit)										
	Supply			Installation		Total				
J. Porter Substation - Install										
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$	-				
2. SUBSTATION FOUNDATIONS	\$	-	\$	-	\$	-				
3. SUBSTATION STRUCTURES	\$	-	\$	-	\$	-				
4. MAJOR EQUIPTMENT	\$	-	\$	-	\$	-				
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	-	\$	-				
6. CONTROL HOUSE / PANELS	\$	-	\$	-	\$	-				
7. MISC ITEMS	\$	15,008	\$	56,904	\$	71,912				
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,201	\$	14,358	\$	15,559				
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-				
SUBTOTAL:	\$	16,209	\$	71,262	\$	87,471				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL:	\$	16,209	\$	71,262	\$	87,471				

	ı of W	

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
J. Porter	Substation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	\$ -
1.3	Substation Fence	0	LF	\$ 100	\$ -	\$ 100		\$ 200	
1.4	Permanent Access Road - 20'-Wide	0	LF	\$ 35	\$ -	\$ 285	\$ -	\$ 320	\$ -
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
2. SUBSTATIO	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ 14,940	\$ -	\$ 16,000		\$ 30,940	
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,025	\$ -	\$ 60,000		\$ 116,025	
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0		\$ 26,145		\$ 28,000		\$ 54,145	
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,145		\$ 28,000		\$ 54,145	
2.1e	Switch Stand Foundations	0		\$ 4,482		\$ 4,800		\$ 9,282	
2.1f	Station Service Transformer Stand Foundation	0		\$ 4,482		\$ 4,800		\$ 9,282	
2.1g	Bus Support 3ph Foundations	0		\$ -	·	\$ -	\$ -	т	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	
2.1k	Arrester Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	
2.1m	Wave Trap Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -		\$ -	\$ 46,410	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000		\$ 7,735	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
				· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·			Daga 41 of 60

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV		F.A.	ć 5.220	ć	ć 5.00	ć	ć 40.030	A
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ - \$ -	,	\$ - \$ -	\$ 10,829	
2.3b 2.3c	Capacitor Bank Foundations Caisson DE Foundations (for DE A frame str stand alone)	0	EA EA	\$ 33,615 \$ 16,434	\$ -		\$ - \$ -	\$ 69,615 \$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	1 -,	\$ -	\$ 6,188	
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations			07.440	<u> </u>	4 404.000	٨	4 201.110	A
2.4a 2.4b	345-230kV Transformer Foundation w/ Oil Containment 345-115kV Transformer Foundation w/ Oil Containment	0	EA EA	\$ 97,110 \$ 74,700	\$ - \$ -	\$ 104,000 \$ 80,000	\$ - \$ -	\$ 201,110 \$ 154,700	
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ - \$ -	\$ 80,000	\$ -		\$ -
2.4c 2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	113KV-05KV Transformer Foundation wy On Containment	0	LA	,	· -	,	· -	· -	,
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ 76,194	\$ -	\$ 81,600	\$ -	\$ 157,794	\$ -
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -	,	\$ -	\$ 10,829	
2.6b		0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SURS	L TATION FOUNDATIONS				\$ -		\$ -		\$ -
	N STRUCTURES				-		, -		· -
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1c	Switch Stands	0	EA	\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
3.1d	Station Service Transformer Stand	0	EA	\$ 14,800	\$ -		\$ -	\$ 29,600	\$ -
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -		\$ -
3.1g	Instrument Transformer Stand	0	EA	\$ 1,850	\$ -		\$ -	\$ 3,700	
3.1h	Arrester Stand	0	EA	\$ 1,850	\$ -		\$ - \$ -	\$ 3,700	
	Wayo Tran Stand		Γ^	ć 7,400	Ċ				\$ -
3.1j	Wave Trap Stand	0	EΑ	\$ 7,400 \$ 6,475	\$ -			ל וז סברו	¢ .
	Wave Trap Stand Misc. Structures	0	EA EA	\$ 7,400 \$ 6,475	\$ - \$ -		\$ -	\$ 12,950	\$ -
3.1j 3.1k	Misc. Structures				·			\$ 12,950	\$ -
3.1j					·			\$ 12,950 \$ 66,600	\$ - \$ -
3.1j 3.1k 3.2	Misc. Structures 230kV	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	\$ -
3.1j 3.1k 3.2 3.2a	Misc. Structures 230kV Substation A-Frame Structures - Stand alone	0	EA EA	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025	\$ - \$ - \$ - \$ -	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025	\$ - \$ - \$ - \$ -	\$ 66,600 \$ 66,600 \$ 24,050	\$ - \$ - \$
3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d	Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 0 0 0	EA EA EA EA	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025	\$ - \$ - \$ - \$ - \$ -	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025	\$ - \$ - \$ - \$ -	\$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050	\$ - \$ - \$ - \$ -
3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2d 3.2e	Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	0 0 0 0 0	EA EA EA EA EA EA	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ -	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ -	\$ - \$ - \$ - \$ - \$ -
3.1j 3.1k 3.2a 3.2b 3.2c 3.2c 3.2d 3.2c 3.2f	Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph	0 0 0 0 0 0	EA EA EA EA EA EA EA	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ - \$ 2,775	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ 2,775	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ - \$ 5,550	\$ - \$ - \$ - \$ - \$ - \$ -
3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2c 3.2d 3.2e 3.2f 3.2g	Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand	0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ -5 \$ 2,775 \$ 1,295	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ -5 \$ 2,775 \$ 1,295	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ - \$ 5,550 \$ 2,590	\$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2e 3.2f 3.2g 3.2h	Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 0 0 0 0 0 0 0	EA	\$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ - \$ 2,775 \$ 1,295 \$ 1,295	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ - \$ 2,775 \$ 1,295 \$ 1,295	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ - \$ 5,550 \$ 2,590 \$ 2,590	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2e 3.2f 3.2g 3.2h 3.2j	Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA	\$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ 2,775 \$ 1,295 \$ 1,295 \$ 1,295 \$ 5,550	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ 2,775 \$ 1,295 \$ 1,295 \$ 5,550	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ -\$ \$ 5,550 \$ 2,590 \$ 2,590 \$ 11,100	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2e 3.2f 3.2g 3.2h 3.2j	Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 0 0 0 0 0 0 0	EA	\$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ 2,775 \$ 1,295 \$ 1,295 \$ 1,295 \$ 5,550	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ - \$ 2,775 \$ 1,295 \$ 1,295	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ - \$ 5,550 \$ 2,590 \$ 2,590	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2d 3.2e 3.2f 3.2g 3.2h 3.2j 3.2k	Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA	\$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ 2,775 \$ 1,295 \$ 1,295 \$ 1,295 \$ 5,550	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ 2,775 \$ 1,295 \$ 1,295 \$ 5,550	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ -\$ \$ 5,550 \$ 2,590 \$ 2,590 \$ 11,100	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3b	Substation A-Frame Structures - Shared Column	0		\$ 18,500		\$ 18,500		\$ 37,000	
3.3c 3.3d	Switch Stands Fuse Stand	0	EA EA	\$ 7,955 \$ 7,955	\$ - \$ -		\$ -	\$ 15,910 \$ 15,910	\$ - \$ -
3.3e	Bus Support 3ph	0	EA EA	\$ 7,955 \$ 3,330	\$ - \$ -	\$ 7,955	\$ - \$ -	\$ 15,910 \$ 6,660	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	
3.3g	Instrument Transformer Stand	0	EA	\$ 740	\$ -		\$ -	\$ 1,480	
3.3h	Arrester Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	
						,			
TOTAL - SUBS	TATION STRUCTURES				\$ -		\$ -		\$ -
4. MAJOR EQU	IIPTMENT								
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	230kV								
4.2a	Circuit Breakers	0		\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
	R EQUIPTMENT				\$ -		\$ -		\$ -
	IPTMENT / MATERIALS								
5.1	345kV	0	F.A.	\$ 40,000	Ć.	\$ 15.000	\$ -	\$ 55,000	*
5.1a	Line Switches - 3ph w/ motor operator	0	EA EA	,	\$ - \$ -	,	'		
5.1b 5.1c	Disconnect Switches - 3ph w/ manual operator VT'S	0	EA EA	\$ 35,000 \$ -	\$ -		\$ - \$ -	\$ 52,500 \$ 12,000	\$ - \$ -
5.1d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	•
5.1e	CCVT'S	0	EA	\$ 13,000	\$ -		\$ -	\$ 21,000	
5.1f	Arresters	0	EA	\$ 6,500	\$ -	\$ 1,500	\$ -	\$ 8,000	\$ -
5.1g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	
5.1h	Station Service Transformers	0	EA	\$ 200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j	Station Service manufacturers	0	EA	\$ 15,000	\$ -	\$ 7,500	\$ -	\$ 22,500	
0.2,		-		7 20,000	· ·	7,000	T	+,	*
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,000	\$ -	\$ 17,500	\$ -	\$ 47,500	\$ -
5.2c	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -	\$ 6,000	\$ -	\$ 16,000	\$ -
5.2f	Arresters	0	EA	\$ 5,000	\$ -	\$ 6,000	\$ -	\$ 11,000	\$ -
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ 33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000	\$ -	\$ 17,500	\$ -	\$ 45,500	\$ -
5.3c	VT'S	0	EA FA	\$ 13,000	\$ -	\$ 8,000 \$ 8,000	\$ -	\$ 21,000	
5.3d	CT'S	0	EA EA	\$ 13,000	\$ -	,	\$ -	\$ 21,000	
5.3e 5.3f	CCVT'S Arresters	0		\$ 8,000 \$ 3,420		\$ 8,000 \$ 6,000		\$ 16,000 \$ 9,420	
5.3g	Wave Traps	0		\$ 3,420	\$ -		\$ -	\$ 9,420	
5.3h	Station Service Transformers	0		\$ -			\$ -		\$ -
5.3j	Fuses	0		\$ -			\$ -		\$ -
5.5,	·			-	· ·	7	Ŧ	Ŧ	Ŧ
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				\$ -		\$ -		\$ -
	OUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -
6.2	Protection and Telecom Equipment Panels	0		\$ 35,000					
	I The state of the	·						,,,,,,,	D 42 -£(

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.3	125VDC Batteries	0	EA	\$	75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	Control Cable	0	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
6.7	DC Distribution System	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
6.8	Security	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.9	Fire Alarm	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.10	Generator	0	EA	\$	100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
TOTAL - CONTI	ROL HOUSE / PANELS / GENERATOR					\$ -		\$ -		\$ -
7. MISC ITEMS										
7.1	Conduit & Cable Trench System	0	LF	\$	185.00	\$ -	\$ 170.00	\$ -	\$ 355	\$ -
7.2	Rigid Bus, Fittings & Insulators	1	LS	\$	15,008.40	\$ 15,008	\$ 56,904.00	\$ 56,904	\$ 71,912	\$ 71,912
7.3	Strain Bus, Connectors & Insulators	0	LF	\$	13.38	\$ -	\$ 39.35	\$ -	\$ 53	\$ -
7.4	Grounding System	0	LF	\$	6.93	\$ -	\$ 32.58	\$ -	\$ 40	\$ -
7.5	Strain Bus Insulators - 345kV	0	EA	\$	2,000	\$ -	\$ 1,050	\$ -	\$ 3,050	\$ -
7.6	Strain Bus Insulators - 230kV	0	EA	\$	1,400	\$ -	\$ 750	\$ -	\$ 2,150	\$ -
7.7	Strain Bus Insulators - 115kV	0		\$	1,000	\$ -	\$ 550	\$ -	\$ 1,550	\$ -
7.8	Low Voltage AC Station Service	0		\$	50,000	\$ -	\$ 75,000	\$ -	\$ 125,000	\$ -
7.9	SSVT Service	0	LS	\$	45,000	\$ -	\$ 45,000	\$ -	\$ 90,000	\$ -
7.10	Control Cables	0	LS	\$	472,500	\$ -	\$ 472,500	\$ -	\$ 945,000	\$ -
7.11	Control Conduits from Trench to Equipment	0	LS	\$			\$ 125,000	\$ -	\$ 250,000	\$ -
7.12	Misc. Materials (Above and Below Ground)	0		\$	180,000	\$ -	\$ 180,000	\$ -	\$ 360,000	\$ -
7.13	,			1	,		,			•
7.14										
7.15										
7.16										
7.17										
7.18										
7.19										
7.20										
7.21										
7.22										
7.23										
7.24				1						
7.25				1						
TOTAL - MISC	ITFMS					\$ 15,008		\$ 56,904		\$ 71,912
	Substation - Install					\$ 15,008		\$ 56,904		\$ 71,912
8. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
	Project Management, Material Handling & Amenities			1						
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ -	\$ 3,859	\$ 3,859	\$ 3,859	\$ 3,859
8.3	Utility PM and Project Oversite	1	LS	1		\$ -	\$ 719	\$ 719	\$ 719	\$ 719
8.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 719		\$ 719	\$ 719
	Engineering			Ť				13		
8.5	Design Engineering	1	LS	\$	-	\$ -	\$ 5,753	\$ 5,753	\$ 5,753	\$ 5,753
	LiDAR	-	LS	Ś	-	\$ -	\$ -	\$ -	\$ -	\$ -
	Geotech	-	EA	\$	-	\$ -	\$ 3,500	\$ -	\$ 3,500	\$ -
	Surveying/Staking	1		\$			\$ 503			
	Testing & Commissioning			T .						
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 1,798	\$ 1,798	\$ 1,798	\$ 1,798
	Permitting and Additional Costs			+*-				. 2,730	,,,,,	. 2,750
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	-	LS	\$			\$ -			\$ -
	Warranties / LOC's	1		\$			\$ 216			
	Real Estate Costs (New)		LS	\$	-				\$ -	
	near Estate costs (new)	<u> </u>		1 7	- 1	¥ -	¥ -	· ·	-	· ·

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 1,201	\$ 1,201	\$ -	\$ -	\$ 1,201	\$ 1,201
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 72	\$ 72	\$ 72	\$ 72
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 1,201		\$ 14,358		\$ 15,559

Page 45 of 60

NAT & NYPA - T026 - (Segment A, Base) K. Porter Substation - Removal

Total: \$ 553,361

NAT & NYPA - TO26 - (Segment A, Base)										
	Supp	oly		Installation		Total				
K. Porter Substation - Removal										
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$	-				
2. SUBSTATION FOUNDATIONS	\$	-	\$	126,600	\$	126,600				
3. SUBSTATION STRUCTURES	\$	-	\$	206,100	\$	206,100				
4. MAJOR EQUIPTMENT	\$		\$	43,500	\$	43,500				
5. SMALL EQUIPTMENT / MATERIALS	\$		\$	59,500	\$	59,500				
6. CONTROL HOUSE / PANELS	\$,	\$	-	\$	-				
7. MISC ITEMS	\$	-	\$	38,613	\$	38,613				
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$	79,048	\$	79,048				
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-				
SUBTOTAL:	\$	-	\$	553,361	\$	553,361				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL:	\$	-	\$	553,361	\$	553,361				

Description	of Work:								
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
K. Porte	r Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE F	PREP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
2. SUBSTATIO	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation Bus Support 3ph Foundations	0	EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.1g 2.1h	Bus Support 1 Ph Foundations Bus Support 1 Ph Foundations	0	EA EA	\$ - \$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1ii 2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ - \$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
· ·									
2.2	230kV								
2.2a	Circuit Breaker Foundations	3	EA	\$ -	\$ -	\$ 7,200	\$ 21,600	\$ 7,200	
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000	\$ -	\$ 32,000	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000		\$ 22,000	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	5	EA	\$ -	\$ -	\$ 11,000	\$ 55,000	\$ 11,000	
2.2e	Switch Stand Foundations	5	EA	\$ -	\$ -	\$ 5,200	\$ 26,000	\$ 5,200	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Estimate Revision:

2.2h Bus Support 1 Ph Foundations	у	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2k Arrester Stand Foundations 2.2n Misc. Structure Foundations 2.2n Misc. Structure Foundations 2.2n Misc. Structure Foundations 2.2b Misc. Structure Foundations 2.2b Capacitor Bark Foundations 2.3b Capacitor Bark Foundations 2.3b Capacitor Bark Foundations 2.3c Calsson De Foundations (for DE A frame str stand alone) 2.3d Caisson De Foundations (for DE A frame str shared column) 2.3e Switch Stand Foundations 2.3f Fuse Stand Foundations 2.3f Fuse Stand Foundations 2.3g Bus Support 1 Ph Foundations 2.3h Bus Support 1 Ph Foundations 2.3h Bus Support 1 Ph Foundations 2.3h Rest Stand Foundations 2.3h Arrester Stand Foundations 2.3h Arrester Stand Foundations 2.3h Arrester Stand Foundations 2.3h Station Service Foundations 2.3h Station Service Foundations 2.3h Station Service Foundations 2.4d Transformer Foundation (Oil Containment 2.4d 345-320V Transformer Foundation w/ Oil Containment 2.4d 345-320V Transformer Foundation w/ Oil Containment 2.4d 230V-115kV Transformer Foundation w/ Oil Containment 2.4d 230V-115kV Transformer Foundation w/ Oil Containment 2.4d Cappor Transformer Foundation w/ Oil Containment 2.4d Cappor Transformer Foundation w/ Oil Containment 2.4d Cappor Transformer Foundation w/ Oil Containment 2.4d Station Service Foundations 2.5b Control House Foundations 3.1b Substation A-Frame Structures - Stand alone 3.1c Switch Stands 3.1 Substation A-Frame Structures - Stand alone 3.11 Substation A-Frame Structures - Shared Column 3.11 Substation A-Frame Structures - Shared Column 3.11 Misc. Structures 3.2 Substation A-Frame Structures - Shared Column 3.11 Misc. Structures 3.2 Substation A-Frame Structures - Shared Column 3.11 Substation A-Frame Structures - Shared Column 3.12 Switch Stands 3.20 Substation A-Frame Structures - Shared Column 3.13 Substation A-Frame Structures - Shared Column 3.14 Substation A-Frame Structures - Shared Column 3.15 Substation A-Frame Structures - Shared Column 3.16 Switch Stands 3.20 Substation A-Frame Structures - Shared Column 3.21 Substation A-Frame Structures - Sha	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2m Wave Trap Stand Foundations 2.2p 2.3 115kV 2.3a Circuit Breaker Foundations 2.3b Capacitor Bank Foundations 2.3c Calsson DE Foundations (For DE A frame str stand alone) 2.3d Caisson DE Foundations (For DE A frame str shared column) 2.3e Switch Stand Foundations (For DE A frame str shared column) 2.3e Switch Stand Foundations (For DE A frame str shared column) 2.3e Switch Stand Foundations 2.3f Euse Stand Foundations 2.3g Bus Support 3ph Foundations 2.3h Bus Support 3ph Foundations 2.3h Instrument Transformer Stand Foundations 2.3h Instrument Transformer Stand Foundations 2.3m Wave Trap Stand Foundations 2.3m Wave Trap Stand Foundations 2.3n Station Service Foundations 2.3n Station Service Foundations 2.3n Station Service Foundations 2.3d Station Service Foundations 2.3d Station Service Foundations 2.4d 345-230kV Transformer Foundation w/ Oil Containment 2.4d 230kV-115kV Transformer Foundation w/ Oil Containment 2.5c Control House Foundations 2.5n Control House Foundations 2.5n Control House Foundations 3.1d Substation A-Frame Structures - Stand alone 3.2d Substation A-Frame Structures - Stand alone 3	4	EA	\$ -	\$ -	\$ 2,400	\$ 9,600	\$ 2,400	\$ 9,600
2.2n Misc. Structure Foundations 2.2b Circuit Breaker Foundations 2.3b Circuit Breaker Foundations 2.3b Capacitor Bank Foundations 2.3c Casson DE Foundations (for DE A frame str stand alone) 2.3d Caisson DE Foundations (for DE A frame str shared column) 2.3d Caisson DE Foundations (for DE A frame str shared column) 2.3d Euse Stand Foundations 2.3f Fuse Stand Foundations 2.3d Bus Support 3 Ph Foundations 2.3h Bus Support 3 Ph Foundations 2.3h Bus Support 3 Ph Foundations 2.3h Wave Trap Stand Foundations 2.3h Wave Trap Stand Foundations 2.3h Wave Trap Stand Foundations 3.2h Station Service Foundations 3.2h Misc. Structure Foundations 3.2h Misc. Structure Foundations 3.4d 345-230k Transformer Foundation w/ Oil Containment 3.4d 345-230k Transformer Foundation w/ Oil Containment 3.4d 345-230k Transformer Foundation w/ Oil Containment 3.4d 345-135k Transformer Foundation w/ Oil Containment 3.4d 345-34 Transformer Foundation w/ Oil Containment 3.5d Control House Foundations / Pad 3.5d Control House Foundations / Pad 3.5d Control House Foundations 3.6d 370 Lightning Mast Foundation 3.1b Substation A-Frame Structures - Stand alone 3.1c Substation A-Frame Structures - Stand alone 3.1d Substation A-Frame Structures - Stand alone 3.2d Substation A-Fram	6	EA	\$ -	\$ -	\$ 2,400	\$ 14,400	\$ 2,400	
2.20 2.30 Lisky 2.3a Circuit Breaker Foundations 2.3b Capacitor Bank Foundations 2.3c Caisson DE Foundations (for DE A frame str stand alone) 2.3d Caisson DE Foundations (for DE A frame str shared column) 2.3e Switch Stand Foundations 2.3f Euse Stand Foundations 2.3g Bus Support 3ph Foundations 2.3h Bus Support 3ph Foundations 2.3h Instrument Transformer Stand Foundations 2.3h Instrument Transformer Stand Foundations 2.3h Arrester Stand Foundations 2.3h Avave Trap Stand Foundations 2.3h Station Service Foundations 2.3n Station Service Foundations 2.3n Station Service Foundations 2.4 Transformer Foundations 2.4. Transformer Foundation w/ Oil Containment 2.4b 345-135kV Transformer Foundation w/ Oil Containment 2.4d 345-135kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.5 Control House Foundations / Pad 2.5a Control House Pad (40 v125) 2.5b Generator Foundation 2.6b 2.6c 20 Control House Pad (40 v125) 2.5b Generator Foundation 3.1c Substation A-Frame Structures - Stand alone 3.1d Substation A-Frame Structures - Stand alone 3.2d Substation A-Frame Structures - Stand alone 3.2d Substation A-Frame Structures - Stand alone 3.2d Substation A-Frame Structures - Stand Bone 3.2d Substation A-Frame Structures - Stand Bone 3.2d Substation A-Frame Structures - Stand Bone 3.2d Subst	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3 115kV 2.3 a Circuit Breaker Foundations 2.3 b Capacitor Bank Foundations 2.3 c Caisson DE Foundations (for DE A frame str stand alone) 2.3 d Caisson DE Foundations (for DE A frame str shared column) 2.3 d Caisson DE Foundations (for DE A frame str shared column) 2.3 f Fuse Stand Foundations 2.3 f Fuse Stand Foundations 2.3 l Sus Support 3 ph Foundations 2.3 l Station Service Foundations 2.4 Transformer Foundations 2.4 Transformer Foundations 2.4 Transformer Foundation of Oil Containment 2.4 Station Service Foundation of Oil Containment 2.5 Control House Foundations / Pad 2.5 Control House Foundations / Pad 2.5 Generator Foundation 2.6 Ughtning Mast Foundation 2.6 Generator Foundation 3.1 Substation A Frame Structures - Stand alone 3.2 Substation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3a Circuit Breaker Foundations 2.3b Casson DE Foundations (for DE A frame str stand alone) 2.3c Casson DE Foundations (for DE A frame str stand alone) 2.3d Casson DE Foundations (for DE A frame str shared column) 2.3d Exwith Stand Foundations 2.3f Fuse Stand Foundations 2.3d Bus Support 3h Foundations 2.3h Bus Support 1h Foundations 2.3h Bus Support 1h Foundations 2.3h Bus Support 1h Foundations 2.3h Arrester Stand Foundations 2.3h Arrester Stand Foundations 2.3h Wave Trap Stand Foundations 2.3h Wave Trap Stand Foundations 3.2n Station Service Foundations 3.2n Station Service Foundations 3.2n Station Service Foundations 3.44 345-230kV Transformer Foundation w/ Oil Containment 2.44 Transformer Foundation w/ Oil Containment 2.45 230kV-115kV Transformer Foundation w/ Oil Containment 2.46 230kV-115kV Transformer Foundation w/ Oil Containment 2.47 245-230kV Transformer Foundation w/ Oil Containment 2.48 35-31kW Transformer Foundation w/ Oil Containment 2.49 345-31kW Transformer Foundation w/ Oil Containment 2.40 115kV-69kV Transformer Foundation w/ Oil Containment 2.41 315kV-69kV Transformer Foundation w/ Oil Containment 2.42 230kV-115kV Transformer Foundation w/ Oil Containment 2.45 Control House Foundations / Pad 2.5a Control House Foundations / Pad 2.5a Control House Foundations 3.6b Substation A Frame Structures - Stand alone 3.1b Substation A Frame Structures - Stand alone 3.1c Switch Stands 3.1d Substation A Frame Structures - Stand alone 3.2d Substation A Frame Structures - Stand alone 3.2d Substation A Frame Structur	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3a Circuit Breaker Foundations 2.3b Casson DE Foundations (for DE A frame str stand alone) 2.3c Casson DE Foundations (for DE A frame str stand alone) 2.3d Casson DE Foundations (for DE A frame str shared column) 2.3d Exwith Stand Foundations 2.3f Fuse Stand Foundations 2.3d Bus Support 3h Foundations 2.3h Bus Support 1h Foundations 2.3h Bus Support 1h Foundations 2.3h Bus Support 1h Foundations 2.3h Arrester Stand Foundations 2.3h Arrester Stand Foundations 2.3h Wave Trap Stand Foundations 2.3h Wave Trap Stand Foundations 3.2n Station Service Foundations 3.2n Station Service Foundations 3.2n Station Service Foundations 3.44 345-230kV Transformer Foundation w/ Oil Containment 2.44 Transformer Foundation w/ Oil Containment 2.45 230kV-115kV Transformer Foundation w/ Oil Containment 2.46 230kV-115kV Transformer Foundation w/ Oil Containment 2.47 245-230kV Transformer Foundation w/ Oil Containment 2.48 35-31kW Transformer Foundation w/ Oil Containment 2.49 345-31kW Transformer Foundation w/ Oil Containment 2.40 115kV-69kV Transformer Foundation w/ Oil Containment 2.41 315kV-69kV Transformer Foundation w/ Oil Containment 2.42 230kV-115kV Transformer Foundation w/ Oil Containment 2.45 Control House Foundations / Pad 2.5a Control House Foundations / Pad 2.5a Control House Foundations 3.6b Substation A Frame Structures - Stand alone 3.1b Substation A Frame Structures - Stand alone 3.1c Switch Stands 3.1d Substation A Frame Structures - Stand alone 3.2d Substation A Frame Structures - Stand alone 3.2d Substation A Frame Structur								
2.3b Capacitor Bank Foundations 2.3c Caisson DE Foundations (for DE A frame str stand alone) 2.3d Caisson DE Foundations (for DE A frame str shared column) 2.3e Switch Stand Foundations 2.3f Euse Stand Foundations 2.3g Bus Support 3ph Foundations 2.3h Bus Support 3ph Foundations 2.3h Instrument Transformer Stand Foundations 2.3h Instrument Transformer Stand Foundations 2.3m Wave Trap Stand Foundations 2.3m Wave Trap Stand Foundations 2.3n Station Service Foundations 2.3n Station Service Foundations 2.3n Station Service Foundations 2.3n Station Service Foundations 2.4d Transformer Foundations 2.4d 345-330kV Transformer Foundation w/ Oil Containment 2.4d 345-330kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.5c Control House Foundations / Pad 2.5a Control House Foundations / Pad 2.5a Control House Foundations 2.6b 2.6c 2.6c 2.6c 2.6c 2.6c 2.6c 2.6c 2.6c								•
2.3c Caisson DE Foundations (for DE A frame str stand alone) 2.3d Caisson DE Foundations 2.3f Fuse Stand Foundations 2.3f Fuse Stand Foundations 2.3g Bus Support 3ph Foundations 2.3h Arrester Stand Foundations 2.3h Wave Trap Stand Foundations 2.3m Station Service Foundations 2.3m Station Service Foundations 2.3n Station Service Foundations 2.3n Station Service Foundations 2.3n Station Service Foundations 2.3n Station Service Foundations 2.4d Transformer Foundations 2.4d Transformer Foundations 2.4d Transformer Foundation w/ Oil Containment 2.5c Control House Foundations / Pad 2.5a Control House Foundation / Oil Containment 2.5c Control House Foundations / Pad 2.5a Control House Foundations 2.6b Control House Foundations 3.0 Substation A-Frame Structures - Stand alone 3.1d Misc. Structures 3.2d Substation A-Frame Structures - Stand Alone 3.1d Misc. Structures 3.2d Substation A-Frame Structures - Stand Alone 3.2d Substation A-Frame	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d Caisson DE Foundations (for DE A frame str shared column) 2.3e Switch Stand Foundations 2.3f Fuse Stand Foundations 2.3g Bus Support 3ph Foundations 2.3h Bus Support 1 Ph Foundations 2.3h Instrument Transformer Stand Foundations 2.3h Arrester Stand Foundations 2.3h Arrester Stand Foundations 2.3m Wave Trap Stand Foundations 2.3n Station Service Foundations 2.3n Misc. Structure Foundations 2.3n Misc. Structure Foundations 2.4 Transformer Foundations 2.4.3 345-236W Transformer Foundation w/ Oil Containment 2.4.4 335-236W Transformer Foundation w/ Oil Containment 2.4.5 230W-115kV Transformer Foundation w/ Oil Containment 2.4.6 115kV-G9kV Transformer Foundation w/ Oil Containment 2.4.6 Control House Foundations / Pad 2.5a Control House Foundations / Pad 2.5a Control House Foundations / Pad 2.5a Control House Foundation 2.6b Lightning Mast Foundation 2.6c Lightning Mast Foundation 3.1c Substation A-Frame Structures - Stand alone 3.1.1 Substation A-Frame Structures - Stand alone 3.1.2 Switch Stands 3.1.3 Substation A-Frame Structures - Stand alone 3.1.4 Substation A-Frame Structures - Stand Stand Station Service Transformer Stand 3.1.1 Bus Support 3 ph 3.1.1 Instrument Transformer Stand 3.1.1 Mave Trap Stand 3.1.2 Switch Stands 3.1.3 Substation A-Frame Structures - Stand St	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e Switch Stand Foundations 2.3f Fuse Stand Foundations 2.3h Bus Support 3ph Foundations 2.3h Bus Support 1 Ph Foundations 2.3h Instrument Transformer Stand Foundations 2.3k Arrester Stand Foundations 2.3m Wave Trap Stand Foundations 2.3n Station Service Foundations 2.3n Station Service Foundations 2.3n Station Service Foundations 2.3n Station Service Foundations 2.3h Misc. Structure Foundations 2.4d Transformer Foundations 2.4d Transformer Foundation w/ Oil Containment 2.4b 345-315kV Transformer Foundation w/ Oil Containment 2.4d 230kV-115kV Transformer Foundation w/ Oil Containment 2.4d 230kV-115kV Transformer Foundation w/ Oil Containment 2.4d 215kV-69kV Transformer Foundation w/ Oil Containment 2.4d 215kV-69kV Transformer Foundation w/ Oil Containment 2.5c Control House Foundations / Pad 2.5a Control House Foundation / Oil Containment 2.5b Generator Foundation 2.6c Lightning Mast Foundation 2.6c Uightning Mast Foundation 2.6c Total - Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Stand alone 3.1c Switch Stands 3.1d Substation A-Frame Structures - Stand alone 3.1e Bus Support 3ph Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.2c Switch Stands 3.2d Substation A-Frame Structures - Stand alone 3.2d Substation A-Frame Structures - Stand Bolen 3.2d Substation A-Frame Structures - Stand Bolen 3.2d	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3f Fuse Stand Foundations 2.3g Bus Support 3ph Foundations 2.3h Bus Support 1 Ph Foundations 2.3l Instrument Transformer Stand Foundations 2.3l Arrester Stand Foundations 2.3m Wave Trap Stand Foundations 2.3m Wave Trap Stand Foundations 2.3n Station Service Foundations 2.3n Misc. Structure Foundations 2.3n Misc. Structure Foundations 2.4d Transformer Foundations 2.4d 345-328/W Transformer Foundation w/ Oil Containment 2.4d 345-315kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.5c Control House Foundations Pad 2.5a Control House Foundations Pad 2.5a Control House Foundation 2.6b 2.6c Lightning Mast Foundation 2.6b 3.70 'Lightning Mast Foundation 2.6b 3.13 Substation A-Frame Structures - Stand alone 3.10 Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 19 Substand Arrester Stand 3.1f Sus Substation A-Frame Structures - Shared Column 3.1l Misc. Structures 3.2 Switch Stands 3.3l Misc. Structures 3.2 Substation A-Frame Structures - Stand alone 3.1l) Wave Trap Stand 3.1l Misc. Structures 3.2 Substation A-Frame Structures - Stand alone 3.2 Substation A-Frame Structu	0	EA	\$ -		\$ -	\$ -	\$ -	\$ -
2.3g Bus Support 3 ph Foundations 2.3h Bus Support 1 Ph Foundations 2.3k Arrester Stand Foundations 2.3k Arrester Stand Foundations 2.3m Wave Trap Stand Foundations 2.3n Wave Trap Stand Foundations 2.3n Station Service Foundations 2.3n Misc. Structure Foundations 2.3n Misc. Structure Foundations 2.4d Transformer Foundations 2.4a 345-230kV Transformer Foundation w/ Oil Containment 2.4b 345-135kV Transformer Foundation w/ Oil Containment 2.4c 2.30kV-13kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.5c Control House Foundations / Pad 2.5a Control House Foundations / Pad 2.5a Control House Foundation 2.6a Ughtning Mast Foundation 2.6b Control House Foundation 3.1c Substation Arrame Structures - Stand alone 3.1 345kV 3.1a Substation Arrame Structures - Stand alone 3.1b Substation Arrame Structures - Stand alone 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1h Arrester Stand 3.1k Misc. Structures 3.2 Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Substation A-Frame Structures - Stand alone 3.2e Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.1k Misc. Structures 3.2d Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Switch Stands 3.2d Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Switch Stands	0	EA	\$ -	\$ -			\$ 5,200	
2.3h Bus Support 1 Ph Foundations 2.3j Instrument Transformer Stand Foundations 2.3m Arrester Stand Foundations 2.3m Wave Trap Stand Foundations 2.3n Misc. Structure Foundations 2.3p Misc. Structure Foundations 2.4 Transformer Foundations 2.4 Transformer Foundations 2.4. 345-320kV Transformer Foundation w/ Oil Containment 2.4. 345-13kV Transformer Foundation w/ Oil Containment 2.4. 336-13kV Transformer Foundation w/ Oil Containment 2.4. 336-13kV Transformer Foundation w/ Oil Containment 2.4. 336-13kV Transformer Foundation w/ Oil Containment 2.4. 320kV-115kV Transformer Foundation w/ Oil Containment 2.5. Control House Foundation w/ Oil Containment 2.5. Control House Foundation w/ Oil Containment 2.5. Control House Pad (40x125) 2.5. Generator Foundation 2.6. Lightning Mast Foundation 2.6. Lightning Mast Foundation 3.6. 2.6. 70' Lightning Mast Foundation 3.6. 2.6. 30' Lightning Mast Foundation 3.7 Substation Foundation 3.8 Substation Foundation Substation A-Frame Structures - Stand alone 3.1. Substation A-Frame Structures - Shared Column 3.1. Substation A-Frame Structures - Shared Column 3.1. Sation Service Transformer Stand 3.1. Instrument Transformer Stand 3.1. Instrument Transformer Stand 3.1. Misc. Structures 3.2 Switch Stands 3.1. Misc. Structures 3.2 Substation A-Frame Structures - Stand alone 3.2. Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3 Instrument Transformer Stand Foundations 2.3k Arrester Stand Foundations 2.3m Wave Trap Stand Foundations 2.3n Station Service Foundations 2.3n Misc. Structure Foundations 2.4a 345-230kV Transformer Foundation w/ Oil Containment 2.4b 345-131kW Transformer Foundation w/ Oil Containment 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.5c Control House Foundations / Pad 2.5a Control House Foundations / Pad 2.5a Control House / Pad (40*x125*) 2.5b Generator Foundation 2.6b Lightning Mast Foundation 2.6a 70* Lightning Mast Foundation 2.6b 2.6c 2.6c Total Station Foundation 3. SUBSTATION FOUNDATIONS 3. SUBSTATION FOUNDATIONS 3. SUBSTATION FOUNDATIONS 3. SUBSTATION FOUNDATIONS 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 1 Ph 3.1g Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1l Arrester Stand 3.1l Misc. Structures 3.2 Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Substation A-Frame Structures - Stand alone 3.2e Substation A-Frame Structures - Stand alon	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3k Arrester Stand Foundations 2.3m Wave Trap Stand Foundations 2.3n Station Service Foundations 2.3p Misc. Structure Foundations 2.3p Misc. Structure Foundations 2.4a 3d5-230kV Transformer Foundation w/ Oil Containment 2.4b 3d5-115kV Transformer Foundation w/ Oil Containment 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.5c Control House Foundations / Pad 2.5a Control House Foundations / Pad 2.5a Control House Foundations / Pad 2.5a Control House / Pad (40*125') 2.5b Generator Foundation 2.6 Lightning Mast Foundation 2.6 Lightning Mast Foundation 3.6b 2.6a 70 Lightning Mast Foundation 3.1b Substation A-Frame Structures - Stand alone 3.1 Substation A-Frame Structures - Shared Column 3.1a Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 1 Ph 3.1g Bus Support 1 Ph 3.1g Uave Trap Stand 3.1l Wave Trap Stand 3.1k Misc. Structures 3.2 Switch Stands 3.2 Instrument Transformer Stand 3.2 Switch Stands	0	EA	\$ -		\$ -	\$ -	\$ -	\$ -
2.3m Wave Trap Stand Foundations 2.3n Station Service Foundations 3.23p Misc. Structure Foundations 2.4a Transformer Foundations 2.4a 345-230kV Transformer Foundation w/ Oil Containment 2.4b 345-115kV Transformer Foundation w/ Oil Containment 2.4c 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.5 Control House Foundations / Pad 2.5a Control House Foundations / Pad 2.5b Generator Foundation 2.6 Lightning Mast Foundation 2.6 Lightning Mast Foundation 3.1b Substation Foundations 70' Lightning Mast Foundation 70' Lightning Mast Foundation 3. SUBSTATION FOUNDATIONS 3. SUBSTATION FOUNDATIONS 3. SUBSTATION STRUCTURES 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Substation Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 3ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1l Arrester Stand 3.1l Wave Trap Stand 3.2d Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Substation A-Frame Structures - Shared Column 3.2e Bus Support 3ph 3.2e Bus Support 1ph 3.2e Instrument Transformer Stand 3.2d Station Service Transformer Stand 3.2d Wave Trap Stand 3.2d Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3n Station Service Foundations 2.3p Misc. Structure Foundations 2.4a Transformer Foundations 2.4a 345-230kV Transformer Foundation w/ Oil Containment 2.4b 345-115kV Transformer Foundation w/ Oil Containment 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.5d Control House Foundations / Pad 2.5s Control House Foundations / Pad 2.5s Control House P pad (40°x125°) 2.5b Generator Foundation 2.6c Lightning Mast Foundations 2.6a 70° Lightning Mast Foundation 2.6b 2.6c TOTAL - SUBSTATION FOUNDATIONS 3. SUBSTATION STRUCTURES 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Sustion Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1h Arrester Stand 3.1h Arrester Stand 3.1h Arrester Stand 3.1h Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Shared Column 3.2b Substation A-Frame Structures - Shared Column 3.1c Side Substation A-Frame Structures - Shared Substation Service Transformer Stand 3.1h Arrester Stand 3.1h Arrester Stand 3.1h Arrester Stand 3.1h Airester Stand 3.2c Substation A-Frame Structures - Shared Column 3.2c Substation A-Frame Structures - Shared Column 3.2d Substation Service Transformer Stand 3.2d Station Service Transformer Stand 3.2d Substation A-Frame Structures - Shared Column 3.2e Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p Misc. Structure Foundations 2.4a Transformer Foundations 2.4a 345-230kV Transformer Foundation w/ Oil Containment 2.4b 345-115kV Transformer Foundation w/ Oil Containment 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.5 Control House Foundations / Pad 2.5a Control House Pad (dvx125) 2.5b Generator Foundation 2.6 Generator Foundation 2.6 Lightning Mast Foundation 2.6 ToTAL - SUBSTATION FOUNDATIONS 3.10 SUBSTATION FOUNDATIONS 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Arrester Stand 3.1l Arrester Stand 3.2l Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2d Substation A-Frame Structures - Shared Column	0	EA EA	\$ - \$ -	\$ - \$ -	\$ -	\$ -	\$ - \$ -	\$ - \$ -
2.4	0	EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ -
2.4a 345-230kV Transformer Foundation w/ Oil Containment 2.4b 345-115kV Transformer Foundation w/ Oil Containment 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.5d Control House Foundations / Pad 2.5a Control House / Pad (40'x125') 2.5b Generator Foundation 2.6 Lightning Mast Foundation 2.6a 70' Lightning Mast Foundation 3.0b 2.6c Control House / Pad (40'x125') 2.5c Control House / Pad (40'x125') 2.5b Generator Foundation 3.1d Substation Mast Foundation 3.1d Substation Foundation 3.1d Substation National Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1h Arrester Stand 3.1h Misc. Structures 3.2 Z30kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.1d Station Service Transformer Stand 3.1d Arrester Stand 3.1d Arrester Stand 3.1d Station Service Transformer Stand Stands 3.2d Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2d Subsupport 1 Ph 3.2g Instrument Transformer Stand 3.2d Subsupport 1 Ph 3.2g Instrument Transformer Stand 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 3.2d Substation A-Frame Structures - Stand Substation A-Frame Structures - Stand Substation A-Frame Struct	-	EA	· -	- ب	-	-	- ب	-
2.4a 345-230kV Transformer Foundation w/ Oil Containment 2.4b 345-115kV Transformer Foundation w/ Oil Containment 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.5d Control House Foundations / Pad 2.5a Control House / Pad (40'x125') 2.5b Generator Foundation 2.6 Lightning Mast Foundation 2.6a 70' Lightning Mast Foundation 3.0b 2.6c Control House / Pad (40'x125') 2.5c Control House / Pad (40'x125') 2.5b Generator Foundation 3.1d Substation Mast Foundation 3.1d Substation Foundation 3.1d Substation National Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1h Arrester Stand 3.1h Misc. Structures 3.2 Z30kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.1d Station Service Transformer Stand 3.1d Arrester Stand 3.1d Arrester Stand 3.1d Station Service Transformer Stand Stands 3.2d Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2d Subsupport 1 Ph 3.2g Instrument Transformer Stand 3.2d Subsupport 1 Ph 3.2g Instrument Transformer Stand 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 3.2d Substation A-Frame Structures - Stand Station Service Transformer Stand 3.2d Substation A-Frame Structures - Stand Substation A-Frame Structures - Stand Substation A-Frame Struct								
2.4b 345-115kV Transformer Foundation w/ Oil Containment 2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 115kV-69kV Transformer Foundation w/ Oil Containment 2.5d 115kV-69kV Transformer Foundation w/ Oil Containment 2.5 Control House Foundations / Pad 2.5a Control House / Pad (40x125') 2.5b Generator Foundation 2.6a 10 Lightning Mast Foundation 2.6a 70' Lightning Mast Foundation 2.6b 2.6c COTAL - SUBSTATION FOUNDATIONS 3. SUBSTATION STRUCTURES 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Stand alone 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1d Station Service Transformer Stand 3.1f Bus Support 1Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1h Arrester Stand 3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2d Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Stand Bus Support 3ph 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Substation A-Frame Structures - Stand Bus Support 3ph 3.2e Substation A-Frame Structures - Stand 3.e Substation A-Fra	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.5 Control House Foundations / Pad 2.5a Control House Foundation 2.5b Generator Foundation 2.6 Lightning Mast Foundations 2.6a 70' Lightning Mast Foundation 2.6b 2.6c TOTAL - SUBSTATION FOUNDATIONS 3. SUBSTATION STRUCTURES 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3 Ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1h Arrester Stand 3.1h Arses Structures 3.2 Switch Stands 3.2 Substation A-Frame Structures - Shared Column 3.1c Substation A-Frame Structures - Shared Column 3.1c Substation A-Frame Structures - Shared Column 3.1d Substation A-Frame Structures - Stand Shared Sha	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 2.5 Control House Foundations / Pad 2.5a Control House / Pad (40°x125°) 2.5b Generator Foundation 2.6 Lightning Mast Foundation 2.6a 70° Lightning Mast Foundation 2.6b 2.6c TOTAL - SUBSTATION FOUNDATIONS 3. SUBSTATION STRUCTURES 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1d Bus Support 3 Ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1h Wave Trap Stand 3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Shared Column 3.2b Substation A-Frame Structures - Shared Column 3.1c Substation A-Frame Structures - Stand alone 3.2d Substation A-Frame Structures - Stand alone 3.2d Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Substation A-Frame Structures - Shared Column 3.2e Switch Stands 3.2d Station Service Transformer Stand 3.2e Switch Stands 3.2d Station Service Transformer Stand 3.2e Substation A-Frame Structures - Shared Column 3.2e Switch Stands 3.2d Instrument Transformer Stand 3.2e Sussupport 1 Ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
2.5 Control House Foundations / Pad 2.5a Control House / Pad (40'x125') 2.5b Generator Foundation 2.6 Lightning Mast Foundation 2.6a 70' Lightning Mast Foundation 2.6b 2.6c 2.6c TOTAL - SUBSTATION FOUNDATIONS 3. SUBSTATION STRUCTURES 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1h Arrester Stand 3.1l Wave Trap Stand 3.1l Wisc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Shared Column 3.1b Substation A-Frame Structures - Stand alone 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1d Station Service Transformer Stand 3.1d Station Service Transformer Stand 3.1d Station Structures - Stand alone 3.2d Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2d Instrument Transformer Stand 3.2d Narester Stand 3.2l Wave Trap Stand	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
2.5a Control House / Pad (40'x125') 2.5b Generator Foundation 2.6 Lightning Mast Foundations 2.6a 70' Lightning Mast Foundation 2.6b 2.6c TOTAL - SUBSTATION FOUNDATIONS 3. SUBSTATION STRUCTURES 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1j Wave Trap Stand 3.1j Wave Trap Stand 3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Shared Column 3.2b Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.1j Bus Support 3ph 3.2l Substation A-Frame Structures - Stand alone 3.2l Substation A-Frame Structures - Stand Column 3.2l Substation A-Frame Structures - Stand Substation	-	LA	· -	· -	-	-	· -	-
2.5a Control House / Pad (40'x125') 2.5b Generator Foundation 2.6 Lightning Mast Foundations 2.6a 70' Lightning Mast Foundation 2.6b 2.6c TOTAL - SUBSTATION FOUNDATIONS 3. SUBSTATION STRUCTURES 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1j Wave Trap Stand 3.1j Wave Trap Stand 3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Shared Column 3.2b Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.1j Bus Support 3ph 3.2l Substation A-Frame Structures - Stand alone 3.2l Substation A-Frame Structures - Stand Column 3.2l Substation A-Frame Structures - Stand Substation								
2.5b Generator Foundation 2.6 Uightning Mast Foundation 2.6a 70' Lightning Mast Foundation 2.6b 2.6c 2.6c TOTAL - SUBSTATION FOUNDATIONS 3. SUBSTATION STRUCTURES 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1d Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1l Wave Trap Stand 3.1l Wave Trap Stand 3.1l Wave Trap Stand 3.1l Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1d Arrester Stand 3.1h Arrester Stand 3.1l Substation A-Frame Structures - Stand alone 3.2 Substation A-Frame Structures - Stand alone 3.2.2 Substation A-Frame Structures - Stand Column 3.2.2 Switch Stands 3.2.3 Substation Service Transformer Stand 3.2.6 Bus Support 1 Ph 3.2.7 Bus Support 1 Ph 3.2.8 Instrument Transformer Stand 3.2.9 Substation Service Transformer Stand 3.2.1 Arrester Stand 3.2.2 Substument Transformer Stand 3.2.3 Substument Transformer Stand 3.2.4 Arrester Stand 3.2.5 Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6a TO'L Lightning Mast Foundations 2.6b 2.6c TOTAL - SUBSTATION FOUNDATIONS 3. SUBSTATION STRUCTURES 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1h Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Shared Column 3.1b Substation A-Frame Structures - Stand Station Service Transformer Stand 3.1 Station Service Stand 3.1 Station Service Stand 3.1 Station Service Stand Station Service Stand Station Service Transformer Stand 3.2 Substation A-Frame Structures - Shared Column 3.2 Switch Stands 3.2 Switch Stands 3.2 Switch Stands 3.2 Station Service Transformer Stand 3.2 Bus Support 3ph 3.2 Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6a 70' Lightning Mast Foundation 2.6b 2.6c 2.6c TOTAL - SUBSTATION FOUNDATIONS 3. SUBSTATION STRUCTURES 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1) Wave Trap Stand 3.1h Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Substation A-Frame Structures - Stand alone 3.2e Bus Support 3ph 3.2e Bus Support 1 Ph 3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2l Wave Trap Stand		E,	Ÿ	Ÿ	,	,	Ÿ	*
2.6a 70' Lightning Mast Foundation 2.6b 2.6c 2.6c TOTAL - SUBSTATION FOUNDATIONS 3. SUBSTATION STRUCTURES 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1) Wave Trap Stand 3.1h Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Substation A-Frame Structures - Stand alone 3.2e Bus Support 3ph 3.2e Bus Support 1 Ph 3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2l Wave Trap Stand								
2.6b 2.6c TOTAL - SUBSTATION FOUNDATIONS 3. SUBSTATION STRUCTURES 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1l) Wave Trap Stand 3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Stand alone 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 1Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2h Arrester Stand 3.2h Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c TOTAL - SUBSTATION FOUNDATIONS 3. SUBSTATION STRUCTURES 3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1l Mave Trap Stand 3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2e Bus Support 3ph 3.2e Bus Support 3ph 3.2e Instrument Transformer Stand 3.2e Bus Support 3ph 3.2e Instrument Transformer Stand 3.2e Bus Support 3ph 3.2e Instrument Transformer Stand 3.2e Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3. SUBSTATION STRUCTURES 3.1 345KV 3.1.3 Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1l Wave Trap Stand 3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3. SUBSTATION STRUCTURES 3.1 345KV 3.1.3 Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1l Wave Trap Stand 3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand								
3.1 345kV 3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1l Wave Trap Stand 3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2l Maye Trap Stand				\$ -		\$ 126,600		\$ 126,600
3.1a Substation A-Frame Structures - Stand alone 3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1j Wave Trap Stand 3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2h Arrester Stand 3.2l Wave Trap Stand								
3.1b Substation A-Frame Structures - Shared Column 3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1h Wave Trap Stand 3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2e Bus Support 1 Ph 3.2e Bus Support 1 Ph 3.2e Rus Support 3ph 3.2f Rus Support 3 Ph 3.2d Rus								
3.1c Switch Stands 3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1) Wave Trap Stand 3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2l Maye Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d Station Service Transformer Stand 3.1e Bus Support 3ph 3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1l Wave Trap Stand 3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2e Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2l Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f Bus Support 1 Ph 3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1j Wave Trap Stand 3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3 ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2l Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g Instrument Transformer Stand 3.1h Arrester Stand 3.1j Wave Trap Stand 3.1j Wave Trap Stand 3.1k Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1h	0	EA	\$ -		\$ -	\$ -	\$ -	\$ -
3.1j Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k Misc. Structures 3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2l Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2h Arrester Stand 3.2j Wave Trap Stand 3.2j Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2j Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2j Wave Trap Stand								
3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2j Wave Trap Stand								
3.2c Switch Stands 3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2j Wave Trap Stand	0	EA	\$ -	\$ -	\$ 27,000		\$ 27,000	
3.2d Station Service Transformer Stand 3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2j Wave Trap Stand	5	EA		\$ -	\$ 27,000	,	\$ 27,000	
3.2e Bus Support 3ph 3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2j Wave Trap Stand	6	EA	\$ -	\$ -				
3.2f Bus Support 1 Ph 3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2j Wave Trap Stand	0	EA	\$ -			\$ -	\$ -	
3.2g Instrument Transformer Stand 3.2h Arrester Stand 3.2j Wave Trap Stand	0	EA	\$ -	\$ -		\$ -	\$ -	
3.2h Arrester Stand 3.2j Wave Trap Stand	0	EA	\$ -		\$ 2,250		\$ 2,250	
3.2j Wave Trap Stand	6	EA	\$ -		\$ 1,050		\$ 1,050	
	6	EA	\$ -	\$ -				
3.2K Misc. Structures	0	EA	\$ -	\$ -	\$ 4,500		\$ 4,500	
	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3 115kV								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	0	EA	\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ATION STRUCTURES				\$ -		\$ 206,100		\$ 206,100
4. MAJOR EQU									
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	3	EA	\$ -	\$ -	\$ 14,500	\$ 43,500	\$ 14,500	\$ 43,500
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJO	R EQUIPTMENT				\$ -		\$ 43,500		\$ 43,500
5. SMALL EQU	PTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Arresters	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	2		\$ -	\$ -	\$ 5,500	\$ 11,000	\$ 5,500	\$ 11,000
5.2b	Disconnect Switches - 3ph w/ manual operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,500
5.2c	VT'S	2	EA	\$ -	\$ -	\$ 1,500	\$ 3,000	\$ 1,500	\$ 3,000
5.2d	CT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S	6	EA	\$ -	\$ -	\$ 1,500	\$ 9,000	\$ 1,500	
5.2f	Arresters	6	EA	\$ -	\$ -	\$ 2,500	\$ 15,000	\$ 2,500	
5.2g	Wave Traps	2	EA	\$ -	\$ -	\$ 2,500	\$ 5,000	\$ 2,500	\$ 5,000
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
5.3c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
	CT'S	0		\$ -	\$ -		\$ -		\$ -
	CCVT'S	0		\$ -	\$ -		\$ -		\$ -
	Arresters	0		\$ -	\$ -			\$ 1,500	
	Wave Traps	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Station Service Transformers	0		\$ -			\$ -		\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	LEQUIPTMENT / MATERIALS				\$ -		\$ 59,500		\$ 59,500
	OUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
									D 10 -£(0

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Protection and Telecom Equipment Panels	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cable	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
0.10	Generator	0	EA	7	7	7	7	7	7
TOTAL - CONTE	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS	NOT HOUSE / FANCES / GENERATOR				, -		, -		3 -
	County it 9. Cold - Trough Costons	0	EA	ć	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
	Conduit & Cable Trench System			\$ -			·		
	Rigid Bus, Fittings & Insulators	1	L.S.	\$ -	\$ -		\$ 18,938	\$ 18,938	
	Strain Bus, Connectors & Insulators	1	L.S.	\$ -	\$ -		\$ 19,675	\$ 19,675	
	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC	ITEMS				\$ -		\$ 38,613		\$ 38,613
					Ÿ		7 00,020		
K. Porter	Substation - Removal				\$ -		\$ 474,313		\$ 474,313
8. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
	Mob / Demob	1.0	LS	Ś -	\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
	Project Management, Material Handling & Amenities		-			, , ,	. ,		
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS		\$ -	\$ 25,451	\$ 25,451	\$ 25,451	\$ 25,451
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
	Engineering								
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 37,945	\$ 37,945	\$ 37,945	\$ 37,945
8.6	Lidar	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -		\$ -
	Surveying/Staking	-	Site	\$ -	\$ -	\$ 3,320	\$ -	\$ 3,320	
	Testing & Commissioning		- Orec	7	· ·	9 3,525	Ÿ	9 3,525	•
	Testing & Commissioning of T-Line and Equipment		LS	\$ -	\$ -	\$ 11,858	\$ -	\$ 11,858	\$ -
	Permitting and Additional Costs		LJ	, -	, -	7 11,050	7	7 11,050	-
		_	1.0	ć	\$ -	\$ -	\$ -	ć	_
	Environmental Licensing & Permitting Costs	-	LS	\$ -	т	\$ - \$ -		\$ - \$ -	\$ - \$ -
	Environmental Mitigation		LS	\$ -	\$ -				
	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 1,423	\$ 1,423	\$ 1,423	\$ 1,423
	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	·	\$ -
	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17			LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	\$ 474	\$ -	\$ 474	
	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 79,048		\$ 79,048
	, .,,								

L. Interconnection Edic Station

Estimate Revision: 7 Total: \$ 2,132,044

NAT & NYPA - T026 - (Segment A, Base)										
		Supply	Inst	allation		Total				
L. Interconnection Edic Station										
1. CLEARING & ACCESS	\$	-	\$	367,850	\$	367,850				
2. FOUNDATIONS	\$	168,366	\$	170,169	\$	338,536				
3. STRUCTURES	\$	501,469	\$	321,821	\$	823,289				
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$	-				
5. INSULATORS, FITTINGS, HARDWARE	\$	160,000	\$	94,400	\$	254,400				
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	66,387	\$	281,583	\$	347,969				
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-				
SUBTOTAL:	\$	896,222	\$	1,235,823	\$	2,132,044				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL:	Ś	896.222	Ś	1.235.823	Ś	2.132.044				

)escri	iption of	Wo	rk:
--------	-----------	----	-----

ltem	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
L. Interc	onnection Edic Station								
1. CLEARING 8	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$ -	\$ -	\$ 5,000	\$ 10,000		
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45		\$ 45	
1.4	Silt Fence	3,500.0	LF	\$ -	\$ -	\$ 4			\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$ -		\$ 70			
1.6	Matting - To Work Area	300.0	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800		\$ 516,800	
1.8	ROW Restoration	0.5	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	20,000.0	SF	\$ -	\$ -	\$ 4			\$ 70,400
1.10	Restoration for Work Pad areas	4,000.0	SF	\$ -	\$ -	\$ 0.2			\$ 600
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580		\$ 4,580	
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130		\$ 4,130	
1.15	Gates	-	EA	\$ 2,000		\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250		\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18					\$ -		\$ -		\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEA	RING & ACCESS				\$ -		\$ 367,850		\$ 367,850
2. FOUNDATIO	DNS								
2.1	Foundation – Drilled Pier – 8'X 27'	3	EA	\$ 41,332	\$ 123,995	\$ 41,774	\$ 125,322	\$ 83,106	\$ 249,317
2.2	Foundation – Drilled Pier – 8'X 29'	1	EA	\$ 44,372	\$ 44,372	\$ 44,847	\$ 44,847	\$ 89,219	\$ 89,219
2.3	Rock Excavation Adder	-	CY	\$ -	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.4									
2.5									
2.6									
2.7					<u> </u>				
2.8					1	1			
2.9									
2.10									
2.11									
2.12									
2.13									
2.14									
									Page 50 of 60

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
2.15											
TOTAL - FOUN	DATIONS					\$ 168,366		\$ 170,169		\$	338,536
3. STRUCTURE	S .										
3.1	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) – 105′	3	Structure	\$		\$ 296,648	\$ 59,330			\$	474,636
3.2	2-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1		\$	202,797						324,475
3.3	Install Grounding and Grounding Accessories	4	Pole	\$	506		\$ 5,539	\$ 22,154	\$ 6,045	\$	24,178
3.4						\$ -		\$ -		\$	-
3.5						<u> </u>		A			
3.6						\$ -		\$ - \$ -		\$	-
3.7						\$ - \$ -		\$ -		\$	-
3.9						\$ -		\$ -		\$	
3.10						\$ -		\$ -		\$	-
3.11						\$ -		\$ -		\$	-
3.12						\$ -		\$ -		\$	-
3.13						\$ -		\$ -		Ś	-
3.14				1		\$ -		\$ -		\$	_
3.14				1		·		7			
3.15						\$ -		\$ -		\$	-
TOTAL - STRUC	CTURES					\$ 501,469		\$ 321,821		\$	823,289
4. CONDUCTO	R, SHIELDWIRE, OPGW										
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"		LF	\$	1.90	\$ -	\$ 5.00	\$ -	\$ 6.90	\$	-
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$	1.35		\$ 5.00	\$ -	\$ 6.35		-
4.3	(1) 3/8" EHS7 Steel	-	LF	\$	0.47		\$ 5.00	\$ -	\$ 5.47		-
4.5	Remove Existing Cable From Existing Structures	-	Mile	\$		\$ -	\$ 30,000	\$ -	\$ 30,000.00		-
4.6	Remove Existing OPGW Cable	-	Mile	\$		\$ -	\$ 12,000	\$ -	\$ 12,000.00		-
4.7	Remove Existing EH7	-	Mile	\$	-	\$ -	\$ 12,000	\$ -	\$ 12,000.00	\$	-
4.8											
4.9		-		1.							
4.10	Rider Poles - Relocated	-	Set	\$		\$ -	\$ 3,500		\$ 3,500.00		-
4.11	Rider Poles UCTOR, SHIELDWIRE, OPGW:		EA	\$	1,750	\$ - \$ -	\$ 3,500	\$ - \$ -	\$ 5,250.00	\$	
	, FITTINGS, HARDWARE					\$ -		\$ -		>	-
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)										
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)										
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	60	Assembly	\$	1,800	\$ 108,000	\$ 720	\$ 43,200	\$ 2,520	Ś	151,200
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)			1		7 270,000	, , , ,	+ 10,200	7 -,	•	
5.5	OPGW Assembly - Tangent		Assembly	\$	200	\$ -	\$ 150	\$ -	\$ 350	\$	-
5.6	OPGW Assembly - Angle / DE	4	Assembly	\$	250						1,600
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$		\$ 1,000		\$ 600	\$ 400	\$	1,600
5.8	OPGW Splice Boxes	-	Set	\$	1,746	\$ -	\$ 2,274	\$ -	\$ 4,020	\$	-
5.9	OPGW Splice & Test	-	EA	\$	2,520	\$ -	\$ 2,520	\$ -	\$ 5,040	\$	-
5.10	Spacer - Conductor		EA	\$	50		\$ 35		\$ 85	\$	-
5.11	Vibration Dampers - Conductor	-	EA	\$	35	\$ -	\$ 35	\$ -	\$ 70	\$	-
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$	27	\$ -	\$ 35	\$ -	\$ 62	\$	-
5.13		_	EA	\$	720	\$ -	\$ 885	\$ -	\$ 1,605	ć	_
	Guys, Anchors, and Accessories						7		, , , , , , , , , , , , , , , , , , , ,		
5.14	Misc. materials (Signs and Markers)	-	Mile	\$	770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$	-
5.15				+							
5.16 5.17				+							
				+							
5.18 5.19	Interconnection Arrangements	1	EA	\$	50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 100,000	ć	100,000
5.19	micromicedon Arrangements	1	EM	1	30,000	y 30,000	ا الالاران	÷ 30,000	7 100,000	ų	100,000
	ATOR, FITTINGS, HARDWARE					\$ 160,000		\$ 94,400		\$	254,400
										Ś	
	onnection Edic Station					\$ 829,835		\$ 954,240		Ş	1,784,075
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization			+.							
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 17,841	\$ 17,841	\$ 17,841	\$	17,841
	Project Management, Material Handling & Amenities			+							
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 95,732	\$ 95,732	\$ 95,732	\$	95,732

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rat	Material Supply Co	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.3	Utility PM and Project Oversite	1	LS		\$ -	7 27,01			
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 17,84	1 \$ 17,841	\$ 17,841	\$ 17,841
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 89,20	\$ 89,204	\$ 89,204	\$ 89,204
6.6	Lidar	-	LS	\$ -	\$ -	\$ 5,35	2 \$ -	\$ 5,352	\$ -
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,50	3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 12,48	9 \$ 12,489	\$ 12,489	\$ 12,489
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 20,00	20,000	\$ 20,000	\$ 20,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 5,35	2 \$ 5,352	\$ 5,352	\$ 5,352
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 66,38	7 \$ 66,3	37 \$ -	\$ -	\$ 66,387	\$ 66,387
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 1,78	1,784	\$ 1,784	\$ 1,784
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 66,3	37	\$ 281,583		\$ 347,969

Page 52 of 60

NAT & NYPA - T026 - (Segment A, Base) M. Interconnection New Scotland Station

7		Total:	\$	3,115,703		
NAT & NYPA - T026 - (Segme	nt A, Bo	ise)				
		Supply		Installation		Total
M. Interconnection New Scotland Station						
1. CLEARING & ACCESS	\$	-	\$	367,850	\$	367,850
2. FOUNDATIONS	\$	365,657	\$	473,093	\$	838,749
3. STRUCTURES	\$	655,465	\$	445,628	\$	1,101,092
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	3,555	\$	26,100	\$	29,655
5. INSULATORS, FITTINGS, HARDWARE	\$	161,130	\$	95,795	\$	256,925
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	94,864	\$	426,567	\$	521,432
CONTRACTOR MARK-UP (OH&P)	\$		\$		\$	-
SUBTOTAL:	\$	1,280,670	\$	1,835,033	\$	3,115,703
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL:	ć	1 200 670	ć	1 025 022	ć	2 115 702

Description	Description of Work:										
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
M. Inter	connection New Scotland Station										
1. CLEARING 8	ACCESS										
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$		\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -	
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$	-	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000	
1.3	Access Road	-	LF	\$	-	\$ -	\$ 45	\$ -	\$ 45	\$ -	
1.4	Silt Fence	3,500.0	LF	\$	-	\$ -	\$ 4	\$ 14,000	\$ 4	\$ 14,000	
1.5	Matting - Access and ROW	3,500.0	LF	\$	-	\$ -	\$ 70	\$ 245,000	\$ 70	\$ 245,000	
1.6	Matting - To Work Area	300.0	LF	\$	-	\$ -	\$ 70	\$ 21,000	\$ 70	\$ 21,000	
1.7	Snow Removal	-	LS	\$	-	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -	
1.8	ROW Restoration	0.5	Mile	\$	-	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000	
1.9	Work Pads	20,000.0	SF	\$	-	\$ -	\$ 4	\$ 70,400	\$ 4	\$ 70,400	
1.10	Restoration for Work Pad areas	4,000.0	SF	\$	-	\$ -	\$ 0.2	\$ 600	\$ 0	\$ 600	
1.11	Temporary Access Bridge	-	EA	\$	-	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -	
1.12	Air Bridge	-	EA	\$	-	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -	
1.13	Stabilized Construction Entrance	-	EA	\$		\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -	
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$	-	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -	
1.15	Gates	-	EA	\$ 2	2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -	
1.16	Culverts / Misc. Access	-	EA	\$	750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -	
1.17	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850	
1.18						\$ -		\$ -		\$ -	
1.19						\$ -		\$ -		\$ -	
1.20	Crushed Rock	0	CY	\$	27	\$ -	\$ 75	\$ -	\$ 102	\$ -	
TOTAL - CLEAR	RING & ACCESS					\$ -		\$ 367,850		\$ 367,850	
2. FOUNDATION	DNS										
2.1	Foundation – Drilled Pier – 8'X 50'	3	EA	\$ 76	5,500	\$ 229,501	\$ 77,320	\$ 231,959	\$ 153,820	\$ 461,459	
2.2	Foundation – Drilled Pier – 8'X 89'	1	EA	\$ 136	5,156	\$ 136,156	\$ 137,614	\$ 137,614	\$ 273,770	\$ 273,770	
2.3	Rock Excavation Adder	51.8	СУ	\$	-	\$ -	\$ 2,000	\$ 103,520	\$ 2,000	\$ 103,520	
2.4											
2.5											
2.6											
2.7											
2.8											
2.9				-							
2.10	I and the second		I	1		I	1	I			

Estimate

Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
2.11											
2.12											
2.13											
2.14				+							
TOTAL - FOUN	DATIONS					\$ 365,657		\$ 473,093		Ś	838,749
3. STRUCTURE						7 000,000					223/1 12
3.1	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115'	3	Structure	\$	178,026	\$ 534,077	\$ 106,815	\$ 320,446	\$ 284,841	\$	854,522
3.2	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$	116,328	\$ 116,328	\$ 69,797	\$ 69,797	\$ 186,125		186,125
3.3	Install Grounding and Grounding Accessories	10	Pole	\$	506		\$ 5,539	\$ 55,385	\$ 6,045	\$	60,445
3.4						\$ -		\$ -			
3.5						\$ -		\$ -			
3.6				-		\$ - \$ -		\$ -			
3.8						\$ -		\$ -			
3.9				1		\$ -		\$ -			
3.10						\$ -		\$ -			
3.11						\$ -		\$ -			
3.12						\$ -		\$ -			
3.13				1		\$ -		\$ -			
3.14 3.15				-		\$ - \$ -		\$ - \$ -			
TOTAL - STRUC	TURES					\$ 655,465		\$ 445,628		\$	1,101,092
	R, SHIELDWIRE, OPGW					Ç 055) 105		113,020			1,101,032
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	1,500	LF	\$	1.90	\$ 2,850	\$ 5.00	\$ 7,500	\$ 6.90	\$	10,350
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$	1.35		\$ 5.00	\$ -	\$ 6.35	\$	-
4.3	(1) 3/8" EHS7 Steel	1,500	LF	\$	0.47					-	8,205
4.5	Remove Existing 345kV Cable From Existing Structures	0.3	Mile	\$	-	\$ -	\$ 30,000	\$ 7,500			7,500
4.6	Remove Existing OPGW Cable	-	Mile	\$		\$ -	\$ 12,000	\$ -	\$ 12,000.00	\$	-
4.7	Remove Existing EH7	0.3	Mile	\$	-	\$ -	\$ 12,000	\$ 3,600	\$ 12,000.00	\$	3,600
4.8											
4.10	Rider Poles - Relocated	_	Set	Ś	_	\$ -	\$ 3,500	Ś -	\$ 3,500.00	\$	-
4.11	Rider Poles	-	EA	\$	1,750		\$ 3,500	\$ -	\$ 5,250.00	-	-
TOTAL: CONDU	JCTOR, SHIELDWIRE, OPGW:					\$ 3,555		\$ 26,100		\$	29,655
5. INSULATOR,	FITTINGS, HARDWARE										
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$			\$ 720		\$ 2,520		-
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$	900	\$ -	\$ 560		\$ 1,460		-
5.3 5.4	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	60	Assembly Assembly	\$	1,800 900	\$ 108,000 \$ -	\$ 720 \$ 560		\$ 2,520 \$ 1,460		151,200
5.5	OPGW Assembly - Tangent	-	Assembly	\$	200		\$ 150		\$ 350		
5.6	OPGW Assembly - Angle / DE	-	Assembly	\$		\$ -	\$ 150		\$ 400	\$	_
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$	250				\$ 400	-	1,600
5.8	OPGW Splice Boxes	-	Set	\$	1,746		\$ 2,274	\$ -	\$ 4,020		-
5.9	OPGW Splice & Test	-	EA	\$	2,520		\$ 2,520		\$ 5,040		-
5.10	Spacer - Conductor	9	EA	\$	50				\$ 85		765
5.11	Vibration Dampers - Conductor	48	EA	\$	35				\$ 70		3,360
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$	27	\$ -	\$ 35	\$ -	\$ 62	\$	-
5.13	Guys, Anchors, and Accessories	-	EA	\$	720	\$ -	\$ 885	\$ -	\$ 1,605	\$	-
5.14	Misc. materials (Signs and Markers)	-	Mile	\$	770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$	-
5.15	, ,			Ė		\$ -	,,,,,,	\$ -	,	\$	-
5.16	Interconnection Arrangements	1	EA	\$	50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 100,000	\$	100,000
5.17						\$ -		\$ -		\$	-
5.18				1		\$ -		\$ -		\$	-
5.19				1		\$ -		\$ -		\$	-
5.20	ATOR, FITTINGS, HARDWARE					\$ - \$ 161,130		\$ - \$ 95,795		\$	256,925
	,							,		_	
	connection New Scotland Station					\$ 1,185,806		\$ 1,408,465		\$	2,594,271
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization		1.0	1		¢ .	A 25.5:5	ć 25.0:-	ć 25.0:-		
6.1	Mob / Demob Project Management, Material Handling & Amenities	1	LS	\$	-	\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$	25,943
i	rroject management, material namining & Amerikas			1			l .				

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	oor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 139,206	\$ 139,206	\$ 139,206	\$	139,206
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$	25,943
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$	25,943
	Engineering										
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 129,714	\$ 129,714	\$ 129,714	\$	129,714
6.6	LiDAR	1	LS	\$	-	\$ -	\$ 7,783	\$ 7,783	\$ 7,783	\$	7,783
6.7	Geotech	1	Location	\$	-	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$	3,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 18,160	\$ 18,160	\$ 18,160	\$	18,160
	Testing & Commissioning										
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$	40,000
	Permitting and Additional Costs										
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 7,783	\$ 7,783	\$ 7,783	\$	7,783
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.18	Sales Tax on Materials	1	LS	\$ 94	,864	\$ 94,864	\$ -	\$ -	\$ 94,864	_	94,864
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 2,594	\$ 2,594	\$ 2,594	\$	2,594
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 94,864		\$ 426,567		\$	521,432

Page 55 of 60
M. In. New Scotland SS

N. Interconnection Rotterdam Station

Estimate Revision: 7 Total: \$ 4,622,733

NAT & NYPA - T026 - (Segmen	t A, Bas	se)		
		Supply	Installation	Total
N. Interconnection Rotterdam Station				
1. CLEARING & ACCESS	\$	-	\$ 1,233,050	\$ 1,233,050
2. FOUNDATIONS	\$	192,145	\$ 325,963	\$ 518,108
3. STRUCTURES	\$	546,722	\$ 837,150	\$ 1,383,872
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	65,923	\$ 437,250	\$ 503,173
5. INSULATORS, FITTINGS, HARDWARE	\$	165,730	\$ 118,480	\$ 284,210
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	77,642	\$ 622,679	\$ 700,321
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	1,048,161	\$ 3,574,572	\$ 4,622,733
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	1,048,161	\$ 3,574,572	4,622,733

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
N. Interd	onnection Rotterdam Station									
1. CLEARING &	ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	7.0	Acre	\$ -	\$ -	\$ 15,000	\$ 105,000	\$ 15,000	\$ 105,000	
1.2	Clearing the ROW - Light (mowing)	5.0	Acre	\$ -	\$ -	\$ 5,000	\$ 25,000	\$ 5,000	\$ 25,000	
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45		\$ 45		
1.4	Silt Fence	4,800.0	LF	\$ -	\$ -	+ '	\$ 19,200		\$ 19,200	
1.5	Matting - Access and ROW	4,800.0	LF	\$ -	\$ -	\$ 70				
	Matting - To Work Area	2,400.0	LF	\$ -	\$ -	\$ 70			\$ 168,000	
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800		\$ 516,800		
1.8	ROW Restoration	1.0	Mile	\$ -	\$ -	\$ 10,000				
1.9	Work Pads	160,000.0	SF	\$ -	\$ -		\$ 563,200			
1.10	Restoration for Work Pad areas	32,000.0	SF	\$ -	\$ -	\$ 0.2				
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035		\$ 20,035		
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445		
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580		\$ 4,580	\$ -	
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -	
1.15	Gates	-	EA	\$ 2,000		\$ 2,500		\$ 4,500	\$ -	
1.16	Culverts / Misc. Access	-	EA	\$ 750	<u> </u>	\$ 1,250		\$ 2,000	\$ -	
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850		\$ 1,850	\$ 1,850	
1.18					\$ -		\$ -		\$ -	
1.19					\$ -		\$ -		\$ -	
1.20	Crushed Rock	0	CY	\$ 2	\$ -	\$ 75		\$ 102	\$ -	
	ING & ACCESS				\$ -		\$ 1,233,050		\$ 1,233,050	
2. FOUNDATIO										
2.1	10' ED Rock BF	6	EA	\$ 358	\$ \$ 2,145	\$ 3,575	\$ 21,450	\$ 3,933	\$ 23,595	
2.2	15' ED Rock BF	18	EA	\$ 536	9,653	\$ 5,363	\$ 96,525	\$ 5,899	\$ 106,178	
2.3	20' ED Rock BF	4	EA	\$ 71!	\$ 2,860	\$ 7,150	\$ 28,600	\$ 7,865	\$ 31,460	
2.4	Foundation – Drilled Pier – 8'X 29'	4	EA	\$ 44,372	\$ 177,487	\$ 44,847	\$ 179,388	\$ 89,219	\$ 356,875	
				,		,	,	,		
2.5	Rock Excavation Adder	-	CY	\$ -	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -	
2.6					\$ -		\$ -		\$ -	
2.7					\$ -		\$ -		\$ -	
2.8					\$ -		\$ -		\$ -	
2.9					\$ -		\$ -		\$ -	
2.10					\$ -		\$ -		\$ -	
2.11					\$ -		\$ -		\$ -	
2.12					\$ -		\$ -		\$ -	
2.13					\$ -		\$ -		\$ -	
									Page 56 of 60	

Page 56 of 60

	Non-Possibility	Estimated Occasion	11		**** **** *** ***	Labor & Equipment	Labor & Equipment	Tatal Halfa Bata	TOTAL
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Supply Rate	Cost	Total Unit Rate	TOTAL
2.14					\$ -		\$ -		\$ -
2.15					\$ -		\$ -		\$ -
TOTAL - FOUN					\$ 192,145		\$ 325,963		\$ 518,108
3. STRUCTURE		_							
3.1	15kV 3-CKT TANGENT DIST WOOD POLE	3	Pole	\$ 3,500	\$ 10,500				\$ 21,300
3.2	15Kv 3-CKT MA DIST WOOD POLE 15kV 3-CKT DE - WOOD POLE	1 2	Pole Pole	\$ 3,500 \$ 3,500	\$ 3,500 \$ 7,000	\$ 3,600 \$ 3,600	\$ 3,600 \$ 7,200		\$ 7,100 \$ 14,200
	115kV 1-CKT TANGENT - WOOD POLE	5	Pole	\$ 3,500	\$ 7,000				\$ 44,500
3.5	115kV 1-CKT MA - WOOD POLE	2	Pole	\$ 4,500	\$ 9,000	\$ 4,400			\$ 17,800
	115kV 1-CKT DE - WOOD POLE	11	Pole	\$ 5,500	\$ 60,500	\$ 5,000	\$ 55,000		\$ 115,500
	115kV 2-CKT TANGENT - WOOD POLE	4	Pole	\$ 5,500	\$ 22,000	\$ 5,000			\$ 42,000
3.8	115kV 2-CKT DE - STEEL POLE	4	Pole	\$ 98,883	\$ 395,530	\$ 59,330	\$ 237,318		\$ 632,848
3.9	Remove Existing Structure	24	EA		\$ -	\$ 12,300			\$ 295,200
3.10	-				\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12	Install Grounding and Grounding Accessories	32	Pole	\$ 506	\$ 16,192	\$ 5,539	\$ 177,232	\$ 6,045	\$ 193,424
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUC					\$ 546,722		\$ 837,150		\$ 1,383,872
	R, SHIELDWIRE, OPGW								
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	23,400	LF	\$ 1.90	\$ 44,460	\$ 5.00	\$ 117,000		\$ 161,460
4.2	(1) OPGW 36 Fiber AC-33/38/571	•	LF	\$ 1.35	\$ -	\$ 5.00			\$ -
4.3	(1) 3/8" EHS7 Steel	7,800	LF	\$ 0.47		\$ 5.00			\$ 42,666
4.5	Remove Existing Cable	6.6	Mile	\$ -	\$ -	\$ 30,000	\$ 197,700		\$ 197,700
4.6	Remove Existing EH7	2.2	Mile	\$ -	\$ -	\$ 12,000	\$ 26,400		\$ 26,400
4.7	15kV - (1) 477kcmil 26/7 ACSR "Hawk" 15kV - (1) 336kcmil 26/7 ACSR "Linnet"	9,630 1,800	LF LF	\$ 1.62 \$ 1.22	\$ 15,601 \$ 2,196	\$ 5.00 \$ 5.00	\$ 48,150 \$ 9,000		\$ 63,751 \$ 11,196
4.8	15KV - (1) 556KCIIII 20/7 ACSK EIIIIIEL	1,800	LF	\$ 1.22	\$ 2,190	\$ 5.00	\$ 9,000	\$ 0.22	\$ 11,196
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750		\$ 3,500			\$ -
	UCTOR, SHIELDWIRE, OPGW:			, , ,	\$ 65,923	,	\$ 437,250		\$ 503,173
5. INSULATOR,	FITTINGS, HARDWARE								
5.1	115kV Tangent (1-Group of 9-Bells Each Assembly)	33	Assembly	\$ 1,000	\$ 33,000				\$ 51,480
	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	66	Assembly	\$ 1,000	\$ 66,000				\$ 102,960
	15kV Tangent	12	Assembly	\$ 100	\$ 1,200	\$ 75			\$ 2,100
	15kV Dead-end & Angle Insulators	18	Assembly	\$ 100	\$ 1,800				\$ 3,150
	Neutral, Distribution, Tangent	4	Assembly	\$ 100	\$ 400	\$ 75			\$ 700
5.6	Neutral, Distribution, DE/Side	2	Assembly	\$ 100 \$ 100	\$ 200	\$ 75 \$ 75			\$ 350
5.7 5.8	Jumper, DE/Angle, 3PH	2	Assembly	\$ 100 \$ 200	\$ 400 \$ 400	\$ 75 \$ 150			\$ 700 \$ 700
5.9	OPGW Assembly - Tangent OSHW Assembly - Tangent	11	Assembly Assembly	\$ 250	\$ 2,750				\$ 4,400
	OHSW Assembly - Angle / DE	38	Assembly	\$ 250	\$ 9,500	\$ 150	\$ 5,700		\$ 15,200
5.11	OPGW Splice Boxes	-	Set	\$ 1,746	\$ -	\$ 2,274			\$ -
5.12	OPGW Splice & Test	-	EA	\$ 2,520	\$ -	\$ 2,520	\$ -		\$ -
5.13	Spacer - Conductor		EA	\$ 50	\$ -	\$ 35	\$ -		\$ -
5.14	Vibration Dampers - Conductor	-	EA	\$ 35	\$ -	\$ 35	\$ -		\$ -
5.15	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$ 27	•	\$ 35			\$ -
5.16	Guys, Anchors, and Accessories	14.0	EA	\$ 720	\$ 10,080	\$ 885	\$ 12,390	-	\$ 22,470
5.17	Misc. materials (Signs and Markers)	-	Mile	\$ 770		\$ 1,006			\$ -
5.18					\$ -		\$ -		\$ -
5.19	Interconnection Arrangements	8	EA	\$ 5,000	\$ 40,000	\$ 5,000	\$ 40,000	\$ 10,000	\$ 80,000
5.20					\$ -		\$ -		\$ -
5.21					\$ -		\$ -		\$ -
5.22					\$ -		\$ -		\$ -
5.23	ATOR, FITTINGS, HARDWARE				\$ - \$ 165,730		\$ - \$ 118,480		\$ - \$ 284,210
	connection Rotterdam Station				\$ 970,519		\$ 2,951,893		\$ 3,922,412
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				370,319		2,331,033		9,322,412
J. IVIOB/ DEIVIC	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 39,224	\$ 39,224	\$ 39,224	\$ 39,224
	1			L .	·	. 33,224	. 55,224	. 33,224	

ltem	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	e Mat	terial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	то	OTAL
	Project Management, Material Handling & Amenities										
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 210,473	\$ 210,473	\$ 210,473	\$	210,473
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 39,224	\$ 39,224	\$ 39,224	\$	39,224
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 39,224	\$ 39,224	\$ 39,224	\$	39,224
	Engineering										
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 196,121	\$ 196,121	\$ 196,121	\$	196,121
6.6	Lidar	1	LS	\$ -	\$	-	\$ 11,767	\$ 11,767	\$ 11,767	\$	11,767
6.7	Geotech	1	Location	\$ -	\$	-	\$ 3,500	\$ 3,500	\$ 3,500	\$	3,500
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 27,457	\$ 27,457	\$ 27,457	\$	27,457
	Testing & Commissioning										
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$		\$ 40,000	\$ 40,000	\$ 40,000	\$	40,000
	Permitting and Additional Costs										
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 11,767	\$ 11,767	\$ 11,767	\$	11,767
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.17		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.18	Sales Tax on Materials	1	LS	\$ 77,642	2 \$	77,642	\$ -	\$ -	\$ 77,642	\$	77,642
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 3,922	\$ 3,922	\$ 3,922	\$	3,922
TOTAL - MOE	B/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	77,642		\$ 622,679		\$	700,321

Page 58 of 60 N. In. Rotterdam SS

System Upgrade Facilities (Various Stations for Edic/Marcy to New Scotland)

Estimate 7 Total: \$ 6,899,000

SYSTEM UPGR	SYSTEM UPGRADE FACILITIES		Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
SUF SS1	Marcy 345kV Bay 3300 - Reconductor Strain Bus UNS-18 Marcy-New Scotland Line	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 664,560	\$ 665,000
SUF SS1	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 30,000	\$ 30,000
SUF SS1	Engineering, T&C, PM, Indirects (25%)		LS %						\$ 174,000
SUF SS1	SUF SS1 - TOTAL:				\$ -		\$ -		\$ 869,000
SUF SS2	Marcy 345kV Bay 3100 - Reconductor Strain Bus, Replace (3) breakers and wave trap UE1-7- Marcy-Edic Line	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 2,946,086	\$ 2,947,000
SUF SS2	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 120,720	\$ 121,000
SUF SS2	Engineering, T&C, PM, Indirects (25%)		LS %						\$ 767,000
SUF SS2	SUFSS 2 - TOTAL:				\$ -		\$ -		\$ 3,835,000
SUF SS3	Edic 345kV Bay - UE1-7- Marcy-Edic Line Replace (2) breakers and wave trap	1	LS					\$ 1,661,294	\$ 1,662,000
SUF SS3	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 93,120	\$ 94,000
SUF SS3	Engineering, T&C, PM, Indirects (25%)		LS %						\$ 439,000
SUF SS3	SUF SS3 - TOTAL:				\$ -		\$ -		\$ 2,195,000
SUF SS4		-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
	Removals		LS %					\$ -	\$ -
SUF SS4	Engineering, T&C, PM, Indirects (25%)		LS %						\$ -
	SUF SS4 - TOTAL:				\$ -		\$ -		\$ -
SUF SS5		-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
	Removals		LS %					\$ -	\$ -
SUF SS5	Engineering, T&C, PM, Indirects (25%)		LS %						\$ -
SUF SS5	SUF SS4 - TOTAL:				\$ -		\$ -		\$ -
	STATIONS SUF DIRECT TOTAL:								\$ 5,519,000
	STATIONS SUF INDIRECT TOTAL:								\$ 1,380,000
	STATIONS SUF TOTAL								\$ 6,899,000

ESTIMATE ASSUMPTIONS & CLARIFICATIONS

- 1 Cost Estimate is based on 2017 rates.
- Construction schedule is in accordance with proposed schedule we have assumed continuous working with no breaks in the schedule. Six months have been added to the construction schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.).
- 3 We have assumed a typical work week of five-(5) days per week at ten-(10) hours per day (5 x 10 hour days).
- 4 All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017.
- 5 We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type.
- Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not enough information to provide a quantified estimate for this item, allowance is included in the contingency monies.
- Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for formal quotes.
- 8 Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing.
- 9 A Contractor Mark-Up (OH&P) of 15% has been included in the Total section.
- 10 We have assumed that all project details provided are accurate unless noted otherwise.
- 11 Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%)
- 12 A contractor allowance of 1% for mobilization and demobilization has been included in the total section.
- A contractor allowance of 4.644% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safety inspector, compliance inspector, environmental inspector, and SWPP inspector.
- 14 An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section.
- 15 A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section.
- 16 An allowance of 5% for transmission design and engineering has been included in the total section.
- 17 An allowance of 8% for substation design and engineering has been included in the total section.
- 18 An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section.
- 19 An allowance of 0.3% for LIDAR of the transmission line has been included in the total section.
- 20 An allowance of 3.75% for substation testing and commissioning has been included in the total section.
- 21 An allowance of \$20,000.00 per circuit for transmission line testing and commissioning has been included in the total section.
- 22 New York state sales tax of 8% is included in all material pricing.
- 23 An allowance of 1.5% for insurance is included in the DPS sheet.
- 24 The SUF estimates for the stations are rough order of magnitude estimates. No engineering was performed and SECo did not have access to record drawings.



		NY Power Authority and North American Transmission (T027)	
		Description	Total Amount (In thousand \$)
	1	Transmission Lines	
	1.1	Clearing & Access	\$56,801
	1.2	Foundations	\$31,116
	1.3	Structures	\$106,166
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$62,279
	1.5	Insulators, Fitting and Hardwares	\$26,553
		Subtotal (1)	\$282,915
	2	Substations	
ا پر ا	2.1	Rotterdam Substation	\$48,340
Š	2.2	Edic Substation	\$5,333
Direct Cost	2.3	Princetown Substation	\$29,872
ΙÖ	2.4	New Scotland Substation	\$7,717
	2.5	Porter Substation	\$546
	2.6	Knickerbocker Substation	\$0
	2.7	Marcy Substation	\$0
	2.8	Substation Interconnections	\$8,301
		Subtotal (2)	\$100,109
		Total (1+2)	\$383,023
		Contractors Mark-up (15% of Total 1+2)	\$57,453
		Total Direct Cost (A)	\$440,477
	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$3,830
	3.2	Project Management, Material Handling & Amenities	\$22,218
Cost	3.3	Engineering	\$25,799
Indirect Cost	3.4	Testing & Commissioning	\$2,557
Indir	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$26,204
	3.6	Compensation for use of NYPA Structures (2 Circuit)	\$17,838
	3.7	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$8,278
		Total Indirect Cost (3)	\$106,725
		Subtotal Project Cost (B=A+3) 2017 \$	\$547,201
	4	Network Upgrade Facilities (NUF)	
	4.1	NUF proposed as element of the Project (Marcy and Edic Terminals)	\$7,727
	4.2	NUF identified during Evaluation (Everett - Wolf Road 115kV Upgrade)	\$5,000
		Subtotal NUF Cost (C)	\$12,727
		Total Project Cost (B+C) 2017 \$	\$559,928
		Total Project Cost 2018 \$	\$576,726

NAT & NYPA - T027 - (Segment A, Double Circuit)

Estimate Revision: 7

	NAT & NYPA - T027 - (Segment A, Double Circuit) - Direct Costs	Total Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Edic to Princetown	\$ 192,806,381
Direct Labor, Material & Equipment Costs	B. Transmission Line Princetown to Rotterdam	\$ 20,488,282
Direct Labor, Material & Equipment Costs	C. Transmission Line Princetown to New Scotland	\$ 69,619,908
Direct Labor, Material & Equipment Costs	D. Rotterdam Substation - Install	\$ 44,728,474
Direct Labor, Material & Equipment Costs	E. Rotterdam Substation - Removal	\$ 3,611,030
Direct Labor, Material & Equipment Costs	F. Edic Substation - Install	\$ 5,211,229
Direct Labor, Material & Equipment Costs	G. Edic Substation - Removal	\$ 122,000
Direct Labor, Material & Equipment Costs	H. New Scotland Substation - Install	\$ 7,635,864
Direct Labor, Material & Equipment Costs	I. New Scotland Substation - Removal	\$ 81,300
Direct Labor, Material & Equipment Costs	J. Porter Substation - Install	\$ 71,912
Direct Labor, Material & Equipment Costs	K. Porter Substation - Removal	\$ 474,313
Direct Labor, Material & Equipment Costs	L. Interconnection Edic Station	\$ 1,784,075
Direct Labor, Material & Equipment Costs	M. Interconnection New Scotland Station	\$ 2,594,271
Direct Labor, Material & Equipment Costs	N. Interconnection Rotterdam Station	\$ 3,922,412
Direct Labor, Material & Equipment Costs	O. System Upgrade Facilities (Everett - Wolf Road 115kV Upgrade)	\$ 3,571,500
Direct Labor, Material & Equipment Costs	P. System Upgrade Facilities (Various Stations for Edic to New Scotland)	\$ 5,519,000
Direct Labor, Material & Equipment Costs	Q. Princetown GIS Substation - Install	\$ 29,871,757
	SUBTOTAL:	\$ 392,113,708
	CONTRACTOR MARK-UP (OH&P)	\$ 58,817,056
	CONTINGENCY ON ENTIRE PROJECT	\$ -
	TOTAL DIRECT:	\$ 450,930,765

	NAT & NYPA - T027 - (Segment A, Double Circuit) - Indirect Costs	7	otal Each Segment
Indirect Costs	A. Transmission Line Edic to Princetown	\$	57,168,362
Indirect Costs	B. Transmission Line Princetown to Rotterdam	\$	4,270,750
Indirect Costs	C. Transmission Line Princetown to New Scotland	\$	14,073,805
Indirect Costs	D. Rotterdam Substation - Install	\$	10,456,962
Indirect Costs	E. Rotterdam Substation - Removal	\$	548,904
Indirect Costs	F. Edic Substation - Install	\$	1,207,020
Indirect Costs	G. Edic Substation - Removal	\$	18,423
Indirect Costs	H. New Scotland Substation - Install	\$	1,746,869
Indirect Costs	I. New Scotland Substation - Removal	\$	12,277
Indirect Costs	J. Porter Substation - Install	\$	14,217
Indirect Costs	K. Porter Substation - Removal	\$	71,625
Indirect Costs	L. Interconnection Edic Station	\$	320,046
Indirect Costs	M. Interconnection New Scotland Station	\$	480,828
Indirect Costs	N. Interconnection Rotterdam Station	\$	638,929
Indirect Costs	O. System Upgrade Facilities (Everett - Wolf Road 115kV Upgrade)	\$	892,875
Indirect Costs	P. System Upgrade Facilities (Various Stations for Edic to New Scotland)	\$	1,380,000
Indirect Costs	Q. Princetown GIS Substation - Install	\$	7,418,414
Indirect Costs	Legal and Permitting (Includes Legal, Envir. Lisc. & Permit., and Envir. Mitagation)	\$	8,277,824
	TOTAL INDIREC	T: \$	108,998,128

TOTAL ESTIMATED COST: \$ 559,928,893

NAT & NYPA - T027 - (Segment A, Double Circuit)

A. Transmission Line Edic to Princetown

Estimate Revision: Total: \$ 249,974,743

NAT & NYPA - T027 -	(Segment	A, Double Circuit)				
		Supply		Installation		Total
A. Transmission Line Edic to Princetown						
1. CLEARING & ACCESS	\$	75,250	\$	41,489,402	\$	41,564,652
2. FOUNDATIONS	\$	3,930,221	\$	14,264,968	\$	18,195,189
3. STRUCTURES	\$	34,672,483	\$	35,692,215	\$	70,364,698
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	9,535,493	\$	34,842,335	\$	44,377,828
5. INSULATORS, FITTINGS, HARDWARE	\$	12,595,660	\$	5,708,354	\$	18,304,014
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	4,864,729	\$	52,303,633	\$	57,168,362
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	65,673,835	\$	184,300,907	\$	249,974,743
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL:	Ś	65.673.835	Ś	184.300.907	Ś	249.974.743

0.0%

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Ma	aterial Supply Rate	Material Supply Sum	La	abor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
A. Transn	nission Line Edic to Princetown										
1. CLEARING &	ACCESS										
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$ -	\$	15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	198.0	Acre			\$ -	\$	5,000	\$ 990,000	\$ 5,000	\$ 990,000
	Permanent Access Road	83,001.6	LF	\$		\$ -	\$	45			
	Silt Fence	415,008	LF	\$		\$ -	- T	4			\$ 1,660,032
	Matting - Access and ROW	332,006.4	LF	\$		\$ -	\$	70			
	Matting - To Work Area	29,325	LF	\$		\$ -	\$			\$ 70	
	Snow Removal	78.6	Mile	\$		\$ -	\$	16,000	\$ 1,257,600	\$ 16,000	
	ROW Restoration	78.6	Mile	\$		\$ -	\$	10,000	\$ 786,000	\$ 10,000	
	Work Pads	1,955,000	SF SF	\$		\$ -	\$	4	,,		\$ 6,881,600
	Restoration for Work Pad areas	391,000		\$		\$ - \$ -	\$	0.15	\$ 58,650		\$ 58,650
	Temporary Access Bridge	-	EA EA	\$		\$ - \$ -	\$	20,035 14,445	\$ - \$ -	\$ 20,035 \$ 14,445	
	Air Bridge Stabilized Construction Entrance	50	EA EA	\$		\$ - \$ -	\$	4,580	\$ 229,000	\$ 14,445	
	Maintenance and Protection of Traffic on Public Roads	100	EA EA	\$		\$ -	\$	4,580	\$ 229,000	\$ 4,580	
	Culverts / Misc. Access	55	EA	\$		\$ 41,250	- T	1,250	\$ 68,750	\$ 2,000	
	Gates	17	EA	Ś	2,000	· · · · · · · · · · · · · · · · · · ·		2,500	\$ 42,500	\$ 4,500	· ,
	Concrete Washout Station	40	EA	Ś		\$ -	, ,	1,850	\$ 74,000	\$ 1,850	· · · · · · · · · · · · · · · · · · ·
TOTAL - CLEARIN		70	- EA	Ť		\$ 75,250	, ,	1,030	\$ 41,489,402	7 1,050	\$ 41,564,652
2. FOUNDATION						75,250			11,103,102		¥ 12,50 1,002
	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°)	4	EA	Ś	9,391	\$ 37,565	5 5	63,861	\$ 255,442	\$ 73,252	\$ 293,007
	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	10	EA	\$	3,622		+ -	24,628		1	,
2.3	1-CKT 345KV VERTICAL TANGENT (0°-1°)	76	EA	\$	2,542	\$ 193,221	\$	17,288	\$ 1,313,899	\$ 19,831	\$ 1,507,120
2.4	2-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	26	EA	\$	3,845	\$ 99,957	\$	26,143	\$ 679,708	\$ 29,987	\$ 779,665
2.5	2-CKT 345KV VERTICAL TANGENT (0°-1°)	233	EA	\$	2,863	\$ 667,021	\$	19,467	\$ 4,535,741	\$ 22,329	\$ 5,202,762
2.6	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	20	EA	\$	72,091	\$ 1,441,825	\$	80,164	\$ 1,603,275	\$ 152,255	\$ 3,045,099
2.7	2-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	22	EA	\$	66,110	\$ 1,454,415	\$	73,512	\$ 1,617,275	\$ 139,622	\$ 3,071,690
2.8	Rock Excavation Adder	2,006.675	CY	\$	-	\$ -	\$	2,000	\$ 4,013,350	\$ 2,000	\$ 4,013,350
2.9			EA	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
2.10			EA	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
2.11			EA	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
2.12			EA	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
2.13			EA	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
2.14			EA	s	-	\$ -	Ś	_	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure		Material Supply Rate	М	laterial Supply Sum	Labor & Equipment Supply Rate	Labor & Equi Sum	oment	Total Unit Rate		TOTAL
2.15			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	=
2.16			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
2.17			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
2.18			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
2.19			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
2.20			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
2.21			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
2.22			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
2.23			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
2.24			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
2.26			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
2.27			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
2.28			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
2.29			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
2.30			EA	\$	-	\$	-	\$ -	\$	-	\$ -	\$	-
2.31													
TOTAL - FOUN	DATIONS:					\$	3,930,221		\$ 14,2	64,968		\$	18,195,189
3. STRUCTURE	S												
3.1	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) 80'	4	Structure	\$	69,079	\$	276,316	\$ 41,447	\$ 1	65,790	\$ 110,526	\$	442,106
3.2	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) 115'-150'	20	Structure	\$	139,161	\$	2,783,214	\$ 83,496	\$ 1,6	69,928	\$ 222,657	\$	4,453,142
3.3	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) 130'-135'	10	Structure	\$	87,960	\$	879,601	\$ 52,776	\$ 5	27,761	\$ 140,736	\$	1,407,362
3.4	1-CKT 345KV VERTICAL TANGENT (0°-1°) 115'-145'	73	Structure	\$	57,278	\$	4,181,283	\$ 34,367	\$ 2,5	08,770	\$ 91,645	\$	6,690,053
3.5	1-CKT 345KV VERTICAL TANGENT (0°-1°) HD 130'	2	Structure	\$	67,026	\$	134,051	\$ 40,215	\$	80,431	\$ 107,241	\$	214,482
3.6	2-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) 115'-145'	23	Structure	\$	198,553	\$	4,566,721	\$ 119,132	\$ 2,7	40,033	\$ 317,685	\$	7,306,754
3.7	2-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) 125'-155'	26	Structure	\$	119,083	\$	3,096,149	\$ 71,450	\$ 1,8	57,689	\$ 190,532	\$	4,953,838
3.8	2-CKT 345KV VERTICAL TANGENT (0°-1°) 115'-155'	233	Structure	\$	79,628	\$	18,553,254	\$ 47,777	\$ 11,1	31,952	\$ 127,404	\$	29,685,207
3.9	Remove Existing Foundation	50	EA	\$	-	\$	-	\$ 7,500	\$ 3	75,000	\$ 7,500	\$	375,000
3.10	Remove Existing Structure and Accessories	994	EA	\$	-	\$	-	\$ 12,500	\$ 12,4	25,000	\$ 12,500	\$	12,425,000
3.11	Install Grounding and Grounding Accessories	399	Pole	\$	506	\$	201,894	\$ 5,539	\$ 2,2	09,862	\$ 6,045	\$	2,411,756
3.12													
3.13													
3.14													
3.15													
TOTAL - STRUC	CTURES:					\$	34,672,483		\$ 35,6	92,215		\$	70,364,698
4. CONDUCTO	R, SHIELDWIRE, OPGW												
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	4,563,821	LF	\$	1.90	\$	8,671,260	\$ 5.00	\$ 22,8	19,105	\$ 6.90	\$	31,490,365
4.2	(1) OPGW 36 Fiber AC-33/38/571	390,298	LF	\$	1.35	\$	526,902	\$ 5.00	\$ 1,9	51,490	\$ 6.35	\$	2,478,392
4.3	(1) 3/8" EHS7 Steel	371,448	LF	\$	0.47	\$	174,581	\$ 5.00	\$ 1,8	57,240	\$ 5.47	\$	2,031,821
4.4													
4.5												↓	
4.6				\perp								Щ.	
4.7	Remove Existing Conductor and Accessories	140.0	Mile	\$	-	\$	-	\$ 30,000	\$ 4,2	00,000	\$ 30,000.00	\$	4,200,000
4.8	Remove Existing OPGW and Accessories	140.0	Mile	\$	-	\$	-	\$ 12,000		80,000	\$ 12,000.00	\$	1,680,000
4.9	Remove Existing OHSW and Accessories	140.0	Mile	\$	-	\$	-	\$ 12,000	\$ 1,6	80,000	\$ 12,000.00	\$	1,680,000
4.10												Щ.	
4.11												<u></u>	
4.12				\perp								Щ.	
4.13	Rider Poles (187 Locations)	93	Set	\$	1,750	_	162,750			25,500	\$ 5,250.00	\$	488,250
4.14	Rider Poles - Relocated	94	Set	\$	-	\$	-	\$ 3,500	\$ 3	29,000	\$ 3,500.00	\$	329,000
4.15												\perp	
	UCTOR, SHIELDWIRE, OPGW:					\$	9,535,493		\$ 34,8	42,335		\$	44,377,828
	, FITTINGS, HARDWARE												
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	3,696	Assembly	\$	1,800	\$	6,652,800	\$ 720	\$ 2,6	61,120	\$ 2,520	\$	9,313,920

ltem	Item Description	Estimated Quantity	Unit of Measure	N	Material Supply Rate	N	Naterial Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate		TOTAL
5.2	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	1,020	Assembly	\$	1,800	\$	1,836,000	\$ 720	\$ 734,400	\$ 2,520	\$	2,570,400
5.3			Assembly			\$	-		\$ -	\$ -	\$	-
5.4	OPGW Assembly - Tangent	345	Assembly	\$	200	\$	69,000	\$ 150	\$ 51,750	\$ 350	\$	120,750
5.5	OPGW Assembly - Angle / DE	92	Assembly	\$	250	\$	23,000	\$ 150	\$ 13,800	\$ 400	\$	36,800
5.6	OHSW Assembly - Tangent	259	Assembly	\$	200	\$	51,800	\$ 150	\$ 38,850	\$ 350	\$	90,650
5.7	OHSW Assembly - Angle / DE	44	Assembly	\$	250	\$	11,000	\$ 150	\$ 6,600	\$ 400	\$	17,600
5.8	OPGW Splice Boxes	27	Assembly	\$	1,746	\$	47,146	\$ 2,274	\$ 61,398	\$ 4,020	\$	108,544
5.9	OPGW Splice & Test	27	EA	\$	2,520	\$	68,040	\$ 2,520	\$ 68,040	\$ 5,040	\$	136,080
5.10	Spacer - Conductor	21,901	EA	\$	50	\$	1,095,050	\$ 35	\$ 766,535	\$ 85	\$	1,861,585
5.11	Vibration Dampers - Conductor	4,692	EA	\$	35	\$	164,220	\$ 35	\$ 164,220	\$ 70	\$	328,440
5.12	Shield wire / OPGW Dampers, Misc. Fittings	784	EA	\$	27	\$	21,168	\$ 35	\$ 27,440	\$ 62	\$	48,608
5.13	Jumpers at Existing Structures (New Cable to Existing)	3	EA	\$	25,000	\$	75,000	\$ 25,000	\$ 75,000	\$ 50,000	\$	150,000
5.14	Replace - Mono Pole Vertical Tangent (1-Group of 18-Bells Each Assembly)	960	Assembly	\$	1,800	\$	1,728,000	\$ 720	\$ 691,200	\$ 2,520	\$	2,419,200
5.15	Replace - Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	390	Assembly	\$	1,800	\$	702,000	\$ 720	\$ 280,800	\$ 2,520	\$	982,800
5.16	Guys, Anchors, and Accessories	-	EA	\$	719	\$	-	\$ 883	\$ -	\$ 1,602	\$	-
5.17	Misc. materials (Signs and Markers)	66.8	Mile	\$	770	\$	51,436	\$ 1,006	\$ 67,201	\$ 1,776	\$	118,637
5.18												
TOTAL - INSUL	ATORS, FITTINGS, HARDWARE:					\$	12,595,660		\$ 5,708,354		\$	18,304,014
Δ. Transi	mission Line Edic to Princetown					Ś	60,809,107		\$ 131,997,274		Ś	192,806,381
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					Ė			1 727		-	7,777
6. IVIOB/DEIVIO												
6.1	Contractor Mobilization / Demobilization	1.0	LS	\$		Ś	-	\$ 1.928.064	¢ 1,039,064	\$ 1,928.064	,	1 020 064
0.1	Mob / Demob Project Management, Material Handling & Amenities	1.0	LS	1 2	-	۶	-	\$ 1,928,064	\$ 1,928,064	\$ 1,928,064	,	1,928,064
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS					\$ 7,328,089	\$ 7,328,089	\$ 7,328,089	\$	7,328,089
6.3	Utility PM and Project Oversite	1	LS			\$	-	\$ 1,928,064	\$ 1,928,064	\$ 1,928,064	\$	1,928,064
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$	-	\$ 1,928,064	\$ 1,928,064	\$ 1,928,064	\$	1,928,064
	Engineering											
6.5	Design Engineering	1	LS	\$	-	\$	-	\$ 9,640,319	\$ 9,640,319	\$ 9,640,319	\$	9,640,319
6.6	LiDAR	1	LS	\$	-	\$	-	\$ 578,419	\$ 578,419	\$ 578,419	\$	578,419
6.7	Geotech	67	Location	\$	-	\$	-	\$ 3,500	\$ 234,500	\$ 3,500	\$	234,500
6.8	Surveying/Staking	1	LS	\$	-	\$	-	\$ 1,349,645	\$ 1,349,645	\$ 1,349,645	\$	1,349,645
	Testing & Commissioning											
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$	-	\$ 40,000	\$ 40,000	\$ 40,000	\$	40,000
	Permitting and Additional Costs											
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-
6.11	Environmental Mitigation	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-
6.12	Warranties / LOC's	1	LS	\$	-	\$	-	\$ 578,419	\$ 578,419	\$ 578,419	\$	578,419
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$	-	\$ 8,739,000	\$ 8,739,000	\$ 8,739,000	\$	8,739,000
6.15	Legal Fees	-	LS	\$	-	\$	-		\$ -	\$ -	\$	-
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$	-
6.17	Compensation for use of 2 Ckts - NYPA Structures (92 Structures)	1	LS	\$	-	\$	-	\$ 17,838,245	\$ 17,838,245	\$ 17,838,245	\$	17,838,245
6.18	Sales Tax on Materials	1	LS	\$	4,864,729	\$	4,864,729	\$ -	\$ -	\$ 4,864,729	\$	4,864,729
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	Ť		\$	-	\$ 192,806	\$ 192,806	\$ 192,806	\$	192,806
	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$	4,864,729		\$ 52,303,633	,,,,,,	\$	57,168,362
TOTAL - IVIUB/	DEIVIOD, ENGINEERING, PERIVITITING, TAC, PIVI & INDIRECTS:					Ş	4,004,729		\$ 52,503,633		,	57,108,36

B. Transmission Line Princetown to Rotterdam

Estimate Revision:

7

Total: \$ 24,759,032

NAT & NYPA - T027 - (Segment A, Do	NAT & NYPA - T027 - (Segment A, Double Circuit)									
	Supply			Installation		Total				
B. Transmission Line Princetown to Rotterdam										
1. CLEARING & ACCESS	\$	6,000	\$	3,038,200	\$	3,044,200				
2. FOUNDATIONS	\$	417,002	\$	3,778,708	\$	4,195,711				
3. STRUCTURES	\$	3,876,135	\$	4,280,943	\$	8,157,078				
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	722,365	\$	2,620,705	\$	3,343,070				
5. INSULATORS, FITTINGS, HARDWARE	\$	1,199,031	\$	549,192	\$	1,748,223				
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	497,643	\$	3,773,107	\$	4,270,750				
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-				
SUBTOTAL:	\$	6,718,177	\$	18,040,855	\$	24,759,032				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL:	\$	6,718,177	\$	18,040,855	\$	24,759,032				

escri		

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
B. Transi	mission Line Princetown to Rotterdam								
1. CLEARING 8	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	24.0	Acre	\$ -	\$ -	\$ 5,000	\$ 120,000	,	· ·
1.3	Access Road	5,280	LF	\$ -	\$ -	\$ 45			
1.4	Silt Fence	26,400	LF	\$ -	\$ -	\$ 4			\$ 105,600
1.5	Matting - Access and ROW	21,120	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	2,775	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	5	Mile	\$ -	\$ -	\$ 16,000			
1.8	ROW Restoration	5	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	185,000	SF	\$ -	\$ -		\$ 651,200		\$ 651,200
1.10	Restoration for Work Pad areas	37,000	SF	\$ -	\$ -	\$ 0.2			\$ 5,550
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035		\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance	10	EA	\$ -	\$ -	\$ 4,580			
1.14	Maintenance and Protection of Traffic on Public Roads	10	EA	\$ -	\$ -	\$ 4,130			
1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500		\$ 4,500	
1.16	Culverts / Misc. Access	8	EA	\$ 750	\$ 6,000				
1.17	Concrete Washout Station	10	EA	\$ -	\$ -	\$ 1,850		\$ 1,850	
TOTAL - CLEAR	ING & ACCESS:				\$ 6,000		\$ 3,038,200		\$ 3,044,200
2. FOUNDATIO									
2.1	Direct Embed Foundations - 6' x 18'	56	EA	\$ 1,857	\$ 104,018	\$ 18,603			
2.2	Direct Embed Foundations - 6' x 20'	4	EA	\$ 2,046	\$ 8,185	\$ 20,562			
2.3	Direct Embed Foundations - 6' x 22'	8	EA	\$ 2,235	\$ 17,880	\$ 22,520	\$ 180,160	\$ 24,755	\$ 198,040
2.4	Direct Embed Foundations - 7' x 25'	4	EA	\$ 3,105	\$ 12,422	\$ 34,650	\$ 138,601	\$ 37,756	\$ 151,023
2.5	Drilled Pier - 6' x 19'	6	EA	\$ 17,204	\$ 103,223	\$ 17,391	\$ 104,347		· ·
2.6	Drilled Pier - 8' x 27'	4	EA	\$ 42,819	\$ 171,274	\$ 57,340	\$ 229,359	\$ 100,158	\$ 400,633
2.7	Rock Excavation Adder	1,001.1	CY	\$ -	\$ -	\$ 2,000	\$ 2,002,200	\$ 2,000	\$ 2,002,200
TOTAL - FOUN	DATIONS:				\$ 417,002		\$ 3,778,708		\$ 4,195,711
3. STRUCTURE	S								
3.1	2x 1-CKT 345KV DELTA TANGENT (0°-1°) - 115'	24	Structure	\$ 85,544	\$ 2,053,056	\$ 51,326	\$ 1,231,834	\$ 136,870	\$ 3,284,890
3.2	2x 1-CKT 345KV DELTA TANGENT (0°-1°) - 135'	2	Structure	\$ 106,005	\$ 212,010	\$ 63,603	\$ 127,206	\$ 169,608	\$ 339,216
3.3	2x 1-CKT 345KV DELTA SMALL ANGLE (1°-15°) - 115'	2	Structure	\$ 141,673	\$ 283,346	\$ 85,004			
3.4	2x 1-CKT 345KV VERTICAL TANGENT DEADEND (0°-5°) - 115'	4	Structure	\$ 109,816	\$ 439,264	\$ 65,890	\$ 263,558		
	` '			7					
3.5	2x 1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	2	Structure	7,	\$ 465,312	· · · · · · · · · · · · · · · · · · ·	\$ 279,187		
3.6	2x 1-CKT 345KV 3-POLE LARGE ANGLE DEADEND (60°-90°) - 115'	1	Structure	\$ 176,342	\$ 176,342	\$ 105,805			
3.7	2x 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 65'	1	Structure	\$ 99,493	\$ 99,493	\$ 59,696	\$ 59,696	\$ 159,189	\$ 159,189

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.8	2x 1-CKT 345KV DELTA TANGENT (0°-1°) HD- 115'	1	Structure	\$ 105,820	\$ 105,820	\$ 63,492	\$ 63,492	\$ 169,312	\$ 169,312
3.9	Remove Existing Foundation	22	EA	\$ -	\$ -	\$ 7,500		,	\$ 163,500
3.10	Remove Existing Structure and Accessories	109	EA	\$ -	\$ -	\$ 12,500			
3.11	Install Grounding and Grounding Accessories CTURES PRINCTOWN TO NEW SCOTLAND:	82	Pole	\$ 506	\$ 41,492	\$ 5,539			\$ 495,649
					\$ 3,876,135		\$ 4,280,943		\$ 8,157,078
4. CONDUCTO	R, SHIELDWIRE, OPGW 345kV - (1) 954kcmil 54/7 ACSS "Cardinal" (R1 - R36)	339,293	LF	\$ 1.90	\$ 644,657	\$ 5.00	\$ 1,696,465	\$ 6.90	\$ 2,341,122
4.2	(1) OPGW 36 Fiber AC-33/38/571 (R1 - R36)	28,274	LF	\$ 1.35		\$ 5.00			\$ 2,341,122
	(3) 2 (4) - (3-2)								
4.3	(1) 3/8" EHS7 Steel (R1 - R36)	28,274	LF	\$ 0.47	\$ 13,289	\$ 5.00			
4.5	Remove Existing Conductor and Accessories	10.0	Mile	\$ -	\$ -	\$ 30,000			\$ 300,000
4.6	Remove Existing OPGW and Accessories	10.0	Mile	\$ -	\$ -	\$ 12,000	\$ 120,000		
4.7	Remove Existing OHSW and Accessories	10.0	Mile	\$ -	\$ -	\$ 12,000			
4.8	Rider Poles	15	EA	\$ 1,750	\$ 26,250	\$ 3,500			\$ 78,750
4.9	Rider Poles - Relocated	14	Set	\$ -	\$ -	\$ 3,500		,	\$ 49,000
	UCTOR, SHIELDWIRE, OPGW:				\$ 722,365		\$ 2,620,705		\$ 3,343,070
	, FITTINGS, HARDWARE								
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	348	Assembly	\$ 1,800	,	\$ 720			
5.2	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	240	Assembly	\$ 1,800	\$ 432,000	\$ 720	\$ 172,800	\$ 2,520	\$ 604,800
5.3	OPGW Assembly - Tangent	29	Assembly	\$ 200	\$ 5,800	\$ 150	\$ 4,350	\$ 350	\$ 10,150
5.4	OPGW Assembly - Angle / DE	16	Assembly	\$ 250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.5	OHSW Assembly - Tangent	29	Assembly	\$ 200	\$ 5,800	\$ 150	\$ 4,350	\$ 350	\$ 10,150
5.6	OHSW Assembly - Angle / DE	16	Assembly	\$ 250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.7	OPGW Splice Boxes	8	Assembly	\$ 1,746	\$ 13,969	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161
5.8	OPGW Splice & Test	8	EA	\$ 2,520	\$ 20,160	\$ 2,520	\$ 20,160	\$ 5,040	\$ 40,320
5.9	Spacer - Conductor	1,002	EA	\$ 50	\$ 50,100	\$ 35			\$ 85,170
5.10	Vibration Dampers - Conductor	852	EA	\$ 35	\$ 29,820	\$ 35			. ,
5.11	Shieldwire / OPGW Dampers, Misc. Fittings	116	EA	\$ 27	,	\$ 35			\$ 7,192
5.12	Guys, Anchors, and Accessories	-	EA	\$ 912		\$ 1,058		\$ 1,970	
5.13	Misc. materials (Signs and Markers)	5.0	Mile	\$ 770	\$ 3,850	\$ 1,006			
	ATORS, FITTINGS, HARDWARE:	5.0	THIC .	,,,,	\$ 1,199,031	7 2,000	\$ 549,192		\$ 1,748,223
B. Trans	mission Line Princetown to Rotterdam				\$ 6,220,534		\$ 14,267,748		\$ 20,488,282
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS								
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 204,883	\$ 204,883	\$ 204,883	\$ 204,883
	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 778,708	\$ 778,708	\$ 778,708	\$ 778,708
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 204,883			
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 204,883	\$ 204,883	\$ 204,883	\$ 204,883
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,024,414	\$ 1,024,414	\$ 1,024,414	\$ 1,024,414
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 61,465	\$ 61,465	\$ 61,465	\$ 61,465
6.7	Geotech	5	Location	\$ -	\$ -	\$ 3,500	\$ 17,500	\$ 3,500	\$ 17,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 143,418	\$ 143,418	\$ 143,418	\$ 143,418
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs					*	_		•
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -		\$ -	\$ -		\$ -
6.11	Environmental Mitigation	-	LS	\$ -	·	\$ -	\$ -	-	\$ -
6.12	Warranties / LOC's	1	LS	\$ -		\$ 61,465			-
6.13	Real Estate Costs (New ROW)	1	LS	\$ -		<u> </u>	\$ -	\$ - \$ 1,011,000	
6.14	Real Estate Costs (Incumbent Utility ROW) Legal Fees	1	LS LS	\$ -		, , , , , , , , , , , , , , , , , , , ,	\$ 1,011,000 \$ -		\$ 1,011,000 \$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -		<u> </u>	\$ -		\$ -
6.17	- managarity and a same same same and an end about	-	LS	\$ -			\$ -	\$ -	
	I .			1.1		•	1.		•

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
6.18	Sales Tax on Materials	1	LS	\$ 497,643	\$ 497,643	\$ -	\$ -	\$ 497,643	\$ 497,643	
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 20,488	\$ 20,488	\$ 20,488	\$ 20,488	
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 497,643		\$ 3,773,107		\$ 4,270,750	

C. Transmission Line Princetown to New Scotland

Estimate 7 Total: \$ 83,693,713

NAT & NYPA - T027 - (Segment A, Doub	le Circ	cuit)		
		Supply	Installation	Total
C. Transmission Line Princetown to New Scotland				
1. CLEARING & ACCESS	\$	31,000	\$ 12,160,694	\$ 12,191,694
2. FOUNDATIONS	\$	1,906,579	\$ 6,818,398	\$ 8,724,977
3. STRUCTURES	\$	14,926,511	\$ 12,717,400	\$ 27,643,911
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	3,406,079	\$ 11,152,295	\$ 14,558,374
5. INSULATORS, FITTINGS, HARDWARE	\$	4,435,513	\$ 2,065,439	\$ 6,500,952
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,976,455	\$ 12,097,350	\$ 14,073,805
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	26,682,137	\$ 57,011,576	\$ 83,693,713
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	26,682,137	\$ 57,011,576	\$ 83,693,713

Description	of Work:								
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
C. Trans	mission Line Princetown to New Scotland								
1. CLEARING 8	& ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	64.0	Acre	\$ -	\$ -	\$ 5,000			·
1.3	Permanent Access Road	20,803.2	LF	\$ -	\$ -	\$ 45			
1.4	Silt Fence	104,016.0	LF	\$ -	\$ -	\$ 4			. ,
1.5	Matting - Access and ROW	83,212.8	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area Snow Removal	12,450 19.7	LF Mile	\$ - \$ -	\$ - \$ -	\$ 70 \$ 16,000	\$ 871,500 \$ 315,200		\$ 871,500 \$ 315,200
1.7	ROW Restoration	19.7	Mile	\$ -	\$ -	\$ 10,000	\$ 313,200		
1.9	Work Pads	830,000	SF	\$ -	\$ -	\$ 4			
1.10	Restoration for Work Pad areas	166,000	SF	\$ -	\$ -	\$ 0.2	\$ 24,900		\$ 24,900
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -		
1.12	Air Bridge	2	EA	\$ -	\$ -	\$ 14,445	\$ 28,890	\$ 14,445	\$ 28,890
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580	\$ -		
1.14	Maintenance and Protection of Traffic on Public Roads	50		\$ -	\$ -	\$ 4,130	\$ 206,500		
1.15	Gates	11		\$ 2,000	\$ 22,000	\$ 2,500	\$ 27,500		
1.16	Culverts / Misc. Access	12		\$ 750		\$ 1,250	\$ 15,000		
1.17	Concrete Washout Station RING & ACCESS:	30	EA	\$ -	\$ - \$ 31,000	\$ 1,850	\$ 55,500 \$ 12,160,694	\$ 1,850	\$ 55,500 \$ 12,191,694
2. FOUNDATIO					\$ 31,000		\$ 12,160,694		\$ 12,191,094
2.1	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	2	EA	\$ 4,993 \$ 4.364	,	\$ 33,950	·		·
2.2	1-CKT 345KV VERTICAL TANGENT (0°-1°)	33	EA	7,441	\$ 144,020		·		
2.3	2-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	7	EA	\$ 3,880	·		·		·
2.4	2-CKT 345KV VERTICAL TANGENT (0°-1°)	105	EA	\$ 2,848	. ,	-			
2.5	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	3	EA	\$ 58,386	,	\$ 64,912	\$ 194,736	\$ 123,297	\$ 369,892
2.6	2-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	16	EA	\$ 78,203	\$ 1,251,255	\$ 86,945	\$ 1,391,121	\$ 165,148	\$ 2,642,376
2.7	Rock Excavation Adder	983.7	СУ	\$ -	\$ -	\$ 2,000	\$ 1,967,400	\$ 2,000	\$ 1,967,400
2.8									
2.9									
2.10									
2.11									
2.12									
2.13									
2.14									
	I .		I				l		

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.16									
2.17									
2.18									
2.19									
2.20									
2.21									
2.23									
TOTAL - FOUN	DATIONS:				\$ 1,906,579		\$ 6,818,398		\$ 8,724,977
3. STRUCTURE					,,		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
3.1	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) 115'	3	Structure	\$ 116,328	\$ 348,984	\$ 69,797	\$ 209,390	\$ 186,125	\$ 558,374
3.2	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) 130'	2	Structure	\$ 85,082	\$ 170,163	\$ 51,049	\$ 102,098	\$ 136,130	\$ 272,261
3.3	1-CKT 345KV VERTICAL TANGENT (0°-1°) 115'-135'	33	Structure	\$ 56,569		\$ 33,942	\$ 1,120,072		\$ 2,986,859
3.4	2-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) 115'-145'	16	Structure	\$ 201,043	\$ 3,216,691	\$ 120,626			
3.5	2-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) 115'-165'	7		\$ 124,542		\$ 74,725			
3.6	2-CKT 345KV VERTICAL TANGENT (0°-1°) 115'-145'	105	Structure	\$ 79,696	\$ 8,368,096	\$ 47,818	\$ 5,020,857	\$ 127,514	\$ 13,388,953
3.7	Remove Existing Foundation	124	EA	\$ -	\$ -	\$ 7,500			\$ 930,000
3.8	Remove Existing Lattice Structure and Accessories	30	EA	\$ -	\$ - \$ -	\$ 12,500 \$ 12.500			\$ 375,000
3.9 3.10	Remove Existing Structure and Accessories Install Grounding and Grounding Accessories	127 166	EA Pole	\$ 506	-	\$ 12,500 \$ 5,539			\$ 1,587,500 \$ 1,003,387
3.11	mistan Grounding and Grounding Accessories	100	role	2 300	03,390	۶ کررن	7 313,391	9 0,043	7 1,003,387
TOTAL - STRUC	TURES:				\$ 14,926,511		\$ 12,717,400		\$ 27,643,911
	R, SHIELDWIRE, OPGW								
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	1,533,470	LF	\$ 1.90	\$ 2,913,593	\$ 5.00	\$ 7,667,350	\$ 6.90	\$ 10,580,943
4.2	(1) OPGW 36 Fiber AC-33/38/571	255,578	LF	\$ 1.35					\$ 1,622,920
4.3	(1) 3/8" EHS7 Steel	220,651	LF	\$ 0.47					
4.4	Remove Existing Conductor and Accessories	17.2	Mile	\$ -	\$ -	\$ 30,000			
4.5	Remove Existing OPGW and Accessories	17.2	Mile	\$ -	\$ -	\$ 12,000			
4.6	Remove Existing OHSW and Accessories	17.2	Mile	\$ -	\$ -	\$ 12,000	\$ 206,400	\$ 12,000.00	\$ 206,400
4.7	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90	\$ -	\$ 5.00	\$ -	\$ 6.90	\$ -
4.8	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$ 1.35	\$ -	\$ 5.00	\$ -	\$ 6.35	\$ -
4.9	(1) 3/8" EHS7 Steel	-	LF	\$ 0.47	\$ -	\$ 5.00	\$ -	\$ 5.47	\$ -
4.10	Rider Poles (50 Locations)	25	EA	\$ 1,750	\$ 43,750	\$ 3,500	\$ 87,500	\$ 5,250.00	\$ 131,250
4.11	Rider Poles - Relocated	25	Set	\$ -	\$ -	\$ 3,500	\$ 87,500	\$ 3,500.00	\$ 87,500
4.12									
TOTAL - COND	UCTOR, SHIELDWIRE, OPGW:				\$ 3,406,079		\$ 11,152,295		\$ 14,558,374
	FITTINGS, HARDWARE								
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	1,554	Assembly	\$ 1,800		\$ 720			
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	525	Assembly	\$ 900		\$ 560		\$ 1,460	
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	525	Assembly Assembly	\$ 1,800 \$ 900		\$ 720 \$ 560		\$ 2,520 \$ 1,460	
5.5	OPGW Assembly - Tangent	147	Assembly	\$ 200		\$ 150			\$ 51,450
5.6	OPGW Assembly - Angle / DE	38	Assembly	\$ 250		\$ 150			\$ 15,200
5.7	OHSW Assembly - Tangent	112	Assembly	\$ 200		\$ 150			\$ 39,200
5.8	OHSW Assembly - Angle / DE	32	Assembly	\$ 250	\$ 8,000	\$ 150	\$ 4,800	\$ 400	\$ 12,800
5.9	OPGW Splice Boxes	8	Assembly	\$ 1,746		\$ 2,274			\$ 32,161
5.10	OPGW Splice & Test	8	EA	\$ 2,520		\$ 2,520			\$ 40,320
5.11	Spacer - Conductor	8,395	EA	\$ 50					\$ 713,575
5.12	Vibration Dampers - Conductor Shieldwire / OPGW Dampers, Misc. Fittings	1,536		\$ 35 \$ 27					
	Guys, Anchors, and Accessories	293	EA EA	\$ 27					
5.15	Misc. materials (Signs and Markers)	19.9	Mile	\$ 770	\$ 15,323	\$ 1,006	\$ 20,019	\$ 1,776	\$ 35,342
	Jumpers at Existing Structures (New Cable to Existing)	2	EA	\$ 25,000		\$ 25,000		\$ 50,000	
TOTAL - INSUL	ATORS, FITTINGS, HARDWARE:				\$ 4,435,513		\$ 2,065,439		\$ 6,500,952
	mission Line Princetown to New Scotland				\$ 24,705,683		\$ 44,914,226		\$ 69,619,908
o. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization		I .	1	<u> </u>				

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cos	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 696,199	\$ 696,199	\$ 696,199	\$ 696,199
	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 2,646,079	\$ 2,646,079	\$ 2,646,079	\$ 2,646,079
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 696,199	\$ 696,199	\$ 696,199	\$ 696,199
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 696,199	\$ 696,199	\$ 696,199	\$ 696,199
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,480,995	\$ 3,480,995	\$ 3,480,995	\$ 3,480,995
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 208,860	\$ 208,860	\$ 208,860	\$ 208,860
6.7	Geotech	20	Location	\$ -	\$ -	\$ 3,500	\$ 70,000	\$ 3,500	\$ 70,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 487,339	\$ 487,339	\$ 487,339	\$ 487,339
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 208,860	\$ 208,860	\$ 208,860	\$ 208,860
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 2,797,000	\$ 2,797,000	\$ 2,797,000	\$ 2,797,000
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 1,976,455	\$ 1,976,45	5 \$ -	\$ -	\$ 1,976,455	\$ 1,976,455
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 69,620	\$ 69,620	\$ 69,620	\$ 69,620
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 1,976,45	5	\$ 12,097,350		\$ 14,073,805

D. Rotterdam Substation - Install

Estimate Revision: 7 Total: \$ 55,185,436

NAT & NYPA - T027 - (Segn	nent A, Doub	ole Circuit)		
		Supply	Installation	Total
D. Rotterdam Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	2,896,891	\$ 8,763,755	\$ 11,660,646
2. SUBSTATION FOUNDATIONS	\$	2,443,003	\$ 2,616,200	\$ 5,059,203
3. SUBSTATION STRUCTURES	\$	944,980	\$ 944,980	\$ 1,889,960
4. MAJOR EQUIPTMENT	\$	11,915,000	\$ 2,970,000	\$ 14,885,000
5. SMALL EQUIPTMENT / MATERIALS	\$	1,994,540	\$ 1,060,500	\$ 3,055,040
6. CONTROL HOUSE / PANELS	\$	2,927,500	\$ 1,477,500	\$ 4,405,000
7. MISC ITEMS	\$	1,441,675	\$ 2,331,950	\$ 3,773,625
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,965,087	\$ 8,491,875	\$ 10,456,962
CONTRACTOR MARK-UP (OH&P)	\$		\$ -	\$ -
SUBTOTAL:	\$	26,528,676	\$ 28,656,759	\$ 55,185,436
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	26,528,676	\$ 28,656,759	\$ 55,185,436

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
D. Rotte	rdam Substation - Install									
1. SITE PREP/ O	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	7.4	ACRES	\$	-	\$ -	\$ 203,000	\$ 1,497,125	\$ 203,000	\$ 1,497,125
1.2	Station stone within substation fence.	3,175	CY	\$	27	\$ 85,725	\$ 75	\$ 238,125	\$ 102	\$ 323,850
1.3	Substation Fence	2,130	LF	\$	100	\$ 213,000	\$ 100	\$ 213,000	\$ 200	\$ 426,000
1.4	Retaining Wall (1065' x 13')	1	LS	\$	406,755	\$ 406,755	\$ 925,345	\$ 925,345	\$ 1,332,100	\$ 1,332,100
1.5	Compacted Fill (124,583cy Sand)	124,583	CY	\$	17	\$ 2,117,911	\$ 20	\$ 2,491,660	\$ 37	\$ 4,609,571
1.6	Permanent Access Road - 20'-Wide (From Gordon RD)	2,100	LF	\$	35	\$ 73,500	\$ 285	\$ 598,500	\$ 320	\$ 672,000
1.7	Natural Gas Transmission Line Relocation	1	LS	\$	-		\$ 2,800,000	\$ 2,800,000	\$ 2,800,000	\$ 2,800,000
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 2,896,891		\$ 8,763,755		\$ 11,660,646
2. SUBSTATION	FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	8	EA	\$	14,940	\$ 119,520	\$ 16,000	\$ 128,000	\$ 30,940	\$ 247,520
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	32	EA	\$	26,145	\$ 836,640	\$ 28,000	\$ 896,000	\$ 54,145	\$ 1,732,640
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	102	EA	\$	4,482	\$ 457,164	\$ 4,800	\$ 489,600	\$ 9,282	\$ 946,764
2.1f	Station Service Transformer Stand Foundation	1	EA	\$	4,482	\$ 4,482	\$ 4,800	\$ 4,800	\$ 9,282	\$ 9,282
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	42	EA	\$	4,482	\$ 188,244	\$ 4,800	\$ 201,600	\$ 9,282	\$ 389,844
2.1j	Instrument Transformer Stand Foundations	33	EA	\$	4,482	\$ 147,906	\$ 4,800	\$ 158,400	\$ 9,282	\$ 306,306
2.1k	Arrester Stand Foundations	6	EA	\$	4,482	\$ 26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$ 55,692
2.1m	Wave Trap Stand Foundations	2	EA	\$	4,482	\$ 8,964	\$ 4,800	\$ 9,600	\$ 9,282	\$ 18,564

Item	Item Description	Estimated Quantity	Unit of Measure	Mater	ial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.1p											
2.2	230kV										
2.2a	Circuit Breaker Foundations	1	EA	\$	11,952	\$ 11,952	\$ 12,800	\$ 12,800	\$ 24,752	\$	24,752
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$	-
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$	22,410	\$ 89,640		\$ 96,000	\$ 46,410	\$	185,640
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	-	-
2.2e	Switch Stand Foundations	8	EA	\$	3,735	\$ 29,880		\$ 32,000	\$ 7,735		61,880
2.2f	Station Service Transformer Stand Foundation	0	EA	\$	3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$	-
2.2g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.2h	Bus Support 1 Ph Foundations	0	EA	\$	3,735	\$ -	\$ 4,000	\$ -	\$ 7,735		-
2.2j	Instrument Transformer Stand Foundations	9	EA	\$	3,735	\$ 33,615	\$ 4,000	\$ 36,000	\$ 7,735	-	69,615
2.2k	Arrester Stand Foundations	3	EA	\$	3,735	\$ 11,205		\$ 12,000	\$ 7,735		23,205
2.2m	Wave Trap Stand Foundations	1	EA	\$	3,735	\$ 3,735		\$ 4,000	\$ 7,735	\$	7,735
2.2n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.2p											
2.3	115kV										
2.3a	Circuit Breaker Foundations	0	EA	\$	5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$	-
2.3b	Capacitor Bank Foundations	0	EA	\$	33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$	•
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$	16,434	\$ 65,736		\$ 70,400	\$ 34,034	\$	136,136
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	16,434	\$ -	\$ 17,600		\$ 34,034	\$	-
2.3e	Switch Stand Foundations	4	EA	\$	2,988	\$ 11,952			\$ 6,188	-	24,752
2.3f	Fuse Stand Foundations	0	EA	\$	2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
2.3g	Bus Support 3ph Foundations	0	EA	\$	2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	•
2.3h	Bus Support 1 Ph Foundations	0	EA	\$	2,988	\$ -		\$ -	\$ 6,188	\$	-
2.3j	Instrument Transformer Stand Foundations	6	EA	\$	2,988	\$ 17,928		\$ 19,200	\$ 6,188	\$	37,128
2.3k	Arrester Stand Foundations	6	EA	\$	2,988	\$ 17,928		\$ 19,200	\$ 6,188	-	37,128
2.3m	Wave Trap Stand Foundations	0	EA	\$	2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$	-
2.3n	Station Service Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.3p	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.4	Transfermer Ferradations										
2.4a	Transformer Foundations 345-230kV Transformer Foundation w/ Oil Containment	1	EA	\$	97,110	\$ 97,110	\$ 104,000	\$ 104,000	\$ 201,110	Ś	201,110
2.4a 2.4b	345-115kV Transformer Foundation w/ Oil Containment	2	EA	\$	74,700	\$ 149,400	\$ 80,000	\$ 160,000	\$ 154,700	Ś	309,400
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$	74,700	\$ 149,400	\$ 80,000	\$ 160,000	\$ 154,700	Ś	309,400
2.4c 2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.4u	233. Tunstomer Foundation wy on Containment		- 25	1	-	¥	· ·	· · · · · · · · · · · · · · · · · · ·	· -	-	-
2.5	Control House Foundations / Pad										
2.5a	Control House / Pad	1	EA	\$	97,110	\$ 97,110	\$ 104,000	\$ 104,000	\$ 201,110	\$	201,110
2.5b	Generator Foundation	1	EA	\$	16,000	\$ 16,000	\$ 17,000	\$ 17,000	\$ 33,000	\$	33,000
				†	.,	-,,,,	,,,,,,	,,,,,,		i i	,
2.6	Lightning Mast Foundations										
2.6a	70' Lightning Mast Foundation	0	EA	\$	5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$	-
2.6b				\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.6c				\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
TOTAL - SUBS	 ration foundations					\$ 2,443,003		\$ 2,616,200		\$	5,059,203
	N STRUCTURES										
3.1	345kV										

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	тот	TAL
3.1a Su	ubstation A-Frame Structures - Stand alone	8	EA	\$	37,000	\$ 296,000	\$ 37,000	\$ 296,000	\$ 74,000	\$	592,000
3.1b St	ubstation A-Frame Structures - Shared Column	0	EA	\$	37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$	-
3.1c Sv	witch Stands	17	EA	\$	14,800	\$ 251,600	\$ 14,800	\$ 251,600	\$ 29,600	\$	503,200
3.1d St	station Service Transformer Stand	1	EA	\$	14,800	\$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600	\$	29,600
3.1e Bi	Bus Support 3ph	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
3.1f B	Bus Support 1 Ph	42	EA	\$	3,700	\$ 155,400	\$ 3,700	\$ 155,400	\$ 7,400	\$	310,800
3.1g In	nstrument Transformer Stand	33	EA	\$	1,850	\$ 61,050	\$ 1,850	\$ 61,050	\$ 3,700	\$	122,100
3.1h Ai	Arrester Stand	6	EA	\$	1,850	\$ 11,100	\$ 1,850	\$ 11,100	\$ 3,700	\$	22,200
3.1j W	Vave Trap Stand	2	EA	\$	7,400	\$ 14,800	\$ 7,400	\$ 14,800	\$ 14,800	\$	29,600
3.1k M	Aisc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
3.2 23	30kV										
3.2a St	ubstation A-Frame Structures - Stand alone	1	EA	\$	33,300	\$ 33,300	\$ 33,300	\$ 33,300	\$ 66,600	\$	66,600
3.2b St	substation A-Frame Structures - Shared Column	0	EA	\$	33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$	-
3.2c Sv	witch Stands	2	EA	\$	12,025	\$ 24,050	\$ 12,025	\$ 24,050	\$ 24,050	\$	48,100
3.2d St	tation Service Transformer Stand	0	EA	\$	12,025	\$ -	\$ 12,025	\$ -	\$ 24,050	\$	-
3.2e Bi	Bus Support 3ph	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
3.2f Bi	Bus Support 1 Ph	0	EA	\$	2,775	\$ -	\$ 2,775	\$ -	\$ 5,550	\$	-
3.2g In	nstrument Transformer Stand	9	EA	\$	1,295	\$ 11,655	\$ 1,295	\$ 11,655	\$ 2,590	\$	23,310
3.2h Aı	Arrester Stand	3	EA	\$	1,295	\$ 3,885	\$ 1,295	\$ 3,885	\$ 2,590	\$	7,770
3.2j W	Vave Trap Stand	1	EA	\$	5,550	\$ 5,550	\$ 5,550	\$ 5,550	\$ 11,100	\$	11,100
3.2k M	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
3.3 11	.15kV										
3.3a Su	ubstation A-Frame Structures - Stand alone	2	EA	\$	18,500	\$ 37,000	\$ 18,500	\$ 37,000	\$ 37,000	\$	74,000
3.3b St	ubstation A-Frame Structures - Shared Column	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$	-
3.3c Sv	witch Stands	2	EA	\$	7,955	\$ 15,910	\$ 7,955	\$ 15,910	\$ 15,910	\$	31,820
3.3d Ft	use Stand	0	EA	\$	7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$	-
3.3e Bi	Bus Support 3ph	0	EA	\$	3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$	-
3.3f Bi	Bus Support 1 Ph	0	EA	\$	1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$	-
3.3g In	nstrument Transformer Stand	6	EA	\$	740	\$ 4,440	\$ 740	\$ 4,440	\$ 1,480	\$	8,880
3.3h Ai	Arrester Stand	6	EA	\$	740	\$ 4,440	\$ 740	\$ 4,440	\$ 1,480	\$	8,880
3.3j W	Vave Trap Stand	0	EA	\$	3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$	-
3.3k M	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
TOTAL - SUBSTAT	TION STRUCTURES					\$ 944,980		\$ 944,980		\$	1,889,960
4. MAJOR EQUIP	PTMENT										
4.1 34	45kV										
4.1a Ci	Circuit Breakers	8	EA	\$	200,000	\$ 1,600,000	\$ 80,000	\$ 640,000	\$ 280,000	\$	2,240,000
4.1b Ca	Capacitor Banks	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	\$	-
4.1c 34	45 kV - 230 kV Auto Transformer	1	EA	\$	3,400,000	\$ 3,400,000	\$ 750,000	\$ 750,000	\$ 4,150,000	\$	4,150,000
4.1d 34	45 kV - 115 kV Auto Transformer	2	EA	\$	3,400,000	\$ 6,800,000	\$ 750,000	\$ 1,500,000	\$ 4,150,000	\$	8,300,000
4.2 23	30kV										
4.2a Ci	Circuit Breakers	1	EA	\$	115,000	\$ 115,000	\$ 80,000	\$ 80,000	\$ 195,000	\$	195,000
4.2b Ca	Capacitor Banks	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	\$	-
4.3 11	.15kV										
4.3a Ci	Circuit Breakers	0	EA	\$	52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$	-
4.3b Ca	Capacitor Banks	0	EA	\$	-	\$ -	\$ 60,000	\$ -	\$ 60,000	\$	-
	EQUIPTMENT					\$ 11,915,000		\$ 2,970,000		\$ 1	14,885,000

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	ial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5. SMALL EQU	PTMENT / MATERIALS									
5.1	345kV									
5.1a	Line Switches - 3ph w/ motor operator	2	EA	\$	40,000	\$ 80,000	\$ 15,000	\$ 30,000	\$ 55,000	\$ 110,00
5.1b	Disconnect Switches - 3ph w/ manual operator	17	EA	\$	35,000	\$ 595,000	\$ 17,500	\$ 297,500	\$ 52,500	\$ 892,50
5.1c	VT'S	6	EA	\$	25,000	\$ 150,000	\$ 12,000	\$ 72,000	\$ 37,000	\$ 222,00
5.1d	CT'S	6	EA	\$	13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,00
5.1e	CCVT'S	21	EA	\$	13,000	\$ 273,000	\$ 8,000	\$ 168,000	\$ 21,000	\$ 441,00
5.1f	Arresters	15	EA	\$	6,500	\$ 97,500	\$ 1,500	\$ 22,500	\$ 8,000	\$ 120,00
5.1g	Wave Traps	2	EA	\$	13,000	\$ 26,000	\$ 8,000	\$ 16,000	\$ 21,000	\$ 42,00
5.1h	Station Service Transformers	1	EA	\$	200,000	\$ 200,000	\$ 50,000	\$ 50,000	\$ 250,000	\$ 250,00
5.1j		0	EA	\$	15,000	\$ -	\$ 7,500	\$ -	\$ 22,500	\$ -
5.2	230kV									
5.2a	Line Switches - 3ph w/ motor operator	1	EA	\$	35,000	\$ 35,000	\$ 15,000	\$ 15,000	\$ 50,000	\$ 50,00
5.2b	Disconnect Switches - 3ph w/ manual operator	1	EA	\$	30,000	\$ 30,000	\$ 17,500	\$ 17,500	\$ 47,500	\$ 47,50
5.2c	VT'S	3	EA	\$	13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,00
5.2d	CT'S	3	EA	\$	13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,00
5.2e	CCVT'S	3	EA	\$	10,000	\$ 30,000	\$ 6,000	\$ 18,000	\$ 16,000	\$ 48,00
5.2f	Arresters	6	EA	\$	5,000	\$ 30,000	\$ 6,000	\$ 36,000	\$ 11,000	\$ 66,00
5.2g	Wave Traps	1	EA	\$	13,000	\$ 13,000	\$ 8,000	\$ 8,000	\$ 21,000	\$ 21,00
5.2h	Station Service Transformers	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j		0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV									
5.3a	Line Switches - 3ph w/ motor operator	2	EA	\$	33,000	\$ 66,000	\$ 15,000	\$ 30,000	\$ 48,000	\$ 96,00
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$	28,000	\$ -	\$ 17,500	\$ -	\$ 45,500	\$ -
5.3c	VT'S	6	EA	\$	13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,00
5.3d	CT'S	6	EA	\$	13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,00
5.3e	CCVT'S	2	EA	\$	8,000	\$ 16,000	\$ 8,000	\$ 16,000	\$ 16,000	\$ 32,00
5.3f	Arresters	12	EA	\$	3,420	\$ 41,040	\$ 6,000	\$ 72,000	\$ 9,420	\$ 113,04
5.3g	Wave Traps	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMAL	L EQUIPTMENT / MATERIALS					\$ 1,994,540		\$ 1,060,500		\$ 3,055,04
6. CONTROL H	OUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	1	EA	\$	975,000	\$ 975,000	\$ 170,000	\$ 170,000	\$ 1,145,000	\$ 1,145,00
6.2	Protection and Telecom Equipment Panels	29	EA	\$	35,000	\$ 1,015,000	\$ 10,000	\$ 290,000	\$ 45,000	\$ 1,305,00
6.3	13EVDC Patteries	2	F.*	Ś	75.000	ć 450.000	\$ 25.000	\$ 50.000	ć 400.000	ć 200 co
6.3	125VDC Batteries	2	EA LS	\$	75,000 472,500	\$ 150,000 \$ 472,500	\$ 25,000 \$ 472,500	7 00,000	\$ 100,000 \$ 945,000	\$ 200,00 \$ 945,00
6.5	Control Cables SCADA and Communications	0	EA EA	\$	472,500	\$ 472,500 \$ -	\$ 472,500	\$ 472,500 \$ -	\$ 945,000 \$ -	\$ 945,00
		2	EA EA	\$		·	*	т	\$ 150,000	
6.6	Low Voltage AC Distribution DC Distribution System	2	EA EA	\$	50,000 50,000	\$ 100,000 \$ 100,000	\$ 100,000 \$ 100,000	\$ 200,000 \$ 200,000	\$ 150,000	\$ 300,00
6.8	Security	1	EA	Ś		\$ 7,500	\$ 7,500	,	\$ 15,000	\$ 15,00
٥.٥	Security	1	ĽA	۶	7,500	/,٥٥٥ ب	/,500	/,500	15,000 ب	15,000 ب

6.0	Item Description	Estimated Quantity	Unit of Measure	Materi	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
6.9 Fire	re Alarm	1	EA	\$	7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$	15,000
6.10 Gen	enerator	1	EA	\$	100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$	180,000
				_							
TOTAL - CONTROL	L HOUSE / PANELS / GENERATOR					\$ 2,927,500		\$ 1,477,500		\$	4,405,000
7. MISC ITEMS											
7.1 Con	onduit & Cable Trench System	1,950	LF	\$	185.00	\$ 360,750	\$ 170.00	\$ 331,500	\$ 355	\$	692,250
7.2 Rigi	gid Bus, Fittings & Insulators	2,500	LF	\$	125.07	\$ 312,675	\$ 237.10	\$ 592,750	\$ 362	\$	905,425
	rain Bus, Connectors & Insulators	2,000	LF	\$	39.30	\$ 78,600	\$ 53.35	·	\$ 93	ļ -	185,300
7.4 Gro	rounding System	25,000	LF	\$	6.93	\$ 173,250	\$ 32.58	\$ 814,500	\$ 40	\$	987,750
7.5 Stra	rain Bus Insulators - 345kV	48	EA	\$	2,000	\$ 96,000	\$ 1,050	\$ 50,400	\$ 3,050	\$	146,400
7.6 Stra	rain Bus Insulators - 230kV	6	EA	\$	1,400	\$ 8,400	\$ 750	\$ 4,500	\$ 2,150	\$	12,900
7.7 Stra	rain Bus Insulators - 115kV	12	EA	\$	1,000	\$ 12,000	\$ 550	\$ 6,600	\$ 1,550	\$	18,600
7.8 Low	w Voltage AC Station Service	1	LS	\$	50,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$	125,000
7.9 SSV	OVT Service	1	LS	\$	45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 90,000	\$	90,000
7.10 Con	ontrol Conduits from Trench to Equipment	1	LS	\$	125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$	250,000
7.11 Mis	isc. Materials (Above and Below Ground)	1	LS	\$	180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$	360,000
7.12											
7.13											
7.14											
7.15											
7.16											
7.17											
7.18											
7.19											
7.20											
TOTAL - MISC ITEM	:MS					\$ 1,441,675		\$ 2,331,950		\$	3,773,625
D. Rotterda	am Substation - Install					\$ 24,563,589		\$ 20,164,885		\$	44,728,474
	ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
	ontractor Mobilization / Demobilization										
	ob / Demob	1	LS	\$	-	\$ -	\$ 447,285	\$ 447,285	\$ 447,285	\$	447,285
	oject Management, Material Handling & Amenities							,			
	oject Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler nd Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 1,700,017	\$ 1,700,017	\$ 1,700,017	\$	1,700,017
8.3 Utili	tility PM and Project Oversite	1	LS			\$ -	\$ 447,285	\$ 447,285	\$ 447,285	\$	447,285
	te Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 447,285		\$ 447,285		447,285
	ngineering			1			,	,	,		
	esign Engineering	1	LS	\$	-	\$ -	\$ 3,578,278	\$ 3,578,278	\$ 3,578,278	\$	3,578,278
8.6 LiDA	DAR		LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	
	eotech	4	EA	\$	-	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$	14,000
	urveying/Staking	1	Site	\$	-	\$ -	\$ 313,099	\$ 313,099	\$ 313,099	\$	313,099
	esting & Commissioning						,	,	,,,,,		
	esting & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 1,118,212	\$ 1,118,212	\$ 1,118,212	\$	1,118,212
	ermitting and Additional Costs			Ť.			. ,	. ,	,	i i	
	nvironmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	
	nvironmental Mitigation	_	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	_
	arranties / LOC's	1	LS	s	-	\$ -	\$ 134,185	\$ 134,185	\$ 134,185	Ś	134,185

Item	Item Description	Estimated Quantity	Unit of Measure	Material Sup	oply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.13	Real Estate Costs (New)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$	-	\$ -	\$ 247,500	\$ 247,500	\$ 247,500	\$ 247,500
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 1,	,965,087	\$ 1,965,087	\$ -	\$ -	\$ 1,965,087	\$ 1,965,087
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 44,728	\$ 44,728	\$ 44,728	\$ 44,728
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,965,087		\$ 8,491,875		\$ 10,456,962

E. Rotterdam Substation - Removal

Estimate Revision: 7 Total: \$ 4,159,934

NAT & NYPA - T027 - (Segment a	A, Double Circuit)		
	Supply	Installation	Total
E. Rotterdam Substation - Removal			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ -	\$ 1,472,750	\$ 1,472,750
2. SUBSTATION FOUNDATIONS	\$ -	\$ 617,400	\$ 617,400
3. SUBSTATION STRUCTURES	\$ -	\$ 534,900	\$ 534,900
4. MAJOR EQUIPTMENT	\$ -	\$ 147,000	\$ 147,000
5. SMALL EQUIPTMENT / MATERIALS	\$ -	\$ 169,500	\$ 169,500
6. CONTROL HOUSE / PANELS	\$ -	\$ 150,000	\$ 150,000
7. MISC ITEMS	\$ -	\$ 519,480	\$ 519,480
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ -	\$ 548,904	\$ 548,904
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ -	\$ 4,159,934	\$ 4,159,934
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ -	\$ 4,159,934	\$ 4,159,934

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
E. Rotter	dam Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	6.3	ACRES	\$ -	\$ -	\$ 203,000	\$ 1,268,750	\$ 203,000	\$ 1,268,750
1.2	Station stone within substation fence.	2,000	CY	\$ -	\$ -	\$ 102	\$ 204,000	\$ 102	\$ 204,000
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ 1,472,750		\$ 1,472,750
2. SUBSTATIO	FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
2.1p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.2	230kV									
2.2a	Circuit Breaker Foundations	9	EA	\$ -	\$ -	\$ 7,200	\$ 64,800	\$ 7,200	\$ 6	54,800
2.2b	Capacitor Bank Foundations	2	EA	\$ -	\$ -	\$ 32,000	\$ 64,000	\$ 32,000	\$ 6	54,000
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	1	EA	\$ -	\$ -	\$ 22,000	\$ 22,000	\$ 22,000	\$ 2	22,000
2.2d	Caisson DE Foundations (for DE A frame str shared column)	5	EA	\$ -	\$ -	\$ 11,000	\$ 55,000	\$ 11,000	\$ 5	55,000
2.2e	Switch Stand Foundations	15	EA	\$ -	\$ -	\$ 5,200	\$ 78,000	\$ 5,200	\$ 7	78,000
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.2g	Bus Support 3ph Foundations	4	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.2h	Bus Support 1 Ph Foundations	59	EA	\$ -	\$ -	\$ 2,400	\$ 141,600	\$ 2,400	\$ 14	1,600
2.2j	Instrument Transformer Stand Foundations	15	EA	\$ -	\$ -	\$ 2,400	\$ 36,000	\$ 2,400	\$ 3	36,000
2.2k	Arrester Stand Foundations	6	EA	\$ -	\$ -	\$ 2,400	\$ 14,400	\$ 2,400	\$ 1	14,400
2.2m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.2p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.3	115kV									
2.3a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
-	Switch Stand Foundations	3	EA	\$ -	\$ -	\$ 5,200	\$ 15,600	\$ 5,200	\$ 1	15,600
l	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
<u> </u>	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	Ś	-
l	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	s	-
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.4	Transformer Foundations									
	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	_
	230kV-115kV Transformer Foundation w/ Oil Containment	3	EA	\$ -	\$ -		\$ 126,000	\$ 42,000		26,000
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.40	115KV 65KV Hallstoffiel Foundation W/ Oil Containment	0	EA.	7	7	7	·	7	7	
2.5	Control House Foundations / Pad									
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	Ś	
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.55				-	7	Ŧ	7	T	*	
2.6	Lightning Mast Foundations									
	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	_
2.6b	To agreeming most roundation	0	LA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.6c		0		\$ -	\$ -	\$ -	\$ -		\$	-
2.00		0		-	-	·	-	¥	*	
TOTAL CUEST	ATION FOUNDATIONS				Ċ		ć C47.400		ć	7 400
	ATION FOUNDATIONS I STRUCTURES				\$ -		\$ 617,400		\$ 61	17,400
	345kV									
	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.14	Dubstation A-Frame Structures - Stand dione	1 0	EA		- د	٠ -	- و	φ -	· ·	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	то	DTAL
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.1d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.1f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.1g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.2	230kV									
3.2a	Substation A-Frame Structures - Stand alone	1	EA	\$ -	\$ -	\$ 27,000	\$ 27,000	\$ 27,000	\$	27,000
3.2b	Substation A-Frame Structures - Shared Column	5	EA	\$ -	\$ -	\$ 27,000	\$ 135,000	\$ 27,000	\$	135,000
3.2c	Switch Stands	15	EA	\$ -	\$ -	\$ 9,750	\$ 146,250	\$ 9,750	\$	146,250
3.2d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.2e	Bus Support 3ph	4	EA	\$ -	\$ -	\$ 2,250	\$ 9,000	\$ 2,250	\$	9,000
3.2f	Bus Support 1 Ph	59	EA	\$ -	\$ -	\$ 2,250	\$ 132,750	\$ 2,250	\$	132,750
3.2g	Instrument Transformer Stand	15	EA	\$ -	\$ -	\$ 1,050	\$ 15,750	\$ 1,050	\$	15,750
3.2h	Arrester Stand	6	EA	\$ -	\$ -	\$ 1,050	\$ 6,300	\$ 1,050	\$	6,300
3.2j	Wave Trap Stand	3	EA	\$ -	\$ -	\$ 4,500	\$ 13,500	\$ 4,500	\$	13,500
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.3	115kV									
3.3a	Substation A-Frame Structures - Stand alone	2	EA	\$ -	\$ -	\$ 15,000	\$ 30,000	\$ 15,000	\$	30,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.3c	Switch Stands	3	EA	\$ -	\$ -	\$ 6,450	\$ 19,350	\$ 6,450	\$	19,350
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
TOTAL - SUBST	ATION STRUCTURES				\$ -		\$ 534,900		\$	534,900
4. MAJOR EQU	IIPTMENT									
4.1	345kV									
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
4.1d										
4.2	230kV									
4.2a	Circuit Breakers	9	EA	\$ -	\$ -	\$ 7,000	\$ 63,000	\$ 7,000	\$	63,000
4.2b	Capacitor Banks	2	EA	\$ -	\$ -	\$ 42,000	\$ 84,000	\$ 42,000	\$	84,000
	115kV									
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
	R EQUIPTMENT				\$ -		\$ 147,000		\$	147,000
5. SMALL EQU	PTMENT / MATERIALS									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Arresters	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,500
5.2b	Disconnect Switches - 3ph w/ manual operator	12	EA	\$ -	\$ -	\$ 5,500	\$ 66,000	\$ 5,500	\$ 66,000
5.2c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S	8	EA	\$ -	\$ -	\$ 1,500	\$ 12,000	\$ 1,500	\$ 12,000
5.2f	Arresters	15	EA	\$ -	\$ -	\$ 2,500	\$ 37,500	\$ 2,500	\$ 37,500
	Wave Traps	3	EA	\$ -	\$ -	\$ 2,500	\$ 7,500	\$ 2,500	\$ 7,500
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j		0	EA	\$ -	š -	\$ -	\$ -	\$ -	\$ -
5.2,			271	·	·	Ţ	·	¥	<u> </u>
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Disconnect Switches - 3ph w/ manual operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,500
	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3e	CCVT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Arresters	9	EA	\$ -	\$ -	\$ 1,500	\$ 13,500	\$ 1,500	\$ 13,500
	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ 13,300	\$ 1,300	\$ 13,300
	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	ruses	0	EA	-	· -	, -	-	· -	-
	L EQUIPTMENT / MATERIALS				\$ -		\$ 169,500		\$ 169,500
	OUSE / PANELS / GENERATOR								
	CONTROL HOUSE	1	EA	\$ -	\$ -	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000
6.2	PANELS	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Protection and Telecom Equipment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONT	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ 150,000		\$ 150,000
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	1	LS	\$ -	\$ -	\$ 42,000.00	\$ 42,000	\$ 42,000	\$ 42,000

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	1	TOTAL
7.2	Rigid Bus, Fittings & Insulators	3,200	LF	\$ -	\$ -	\$ 126.25	\$ 404,000	\$ 126	\$	404,000
7.3	Strain Bus, Connectors & Insulators	800	LF	\$ -	\$ -	\$ 39.35	\$ 31,480	\$ 39	\$	31,480
7.4	Grounding System	1	LS	\$ -	\$ -	\$ 42,000.00	\$ 42,000	\$ 42,000	\$	42,000
7.5										
7.6										
7.7										
7.8										
7.9										
7.10										
7.11										
7.12										
7.13										
7.14 7.15										
TOTAL - MISC	I TEMS				\$ -		\$ 519,480		\$	519,480
E. Rotter	dam Substation - Removal				\$ -		\$ 3,611,030		\$	3,611,030
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									7 7
	Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 36,110	\$ 36,110	\$ 36,110	Ś	36,110
	Project Management, Material Handling & Amenities									
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS		\$ -	\$ 137,246	\$ 137,246	\$ 137,246	\$	137,246
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 36,110	\$ 36,110	\$ 36,110	\$	36,110
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 36,110	\$ 36,110	\$ 36,110	\$	36,110
	Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 288,882	\$ 288,882	\$ 288,882	\$	288,882
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500	\$	-
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 25,277	\$ -	\$ 25,277	\$	-
	Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 90,276	\$ -	\$ 90,276	\$	-
	Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 10,833	\$ 10,833	\$ 10,833	\$	10,833
8.13	Real Estate Costs (New)	=	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.15 8.16	Legal Fees Allowance for Funds Used During Construction (AFUDC)	-	LS LS	\$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$	-
8.16	Allowance for runus used during construction (Arudic)	-	LS	\$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$	-
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 3,611	\$ 3,611	\$ 3,611		3,611
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 548,904		\$	548,904

F. Edic Substation - Install

Estimate Revision: 7 Total: \$ 6,418,249

NAT & NYPA - T027 - (Segment	(Segment A, Double Circuit)							
		Supply		Installation		Total		
F. Edic Substation - Install								
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	99,300	\$	396,250	\$	495,550		
2. SUBSTATION FOUNDATIONS	\$	425,790	\$	456,000	\$	881,790		
3. SUBSTATION STRUCTURES	\$	299,700	\$	299,700	\$	599,400		
4. MAJOR EQUIPTMENT	\$	600,000	\$	240,000	\$	840,000		
5. SMALL EQUIPTMENT / MATERIALS	\$	645,500	\$	315,000	\$	960,500		
6. CONTROL HOUSE / PANELS	\$	313,850	\$	138,850	\$	452,700		
7. MISC ITEMS	\$	292,289	\$	689,000	\$	981,289		
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	214,114	\$	992,905	\$	1,207,020		
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-		
SUBTOTAL:	\$	2,890,543	\$	3,527,705	\$	6,418,249		
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-		
TOTAL:	\$	2,890,543	\$	3,527,705	\$	6,418,249		

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	т	OTAL
F. Edic S	ubstation - Install										
1. SITE PREP/	GRADING/ FENCING / CIVIL										
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	1.25	ACRES	\$	-	\$ -	\$ 203,000	\$ 253,750	\$ 203,000	\$	253,750
1.2	Station stone within substation fence.	900	CY	\$	27	\$ 24,300	\$ 75	\$ 67,500	\$ 102	\$	91,800
1.3	Substation Fence	750	LF	\$	100	\$ 75,000	\$ 100	\$ 75,000	\$ 200	\$	150,000
1.4											
1.5											
1.6											
1.7											
1.8											
1.9											
1.10											
1.11											
1.12											
1.13				1							
1.14				-							
1.15	REP/ GRADING/ FENCING / CIVIL					\$ 99,300		\$ 396,250		Ś	495,550
	N FOUNDATIONS					\$ 99,300		\$ 396,250		\$	495,550
2.1	345kV			+							
2.1a	Circuit Breaker Foundations	3	EA	Ś	14,940	\$ 44,820	\$ 16,000	\$ 48,000	\$ 30,940	Ś	92,820
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025		\$ 60,000		\$ 116,025		-
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	Ś	26,145		\$ 28,000		\$ 54,145		
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145		\$ 28,000		\$ 54,145		-
2.1e	Switch Stand Foundations	42	EA	\$	4,482				\$ 9,282		389,844
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482		\$ 4,800		\$ 9,282		-
2.1g	Bus Support 3ph Foundations	0	EA	\$		\$ -	\$ -	Š -	\$ -	\$	
2.1h	Bus Support 1 Ph Foundations	17	EA	\$	4,482	\$ 76,194	\$ 4,800	\$ 81,600	\$ 9,282		157,794
2.1j	Instrument Transformer Stand Foundations	18	EA	\$	4,482		\$ 4,800	\$ 86,400	\$ 9,282		167,076
2.1k	Arrester Stand Foundations	6	EA	\$	4,482		\$ 4,800	\$ 28,800	\$ 9,282	\$	55,692
2.1m	Wave Trap Stand Foundations	2	EA	\$	4,482	\$ 8,964	\$ 4,800	\$ 9,600	\$ 9,282	\$	18,564
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.1p											
				\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
				\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
				_							
				_							
TOTAL - SUBS	TATION FOUNDATIONS					\$ 425,790		\$ 456,000		\$	881,790

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3. SUBSTATIO	N STRUCTURES								
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	2		\$ 37,000	\$ 74,000		\$ 74,000	\$ 74,000	
3.1b	Substation A-Frame Structures - Shared Column	0		\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	
3.1c	Switch Stands	7		\$ 14,800	\$ 103,600		\$ 103,600	\$ 29,600	
3.1d	Station Service Transformer Stand	0		\$ 14,800	\$ - \$ -	\$ 14,800 \$ -		\$ 29,600 \$ -	
3.1e 3.1f	Bus Support 3ph Bus Support 1 Ph	0 17	EA EA	\$ -	\$ 62,900		\$ - \$ 62,900	\$ 7,400	
3.1g	Instrument Transformer Stand	17	EA	\$ 3,700	\$ 82,900		\$ 82,900	\$ 7,400	
3.1h	Arrester Stand	6		\$ 1,850	\$ 11,100		\$ 11,100	\$ 3,700	\$ 22,200
3.1j	Wave Trap Stand	2		\$ 7,400	\$ 14,800		\$ 14,800	\$ 14,800	\$ 29,600
3.1k	Misc. Structures	0		\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	
TOTAL - SUBS	TATION STRUCTURES				\$ 299,700		\$ 299,700		\$ 599,400
4. MAJOR EQU					, , , , ,		, , , , ,		,
4.1	345kV								
4.1a	Circuit Breakers	3	EA	\$ 200,000	\$ 600,000		\$ 240,000	\$ 280,000	
4.1b	Capacitor Banks	0		\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	
4.1c	345 kV - 230 kV Auto Transformer	0		\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	230kV				1		_		4
4.2a	Circuit Breakers	0		\$ 115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	
	Capacitor Barno			<u> </u>	, , , , , , , , , , , , , , , , , , ,	ψ 00,000	Ť	φ σσ,σσσ	*
TOTAL - MAJO	R EQUIPTMENT				\$ 600,000		\$ 240,000		\$ 840,000
5. SMALL EQU	IPTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	2		\$ 40,000	\$ 80,000		\$ 30,000		
5.1b	Disconnect Switches - 3ph w/ manual operator	5		\$ 35,000	\$ 175,000		\$ 87,500	\$ 52,500	\$ 262,500
5.1c	VT'S	6	EA	\$ 25,000	\$ 150,000		\$ 72,000	\$ 37,000	\$ 222,000
5.1d 5.1e	CCYT'S	6	EA EA	\$ 13,000 \$ 13,000	\$ 78,000 \$ 78,000		\$ 48,000 \$ 48,000	\$ 21,000 \$ 21,000	
5.1f	Arresters	9		\$ 6,500	\$ 58,500	\$ 1,500	\$ 13,500		\$ 72,000
5.1g	Wave Traps	2	EA	\$ 13,000	\$ 26,000	, ,	\$ 16,000	\$ 21,000	. ,
5.1h	Station Service Transformers	0		\$ 200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	
5.1j								,	
TOTAL - SMAL	LEQUIPTMENT / MATERIALS				\$ 645,500		\$ 315,000		\$ 960,500
6. CONTROL H	OUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	0		\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	
6.2	Protection and Telecom Equipment Panels	7		\$ 35,000	\$ 245,000		\$ 70,000	\$ 45,000	
6.3	125VDC Batteries	0		\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	Control Cables	1	LS	\$ 68,850	\$ 68,850		\$ 68,850	\$ 137,700	
6.5	SCADA and Communications	0	EA	\$ - \$ F0.000	\$ -	\$ -	\$ -	\$ - \$ 150,000	\$ -
6.6	Low Voltage AC Distribution DC Distribution System	0		\$ 50,000 \$ 50,000	\$ - \$ -	\$ 100,000 \$ 100.000	\$ -	\$ 150,000 \$ 150.000	\$ -
	DC Distribution System			1.	7				
6.8	Security Fire Alarm	0		\$ 7,500 \$ 7,500				\$ 15,000 \$ 15,000	
6.10	Generator	0		\$ 100,000				\$ 180,000	
				. 100,000		. 23,300		. 100,000	
	ROL HOUSE / PANELS / GENERATOR				\$ 313,850		\$ 138,850		\$ 452,700
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	1		\$ 44,400.00					
7.2	Rigid Bus, Fittings & Insulators	1		\$ 75,042.00					
7.3	Strain Bus, Connectors & Insulators	1		\$ 58,950.00					
7.4	Grounding System	1	L.S.	\$ 31,185.00	\$ 31,185	\$ 219,915.00	\$ 219,915	\$ 251,100	\$ 251,100

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	L
7.5	Strain Bus Insulators - 345kV	24	EA	\$	2,000	\$ 48,000	\$ 1,050	\$ 25,200	\$ 3,050	\$	73,200
7.6	Strain Bus Insulators - 230kV	0	EA	\$	1,400	\$ -	\$ 750	\$ -	\$ 2,150	\$	-
7.7	Strain Bus Insulators - 115kV	0	EA	\$	1,000	\$ -	\$ 550	\$ -	\$ 1,550	\$	-
7.8	Low Voltage AC Station Service	0	LS	\$	50,000	\$ -	\$ 75,000	\$ -	\$ 125,000	\$	-
7.9	SSVT Service	0	LS	\$	45,000	\$ -	\$ 45,000	\$ -	\$ 90,000	\$	-
7.10	Control Conduits from Trench to Equipment	1	LS	\$	14,000	\$ 14,000	\$ 70,000	\$ 70,000	\$ 84,000	\$	84,000
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$	20,712	\$ 20,712	\$ 70,000	\$ 70,000	\$ 90,712	\$	90,712
7.12											
7.13											
7.14											
7.15											
7.16											
7.17											
7.18											
7.19											
7.20											
7.21											
7.22											
7.23											
7.24											
7.25											
TOTAL - MISC	TEMS					\$ 292,289		\$ 689,000		\$ 9	981,289
F. Edic Su	ıbstation - Install					\$ 2,676,429		\$ 2,534,800		\$ 5,2	211,229
8. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
8.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 52,112	\$ 52,112	\$ 52,112	\$	52,112
	Project Management, Material Handling & Amenities										
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 198,066	\$ 198,066	\$ 198,066	\$ 1	198,066
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 52,112	\$ 52,112	\$ 52,112	\$	52,112
8.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 52,112	\$ 52,112	\$ 52,112	\$	52,112
	Engineering										
	Design Engineering	1	LS	\$	-	\$ -	\$ 416,898	\$ 416,898	\$ 416,898	\$ 4	416,898
	Lidar	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.7	Geotech	4	EA	\$	-	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$	14,000
8.8	Surveying/Staking	1	Site	\$	-	\$ -	\$ 36,479	\$ 36,479	\$ 36,479	\$	36,479
	Testing & Commissioning										
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 130,281	\$ 130,281	\$ 130,281	\$ 1	130,281
	Permitting and Additional Costs										
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 15,634	\$ 15,634	\$ 15,634	\$	15,634
	Real Estate Costs (New)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
	Real Estate Costs (Incumbent Utility)	1	LS	\$		\$ -	\$ 20,000	\$ 20,000	\$ 20,000		20,000
	Legal Fees	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$	-
	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.17	- , ,	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$	-
	Sales Tax on Materials	1	LS	\$			\$ -	\$ -	\$ 214,114		214,114
	Fees for permits, including roadway, railroad, building or other local permits	1		1		\$ -	\$ 5,211	\$ 5,211	\$ 5,211	\$	5,211
	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 214,114		\$ 992,905	,	•	207,020
	,							. 332,303			,0_0

G. Edic Substation - Removal

Estimate Revision: 7 Total: \$ 140,423

NAT & NYPA - T027 - (Segment	A, Double	Circuit)			
		Supply	Installation	Total	
G. Edic Substation - Removal					
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ 86,250	\$ 86,250	
2. SUBSTATION FOUNDATIONS	\$	-	\$ 14,000	\$ 14,000	
3. SUBSTATION STRUCTURES	\$	-	\$ 6,750	\$ 6,750	
4. MAJOR EQUIPTMENT	\$	=	\$ =	\$ -	
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ 4,500	\$ 4,500	
6. CONTROL HOUSE / PANELS	\$	-	\$ -	\$ -	
7. MISC ITEMS	\$	-	\$ -	\$ 10,500	
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$ 18,423	\$ 18,423	
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -	0.0%
SUBTOTAL:	\$	-	\$ 129,923	\$ 140,423	
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -	0.0%
TOTAL:	\$		\$ 129,923	\$ 140,423	

Descri	ptic	on of	·W	or	k:
--------	------	-------	----	----	----

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
G. Edic S	ubstation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.			\$ -	\$ -	\$ 75		\$ 75	
1.3	Substation Fence	575	LF	\$ -	\$ -	\$ 150	\$ 86,250	\$ 150	\$ 86,250
1.4								ļ!	
1.5								<u> </u>	
1.6								ļ	
1.7									
1.8									
1.9								 	
1.10									
1.11								 	
1.12									
1.13								 	
1.14									
	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ 86,250		\$ 86,250
	N FOUNDATIONS				\$ -		\$ 80,230		\$ 60,230
	345kV								
2.1a	Circuit Breaker Foundations	1	EA	\$ -	\$ -	\$ 14,000	\$ 14,000	\$ 14,000	\$ 14,000
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 14,000	\$ -	\$ 14,000	\$ 14,000
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	š -
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -		\$ -	\$ -	š -
2.1e	Switch Stand Foundations	0	EA	\$ -		•	\$ -		\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	0	EA	š -	\$ -		\$ -		\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	230kV								
	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200		\$ 7,200	
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000		\$ 32,000	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -		\$ 22,000		\$ 22,000	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -		\$ 11,000		\$ 11,000	
2.2e	Switch Stand Foundations	0	EA	\$ -	\$ -		\$ -	\$ 5,200	
1 226	Charles Camiles Transferment Charlet Farmalation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2f 2.2g	Station Service Transformer Stand Foundation Bus Support 3ph Foundations	0	FA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -		\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -		\$ -		\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400			\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -		\$ -		\$ -
2.2n	Misc. Structure Foundations	0	EA		\$ - \$ -		\$ - \$ -		<u>\$</u> -
2.2p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA		\$ -		\$ -		\$ -
2.3e	Switch Stand Foundations	0	EA		\$ -	\$ 5,200		,	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3g	Bus Support 3ph Foundations	0	EA		\$ -		\$ -		<u>\$</u> -
2.3h 2.3j	Bus Support 1 Ph Foundations Instrument Transformer Stand Foundations	0	EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -		\$ - \$ -
2.3j	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ - \$ -	\$ - \$ -		\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -		\$ -		\$ -
2.3m	Station Service Foundations	0	EA	\$ -	\$ -	_	\$ -		\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -		\$ -		\$ -
		-		Ť	T	*	*	Ť	<u>*</u>
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -		\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad	0	ΕΔ.	ć	Ċ.	Ċ	Ć	ć	^
2.5a 2.5b	Control House / Pad	0	EA FA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -		\$ - \$ -
2.50	Generator Foundation	U	EA	\$ -	\$ -	\$ -	, -	\$ -	, -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b	5 0	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TATION FOUNDATIONS				\$ -		\$ 14,000		\$ 14,000
	N STRUCTURES								
3.1	345kV				A	<u> </u>	<u> </u>	<u> </u>	•
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -		\$ -		\$ - \$ -
3.1b 3.1c	Substation A-Frame Structures - Shared Column Switch Stands	0	EA EA	\$ - \$ -	\$ - \$ -		\$ - \$ -		\$ - \$ -
3.1d	Station Service Transformer Stand	0	EA	\$ -	\$ -		\$ -		\$ -
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	_	\$ -		\$ -
3.1f	Bus Support 1 Ph	3	EA		\$ -	\$ 2,250			\$ 6,750
3.1g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	220/4/								
3.2 3.2a	230kV Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA		\$ -	\$ 27,000		\$ 27,000	•
3.2c	Switch Stands	0	EA	\$ -	\$ -	\$ 9,750		\$ 9,750	
3.2d	Station Service Transformer Stand	0	EA		\$ -		\$ -	7	\$ -
3.2e	Bus Support 3ph	0	EA			\$ -		\$ -	
3.2f	Bus Support 1 Ph	0			\$ -	\$ 2,250		\$ 2,250	
3.2g	Instrument Transformer Stand	0			\$ -	\$ 1,050		\$ 1,050	
3.2h	Arrester Stand	0			\$ -	\$ 1,050		\$ 1,050	
3.2j	Wave Trap Stand	0	EA		\$ -	\$ 4,500		\$ 4,500	
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Substation A-Frame Structures - Stand alone	0		\$ -		\$ 15,000	\$ -	\$ 15,000	
	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Switch Stands	0	EA	\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ATION STRUCTURES				\$ -		\$ 6,750		\$ 6,750
4. MAJOR EQU									
	345kV								
	Circuit Breakers	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
	230kV			4				1	
	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
	115kV								
	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	R EQUIPTMENT				\$ -		\$ -		\$ -
	PTMENT / MATERIALS								
	345kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CCVT'S	0	EA	\$ -	\$ -		\$ -	\$ 2,500	
	Arresters	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
	Wave Traps	0		\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	
	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	230kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CCVT'S	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	
	Arresters	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
	Wave Traps	0		\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	
	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	115kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CT'S	0		\$ -		\$ -	\$ -	\$ -	\$ -
	CCVT'S	0		\$ -	\$ -		\$ -	\$ -	
	Arresters	0		\$ -	\$ -			\$ 1,500	
	Wave Traps	0		\$ -	\$ -			\$ -	
	Station Service Transformers	0		\$ -	\$ -		\$ -	\$ -	
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	EQUIPTMENT / MATERIALS				\$ -		\$ 4,500		\$ 4,500
	DUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -

6.3 125VDC 6.4 Control 6.5 SCADA a 6.6 Low Vol 6.7 DC Distr 6.8 Security 6.9 Fire Alar 6.10 Generat TOTAL - CONTROL HOU 7. MISC ITEMS 7.1 Conduit 7.2 Rigid Bu 7.3 Strain Bi	and Communications Iltage AC Distribution tribution System y arm	0 0 0 0 0 0 0 0	EA EA LS EA EA EA EA EA EA	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ -	\$.	\$ \$ \$ \$ \$	-	- 5 - 5 -
6.4 Control 6.5 SCADA a 6.6 Low Vol 6.7 DC Distr 6.8 Security 6.9 Fire Alar 6.10 Generat TOTAL - CONTROL HOU 7. MISC ITEMS 7.1 Conduit 7.2 Rigid Bu 7.3 Strain Bt	I Cables and Communications oltage AC Distribution tribution System y arm use / PANELS / GENERATOR	0 0 0 0 0 0	LS EA EA EA EA	\$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ -	\$ - \$ - \$ -	\$.	\$ \$	-	- 5 -
6.5 SCADA a 6.6 Low Vol 6.7 DC Distr 6.8 Security 6.9 Fire Alar 6.10 Generat TOTAL - CONTROL HOU 7. MISC ITEMS 7.1 Conduit 7.2 Rigid Bu 7.3 Strain Bu	and Communications Itage AC Distribution tribution System y arm ator USE / PANELS / GENERATOR	0 0 0 0 0 0	EA EA EA EA	\$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ -	\$ - \$ - \$ -	\$.	\$ \$	- \$ - \$	5 -
6.6 Low Vol 6.7 DC Distr 6.8 Security 6.9 Fire Alar 6.10 Generat TOTAL - CONTROL HOU 7. MISC ITEMS 7.1 Conduit 7.2 Rigid Bu 7.3 Strain Bi	oltage AC Distribution tribution System y y arm stor USE / PANELS / GENERATOR	0 0 0 0 0	EA EA EA	\$ - \$ - \$ - \$ -	\$ - \$ - \$ -	\$ -	\$.	\$	- 5	-
6.7 DC Distr 6.8 Security 6.9 Fire Alar 6.10 Generat TOTAL - CONTROL HOU 7. MISC ITEMS 7.1 Conduit 7.2 Rigid Bu 7.3 Strain Bi	tribution System y arm etor USE / PANELS / GENERATOR	0 0 0	EA EA EA	\$ - \$ - \$ -	\$ -	\$ -	\$.	\$	- 5	
6.8 Security 6.9 Fire Alar 6.10 Generat TOTAL - CONTROL HOU 7. MISC ITEMS 7.1 Conduit 7.2 Rigid Bu 7.3 Strain Bt	y arm tor USE / PANELS / GENERATOR	0 0 0	EA EA	\$ -	\$ -	T				
6.9 Fire Alar 6.10 Generat TOTAL - CONTROL HOU 7. MISC ITEMS 7.1 Conduit 7.2 Rigid Bu 7.3 Strain Bu	arm stor USE / PANELS / GENERATOR	0	EA	\$ -		\$ -	\$ -	l ¢		
6.10 Generat TOTAL - CONTROL HOU 7. MISC ITEMS 7.1 Conduit 7.2 Rigid Bu 7.3 Strain Bi	use / Panels / Generator	0			I \$ -		-t:	T		-
TOTAL - CONTROL HOU 7. MISC ITEMS 7.1 Conduit 7.2 Rigid Bu 7.3 Strain Bu	USE / PANELS / GENERATOR		EA	\$ -					- 5	
7. MISC ITEMS 7.1 Conduit 7.2 Rigid Bu 7.3 Strain Bi					\$ -	\$ -	\$.	\$	- 5	-
7. MISC ITEMS 7.1 Conduit 7.2 Rigid Bu 7.3 Strain Bi					\$ -		Ś .			-
7.1 Conduit 7.2 Rigid Bu 7.3 Strain Bi	it & Cable Trench System				-		,			-
7.2 Rigid Bu 7.3 Strain B	it & Cable Helich System	0	EA	\$ -	\$ -	\$ 42,000.0	0 \$	\$ 4:	2,000	-
7.3 Strain B	us, Fittings & Insulators	1	LS	\$ -	\$ -				0,500	
	Bus, Connectors & Insulators	0	EA EA	\$ -	\$ -		5 \$			5 -
	ding System	0	EA	\$ -	\$ -	\$ 42,000.0		7	2,000	
7.4 Ground	unig system	U	LA	, -	-	\$ 42,000.0	0 3	3 4.	2,000 ;	-
7.6									-	
7.7					+					
7.8									-	
7.9										
7.10										
7.10										
7.12										
7.12										-
7.14										
7.14										
TOTAL - MISC ITEMS					\$ -		\$ 10,5	00		10,500
	ation - Removal				\$ -		\$ 122,0		ş	
8. MOB/DEMOB, ENGIN	INEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contrac	ctor Mobilization / Demobilization									
8.1 Mob / D	Demob	1	LS	\$ -	\$ -	\$ 1,22	0 \$ 1,2	20 \$	1,220	1,220
Project	t Management, Material Handling & Amenities									
	: Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler st Manager, SHEQ Staff, and Admin Staff)	1	LS		\$ -	\$ 4,63	7 \$ 4,6	37 \$	4,637	4,637
8.3 Utility P	PM and Project Oversite	1	LS		\$ -	\$ 1,22	0 \$ 1,2	20 \$	1,220	1,220
8.4 Site Acc	commodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,22	0 \$ 1,2	20 \$	1,220 \$	1,220
Enginee	ering									
8.5 Design E	Engineering	1	LS	\$ -	\$ -	\$ 9,76	0 \$ 9,7	60 \$	9,760	9,760
8.6 LiDAR		-	Mile	\$ -	\$ -	\$ -	\$.	\$	- 5	-
8.7 Geotech	ch	-	Site	\$ -	\$ -	\$ -	\$.	\$	- 5	-
	ing/Staking	-	Site	\$ -	\$ -	\$ 85	4 \$ -	\$	854	-
Testing	g & Commissioning									
8.9 Testing	g & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 3,05	0 \$ -	\$	3,050	-
Permitti	ting and Additional Costs									
8.10 Environ	nmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	т	\$.		- (-
8.11 Environ	nmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$	- 5	-
	nties / LOC's	1	LS	\$ -	\$ -			66 \$	366	
	tate Costs (New)	-	LS	\$ -	\$ -	т —	\$.	, v		-
	tate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$.	T		-
8.15 Legal Fe		-	LS	\$ -	\$ -					-
	nce for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$	- 5	-
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$	-	-
8.18 Sales Ta	ax on Materials	1	LS	\$ -	\$ -	7	T	\$		-
	or permits, including roadway, railroad, building or other local permits	-	LS		\$ -		2 \$ -	- Y	122 \$	
TOTAL - MOB/DEMOB,	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 18,4	23	\$	18,423

H. New Scotland Substation - Install

Estimate Revision: 7 Total: \$ 9,382,733

NAT & NYPA - T027 - (Segment	le Circuit)			
		Supply	Installation	Total
H. New Scotland Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	32,400	\$ 90,000	\$ 122,400
2. SUBSTATION FOUNDATIONS	\$	615,528	\$ 659,200	\$ 1,274,728
3. SUBSTATION STRUCTURES	\$	296,000	\$ 296,000	\$ 592,000
4. MAJOR EQUIPTMENT	\$	800,000	\$ 320,000	\$ 1,120,000
5. SMALL EQUIPTMENT / MATERIALS	\$	590,500	\$ 329,500	\$ 920,000
6. CONTROL HOUSE / PANELS	\$	937,050	\$ 660,000	\$ 1,597,050
7. MISC ITEMS	\$	826,181	\$ 1,183,505	\$ 2,009,686
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	327,813	\$ 1,419,056	\$ 1,746,869
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	4,425,472	\$ 4,957,261	\$ 9,382,733
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	4,425,472	\$ 4,957,261	\$ 9,382,733

iption	

Item	ltem Description	Estimated Quantity	Unit of Measure	Mater	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
H. New	Scotland Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$	-	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	1,200	СҮ	\$	27	,	•	,	\$ 102	,
1.3	Substation Fence	0	LF	\$	100		\$ 100		\$ 200	
1.4	Permanent Access Road - 20'-Wide	0	LF	\$	35	\$ -	\$ 285	\$ -	\$ 320	\$ -
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.15	 REP/ GRADING/ FENCING / CIVIL					\$ 32,400		\$ 90,000		\$ 122,400
	N FOUNDATIONS					\$ 32,400		\$ 90,000		\$ 122,400
2.1	345kV									
2.1a	Circuit Breaker Foundations	4	EA	Ś	14,940	\$ 59,760	\$ 16,000	\$ 64,000	\$ 30,940	\$ 123,760
2.1b	Capacitor Bank Foundations	0	EA	Ś	56.025	\$ -	\$ 60,000		\$ 116,025	
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	8	EA	Ś	26,145	\$ 209.160				
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	Ś	26,145	\$ -	\$ 28,000		\$ 54,145	
2.1e	Switch Stand Foundations	24	EA	Ś	4,482	\$ 107,568	\$ 4,800			
2.1f	Station Service Transformer Stand Foundation	0	EA	Ś	4,482		\$ 4,800		\$ 9,282	
2.1g	Bus Support 3ph Foundations	0	EA	Ś	-	\$ -		\$ -	\$ -	s -
2.1h	Bus Support 1 Ph Foundations	21	EA	\$	4,482	\$ 94,122	\$ 4,800	\$ 100,800	\$ 9,282	\$ 194,922
2.1j	Instrument Transformer Stand Foundations	21	EA	\$	4,482	\$ 94,122				
2.1k	Arrester Stand Foundations	6	EA	\$	4,482	\$ 26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$ 55,692
2.1m	Wave Trap Stand Foundations	3	EA	\$	4,482	\$ 13,446	\$ 4,800	\$ 14,400	\$ 9,282	\$ 27,846
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p										
2.2	230kV					_			4	
2.2a	Circuit Breaker Foundations	0	EA	\$	11,952		\$ 12,800		\$ 24,752	
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -		\$ -	\$ 7,735	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j 2.2k	Instrument Transformer Stand Foundations Arrester Stand Foundations	0	EA EA	\$ 3,735 \$ 3,735	\$ - \$ -	\$ 4,000 \$ 4,000	\$ - \$ -	\$ 7,735 \$ 7,735	\$ - \$ -
2.2K 2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2m	Misc. Structure Foundations	0	EA	\$ 3,733	\$ -	\$ 4,000	\$ -	\$ 7,733	\$ -
2.2p	Misc. Structure Foundations		LA.	Ÿ	<u> </u>	,	<u> </u>	Ť	•
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	·
2.3e 2.3f	Switch Stand Foundations	0	EA EA	\$ 2,988 \$ 2,988	\$ - \$ -	\$ 3,200 \$ 3,200	\$ - \$ -	\$ 6,188 \$ 6.188	
2.3f 2.3g	Fuse Stand Foundations Bus Support 3ph Foundations	0	EA EA	\$ 2,988 \$ 2,988	\$ -		\$ -	\$ 6,188 \$ 6,188	
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	•
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ 76,194	\$ -	\$ 81,600	\$ -	\$ 157,794	\$ -
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	2	EA	\$ 5,229	\$ 10,458	\$ 5,600	\$ 11,200	\$ 10,829	\$ 21,658
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBS	TATION FOUNDATIONS				\$ 615,528		\$ 659,200		\$ 1,274,728
	N STRUCTURES								
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	2	EA	\$ 37,000	\$ 74,000		\$ 74,000	\$ 74,000	
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1c 3.1d	Switch Stands Station Service Transformer Stand	0	EA EA	\$ 14,800 \$ 14,800	\$ 59,200		\$ 59,200	\$ 29,600 \$ 29.600	
3.10 3.1e	Bus Support 3ph	0	EA	\$ 14,800 \$ -	\$ - \$ -	\$ 14,800 \$ -	\$ - \$ -	\$ 29,600 \$ -	\$ - \$ -
3.1f	Bus Support 1 Ph	21	EA	\$ 3,700	\$ 77,700		\$ 77,700	\$ 7,400	
3.1g	Instrument Transformer Stand	21	EA	\$ 1,850	\$ 38,850	\$ 1,850	\$ 38,850	\$ 3,700	
3.1h	Arrester Stand	6	EA	\$ 1,850	\$ 11,100		\$ 11,100	\$ 3,700	
3.1j	Wave Trap Stand	3	EA	\$ 7,400	\$ 22,200		\$ 22,200	\$ 14,800	\$ 44,400
3.1k	Lightning Masts - 70'	2	EA	\$ 6,475	4	4			4
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ 33,300	Ċ	\$ 33,300	¢	\$ 66,600	\$ -
3.2a 3.2b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0		\$ 33,300				\$ 66,600	
3.2c	Switch Stands	0		\$ 12,025	\$ -	\$ 12,025		\$ 24,050	
J.20		0			\$ -			\$ 24,050	
3.2d									T .
3.2d 3.2e	Station Service Transformer Stand Bus Support 3ph								\$ -
3.2d 3.2e 3.2f	Bus Support 3ph Bus Support 1 Ph	0			\$ -		\$ -		\$ - \$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2h	Arrester Stand	0	EA	\$ 1,295	\$ -	\$ 1,295	\$ -	\$ 2,590	\$ -
3.2j	Wave Trap Stand	0	EA	\$ 5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
								·	
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0		\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	
3.3b	Substation A-Frame Structures - Shared Column	0		\$ 18,500	\$ -		\$ -	\$ 37,000	
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -		\$ -	\$ 15,910	
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -		\$ -	\$ 15,910	
3.3e	Bus Support 3ph	0	EA	\$ 3,330	\$ -		\$ -	\$ 6,660	
3.3f	Bus Support 1 Ph	0		\$ 1,850	\$ -		\$ -	\$ 3,700	
3.3g	Instrument Transformer Stand	0		\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
TOTAL - SUBST	 TATION STRUCTURES				\$ 296,000		\$ 296,000		\$ 592,000
4. MAJOR EQU					222,300		223,300		
4.1	345kV								
4.1a	Circuit Breakers	4	EA	\$ 200,000	\$ 800,000	\$ 80,000	\$ 320,000	\$ 280,000	\$ 1,120,000
4.1b	Capacitor Banks	0		\$ -	\$ -		\$ -	\$ 80,000	
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -		\$ -	\$ 750,000	
4.2	230kV	0	LA	,	,	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	- -	7 730,000	-
4.2a		0	EA	\$ 115,000	ċ	\$ 80,000	\$ -	ć 10F.000	\$ -
4.2a 4.2b	Circuit Breakers Capacitor Banks	0	EA	\$ 115,000	\$ - \$ -		\$ - \$ -	\$ 195,000 \$ 80,000	
4.20	Capacitor banks	0	EA	ş -	-	\$ 80,000	· -	\$ 60,000	· -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL MAIO	 R EQUIPTMENT				\$ 800,000		\$ 320,000		\$ 1,120,000
	IPTMENT / MATERIALS				\$ 800,000		\$ 320,000		\$ 1,120,000
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	2	EA	\$ 40,000	\$ 80,000	\$ 15,000	\$ 30,000	\$ 55,000	\$ 110,000
5.1a	Disconnect Switches - 3ph w/ manual operator	4		\$ 35,000	\$ 140,000		\$ 70,000	\$ 52,500	\$ 210,000
5.1c	VT'S	6	EA	\$ 13,000	\$ 78,000			\$ 25,000	
5.1c 5.1d	CT'S	6	EA	\$ 13,000	\$ 78,000		\$ 48,000		\$ 126,000
5.1e	CCVT'S	9	EA	\$ 13,000	\$ 117,000		\$ 72,000	\$ 21,000	\$ 189,000
5.1e 5.1f	Arresters	9	EA	\$ 6,500	\$ 117,000	\$ 8,000	\$ 72,000	\$ 21,000	\$ 72,000
		3	EA		\$ 39,000			\$ 21,000	
5.1g 5.1h	Wave Traps Station Service Transformers	0	EA	\$ 13,000 \$ 200,000	\$ 39,000	. ,	\$ 24,000 \$ -	\$ 250,000	
5.1j				7 200,000	*	7 00,000	T	7 200,000	
5.2	230kV			å 25.000	A	45.000	A	A 50,000	
5.2a	Line Switches - 3ph w/ motor operator	0		\$ 35,000	\$ -		\$ -	\$ 50,000	
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,000	\$ -	\$ 17,500	\$ -	\$ 47,500	\$ -
5.2c	VT'S	0	EA	\$ 13,000	\$ -		\$ -	\$ 21,000	
5.2d	CT'S	0	EA	\$ 13,000	\$ -		\$ -	\$ 21,000	
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -		\$ -	\$ 16,000	
5.2f	Arresters	0	EA	\$ 5,000	\$ -		\$ -	\$ 11,000	
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000 \$ -	\$ - \$ -	\$ 21,000	\$ - \$ -
5.2h 5.2j	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV						-		
5.3a	Line Switches - 3ph w/ motor operator	0		\$ 33,000	\$ -	\$ 15,000		\$ 48,000	
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000	\$ -	\$ 17,500		\$ 45,500	
5.3c	VT'S	0		\$ 13,000		\$ 8,000		\$ 21,000	
5.3d	CT'S	0		\$ 13,000	\$ -	\$ 8,000		\$ 21,000	
5.3e	CCVT'S	0		\$ 8,000	\$ -	\$ 8,000		\$ 16,000	
5.3f	Arresters	0		\$ 3,420		\$ 6,000		\$ 9,420	
5.3g	Wave Traps	0		\$ -			\$ -		\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

						Labor & Equipment	Labor & Equipment		
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Supply Rate	Cost	Total Unit Rate	TOTAL
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMAL	 EQUIPTMENT / MATERIALS				\$ 590,500		\$ 329,500		\$ 920,00
	OUSE / PANELS / GENERATOR				330,300		\$ 323,500		520,00
6.1	CONTROL HOUSE	1	EA	\$ 243,750	\$ 243,750	\$ 42,500	\$ 42,500	\$ 286,250	\$ 286,25
6.2	Protection and Telecom Equipment Panels	8	EA	\$ 35,000	\$ 280,000	\$ 15,000	\$ 120,000	\$ 50,000	\$ 400,00
6.3	125VDC Batteries	1	EA	\$ 75,000	\$ 75,000	\$ 25,000	\$ 25,000	\$ 100,000	\$ 100,00
6.4	Control Cables	1	LS	\$ 338,300	\$ 338,300	\$ 472,500	\$ 472,500	\$ 810,800	
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ 50,000	\$ -	\$ 100,000		\$ 150,000	
6.7	DC Distribution System	0	EA	\$ 50,000	\$ -		\$ -	\$ 150,000	
6.8	Security Fire Alarm	0	EA EA	\$ 7,500 \$ 7,500	\$ - \$ -	\$ 7,500 \$ 7,500	\$ - \$ -	\$ 15,000 \$ 15,000	\$ - \$ -
6.10	Generator	0	EA EA	\$ 100,000	\$ -	\$ 7,500	\$ -	\$ 180,000	
0.10	Generator	0	EA	3 100,000	· -	3 80,000	· -	3 180,000	, -
TOTAL - CONT	ROL HOUSE / PANELS / GENERATOR				\$ 937,050		\$ 660,000		\$ 1,597,05
7. MISC ITEMS									_,,
7.1	Conduit & Cable Trench System	1,500	LF	\$ 185.00	\$ 277,500	\$ 170.00	\$ 255,000	\$ 355	\$ 532,50
7.2	Rigid Bus, Fittings & Insulators	800	LF	\$ 125.07	\$ 100,056			\$ 362	
7.3	Strain Bus, Connectors & Insulators	500	LF	\$ 39.30	\$ 19,650		\$ 26,675	\$ 93	\$ 46,32
7.4	Grounding System	7,500	LF	\$ 6.93	\$ 51,975			\$ 40	
7.5	Strain Bus Insulators - 345kV	36	EA	\$ 2,000	\$ 72,000	\$ 1,050	\$ 37,800	\$ 3,050	\$ 109,80
7.6	Strain Bus Insulators - 230kV	0	EA	\$ 1,400	\$ -	\$ 750	\$ -	\$ 2,150	
7.7	Strain Bus Insulators - 115kV	0	EA	\$ 1,000	\$ -	\$ 550	\$ -	\$ 1,550	
7.8	Low Voltage AC Station Service	0	LS	\$ 50,000	\$ -		\$ -	\$ 125,000	
7.9	SSVT Service	0	LS	\$ 45,000	\$ - \$ 125,000	,	\$ - \$ 125,000	\$ 90,000	
7.10 7.11	Control Conduits from Trench to Equipment Misc. Materials (Above and Below Ground)	1	LS LS	\$ 125,000 \$ 180,000	\$ 125,000	\$ 125,000 \$ 180,000	\$ 125,000 \$ 180,000	\$ 250,000 \$ 360,000	
7.12	Install new communication tower foundation.	1	LS	3 180,000	3 180,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,00
7.13	Relocate existing communication tower.	1	LS			\$ 50,000	\$ 50,000	\$ 50,000	
7.14	nelocate existing communication towers	_				7 25,535	7 00,000	7 00,000	7 25,5
7.15									
7.16									
7.17									
7.18									
7.19									
7.20									
7.21									
7.22 7.23									
7.23									
7.25									
TOTAL - MISC	ITEMS				\$ 826,181		\$ 1,183,505		\$ 2,009,68
H New S	Scotland Substation - Install				\$ 4,097,659		\$ 3,538,205		\$ 7,635,86
					4,037,033		9 3,336,203		7,033,80
8. MOR/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 76,359	\$ 76,359	\$ 76,359	\$ 76,35
0.1	Project Management, Material Handling & Amenities	1	LJ	-	-	7 70,535	7 70,335	7 /0,535	7 70,33
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 290,220	\$ 290,220	\$ 290,220	\$ 290,22
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 76,359	\$ 76,359	\$ 76,359	\$ 76,35
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 76,359	\$ 76,359	\$ 76,359	\$ 76,35
	Engineering								
8.5	Design Engineering	1	LS	\$ -		\$ 610,869	. ,		
8.6	LiDAR	-	LS	\$ -	\$ -		\$ -		\$ -
8.7	Geotech	4		\$ -	\$ -				
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 53,451	\$ 53,451	\$ 53,451	\$ 53,45
8.9	Testing & Commissioning Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 190,897	\$ 190,897	\$ 190,897	\$ 190,89
0.9	Permitting and Additional Costs	1	LS	-	-	/ 190,097	790,097 پ	ψ 190,097	÷ 130,85
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	1	1		1.*		I *	7	Ŧ	•

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	ate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.11	Environmental Mitigation	-	LS	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	-	\$ -	\$ 22,908	\$ 22,908	\$ 22,908	\$ 22,908
8.13	Real Estate Costs (New)	-	LS	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 327,8	313	\$ 327,813	\$ -	\$ -	\$ 327,813	\$ 327,813
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 7,636	\$ 7,636	\$ 7,636	\$ 7,636
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 327,813		\$ 1,419,056		\$ 1,746,869

I. New Scotland Substation - Removal

Estimate Revision:	7	Total:	\$	93,577
Revision:			-	,

NAT & NYPA - T027 - (Segment A, Double Circuit)										
	Supply		Installation		Total					
I. New Scotland Substation - Removal										
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ -	Ş	-	\$	-					
2. SUBSTATION FOUNDATIONS	\$ -	,	28,800	\$	28,800					
3. SUBSTATION STRUCTURES	\$ -	,	27,000	\$	27,000					
4. MAJOR EQUIPTMENT	\$ -	\$	-	\$	-					
5. SMALL EQUIPTMENT / MATERIALS	\$ -	\$	4,500	\$	4,500					
6. CONTROL HOUSE / PANELS	\$ -	Ş	-	\$	-					
7. MISC ITEMS	\$ -	,	21,000	\$	21,000					
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ -	,	12,277	\$	12,277					
CONTRACTOR MARK-UP (OH&P)	\$ -	Ş	-	\$	-					
SUBTOTAL:	\$ -	,	93,577	\$	93,577					
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$	-	\$	-					
TOTAL:	\$ -	,	93,577	\$	93,577					

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
I. New So	cotland Substation - Removal								
1. SITE PREP/ O	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
	I FOUNDATIONS				, -		· -		ş -
	345kV								
	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	Ÿ	Š -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str shared column)	0		\$ -	\$ -	Š -	\$ -	\$ -	\$ -
	Switch Stand Foundations	0	EA	\$ -	\$ -		š -	\$ -	\$ -
	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	12	EA	\$ -	\$ -	\$ 2,400	\$ 28,800	\$ 2,400	\$ 28,800
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200	\$ -	\$ 7,200	\$ -
2.2b	Capacitor Bank Foundations	0	EA	š -	\$ -	\$ 32,000		\$ 32,000	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000	\$ -	\$ 22,000	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0		\$ -	\$ -		\$ -	\$ 11,000	
2.2e	Switch Stand Foundations	0	EA	\$ -	\$ -		\$ -	\$ 5,200	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	•	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -		\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -		\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA EA	\$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.2p		U	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	š -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e	Switch Stand Foundations	0		\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -		\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5 2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5a	Generator Foundation	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.50	deficiator roundation	0	LA	-	· -	, -	, -	· -	•
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TATION FOUNDATIONS				\$ -		\$ 28,800		\$ 28,800
	N STRUCTURES								
3.1	345kV		_						
3.1a	Substation A-Frame Structures - Stand alone	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 3 Ph	0	EA	\$ -	\$ -	\$ - \$ 2,250	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	12	EA EA	\$ -	\$ - \$ -	. ,	\$ 27,000		\$ 27,000
3.1g 3.1h	Instrument Transformer Stand Arrester Stand	0	EA EA	\$ -	\$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
3.1n 3.1j	Wave Trap Stand	0	EA EA	\$ -	\$ -	\$ -	\$ -		\$ -
3.1j 3.1k		0		\$ -		<u> </u>	\$ -		· ·
J.1K	Lightning Masts - 70'	0		· ·	\$ -	\$ -		\$ -	-
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -			\$ 27,000	
3.2c	Switch Stands	0		\$ -		\$ 9,750		\$ 9,750	
3.2d	Station Service Transformer Stand	0		\$ -	\$ -			\$ -	
3.2e	Bus Support 3ph	0		\$ -	\$ -		\$ -		\$ -
3.2f	Bus Support 1 Ph	0		\$ -	\$ -			\$ 2,250	
3.2g	Instrument Transformer Stand	0		\$ -	\$ -			\$ 1,050	
	The state of the s	·		1.1		. 2,000	•	. 1,050	•

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2h	Arrester Stand	0	EA	\$ -	\$ -	\$ 1,050	\$ -	\$ 1,050	\$ -
3.2j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ 4,500	\$ -	\$ 4,500	\$ -
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	0	EA	\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TATION STRUCTURES				\$ -		\$ 27,000		\$ 27,000
4. MAJOR EQU									
4.1	345kV		_	4	_			_	
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
	AARTIN .								
4.3	115kV			4	_	4		1	
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAIC	L DR EQUIPTMENT				\$ -		\$ -		\$ -
	IPTMENT / MATERIALS				÷ -		, -		, -
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -		\$ -	\$ 5,500	
5.1c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	•	\$ -
5.1e	CCVT'S	0	EA	\$ -	\$ -		\$ -	\$ 2,500	
5.1f	Arresters	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500		\$ 4,500
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	š -	\$ -	\$ -
5.1j				7	*	7	7	*	•
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.2f	Arresters	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
5.3c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
5.3d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
5.3e	CCVT'S	0		\$ -		\$ -	\$ -		\$ -
5.3f	Arresters	0	EA	\$ -		\$ 1,500		\$ 1,500	
			. гл		\$ -		\$ - I		_
5.3g 5.3h	Wave Traps Station Service Transformers	0	EA EA	\$ -		\$ -	\$ - \$ -		\$ - \$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Su	upply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.3j	Fuses	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL	EQUIPTMENT / MATERIALS					\$ -		\$ 4,500		\$ 4,500
	DUSE / PANELS / GENERATOR					<u> </u>		,,500		1,500
	CONTROL HOUSE	0	EA	\$	-	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
6.2	PANELS	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
	125VDC Batteries	0		\$		\$ -	\$ -	\$ -	\$ -	\$ -
	Protection and Telecom Equipment	0	EA	\$		\$ -	\$ -	\$ -	\$ -	\$ -
	SCADA and Communications	0	EA	\$		\$ -	\$ -	\$ -	\$ -	\$ -
	Low Voltage AC Distribution	0	EA EA	\$		\$ - \$ -	\$ -	\$ - \$ -	\$ -	\$ - \$ -
	DC Distribution System Security	0	EA	Ś		\$ -	\$ -	\$ -	\$ -	\$ -
	Fire Alarm	0	EA	Ś		\$ -	\$ -	\$ -	\$ -	\$ -
	Generator	0	EA	\$		\$ -	\$ -	\$ -	\$ -	\$ -
	OL HOUSE / PANELS / GENERATOR					\$ -		\$ -		\$ -
7. MISC ITEMS			_							
	Conduit & Cable Trench System	0	EA	\$		\$ -	\$ 42,000.00		\$ 42,000	
	Rigid Bus, Fittings & Insulators	1 0	LS LS	\$		\$ - \$ -	\$ 21,000.00 \$ 21,000.00		\$ 21,000 \$ 21,000	\$ 21,000 \$ -
	Strain Bus, Connectors & Insulators Grounding System	0	EA EA	Ś		\$ - \$ -	\$ 21,000.00		\$ 21,000	
7.5	Grounding System	0	LA	7	_	· -	3 42,000.00	-	3 42,000	
7.6										
7.7										
7.8										
7.9										
7.10										
7.11										
7.12										
7.13 7.14										
7.14										
TOTAL - MISC I	TEMS					\$ -		\$ 21,000		\$ 21,000
	otland Substation - Removal					\$ -		\$ 81,300		\$ 81,300
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization									
	Mob / Demob	1.0	LS	Ś	-	\$ -	\$ 813	\$ 813	\$ 813	\$ 813
	Project Management, Material Handling & Amenities	1.0	LJ	7	_	· -	3 613	3 813	3 613	3 613
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 3,090	\$ 3,090	\$ 3,090	\$ 3,090
										ļ
	Utility PM and Project Oversite	1	LS LS	Ś	_	\$ - \$ -	\$ 813 \$ 813		\$ 813 \$ 813	
	Site Accommodation, Facilities, Storage Engineering	1	LS	,		, -	\$ 813	\$ 615	\$ 813	\$ 813
	Design Engineering	1	LS	\$	-	\$ -	\$ 6,504	\$ 6,504	\$ 6,504	\$ 6,504
	LiDAR		Mile	Ś		\$ -	\$ -	\$ -	\$ -	\$ -
	Geotech	-	Site	\$		\$ -	\$ -	\$ -	\$ -	\$ -
	Surveying/Staking	-	Site	\$	-	\$ -	\$ 569	\$ -	\$ 569	\$ -
	Testing & Commissioning									
	Testing & Commissioning of T-Line and Equipment	-	LS	\$	-	\$ -	\$ 2,033	\$ -	\$ 2,033	\$ -
	Permitting and Additional Costs					<u> </u>				_
	Environmental Licensing & Permitting Costs Environmental Mitigation	-	LS LS	\$	-	\$ - \$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -
	Warranties / LOC's	1	LS	\$		\$ -	\$ 244		\$ 244	
	Real Estate Costs (New)	-	LS	Ś		\$ -	\$ 244	\$ 244	\$ 244	\$ 244
	Real Estate Costs (Incumbent Utility)	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
	Legal Fees	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
	Sales Tax on Materials	1	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
	Fees for permits, including roadway, railroad, building or other local permits	-	LS			\$ -	\$ 81		\$ 81	
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 12,277		\$ 12,277

J. Porter Substation - Install

Estimate Revision: 7 Total: \$ 86,130

NAT & NYPA - T027 - (Segment A, Double Circuit)										
	Supply			Installation		Total				
J. Porter Substation - Install										
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$	-				
2. SUBSTATION FOUNDATIONS	\$	-	\$	-	\$	-				
3. SUBSTATION STRUCTURES	\$	-	\$	-	\$	-				
4. MAJOR EQUIPTMENT	\$	-	\$	-	\$	-				
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	-	\$	-				
6. CONTROL HOUSE / PANELS	\$	-	\$	-	\$	-				
7. MISC ITEMS	\$	15,008	\$	56,904	\$	71,912				
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,201	\$	13,017	\$	14,217				
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-				
SUBTOTAL:	\$	16,209	\$	69,921	\$	86,130				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL:	\$	16,209	\$	69,921	\$	86,130				

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rat	e Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
J. Porter	Substation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ 2	7 \$ -	\$ 75	\$ -	\$ 102	\$ -
1.3	Substation Fence	0	LF	\$ 10	0 \$ -	\$ 100	\$ -	\$ 200	\$ -
1.4	Permanent Access Road - 20'-Wide	0	LF	\$ 3	5 \$ -	\$ 285	\$ -	\$ 320	\$ -
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
2. SUBSTATIO	FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ 14,94	0 \$ -	\$ 16,000	\$ -	\$ 30,940	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,02	5 \$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 26,14	5 \$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,14	5 \$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ 4,48	2 \$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ 4,48	2 \$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ 4,48	2 \$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ 4,48	2 \$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1k	Arrester Stand Foundations	0	EA		2 \$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ 4,48	2 \$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
·									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,95	2 \$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,82	0 \$ -	\$ 48,000	\$ -	\$ 92,820	\$ -

2.72 Author of Franciscon (in Chi African C Author of Colored C	Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2-22 Authon Stored Conference Members	2.2c	Caisson DE Foundations (for DE A frame str stand alone)								
State Stat										
2.25										
2.00 80 - Support Ph Foresteeners					,					
2-32 Internative Transformer Stand Foundations					'	•		<u>'</u>		
2.40 Annable State Consideration 2.40 Annable State Consideration 2.40 Annable State Consideration 3.40 An					,					
2-70 Ween Transportant Conditions					,	•				•
2.72 Mile. Structure Foundations										
1180 1180							, , , , , , , , , , , , , , , , , , , ,		, ,	
23h Creat from the Foodball from 1 September Sep								<u> </u>		·
2.50 Circust frequent reconstraints 0 FA 5 5,279 5 5,500 5 5 1,000 5 1,000 5										
2.38 Capation Peak Productions (10 PE Allame strstand alony)		115kV								
2.4.2 Calsson Dis Foundations (for Dis A Farmer at - stand alrows)		Circuit Breaker Foundations			, .	•		·		
2-36 Casson DE Foundations (for DE A famour S shared column) 0 EA 5 16,834 5 5 17,000 5 5 34,004 5										·
22.9 Switch Stand Foundations							, , , , , , , , , , , , , , , , , , , ,		. ,	
2.56 Face Stand Foundations					-, -		, , , , , , , , , , , , , , , , , , , ,			
2.38 Support Pip Translations										
2.3 Res Seport IP Foundations										
2.38 Instrument Transformer Stand Foundations 0 EA \$ 2,388 \$ \$ \$ 3,200 \$ \$ \$ \$ 5,188 \$ \$ 2,388 \$ \$ \$ 3,200 \$ \$ \$ \$ 5,188 \$ \$ \$ 2,388 \$ \$ \$ 3,200 \$ \$ \$ \$ 5,188 \$ \$ \$ 2,388 \$ \$ \$ 3,200 \$ \$ \$ \$ 5,188 \$ \$ \$ 2,388 \$ \$ \$ 3,200 \$ \$ \$ \$ 5,188 \$ \$ \$ 2,388 \$ \$ \$ 3,200 \$ \$ \$ \$ 5,188 \$ \$ \$ 2,388 \$ \$ \$ 3,200 \$ \$ \$ \$ \$ \$ \$ \$ \$										
2.36 Arrester Sand Foundations					, , , , , , , , , , , , , , , , , , , ,				,	
2.3m Wave Trap Stand Foundations										
2.3 Station Services Foundations 0 EA S S S S S S S S S					, , , , , , , , , , , , , , , , , , , ,	т	,		,	•
2.9 Misc Structure Foundations						\$ -				
2-4a 345-230N Transformer Foundation w/ Oil Containment	2.3p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2-4a 345-230N Transformer Foundation w/ Oil Containment										
2.4b 345-115N/ Transformer Foundation w/ Oil Containment	2.4									
2-4c 230(W-115MV Transformer Foundation w/ Oil Containment 0 EA 5 5 5 5 5 5 5 5 5		,								•
2.5					,	•	,	·		<u> </u>
2.5 Control House Foundations / Pad					'			•		
2-5a Control House / Pad	2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2-5a Control House / Pad	2.5	Control House Foundations / Pad								
2.5b Generator Foundation Color Color			0	FA	\$ 76.194	\$ -	\$ 81,600	Ś -	\$ 157,794	\$ -
2.6 Ughtning Mast Foundations										
2.6a 70 Lightning Mast Foundation 0 EA S 5,229 S S 5,600 S S 10,829 S					,		,,,,,,	•		
2.6b	2.6	Lightning Mast Foundations								
Column	2.6a	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
STOTAL - SUBSTATION FOUNDATIONS S - S - S S - S S S S S								<u>'</u>		
3.10 Substation A-Frame Structures - Stand alone 0 EA S 37,000 S - S 37,000 S - S 74,000 S 3.1a Substation A-Frame Structures - Stand alone 0 EA S 37,000 S - S 37,000 S - S 74,000 S 3.1b Substation A-Frame Structures - Shared Column 0 EA S 37,000 S - S 37,000 S - S 74,000 S 3.1c Substation A-Frame Structures - Shared Column 0 EA S 14,800 S - S 14,800 S - S 29,600 S 3.1d Station Service Transformer Stand 0 EA S 14,800 S - S 14,800 S - S 29,600 S 3.1e Subsport 3ph 0 EA S 3,700 S - S 3,700 S - S 3,700 S 3.1g Instrument Transformer Stand 0 EA S 3,700 S - S 3,700 S - S 3,700 S 3.1g Instrument Transformer Stand 0 EA S 1,850 S - S 3,700 S 3.1g Instrument Transformer Stand 0 EA S 1,850 S - S 3,700 S 3.1g Instrument Transformer Stand 0 EA S 1,850 S - S 3,700 S 3.1l Wave Trap Stand 0 EA S 1,850 S - S 1,850 S - S 3,700 S 3.1l Wave Trap Stand 0 EA S 6,475 S - S 1,850 S - S 1,850 S 3.2a Substation A-Frame Structures - Stand alone 0 EA S 3,300 S - S 3,300 S - S 1,850 S 3.2a Substation A-Frame Structures - Stand alone 0 EA S 3,300 S - S 3,300 S - S 6,6600 S 3.2d Substation A-Frame Structures - Stand alone 0 EA S 1,2025 S - S 1,2025 S - S 24,050 S 3.2d Substation A-Frame Structures - Stand S 0 EA S 1,2025 S - S 1,2025 S - S 24,050 S 3.2d Substation A-Frame Structures - Stand S 0 EA S 1,2025 S - S 1,2025 S - S 3,200 S 3.2d Substation A-Frame Structures - Stand S 0 EA S 1,2025 S - S 1,2025 S - S 3,200 S 3.2d Substation A-Frame Structures - Stand S 0 EA S 1,2025 S - S 1,2025 S - S 1,2025 S S 5,2050 S 3.2d Substation	2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.13 Substation A-Frame Structures - Stand alone 0 EA S 37,000 S - S 37,000 S - S 74,000 S										
3.1 345KV						\$ -		\$ -		\$ -
3.1a Substation A-Frame Structures - Stand alone 0 EA \$ 37,000 \$ - \$ 74,000 \$ \$ 3.1b Substation A-Frame Structures - Shared Column 0 EA \$ 37,000 \$ - 5 37,000 \$ 5 5 74,000 \$ \$ 3.1c Switch Stands 0 EA \$ 37,000 \$ - 5 37,000 \$ 5 5 74,000 \$ \$ \$ \$ \$ \$ \$ \$ \$										
3.1b Substation A-Frame Structures - Shared Column 0 EA \$ 37,000 \$ - \$ 74,000 \$ \$ 3.1c Switch Stands 0 EA \$ 14,800 \$ - \$ 14,800 \$ - \$ 29,600 \$ \$ 3.1d Station Service Transformer Stand 0 EA \$ 14,800 \$ - \$ 14,800 \$ - \$ 29,600 \$ \$ 3.1e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ \$			0	FΔ	\$ 37,000	¢ _	\$ 37,000	¢ -	\$ 74,000	\$ -
3.1c Switch Stands							7		, , , , , ,	•
3.1d Station Service Transformer Stand 0 EA \$ 14,800 \$ - \$ 29,600 \$ 3.1e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ 3.1f Bus Support 1Ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ 3.1g Instrument Transformer Stand 0 EA \$ 1,850 \$ - \$ 1,850 \$ - \$ 3,700 \$ 3.1g Instrument Transformer Stand 0 EA \$ 1,850 \$ - \$ 1,850 \$ - \$ 3,700 \$ 3.1h Arrester Stand 0 EA \$ 1,850 \$ - \$ 1,850 \$ - \$ 3,700 \$ 3.1l Wave Trap Stand 0 EA \$ 1,850 \$ - \$ 1,850 \$ - \$ 3,700 \$ 3.1l Wave Trap Stand 0 EA \$ 1,850 \$ - \$ 1,850 \$ - \$ 3,700 \$ 3.1k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 1,800 \$ 3.2e Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ - \$ 66,600 \$ 3.2e Substation A-Frame Structures - Shared Column 0 EA \$ 12,025 \$ - \$ 2,4050 \$ 3.2e Substation Service Transformer Stand 0 EA \$ 1,800 \$ - \$ 2,4050 \$ 3.2e Bus Support 1Ph 0 EA \$ 2,775 \$ - \$ 5,550 \$ 3.2e Bus Support 1Ph 0 EA \$ 2,775 \$ - \$ 5,550 \$										
3.1e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ 5 - \$ \$ \$ \$ \$ \$ \$ \$ \$, , , , , , , , , , , , , , , , , , , ,		, , , , , , , , , , , , , , , , , , , ,		.,	•
3.1f Bus Support 1 Ph			0	EA	\$ -	\$ -	\$ -	\$ -		
3.1h Arrester Stand 0 EA \$ 1,850 \$ - \$ 1,850 \$ - \$ 3,700 \$ \$ 3,11 Wave Trap Stand 0 EA \$ 7,400 \$ - \$ 7,400 \$ - \$ 14,800 \$ \$ \$ \$ \$ \$ \$ \$ \$,	\$ -				
3.1j Wave Trap Stand 0 EA \$ 7,400 \$ - \$ 7,400 \$ - \$ 14,800 \$ 3.1k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$ \$	3.1g	Instrument Transformer Stand		EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
3.1k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$ 3.2 230kV 3.2 Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ 3.2.2 Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ 3.2.2 Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2.3 Sution Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 24,050 \$ 3.2.4 Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2.5 Bus Support 3ph 0 EA \$ 2,775 \$ - \$ 2,775 \$ - \$ 5,550 \$, , , , , , , , , , , , , , , , , , , ,	•	, , , , , , , , , , , , , , , , , , , ,			
3.2 230kV					, , , , ,		, , , , ,		, , , , , , , , , , , , , , , , , , , ,	
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 66,600 \$ 3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ - </td <td>3.1k</td> <td>Misc. Structures</td> <td>0</td> <td>ÉA</td> <td>\$ 6,475</td> <td>\$ -</td> <td>\$ 6,475</td> <td>\$ -</td> <td>\$ 12,950</td> <td>> -</td>	3.1k	Misc. Structures	0	ÉA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	> -
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 66,600 \$ 3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ - </td <td>2.3</td> <td>220kV</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	2.3	220kV								
3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 66,600 \$ 3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ 3.2f Bus Support 1Ph 0 EA \$ 2,775 \$ - \$ 2,775 \$ - \$ 5,550 \$			0	FΛ	\$ 33,300	ς .	\$ 33.300	ς .	\$ 66,600	\$ -
3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ 3.2f Bus Support 1 Ph 0 EA \$ 2,775 \$ - \$ 2,775 \$ - \$ 5,550 \$										
3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5,550 \$ 3.2f Bus Support 1 Ph 0 EA \$ 2,775 \$ - \$ 2,775 \$ - \$ 5,550 \$										
3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$										
3.2f Bus Support 1 Ph 0 EA \$ 2,775 \$ - \$ 2,775 \$ - \$ 5,550 \$										
					\$ 2,775	\$ -				
3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$	3.2g	Instrument Transformer Stand	0	EA	\$ 1,295	\$ -	\$ 1,295	\$ -	\$ 2,590	\$ -

3.31 West First Stand	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.0 Most Continuers	3.2h				. ,	\$ -		\$ -		\$ -
NAME								•		
13	3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
13	2.2	11514								
3.30 Abberlain Affaire fortures - Sund Country 5 74 \$ \$ \$ \$ \$ \$ \$ \$ \$			0	ΕΛ	¢ 19 E00	ċ	¢ 19 E00	ċ	¢ 27,000	ė
3.84 Method Stocked					,	'				
3 State 1					· · · · ·					•
3.3 Ro. Support 19th					, , , , , , , , , , , , , , , , , , , ,		, , , , , , , , , , , , , , , , , , , ,		,	
1.31 absorper 1.70										
3.35			0	EA						
3.3 Wave Tage Stand	3.3g	Instrument Transformer Stand	0	EA	\$ 740	\$ -			\$ 1,480	\$ -
3.8 Mice Survivaries 0 IA 5 6.475 5 - 5 11,500 5 -	3.3h	Arrester Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
Control Houseand Formation Franchismes										
ALADAC REQUESTMENT	3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
ALADAC REQUESTMENT										
4.13 State						\$ -		\$ -		\$ -
4.1a Carcial freeders										
4.10 Capacitor Samiss 0 EA 5 5 5 50,000 5 5 75,000 5 5 75,000 5 5 74,000 5 74,000			0	E۸	\$ 200,000	ċ	\$ 00,000	ċ	\$ 200,000	ė
4.1c 365 NY - 280 V M NOT Transformer										
4.1 36 SW 115 W AND Transformer					'					•
4.2 250KV						•				•
4.20 Crout Breakers				LA	Ÿ	Ţ.	7 750,000	<u>, </u>	7 730,000	•
4.3 11540			0	EA	\$ 115.000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.38 Circuit Breakers 0 EA 5 5,000 5 5 112,000 5 -						\$ -		•		
4.38 Circuit Breakers 0 EA 5 5,000 5 5 112,000 5 -										
4.30 Capactor flanks	4.3	115kV								
S. MALEQUIFMENT S	4.3a	Circuit Breakers	0	EA	\$ 52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
S.AMAL ROUFTNENT / MATERIALS S.18 S48W S	4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
S.AMAL ROUFTNENT / MATERIALS S.18 S48W S								,		
S-10						\$ -		\$ -		\$ -
5.1a										
Single Disconnect Switches - 3ph w/ manual operator Disconnect Switches - 3ph w/ motor operator Dis			0	FA	\$ 40,000	\$ -	\$ 15,000	\$ -	\$ 55,000	\$ -
Side CTS					,					
S.1e CCVTS										
S.1f Arresters					\$ 13,000	\$ -				
5.1g Wave Traps 0 EA 5 13,000 5 - 5 8,000 5 - 5 21,000 5 -	5.1e	CCVT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
S.1h Station Service Transformers 0 EA 5 200,000 5 - 5 50,000 5 - 5 250,000 5 - 5 50,000 5 -		Arresters	0		,	\$ -			,	\$ -
S.1						•				
5.2 230kV Barry 15,20 Barry 1		Station Service Transformers								
5.2a Line Switches - 3ph w/ motor operator 0 EA \$ 35,000 \$ - \$ 51,000 \$ - \$ 50,000 \$ - 5.2b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 30,000 \$ - \$ 17,500 \$ - \$ 47,500 \$ - 5.2c VTS 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ \$ 21,000 \$ - 5.2c CVTS 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ \$ 21,000 \$ - 5.2c CVTS 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ \$ 21,000 \$ - 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - 5.2c	5.1j		0	EA	\$ 15,000	\$ -	\$ 7,500	\$ -	\$ 22,500	\$ -
5.2a Line Switches - 3ph w/ motor operator 0 EA \$ 35,000 \$ - \$ 51,000 \$ - \$ 50,000 \$ - 5.2b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 30,000 \$ - \$ 17,500 \$ - \$ 47,500 \$ - 5.2c VTS 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ \$ 21,000 \$ - 5.2c CVTS 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ \$ 21,000 \$ - 5.2c CVTS 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ \$ 21,000 \$ - 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - \$ 5.2c CVTS 0 EA \$ 10,000 \$ - 5.2c	F 2	22064				<u> </u>				
S.2b Disconnect Switches - 3ph w/ manual operator D EA \$ 30,000 \$ - \$ 47,500 \$ - 5.2c VTS D EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ - 5.2d CTS D EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ - 5.2e CCVTS D EA \$ 10,000 \$ - \$			0	FΛ	\$ 35,000	Ċ	\$ 15,000	Ċ	\$ 50,000	ć
S.2c VTS 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ - \$ 5.2d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ - \$ 5.2d CT'S 0 EA \$ 10,000 \$ - \$ 8,000 \$ - \$ 5,2d CT'S 0 EA \$ 10,000 \$ - \$ 8,000 \$ - \$ 5,2d CT'S 0 EA \$ 10,000 \$ - \$ 6,000 \$ - \$ 11,000 \$ - \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 8,000 \$ - \$ 11,000 \$ - \$ 5.2f Arresters 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 11,000 \$ - \$ 5.2f Arresters 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 11,000 \$ - \$ 5.2f Arresters 0 EA \$ 13,000 \$ - \$ 5,000 \$ - \$ 11,000 \$ - \$ 5.2f Arresters 0 EA \$ 13,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,00										
S.2d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ - \$ 5.2e CCVT'S 0 EA \$ 10,000 \$ - \$ 6,000 \$ - \$ 16,000 \$ - \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,2f Arres										
S.2e CCVT'S 0 EA \$ 10,000 \$ - \$ 6,000 \$ - \$ 16,000 \$ - \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,2g Wave Traps 0 EA \$ 13,000 \$ - \$ 5,2g Station Service Transformers 0 EA \$ -										
S.2f Arresters 0 EA \$ 5,000 \$ - \$ 6,000 \$ - \$ 11,000 \$ - 5.2g Wave Traps 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 5,2h Station Service Transformers 0 EA \$ - \$,		, , , , , , ,	
5.2h Station Service Transformers 0 EA \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000										
5.2] 0 EA \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 45,500 \$ - \$ 45,500 \$ - \$ 45,500 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 3,000	5.2g	Wave Traps	0			\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.3 115kV EA \$ 33,000 \$ - \$ 15,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 48,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$		Station Service Transformers			· .	•	•	·		
5.3a Line Switches - 3ph w/ motor operator 0 EA \$ 33,000 \$ - \$ 15,000 \$ - \$ 48,000 \$ - \$ 5.3b 5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 28,000 \$ - \$ 17,500 \$ - \$ 45,500 \$ - \$ 45,500 \$ - \$ 5.3c 5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 5.3d 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16,000 \$ - \$ 16,000 \$ - \$ 5.3f 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 5.6,000 \$ - \$ 9,420 \$ - \$ 5.5g 5.3g Wave Traps 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	5.2j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3a Line Switches - 3ph w/ motor operator 0 EA \$ 33,000 \$ - \$ 15,000 \$ - \$ 48,000 \$ - \$ 5.3b 5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 28,000 \$ - \$ 17,500 \$ - \$ 45,500 \$ - \$ 45,500 \$ - \$ 5.3c 5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 5.3d 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16,000 \$ - \$ 16,000 \$ - \$ 5.3f 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 5.6,000 \$ - \$ 9,420 \$ - \$ 5.5g 5.3g Wave Traps 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -										
5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 28,000 \$ - \$ 17,500 \$ - \$ 45,500 \$ - \$ 45,500 \$ - \$ 45,500 \$ - \$ 45,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ - \$ \$ 21,000 \$ - \$ \$ \$ \$ \$ \$ \$ \$ \$ \$				F.*	ć 22.000	ć	ć 45.000	ć	ć 40.000	¢
5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ - 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ - 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 16,000 \$ - 5.3f Arresters 0 EA \$ 3,420 \$ -										
5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ - \$ 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16,000 \$ - \$ 16,000 \$ - \$ 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9,420 \$ - \$ 5.3g Wave Traps 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5.3f - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$, , , , , , , , , , , , , , , , , , , ,		,	
5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 16,000 \$ - 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9,420 \$ - 5.3g Wave Traps 0 EA \$ -										
5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9,420 \$ - \$ 5.3g 5.3g Wave Traps 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -										
5.3g Wave Traps 0 EA \$ - \$ - \$ - \$ - \$ - \$ -					· , , , , , , , , , , , , , , , , , , ,					
	5.3h	Station Service Transformers	0			\$ -		·		

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL	L EQUIPTMENT / MATERIALS				\$ -		\$ -		\$ -
	OUSE / PANELS / GENERATOR				J		<u>, </u>		Ţ.
	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -
	Protection and Telecom Equipment Panels	0	EA	\$ 35,000		\$ 10,000		\$ 45,000	
	125VDC Batteries	0	EA	\$ 75,000		\$ 25,000		\$ 100,000	\$ -
6.4	Control Cable SCADA and Communications	0	LS EA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
6.6	Low Voltage AC Distribution	0	EA	\$ 50,000		\$ 100,000		\$ 150,000	
	DC Distribution System	0	EA			\$ 100,000		\$ 150,000	
6.8	Security	0	EA	\$ 7,500		\$ 7,500		\$ 15,000	\$ -
6.9	Fire Alarm	0	EA	\$ 7,500	\$ -	\$ 7,500		\$ 15,000	\$ -
6.10	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
TOTAL - CONTI	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	0	LF	\$ 185.00	\$ -	\$ 170.00	\$ -	\$ 355	\$ -
7.2	Rigid Bus, Fittings & Insulators	1	LS	\$ 15,008.40	\$ 15,008	\$ 56,904.00	\$ 56,904	\$ 71,912	\$ 71,912
7.3	Strain Bus, Connectors & Insulators	0	LF	\$ 13.38	\$ -	\$ 39.35	\$ -	\$ 53	\$ -
7.4	Grounding System	0	LF	\$ 6.93	\$ -	\$ 32.58	\$ -	\$ 40	\$ -
7.5	Strain Bus Insulators - 345kV	0	EA	\$ 2,000		\$ 1,050		\$ 3,050	
7.6	Strain Bus Insulators - 230kV	0	EA	\$ 1,400		\$ 750		\$ 2,150	
	Strain Bus Insulators - 115kV	0	EA	\$ 1,000	\$ -	\$ 550		\$ 1,550	\$ -
7.8 7.9	Low Voltage AC Station Service SSVT Service	0	LS LS	\$ 50,000 \$ 45,000		\$ 75,000 \$ 45,000		\$ 125,000 \$ 90,000	
7.10	Control Cables	0	LS	\$ 472,500		\$ 472,500		\$ 945,000	
7.11	Control Conduits from Trench to Equipment	0	LS	\$ 125,000	\$ -	\$ 125,000		\$ 250,000	\$ -
7.12	Misc. Materials (Above and Below Ground)	0	LS	\$ 180,000	\$ -	\$ 180,000		\$ 360,000	\$ -
7.13									
7.14									
7.15 7.16									
7.17									
7.18									
7.19									
7.20									
7.21									
7.22									
7.24									
7.25									
TOTAL - MISC	ITEMS				\$ 15,008		\$ 56,904		\$ 71,912
J. Porter	Substation - Install				\$ 15,008		\$ 56,904		\$ 71,912
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
	Mob / Demob	1	LS	\$ -	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS		\$ -	\$ 2,733	\$ 2,733	\$ 2,733	\$ 2,733
	Utility PM and Project Oversite	1			\$ -				
	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
	Engineering Design Engineering	4	1.0	ć	ė	ć F.753	ć F.753	ć E 753	ć r.753
	Design Engineering LiDAR	1	LS LS	\$ -	\$ -	\$ 5,753 \$ 216		\$ 5,753 \$ 216	
8.7	Geotech	-	EA EA	\$ -	\$ -	\$ 3,500		\$ 3,500	
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 503		\$ 503	
	Testing & Commissioning								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	тот	AL
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 1,798	\$ 1,798	\$ 1,798	\$	1,798
	Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
8.18	Sales Tax on Materials	1	LS	\$ 1,201	\$ 1,201	\$ -	\$ -	\$ 1,201	\$	1,201
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 72	\$ 72	\$ 72	\$	72
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 1,201		\$ 13,017		\$	14,217

NAT & NYPA - T027 - (Segment A, Double Circuit) K. Porter Substation - Removal

545,937 \$

545,937 \$

0.0%

545,937

545,937

	(o-a	,					
mate ision:	7		Total:	\$ 545,937			
	NAT & NYPA - T027 - (Seg	ment A, Doubl	e Circuit)				Г
			Supply	Installation	Tota	al	
	K. Porter Substation - Removal						
	1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ -	\$	-	
	2. SUBSTATION FOUNDATIONS	\$	-	\$ 126,600	\$	126,600]
	3. SUBSTATION STRUCTURES	\$	-	\$ 206,100	\$	206,100]
	4. MAJOR EQUIPTMENT	\$	-	\$ 43,500	\$	43,500]
	5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ 59,500	\$	59,500]
	6. CONTROL HOUSE / PANELS	\$	-	\$ -	\$	-]
	7. MISC ITEMS	\$	-	\$ 38,613	\$	38,613	
	8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$ 71,625	\$	71,625]
	CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-	0.

\$

Description of Work:

SUBTOTAL:

CONTINGENCY ON ENTIRE PROJECT

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
K. Porter	Substation - Removal								
1. SITE PREP/ O	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
	FOUNDATIONS								
	345kV								
	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	7	\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
	Switch Stand Foundations	0	EA	\$ -	\$ -	т	\$ -	\$ -	\$ -
	Station Service Transformer Stand Foundation	0	EA EA	\$ -	\$ -		\$ -	\$ -	\$ -
	Bus Support 3ph Foundations Bus Support 1 Ph Foundations	0	EA EA	\$ - \$ -	\$ - \$ -		\$ - \$ -	\$ -	\$ - \$ -
	Instrument Transformer Stand Foundations	0	EA EA	\$ - \$ -	\$ - \$ -	7	\$ - \$ -	\$ -	\$ - \$ -
	Arrester Stand Foundations	0	EA EA	1	\$ -		<u> </u>	\$ -	+:
	Wave Trap Stand Foundations	0	EA EA	\$ - \$ -	\$ -	Ÿ	\$ - \$ -	\$ -	\$ - \$ -
2.1m 2.1n	Misc. Structure Foundations	0	EA EA	\$ -	\$ -		\$ - \$ -	\$ -	\$ -
	Misc. Structure Foundations	0	EA EA			-	•		+:
2.1p		U	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	230kV								
	Circuit Breaker Foundations	3	EA	\$ -	\$ -	\$ 7,200	\$ 21,600	\$ 7,200	\$ 21,600
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000		\$ 32,000	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000	\$ -	\$ 22,000	\$ -
	Caisson DE Foundations (for DE A frame str shared column)	5	EA	\$ -	\$ -	\$ 11,000		\$ 11,000	\$ 55,000

-\$

- \$

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Switch Stand Foundations	5	EA	\$ -		\$ 5,200		\$ 5,200	
	Station Service Transformer Stand Foundation	0		\$ -		\$ -			\$ -
	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	0		\$ -	\$ -	\$ 2,400		\$ 2,400	
2.2j 2.2k	Instrument Transformer Stand Foundations	6	EA EA	\$ -	\$ - \$ -		\$ 9,600 \$ 14,400	\$ 2,400 \$ 2,400	\$ 9,600 \$ 14,400
2.2K 2.2m	Arrester Stand Foundations Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ 14,400	\$ 2,400	\$ 14,400
	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p	INISC. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		-		*	*	*	T	*	*
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str stand alone)	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	
	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -		\$ -	\$ -
	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
	Arrester Stand Foundations	0	EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
	Wave Trap Stand Foundations Station Service Foundations	0	EA EA	\$ -	\$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5μ	IMISC. Structure Foundations	0	EA	· -	· -	· -	· -	· -	-
2.4	Transformer Foundations								
	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad (40'x125')	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	State of the Secret Foundations								
2.6a	Lightning Mast Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.00			LA.	7	,	,	,	7	7
TOTAL - SUBST	TATION FOUNDATIONS				\$ -		\$ 126,600		\$ 126,600
3. SUBSTATION									
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Switch Stands	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g	Instrument Transformer Stand	0		\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
3.1h 3.1j	Arrester Stand Wave Trap Stand	0	EA EA	\$ - \$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ -
	Misc. Structures	0	EA EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
J.1K	INIDO. DE GOLGES	0	EM	-	-	-	· -	-	-
3.2	230kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
	Substation A-Frame Structures - Shared Column	5		\$ -	\$ -	\$ 27,000		\$ 27,000	
	Switch Stands	6	EA	\$ -	\$ -	\$ 9,750		\$ 9,750	
	Station Service Transformer Stand	0		\$ -		\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph	0		\$ -	\$ -	\$ -	\$ -		\$ -
3.2f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	
3.2g	Instrument Transformer Stand Arrester Stand	6		\$ -	\$ - \$ -	\$ 1,050 \$ 1,050		\$ 1,050 \$ 1,050	

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ 4,500	\$ -	\$ 4,500	\$ -
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	0	EA	\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
									·
TOTAL - SUBST	ATION STRUCTURES				\$ -		\$ 206,100		\$ 206,100
4. MAJOR EQU	IIPTMENT								
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	3	EA	\$ -	\$ -	\$ 14,500	\$ 43,500	\$ 14,500	\$ 43,500
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
						,			
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJO	R EQUIPTMENT				\$ -		\$ 43,500		\$ 43,500
5. SMALL EQU	PTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1c	VT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Arresters	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	2	EA	\$ -	\$ -	\$ 5,500	\$ 11,000	\$ 5,500	
5.2b	Disconnect Switches - 3ph w/ manual operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	
5.2c	VT'S	2	EA	\$ -	\$ -	\$ 1,500	\$ 3,000	\$ 1,500	\$ 3,000
5.2d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S	6	EA	\$ -	\$ -	\$ 1,500	\$ 9,000	\$ 1,500	\$ 9,000
5.2f	Arresters	6	EA	\$ -	\$ -	\$ 2,500	\$ 15,000	\$ 2,500	\$ 15,000
5.2g	Wave Traps	2		\$ -	\$ -	\$ 2,500	\$ 5,000	\$ 2,500	\$ 5,000
5.2h	Station Service Transformers	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.3c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3e	CCVT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3f	Arresters	0		\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
						•			

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	EQUIPTMENT / MATERIALS				\$ -		\$ 59,500		\$ 59,500
	OUSE / PANELS / GENERATOR								
	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	
	PANELS	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Protection and Telecom Equipment	0	EA	\$ - \$ -	\$ - \$ -	\$ -	\$ -	\$ -	\$ -
	SCADA and Communications Low Voltage AC Distribution	0	EA EA	1:		\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
	DC Distribution System	0	EA EA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONTR	OL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
	Rigid Bus, Fittings & Insulators	1	L.S.	\$ -	\$ -	\$ 18,937.50		\$ 18,938	
7.3	Strain Bus, Connectors & Insulators	1	L.S.	\$ -	\$ -	\$ 19,675.00	\$ 19,675	\$ 19,675	\$ 19,675
7.4	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12 7.13									
7.13									
7.14									
TOTAL - MISC I	TEMS				\$ -		\$ 38,613		\$ 38,613
K. Porter	Substation - Removal				\$ -		\$ 474,313		\$ 474,313
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization Mob / Demob	1.0	LS	Ś -	\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
	Project Management, Material Handling & Amenities	1.0	L3	ş -	ş -	\$ 4,745	\$ 4,745	\$ 4,745	\$ 4,743
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS		\$ -	\$ 18,027	\$ 18,027	\$ 18,027	\$ 18,027
8.3	Heilite, DBA and Draiget Oversite	1	LS		\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
	Utility PM and Project Oversite Site Accommodation, Facilities, Storage	1.0	LS	\$ -	\$ - \$ -	\$ 4,743	\$ 4,743	\$ 4,743	
	Engineering	1.0		-	· ·	7 4,743	7,743	4,743	4,743
	Design Engineering	1.0	LS	\$ -	\$ -	\$ 37,945	\$ 37,945	\$ 37,945	\$ 37,945
	Lidar	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 3,320	\$ -	\$ 3,320	\$ -
	Testing & Commissioning								
	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 11,858	\$ -	\$ 11,858	\$ -
	Permitting and Additional Costs								
	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	- 1	LS LS	\$ - \$ -	\$ - \$ -	\$ - \$ 1,423	\$ - \$ 1,423	\$ - \$ 1,423	\$ - \$ 1,423
	Warranties / LOC's			7	•				
	Real Estate Costs (New) Real Estate Costs (Incumbent Utility)	-	LS LS	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17	monarioe 15. I didd obed burning constitution (ni obe)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Sales Tax on Materials	1.0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	7	\$ -	\$ 474	\$ -
	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:		-		\$ -		\$ 71,625		\$ 71,625

L. Interconnection Edic Station

Estimate 7 Total: \$ 2,104,121

NAT & NYPA - T027 - (Seg	ment A, Double	Circuit)			
		Supply	In	stallation	Total
L. Interconnection Edic Station					
1. CLEARING & ACCESS	\$	-	\$	367,850	\$ 367,850
2. FOUNDATIONS	\$	168,366	\$	170,169	\$ 338,536
3. STRUCTURES	\$	501,469	\$	321,821	\$ 823,289
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$ -
5. INSULATORS, FITTINGS, HARDWARE	\$	160,000	\$	94,400	\$ 254,400
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	66,387	\$	253,659	\$ 320,046
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$ -
SUBTOTAL:	\$	896,222	\$	1,207,899	\$ 2,104,121
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$ -
TOTAL:	\$	896,222	\$	1,207,899	\$ 2,104,121

	of Wo	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
L. Interc	onnection Edic Station									
1. CLEARING 8	ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$	-	\$ -	\$ 5,000	· ·		
1.3	Access Road	-	LF	\$	-	\$ -	\$ 45		\$ 45	
1.4	Silt Fence	3,500.0	LF	\$	-	\$ -	\$ 4	, , , , , , , , , , , , , , , , , , , ,		\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$	-	\$ -	\$ 70			
1.6	Matting - To Work Area	300.0	LF	\$	-	\$ -	\$ 70			
1.7	Snow Removal	-	LS	\$	-	\$ -	\$ 516,800		\$ 516,800	
1.8	ROW Restoration	0.5	Mile	\$	-	\$ -	\$ 10,000			\$ 5,000
1.9	Work Pads	20,000.0	SF	\$	-	\$ -	\$ 4			,
1.10	Restoration for Work Pad areas	4,000.0	SF	\$	-	\$ -	\$ 0.2	\$ 600		\$ 600
1.11	Temporary Access Bridge	-	EA	\$	-	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$	-	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$	-	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$	-	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA		2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$	750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18						\$ -		\$ -		\$ -
1.19			2	_		\$ -		\$ -	4	\$ -
1.20	Crushed Rock	0	CY	\$	27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEAR	RING & ACCESS					\$ -		\$ 367,850		\$ 367,850
2. FOUNDATIO	DNS									
2.1	Foundation – Drilled Pier – 8'X 27'	3	EA			\$ 123,995				\$ 249,317
2.2	Foundation – Drilled Pier – 8'X 29'	1	EA	\$ 44	4,372	\$ 44,372	\$ 44,847	\$ 44,847	\$ 89,219	\$ 89,219
2.3	Rock Excavation Adder	-	CY	\$	-	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.4										
2.5										
2.6										
2.7										
2.8										
2.9										
2.10										
2.11										

Item	Item Description	Estimated Quantity	Unit of Measure	Material	Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.12										
2.13										
2.14										
TOTAL - FOUN	 IDATIONS					\$ 168,366		\$ 170,169		\$ 338,536
3. STRUCTURE						ψ 100,500		ψ 170,103		
3.1	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) – 105′	3	Structure	\$		\$ 296,648			\$ 158,212	\$ 474,636
3.2	2-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$	202,797					\$ 324,475
3.3	Install Grounding and Grounding Accessories	4	Pole	\$	506		\$ 5,539	\$ 22,154	\$ 6,045	\$ 24,178
3.4						\$ -		\$ -		\$ -
3.6						\$ -		\$ -		\$ -
3.7						\$ -		\$ -		\$ -
3.8						\$ -		\$ -		\$ -
3.9						\$ -		\$ -		\$ -
3.10						\$ -		\$ -		\$ -
3.11 3.12						\$ - \$ -		\$ - \$ -		\$ - \$ -
3.13						\$ -		\$ -		\$ -
3.14						\$ -		\$ -		s -
								-		T
3.15						\$ -		\$ -		\$ -
TOTAL - STRU						\$ 501,469		\$ 321,821		\$ 823,289
4. CONDUCTO	DR, SHIELDWIRE, OPGW 345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	Ś	1.90	\$ -	\$ 5.00	\$ -	\$ 6.90	\$ -
4.1	(1) OPGW 36 Fiber AC-33/38/571	-	LF LF	\$	1.35		\$ 5.00		\$ 6.35	
4.3	(1) 3/8" EHS7 Steel	-	LF	\$	0.47		\$ 5.00	\$ -	\$ 5.47	\$ -
4.5	Remove Existing Cable From Existing Structures	-	Mile	\$	-		\$ 30,000	\$ -	\$ 30,000.00	\$ -
4.6	Remove Existing OPGW Cable	-	Mile	\$	-	\$ -	\$ 12,000	\$ -	\$ 12,000.00	
4.7	Remove Existing EH7	-	Mile	\$	-	\$ -	\$ 12,000	\$ -	\$ 12,000.00	\$ -
4.8										
4.9 4.10	Rider Poles - Relocated	-	Set	\$	-	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	Ś	1,750		\$ 3,500	\$ -	\$ 5,250.00	\$ -
	UCTOR, SHIELDWIRE, OPGW:			Ť		\$ -	7 0,010	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -
5. INSULATOR	r, FITTINGS, HARDWARE									
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)									
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	60	A		1 000	ć 100.000	ć 720	ć 43.200	ć 2.530	ć 454.300
5.3 5.4	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	60	Assembly	\$	1,800	\$ 108,000	\$ 720	\$ 43,200	\$ 2,520	\$ 151,200
5.5	OPGW Assembly - Tangent	-	Assembly	\$	200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	4	Assembly	\$	250					
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$	250		\$ 150	\$ 600		\$ 1,600
5.8	OPGW Splice Boxes	-	Set	\$	1,746		\$ 2,274	\$ -	\$ 4,020	
5.9 5.10	OPGW Splice & Test	-	EA EA	\$	2,520 50		\$ 2,520 \$ 35		\$ 5,040	
5.10	Spacer - Conductor Vibration Dampers - Conductor	-	EA	\$	35		\$ 35	\$ -	\$ 85 \$ 70	
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	_	EA	\$	27		\$ 35		\$ 62	
									•	
5.13	Guys, Anchors, and Accessories	-	EA	\$	720		\$ 885	\$ -	\$ 1,605	\$ -
5.14	Misc. materials (Signs and Markers)	-	Mile	\$	770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$ -
5.15										
5.16 5.17										
5.18										
5.19	Interconnection Arrangements	1	EA	\$	50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 100,000	\$ 100,000
5.20										
	LATOR, FITTINGS, HARDWARE					\$ 160,000		\$ 94,400		\$ 254,400
L. Interc	onnection Edic Station					\$ 829,835		\$ 954,240		\$ 1,784,075
6. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
	Project Management, Material Handling & Amenities									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cos	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 67,808	\$ 67,808	\$ 67,808	\$ 67,808
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 89,204	\$ 89,204	\$ 89,204	\$ 89,204
6.6	LiDAR	-	LS	\$ -	\$ -	\$ 5,352	\$ -	\$ 5,352	\$ -
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 12,489	\$ 12,489	\$ 12,489	\$ 12,489
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 5,352	\$ 5,352	\$ 5,352	\$ 5,352
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 66,387	\$ 66,38	7 \$ -	\$ -	\$ 66,387	\$ 66,387
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 1,784	\$ 1,784	\$ 1,784	\$ 1,784
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 66,38	7	\$ 253,659		\$ 320,046

M. Interconnection New Scotland Station

Estimate Revision: 7 Total: \$ 3,075,099

NAT & NYPA - T027 - (Segment A,	NAT & NYPA - T027 - (Segment A, Double Circuit)										
		Supply		Installation Total							
M. Interconnection New Scotland Station											
1. CLEARING & ACCESS	\$	-	\$	367,850	\$	367,850					
2. FOUNDATIONS	\$	365,657	\$	473,093	\$	838,749					
3. STRUCTURES	\$	655,465	\$	445,628	\$	1,101,092					
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	3,555	\$	26,100	\$	29,655					
5. INSULATORS, FITTINGS, HARDWARE	\$	161,130	\$	95,795	\$	256,925					
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	94,864	\$	385,963	\$	480,828					
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-					
SUBTOTAL:	\$	1,280,670	\$	1,794,428	\$	3,075,099					
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-					
TOTAL:	\$	1,280,670	\$	1,794,428	\$	3,075,099					

Г	escri)	nti	ion of	ΕW	or	k:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
M. Inter	connection New Scotland Station								
1. CLEARING 8	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$ -	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	3,500.0	LF	\$ -	\$ -	\$ 4	\$ 14,000	\$ 4	\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$ -	\$ -	\$ 70	\$ 245,000	\$ 70	\$ 245,000
1.6	Matting - To Work Area	300.0	LF	\$ -	\$ -	\$ 70	\$ 21,000	\$ 70	\$ 21,000
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	\$ -	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.9	Work Pads	20,000.0	SF	\$ -	\$ -	\$ 4	\$ 70,400	\$ 4	\$ 70,400
1.10	Restoration for Work Pad areas	4,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 600	\$ 0	\$ 600
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18					\$ -	,	\$ -	· · · · · · · · · · · · · · · · · · ·	\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	\$ -
	RING & ACCESS				\$ -		\$ 367,850		\$ 367,850
2. FOUNDATIO							, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,
2.1	Foundation – Drilled Pier – 8'X 50'	3	EA	\$ 76,500	\$ 229,501	\$ 77,320	\$ 231,959	\$ 153,820	\$ 461,459
2.2	Foundation – Drilled Pier – 8'X 89'	1	EA	\$ 136,156	\$ 136,156	\$ 137,614	\$ 137,614	\$ 273,770	\$ 273,770
2.3	Rock Excavation Adder	51.8	CY	\$ -	\$ -	\$ 2,000	\$ 103,520	\$ 2,000	\$ 103,520
2.4									
2.5									
2.6									
2.7									
2.8									
2.9									
2.10					-				
2.11					1				

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	te M	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
2.12											
2.13											
2.14					_						
2.15 TOTAL - FOUN	DATIONS				Ś	365,657		\$ 473,093		Ś	838,749
3. STRUCTURE					,	365,657		\$ 4/3,093		\$	838,749
3.1	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115'	3	Structure	\$ 178,0	26 \$	534,077	\$ 106,815	\$ 320,446	\$ 284,841	\$	854,522
3.2	1-CKT 345KV SFFOLE MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$ 116,3		116,328	\$ 69,797	\$ 69,797		Ś	186,125
3.3	Install Grounding and Grounding Accessories	10			06 \$		\$ 5,539	\$ 55,385		Ś	60,445
3.4	Install Grounding and Grounding Accessories	10	1 OIC	3	\$		ý 3,333	\$ -	3 0,043	Ť	00,443
3.5								Ť			
3.6					\$	-		\$ -			
3.7					\$			\$ -			
3.8					\$			\$ -			
3.9					\$	-		\$ -			
3.10					\$	-		\$ -			
3.11					\$	-		\$ -			
3.12					\$			\$ -			
3.13					\$			\$ -			
3.14					\$			\$ -			
3.15 TOTAL - STRU	CTUDEC				\$			\$ -			4 404 000
					\$	655,465		\$ 445,628		\$	1,101,092
	R, SHIELDWIRE, OPGW	4 500	15		00 ¢	2.050	ć 5.00	ć 7.500	ć coo	4	10.250
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571	1,500	LF LF		90 \$ 35 \$	2,850	\$ 5.00 \$ 5.00	\$ 7,500 \$ -	\$ 6.90 \$ 6.35	\$	10,350
4.2	(1) OPGW 36 FIDER AC-33/38/5/1 (1) 3/8" EHS7 Steel	1,500	LF		47 \$	705	\$ 5.00	\$ 7,500		\$	8,205
4.5	Remove Existing 345kV Cable From Existing Structures	0.3	Mile		- \$	703	\$ 30,000	\$ 7,500		Ś	7,500
4.6	Remove Existing OPGW Cable	-	Mile		- \$		\$ 12,000	\$ 7,500	\$ 12,000.00		- 7,300
4.7	Remove Existing EH7	0.3	Mile	-	- \$		\$ 12,000	\$ 3,600		Ś	3,600
4.8	Terrore Existing Erro	0.5	.v.iic	<u> </u>			 	y 3,000	Ţ 12,000.00	Ť	5,555
4.9											
4.10	Rider Poles - Relocated	-	Set	\$	- \$	-	\$ 3,500	\$ -	\$ 3,500.00	\$	-
4.11	Rider Poles	-	EA	\$ 1,7	50 \$	-	\$ 3,500	\$ -	\$ 5,250.00	\$	-
TOTAL: COND	UCTOR, SHIELDWIRE, OPGW:				\$	3,555		\$ 26,100		\$	29,655
5. INSULATOR	, FITTINGS, HARDWARE										
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly		00 \$	-	\$ 720	\$ -	\$ 2,520		-
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly		00 \$	-	\$ 560	\$ -	\$ 1,460	\$	-
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	60	Assembly	\$ 1,8		,	\$ 720	\$ 43,200			151,200
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly		00 \$	-	\$ 725	\$ -	\$ 1,625	\$	-
5.5	OPGW Assembly - Tangent	-	Assembly		00 \$	-	\$ 150	\$ -	\$ 350	\$	-
5.6	OPGW Assembly - Angle / DE	-	Assembly		50 \$		\$ 150		\$ 400		-
5.7 5.8	OHSW Assembly - Angle / DE	4	Assembly		50 \$ 46 \$	-,	\$ 150 \$ 2,274	\$ 600		\$	1,600
5.8	OPGW Splice Boxes OPGW Splice & Test	-	Set EA		20 \$	-	\$ 2,274		\$ 4,020 \$ 5,040		-
5.10	Spacer - Conductor	9	EA		50 \$	450	\$ 2,320				765
5.11	Vibration Dampers - Conductor	48	EA		35 \$	1,680	\$ 35	\$ 1,680			3,360
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA		27 \$	-	\$ 35	\$ -	\$ 62		-
5.13	Guys, Anchors, and Accessories	-	EA	\$ 7	20 \$	-	\$ 885	\$ -	\$ 1,605	\$	-
5.14	Misc. materials (Signs and Markers)	-	Mile	\$ 7	70 \$	-	\$ 1,006	\$ -	\$ 1,776	\$	-
5.15	, , ,		-		\$	-	,	\$ -	,	\$	-
5.16	Interconnection Arrangements	1	EA	\$ 50,0	00 \$	50,000	\$ 50,000	\$ 50,000	\$ 100,000	\$	100,000
5.17					\$			\$ -		\$	-
5.18					\$			\$ -		\$	-
5.19					\$			\$ -		\$	-
5.20					\$			\$ -		\$	-
TOTAL - INSUL	ATOR, FITTINGS, HARDWARE				\$	161,130		\$ 95,795		\$	256,925
	connection New Scotland Station				\$	1,185,806		\$ 1,408,465		\$	2,594,271
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	\$ -	\$	-	\$ 25,943	\$ 25,943	\$ 25,943	\$	25,943
	Project Management, Material Handling & Amenities										

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 98,602	\$ 98,602	\$ 98,602	\$ 98,602
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$ 25,943
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$ 25,943
	Engineering									
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 129,714	\$ 129,714	\$ 129,714	\$ 129,714
6.6	LiDAR	1	LS	\$	-	\$ -	\$ 7,783	\$ 7,783	\$ 7,783	\$ 7,783
6.7	Geotech	1	Location	\$	-	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$		\$ -	\$ 18,160	\$ 18,160	\$ 18,160	\$ 18,160
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 7,783	\$ 7,783	\$ 7,783	\$ 7,783
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$	94,864	\$ 94,864		\$ -	\$ 94,864	\$ 94,864
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 2,594	\$ 2,594	\$ 2,594	\$ 2,594
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 94,864		\$ 385,963		\$ 480,828

N. Interconnection Rotterdam Station

Estimate 7 Revision:

e 7 Total: \$ 4,561,342

NAT & NYPA - T027 - (Segment A, Double Circuit)										
	Supply			Installation		Total				
N. Interconnection Rotterdam Station										
1. CLEARING & ACCESS	\$	-	\$	1,233,050	\$	1,233,050				
2. FOUNDATIONS	\$	192,145	\$	325,963	\$	518,108				
3. STRUCTURES	\$	546,722	\$	837,150	\$	1,383,872				
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	65,923	\$	437,250	\$	503,173				
5. INSULATORS, FITTINGS, HARDWARE	\$	165,730	\$	118,480	\$	284,210				
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	77,642	\$	561,288	\$	638,929				
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-				
SUBTOTAL:	\$	1,048,161	\$	3,513,181	\$	4,561,342				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL:	\$	1,048,161	\$	3,513,181		4,561,342				

)	escri	ption	of V	Vor	k:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
N. Interd	onnection Rotterdam Station								
1. CLEARING 8	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	7.0	Acre	\$ -	\$ -	\$ 15,000	\$ 105,000	\$ 15,000	\$ 105,000
1.2	Clearing the ROW - Light (mowing)	5.0	Acre	\$ -	\$ -	\$ 5,000	\$ 25,000		, ,
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45		\$ 45	
1.4	Silt Fence	4,800.0	LF	\$ -	\$ -	\$ 4	,		\$ 19,200
1.5	Matting - Access and ROW	4,800.0	LF	\$ -	\$ -	\$ 70			\$ 336,000
1.6	Matting - To Work Area	2,400.0	LF	\$ -	\$ -	\$ 70			\$ 168,000
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800		\$ 516,800	
1.8	ROW Restoration	1.0	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	160,000.0	SF	\$ -	\$ -	\$ 4	\$ 563,200		\$ 563,200
1.10	Restoration for Work Pad areas	32,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 4,800	\$ 0	\$ 4,800
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580		\$ 4,580	
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18					\$ -		\$ -		\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 27		\$ 75	·	\$ 102	•
	ING & ACCESS				\$ -		\$ 1,233,050		\$ 1,233,050
2. FOUNDATIO							-		
2.1	10' ED Rock BF	6	EA	\$ 358	\$ 2,145	\$ 3,575	\$ 21,450	\$ 3,933	\$ 23,595
2.2	15' ED Rock BF	18	EA	\$ 536			\$ 96,525		-
2.3	20' ED Rock BF	4	EA	\$ 715	\$ 2,860	\$ 7,150	\$ 28,600	\$ 7,865	\$ 31,460
2.4	Foundation – Drilled Pier – 8'X 29'	4	EA	\$ 44,372	\$ 177,487	\$ 44,847	\$ 179,388	\$ 89,219	\$ 356,875
2.5	Rock Excavation Adder	-	CY	\$ -	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.6					\$ -		\$ -		\$ -
2.7					\$ -		\$ -		\$ -
2.8					\$ -		\$ -		\$ -
2.9					\$ -		\$ -		\$ -
2.10					\$ -		\$ -		\$ -
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -
2.15					\$ -		\$ -		\$ -
3. STRUCTURE					\$ 192,145		\$ 325,963		\$ 518,108
		2	Pole	\$ 3,500	\$ 10,500	\$ 3,600	\$ 10,800	\$ 7,100	\$ 21,300
	15kV 3-CKT TANGENT DIST WOOD POLE 15kV 3-CKT MA DIST WOOD POLE	3		\$ 3,500	\$ 10,500		\$ 3,600		\$ 7,100
3.3	15kV 3-CKT DE - WOOD POLE	2		\$ 3,500		\$ 3,600			\$ 14,200
3.4	115kV 1-CKT TANGENT - WOOD POLE	5		\$ 4,500	\$ 22,500		\$ 22,000		\$ 44,500
3.5	115kV 1-CKT MA - WOOD POLE	2	Pole	\$ 4,500	\$ 9,000		\$ 8,800		\$ 17,800
3.6	115kV 1-CKT DE - WOOD POLE	11	Pole	\$ 5,500	\$ 60,500	\$ 5,000	\$ 55,000		\$ 115,500
3.7	115kV 2-CKT TANGENT - WOOD POLE	4		\$ 5,500	\$ 22,000	\$ 5,000	\$ 20,000		\$ 42,000
3.8	115kV 2-CKT DE - STEEL POLE	4	Pole	\$ 98,883	\$ 395,530		\$ 237,318		\$ 632,848
3.9	Remove Existing Structure and Accessories	24	EA		\$ -	\$ 12,300	\$ 295,200	\$ 12,300	\$ 295,200
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12	Install Grounding and Grounding Accessories	32	Pole	\$ 506	\$ 16,192	\$ 5,539	\$ 177,232	\$ 6,045	\$ 193,424
3.13					\$ -	,	\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUC	TURES				\$ 546,722		\$ 837,150		\$ 1,383,872
4. CONDUCTO	R, SHIELDWIRE, OPGW								
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	23,400	LF	\$ 1.90		\$ 5.00	\$ 117,000		\$ 161,460
4.2	(1) OPGW 36 Fiber AC-33/38/571	٠	LF	\$ 1.35	\$ -	\$ 5.00	\$ -	\$ 6.35	\$ -
4.3	(1) 3/8" EHS7 Steel	7,800	LF	\$ 0.47		\$ 5.00	\$ 39,000		\$ 42,666
4.5	Remove Existing Cable	6.6	Mile	\$ -	\$ -	\$ 30,000	\$ 197,700		\$ 197,700
4.6	Remove Existing EH7	2.2	Mile	\$ -	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ 26,400		\$ 26,400
4.7	15kV - (1) 477kcmil 26/7 ACSR "Hawk"	9,630	LF	\$ 1.62		7 0.00	\$ 48,150		\$ 63,751
4.8	15kV - (1) 336kcmil 26/7 ACSR "Linnet"	1,800	LF	\$ 1.22	\$ 2,196	\$ 5.00	\$ 9,000	\$ 6.22	\$ 11,196
4.9		-		_	A		A	4 2500.00	_
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ - \$ -	,	\$ - \$ -	,	\$ -
4.11	Rider Poles JCTOR, SHIELDWIRE, OPGW:	-	EA	\$ 1,750	\$ - \$ 65,923	\$ 3,500	\$ 437,250		\$ - \$ 503,173
	FITTINGS, HARDWARE				ÿ 05,325		3 437,230		303,173
5.1	115kV Tangent (1-Group of 9-Bells Each Assembly)	33	Assembly	\$ 1,000	\$ 33,000	\$ 560	\$ 18,480	\$ 1,560	\$ 51,480
5.2	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	66	Assembly	\$ 1,000	\$ 66,000		\$ 36,960		\$ 102,960
5.3	15kV Tangent	12	Assembly		\$ 1,200				\$ 2,100
5.4	15kV Dead-end & Angle Insulators	18	Assembly	\$ 100	\$ 1,800	\$ 75			\$ 3,150
5.5	Neutral, Distribution, Tangent	4	Assembly	\$ 100	\$ 400	\$ 75	\$ 300	\$ 175	\$ 700
5.6	Neutral, Distribution, DE/Side	2	Assembly	\$ 100	\$ 200	\$ 75	\$ 150	\$ 175	\$ 350
5.7	Jumper, DE/Angle, 3PH	4	Assembly	\$ 100		\$ 75			\$ 700
5.8	OPGW Assembly - Tangent	2	Assembly	\$ 200	\$ 400		\$ 300		\$ 700
5.9	OSHW Assembly - Tangent	11	Assembly	\$ 250	\$ 2,750	\$ 150	\$ 1,650	\$ 400	\$ 4,400
5.10	OHSW Assembly - Angle / DE	38	Assembly	\$ 250	\$ 9,500	\$ 150	\$ 5,700	\$ 400	\$ 15,200
5.11	OPGW Splice Boxes		Set	\$ 1,746	\$ -	\$ 2,274	\$ -	\$ 4,020	\$ -
5.12	OPGW Splice & Test		EA	\$ 2,520	\$ -	\$ 2,520	\$ -	\$ 5,040	\$ -
	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -		\$ -
5.14	Vibration Dampers - Conductor	-	EA	\$ 35			\$ -		\$ -
5.15	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$ 27	\$ -	\$ 35	\$ -	\$ 62	\$ -
5.16	Guys, Anchors, and Accessories	14.0	EA	\$ 720	\$ 10,080	\$ 885	\$ 12,390	\$ 1,605	\$ 22,470
5.17	Misc. materials (Signs and Markers)	•	Mile	\$ 770		\$ 1,006	\$ -	. , .	\$ -
5.18					\$ -		\$ -		\$ -
5.19	Interconnection Arrangements	8	EA	\$ 5,000		\$ 5,000			
5.20					\$ -		\$ -		\$ -
5.21					\$ - \$ -		\$ - \$ -		\$ - \$ -
5.22 5.23					\$ - \$ -		\$ - \$ -		\$ - \$ -
	L ATOR, FITTINGS, HARDWARE				\$ 165,730		\$ 118,480		\$ 284,210
	onnection Rotterdam Station				\$ 970,519		\$ 2,951,893		\$ 3,922,412
					7 570,319		2,551,695		9 3,322,412
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supp	ly Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 39,224	\$ 39,224	\$ 39,224	\$ 39,224
	Project Management, Material Handling & Amenities									
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 149,081	\$ 149,081	\$ 149,081	\$ 149,081
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 39,224	\$ 39,224	\$ 39,224	\$ 39,224
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 39,224	\$ 39,224	\$ 39,224	\$ 39,224
	Engineering									
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 196,121	\$ 196,121	\$ 196,121	\$ 196,121
6.6	Lidar	1	LS	\$	-	\$ -	\$ 11,767	\$ 11,767	\$ 11,767	\$ 11,767
6.7	Geotech	1	Location	\$	-	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 27,457	\$ 27,457	\$ 27,457	\$ 27,457
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 11,767	\$ 11,767	\$ 11,767	\$ 11,767
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$	77,642	\$ 77,642	\$ -	\$ -	\$ 77,642	\$ 77,642
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 3,922	\$ 3,922	\$ 3,922	\$ 3,922
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 77,642		\$ 561,288		\$ 638,929

System Upgrade Facilities (Everett - Wolf Road 115kV - 1.3 mile Line Upgrade)

\$

4,464,375

Estimate Revision:	7	Total:	\$ 4,464,375							
SYSTEM UPGF	RADE FACILITIES	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Su	Labor & Equipment Su	Total Unit Rate	TOTAL	
SUF 1	Everett - Wolf Road 115kV 1.3 mile line upgrade	1.00	LS	\$ -	\$ -	\$ -	\$ -	\$ 35,714,286	\$	3,571,500
SUF SS1	Engineering, T&C, PM, Indirects (25%)		LS %						\$	892,875

SUF 1

SUF 1 - TOTAL:

System Upgrade Facilities (Various Stations for Edic/Marcy to New Scotland)

Estimate Revision: 7 Total: \$ 6,899,000

SYSTEM UPGE	RADE FACILITIES	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
SUF SS1	Marcy 345kV Bay 3300 - Reconductor Strain Bus UNS-18 Marcy-New Scotland Line	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 664,560	\$ 665,000
SUF SS1	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 30,000	\$ 30,000
SUF SS1	Engineering, T&C, PM, Indirects (25%)		LS %						\$ 174,000
SUF SS1	SUF SS1 - TOTAL:				\$ -		\$ -		\$ 869,000
	Marcy 345kV Bay 3100 - Reconductor Strain Bus, Replace (3) breakers and wave								
SUF SS2	trap	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 2,946,086	\$ 2,947,000
	UE1-7- Marcy-Edic Line								
SUF SS2	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 120,720	
SUF SS2	Engineering, T&C, PM, Indirects (25%)		LS %						\$ 767,000
SUF SS2	SUFSS 2 - TOTAL:				\$ -		\$ -		\$ 3,835,000
SUF SS3	Edic 345kV Bay - UE1-7- Marcy-Edic Line Replace (2) breakers and wave trap	1	LS					\$ 1,661,294	\$ 1,662,000
SUF SS3	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 93,120	\$ 94,000
SUF SS3	Engineering, T&C, PM, Indirects (25%)		LS %						\$ 439,000
SUF SS3	SUF SS3 - TOTAL:				\$ -		\$ -		\$ 2,195,000
SUF SS4		-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
SUF SS4	Removals		LS %					\$ -	\$ -
SUF SS4	Engineering, T&C, PM, Indirects (25%)		LS %						\$ -
SUF SS4	SUF SS4 - TOTAL:				\$ -		\$ -		\$ -
SUF SS5		-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
SUF SS5	Removals		LS %					\$ -	\$ -
SUF SS5	Engineering, T&C, PM, Indirects (25%)		LS %						\$ -
SUF SS5	SUF SS4 - TOTAL:				\$ -		\$ -		\$ -
	STATIONS SUF DIRECT TOTAL:								\$ 5,519,000
	STATIONS SUF INDIRECT TOTAL:								\$ 1,380,000
	STATIONS SUF TOTAL								\$ 6,899,000

Q. Princetown Substation GIS - Install

Estimate Revision: 7 Total: \$ 37,290,171

NAT & NYPA - T027 - (Segment	A, Doul	ble Circuit)		
		Supply	Installation	Total
Q. Princetown Substation GIS - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	176,795	\$ 963,025	\$ 1,139,820
2. SUBSTATION FOUNDATIONS	\$	1,377,110	\$ 1,474,680	\$ 2,851,790
3. SUBSTATION STRUCTURES	\$	381,100	\$ 381,100	\$ 762,200
4. MAJOR EQUIPTMENT	\$	12,700,000	\$ 4,266,670	\$ 16,966,670
5. SMALL EQUIPTMENT / MATERIALS	\$	1,319,000	\$ 590,000	\$ 1,909,000
6. CONTROL HOUSE / PANELS	\$	3,727,920	\$ 1,422,920	\$ 5,150,840
7. MISC ITEMS	\$	358,177	\$ 733,260	\$ 1,091,437
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,603,208	\$ 5,815,206	\$ 7,418,414
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	21,643,310	\$ 15,646,861	\$ 37,290,171
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	21,643,310	\$ 15,646,861	\$ 37,290,171

Descript	ion of	Work	:
----------	--------	------	---

Item	ltem Description	Estimated Quantity	Unit of Measure	Mater	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
Q. Princ	etown Substation GIS - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	3.3	ACRES	\$	-	\$ -	\$ 203,000	\$ 659,750	\$ 203,000	\$ 659,750
1.2	Station stone within substation fence.	1,385	CY	\$	27	\$ 37,395	\$ 75	\$ 103,875	\$ 102	\$ 141,270
1.3	Substation Fence	1,310	LF	\$	100	\$ 131,000	\$ 100	\$ 131,000	\$ 200	\$ 262,000
1.4										
1.5										
1.6	Permanent Access Road - 20'-Wide (From Gordon RD)	240	LF	\$	35	\$ 8,400	\$ 285	\$ 68,400	\$ 320	\$ 76,800
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE I	PREP/ GRADING/ FENCING / CIVIL					\$ 176,795		\$ 963,025		\$ 1,139,82
	N FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	0	EA	\$	14,940		\$ 16,000	\$ -	\$ 30,940	
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025		\$ 60,000	\$ -	\$ 116,025	
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	26,145		\$ 28,000	\$ -	\$ 54,145	
2.1d	Caisson DE Foundations (for DE A frame str shared column)	16	EA	\$	26,145			\$ 448,000	\$ 54,145	
2.1e	Switch Stand Foundations	0	EA	\$	4,482		\$ 4,800	\$ -	\$ 9,282	
2.1f	Station Service Transformer Stand Foundation	1	EA	\$	2,988		\$ 3,200	\$ 3,200	· , , , , , , , , , , , , , , , , , , ,	
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$	4,482		\$ 4,800	\$ -	\$ 9,282	
2.1j	Instrument Transformer Stand Foundations	0	EA	\$	4,482		\$ 4,800	\$ -	\$ 9,282	
2.1k	Arrester Stand Foundations	0	EA	\$	4,482		\$ 4,800	\$ -	\$ 9,282	
2.1m	Wave Trap Stand Foundations	6	EA	\$	4,482			\$ 28,800		
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p										
				_						
2.2	230kV									
2.2a	Circuit Breaker Foundations	0	EA	\$	11,952		\$ 12,800		\$ 24,752	
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820		\$ 48,000	\$ -	\$ 92,820	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	22,410		\$ 24,000	\$ -	\$ 46,410	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -		\$ -	\$ 7,735	
2.2f	Station Service Transformer Stand Foundation	0			\$ -	\$ 4,000		\$ 7,735	
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000		,	
2.2j 2.2k	Instrument Transformer Stand Foundations Arrester Stand Foundations	0	EA EA	\$ 3,735 \$ 3,735	\$ - \$ -	, , , , , , , ,	\$ -	\$ 7,735 \$ 7,735	
2.2K 2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ - \$ -		\$ - \$ -	\$ 7,735	
2.2m	Misc. Structure Foundations	0	EA	\$ 3,733	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 7,755	\$ -
2.2p	inisc. Structure Foundations		- CA	,	7	7	,	y .	7
2.29				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3	115kV								·
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	•
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -		\$ -	,	\$ -
2.3h	Bus Support 1 Ph Foundations	0		\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
2.3k	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations	0	ГА	\$ 97.110	ć	ć 104.000	ċ	\$ 201,110	ć
2.4a 2.4b	345-230kV Transformer Foundation w/ Oil Containment	0	EA EA	\$ 97,110 \$ 74,700	\$ - \$ -		\$ - \$ -		\$ - \$ -
2.4b 2.4c	345-115kV Transformer Foundation w/ Oil Containment 230kV-115kV Transformer Foundation w/ Oil Containment	0	EA EA	\$ 74,700	\$ - \$ -		\$ - \$ -	\$ 154,700	\$ -
2.4c 2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ - \$ -		\$ - \$ -	\$ - \$ -	\$ -
2.40	113KV-09KV Transformer Foundation W/ On Containment	0	LA	, -	· -	· -	, -	ş -	· -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ 912,910	\$ 912,910	\$ 977,680	\$ 977,680	\$ 1,890,590	\$ 1,890,590
2.5b	Generator Foundation	1	EA	\$ 16,000				\$ 33,000	
					· · · · · · · · · · · · · · · · · · ·		,		
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation								
2.0a	70 Lighthing Mast Foundation	Ι	E^	¢ 520	ė	¢ 5 600	ė	¢ 10.930	ė
		0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ - \$ -	\$ -	\$ -	\$ 10,829 \$ -	\$ -
2.6b 2.6c		0	EA	, .	·	\$ -		,	•
2.6c		0	EA	\$ -	\$ -	\$ -	\$ - \$ -	\$ -	\$ -
2.6c	TATION FOUNDATIONS	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c TOTAL - SUBS 3. SUBSTATIO	N STRUCTURES	0	EA	\$ -	\$ -	\$ -	\$ - \$ -	\$ -	\$ -
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1	N STRUCTURES 345kV			\$ -	\$ - \$ - \$ - \$ 1,377,110	\$ -	\$ - \$	\$ - \$ -	\$ - \$ - \$ - \$ 2,851,790
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a	N STRUCTURES 345kV Substation A-Frame Structures - Stand alone	0	EA	\$ - \$ -	\$ - \$ - \$ 1,377,110	\$ - \$ - \$ \$	\$ - \$ - \$ 1,474,680	\$ - \$ -	\$ - \$ - \$ 2,851,790
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b	N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0 6	EA EA	\$ - \$ - \$ - \$ 37,000 \$ 37,000	\$ - \$ 1,377,110 \$ - \$ 222,000	\$ - \$ - \$ \$ \$ \$ 37,000 \$ 37,000	\$ - \$ 1,474,680 \$ - \$ 222,000	\$ - \$ - \$ - \$ 74,000 \$ 74,000	\$ - \$ - \$ 2,851,790 \$ - \$ 444,000
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c	N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands	0 6 0	EA EA EA	\$ - \$ - \$ - \$ \$ 37,000 \$ 37,000 \$ 14,800	\$ - \$ 1,377,110 \$ - \$ 222,000 \$ -	\$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800	\$ - \$ - \$ 1,474,680 \$ - \$ 222,000 \$ -	\$ - \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600	\$ - \$ - \$ 2,851,790 \$ - \$ 444,000 \$ -
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d	N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 6 0 1	EA EA EA EA	\$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800	\$ - \$ 1,377,110 \$ - \$ 22,000 \$ - \$ 14,800	\$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800	\$ - \$ - \$ 1,474,680 \$ - \$ 22,000 \$ - \$ 14,800	\$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600	\$ - \$ 2,851,790 \$ - \$ 444,000 \$ - \$ 29,600
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e	N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	0 6 0 1 1	EA EA EA EA EA EA	\$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ -	\$ - \$ 1,377,110 \$ 222,000 \$ - \$ 14,800 \$ -	\$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ -	\$ - \$ 1,474,680 \$ 222,000 \$ - \$ 14,800 \$ -	\$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ -	\$ - \$ 2,851,790 \$ - \$ 444,000 \$ - \$ 29,600 \$ -
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f	N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph	0 6 0 1 1 0 0	EA EA EA EA EA EA EA	\$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 5 - \$ 3,700	\$ - \$ 1,377,110 \$ - \$ 222,000 \$ - \$ 14,800 \$ - \$ -	\$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ -	\$ - \$ 1,474,680 \$ - \$ 222,000 \$ - \$ 14,800 \$ - \$ -	\$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ - \$ 7,400	\$ - \$ 2,851,790 \$ - \$ 444,000 \$ - \$ 29,600 \$ - \$ -
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1d 3.1e 3.1f 3.1g	N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	0 6 0 1 0 0 0 36	EA EA EA EA EA EA	\$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 5 \$ 3,700 \$ 1,850	\$ - \$ 1,377,110 \$ - \$ 222,000 \$ - \$ 14,800 \$ - \$ - \$ 66,600	\$	\$ - \$ 1,474,680 \$ - \$ 222,000 \$ - \$ 14,800 \$ - \$ - \$ 66,600	\$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ -	\$ - \$ - \$ 2,851,790 \$ - \$ 444,000 \$ - \$ 29,600 \$ - \$ - \$ 133,200
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f	N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 1 Ph Instrument Transformer Stand	0 6 0 1 1 0 0	EA EA EA EA EA EA	\$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 5 \$ 3,700 \$ 1,850	\$ - \$ 1,377,110 \$ - \$ 222,000 \$ - \$ 14,800 \$ - \$ - \$ 66,600	\$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 5 \$ 3,700 \$ 1,850 \$ 1,850	\$ - \$ 1,474,680 \$ - \$ 222,000 \$ - \$ 14,800 \$ - \$ 5 \$ 66,600	\$ - \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700	\$ - \$ 2,851,790 \$ - \$ 444,000 \$ - \$ 29,600 \$ - \$ 133,200 \$ 66,600
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h	STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 6 0 1 1 0 0 0 0 3 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EA	\$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ - \$ 1,850 \$ 1,850	\$ - \$ 1,377,110 \$ 222,000 \$ - \$ 14,800 \$ - \$ 66,600 \$ 33,300	\$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850	\$ - \$ 1,474,680 \$ 222,000 \$ - \$ 14,800 \$ - \$ 5 \$ 66,600 \$ 33,300 \$ 44,400	\$ \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ \$ 7,400 \$ 3,700 \$ 3,700	\$ - \$ 2,851,790 \$ - \$ 444,000 \$ - \$ 29,600 \$ - \$ 133,200 \$ 66,600
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1a 3.1c 3.1d 3.1e 3.1f 3.1g 3.1g 3.1h 3.1j	N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand	0 6 0 1 1 0 0 36 188	EA E	\$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 1,850 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ 1,377,110 \$ 222,000 \$ - \$ 14,800 \$ - \$ - \$ 66,600 \$ 33,300 \$ 44,400	\$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 1,850 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ 1,474,680 \$ 222,000 \$ - \$ 14,800 \$ - \$ 5 \$ 66,600 \$ 33,300 \$ 44,400	\$	\$ 2,851,790 \$ 2,851,790 \$ - \$ 444,000 \$ - \$ 29,600 \$ - \$ 133,200 \$ 66,600 \$ 88,800
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j	N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand	0 6 0 1 1 0 0 36 188	EA E	\$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 1,850 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ 1,377,110 \$ 222,000 \$ - \$ 14,800 \$ - \$ - \$ 66,600 \$ 33,300 \$ 44,400	\$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 1,850 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ 1,474,680 \$ 222,000 \$ - \$ 14,800 \$ - \$ 5 \$ 66,600 \$ 33,300 \$ 44,400	\$	\$ 2,851,790 \$ 2,851,790 \$ - \$ 444,000 \$ - \$ 29,600 \$ - \$ 133,200 \$ 66,600 \$ 88,800
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1,1	STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts 230kV Substation A-Frame Structures - Stand alone	0 6 0 1 1 0 0 36 18 6 0	EA E	\$ - \$ \$ - \$ \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 1,850 \$ 1,850 \$ 1,850 \$ 5	\$ - \$ 1,377,110 \$ 222,000 \$ - \$ 14,800 \$ - \$ - \$ 66,600 \$ 33,300 \$ 44,400	\$ - \ \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 14,800 \$ 14,800 \$ 5 1,850 \$ 7,400 \$ 1,850 \$ 1,850 \$ 3,700	\$ - \$ 1,474,680 \$ 222,000 \$ - \$ 14,800 \$ - \$ 6,600 \$ 33,300 \$ 44,400 \$ -	\$	\$ \$ 2,851,790 \$ \$ 444,000 \$ \$ 29,600 \$ \$ 133,200 \$ 66,600 \$ 88,800 \$
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts	0 6 0 1 1 0 0 0 36 18 18	EA E	\$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475	\$ - \$ 1,377,110 \$ - \$ 222,000 \$ - \$ 14,800 \$ - \$ 66,600 \$ 33,300 \$ 44,400 \$ -	\$ - \ \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 14,800 \$ 14,800 \$ 5 1,850 \$ 7,400 \$ 1,850 \$ 1,850 \$ 1,850 \$ 3,700 \$ 3,300 \$ 33,300 \$ 33,300	\$ - \$ 1,474,680 \$ - \$ 222,000 \$ - \$ 14,800 \$ - \$ 66,600 \$ 33,300 \$ 44,400 \$ -	\$	\$ \$ 2,851,790 \$ \$ 444,000 \$ \$ 29,600 \$ \$ 133,200 \$ 66,600 \$ 88,800 \$
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts 230kV Substation A-Frame Structures - Stand alone	0 6 0 1 1 0 0 36 18 6 0	EA	\$ - \$ \$ - \$ \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 1,850 \$ 1,850 \$ 1,850 \$ 5	\$ - \$ 1,377,110 \$ 222,000 \$ - \$ 14,800 \$ - \$ 66,600 \$ 33,300 \$ 44,400 \$ -	\$ - \ \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 14,800 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 33,300 \$ 12,025	\$ - \$ 1,474,680 \$ - \$ 222,000 \$ - \$ 14,800 \$ - \$ 66,600 \$ 33,300 \$ 44,400 \$ - \$ -	\$ \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 66,600	\$ - \$ 2,851,790 \$ - \$ 444,000 \$ - \$ 29,600 \$ - \$ 133,200 \$ 66,600 \$ 88,800 \$ - \$ - \$ 135,200
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d	STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 6 0 1 1 0 0 366 18 6 0	EA E	\$ - \$ \$ 37,000 \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 1,850 \$ 1,850 \$ 1,850 \$ 6,475 \$ 33,300 \$ 12,025 \$ 12,025	\$ - \$ 1,377,110 \$ 222,000 \$ - \$ 14,800 \$ - \$ 66,600 \$ 33,300 \$ 44,400 \$ - \$ - \$ - \$ 5 - \$ 66,500 \$ 33,500 \$ - \$ 5 - \$ 66,500 \$ 5 - \$ 6 - \$	\$ - \ \$ - \ \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 1,850 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 5 33,300 \$ 12,025 \$ 12,025	\$ - \$ 1,474,680 \$ - \$ 222,000 \$ - \$ 14,800 \$ - \$ 66,600 \$ 33,300 \$ 44,400 \$ - \$ - \$ -	\$ \$ 74,000 \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ \$ 66,600 \$ \$ 66,600 \$ \$ 64,050	\$ - \$ 2,851,790 \$ - \$ 444,000 \$ - \$ 29,600 \$ - \$ 133,200 \$ 66,600 \$ 88,800 \$ - \$ - \$ 135,200 \$ - \$ 133,200 \$ 133,200
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1j 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2c	STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	0 6 0 11 0 0 36 188 6 0	EA E	\$	\$ - \$ 1,377,110 \$ 222,000 \$ - \$ 14,800 \$ - \$ 66,600 \$ 33,300 \$ 44,400 \$ - \$ - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 65,500 \$ 5 - \$ 7 - \$ 65,500 \$ 7 - \$ 7 -	\$ - \ \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 14,800 \$ 5 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 1,025 \$ 1,025 \$ 1,025 \$ 1,025	\$ - \$ 1,474,680 \$ - \$ 222,000 \$ - \$ 14,800 \$ - \$ 66,600 \$ 33,300 \$ 44,400 \$ - \$ - \$ - \$ - \$ - \$ 5 - \$ 6,600 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$	\$ - \$ 2,851,790 \$ 444,000 \$ - \$ 29,600 \$ - \$ 133,200 \$ 66,600 \$ 88,800 \$ - \$ - \$ 135,200 \$ 135,20
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2c 3.2d 3.2c 3.2d	N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts 230kV 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph	0 6 0 11 0 0 36 18 6 0 0	EA E	\$	\$ - \$ 1,377,110 \$ - \$ 222,000 \$ - \$ 14,800 \$ - \$ 66,600 \$ 33,300 \$ 44,400 \$ - \$ - \$ 5 - \$ 5 - \$ 65,500 \$ - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 66,500 \$ 5 - \$ 7	\$	\$ - \$ 1,474,680 \$ 222,000 \$ - \$ 14,800 \$ - \$ 66,600 \$ 33,300 \$ 44,400 \$ - \$ - \$ 5 - \$ 5 - \$ 65,600 \$ 33,300 \$ 5 - \$ 66,600 \$ 5 - \$ 66,600 \$ 5 - \$ 66,600 \$ 7 - \$ 7 -	\$	\$ - \$ 2,851,790 \$ 2,851,790 \$ - \$ 444,000 \$ - \$ 29,600 \$ - \$ 133,200 \$ 66,600 \$ 88,800 \$ - \$ - \$ 5 - \$ 133,200 \$ 65,600 \$ - \$ 5 - \$ 133,200 \$ - \$ 133,200 \$ 65,600 \$ 5 - \$ 133,200 \$ 5 - \$ 134,200 \$ 134,200
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1j 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2c	STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	0 6 0 11 0 0 36 188 6 0	EA E	\$	\$ - \$ 1,377,110 \$ - \$ 222,000 \$ - \$ 14,800 \$ - \$ 66,600 \$ 33,300 \$ 44,400 \$ - \$ - \$ - \$ - \$ 5 - \$ 65,500 \$ - \$ - \$ 5 - \$ 66,500 \$ - \$ - \$ 5 - \$ 66,500 \$ 66,500 \$ - \$ 66,500 \$ 66,500 \$ - \$ 66,500 \$ 66,500 \$ - \$ 66,500 \$ 66,50	\$ - \ \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 14,800 \$ 5 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 1,025 \$ 1,025 \$ 1,025 \$ 1,025	\$ - \$ 1,474,680 \$ - \$ 222,000 \$ - \$ 14,800 \$ - \$ 66,600 \$ 33,300 \$ 44,400 \$ - \$ - \$ - \$ - \$ 5 - \$ 65,500 \$ - \$ - \$ 5 - \$ 66,500 \$ - \$ - \$ 5 - \$ 66,500 \$ 66,50	\$	\$ - \$ 2,851,790 \$ - \$ 444,000 \$ - \$ 29,600 \$ - \$ 133,200 \$ 66,600 \$ 88,800 \$ - \$ - \$ - \$ - \$ 1,30,200 \$ - \$ - \$ 1,50,500 \$ - \$ - \$ 1,50,500 \$ - \$ - \$ 1,50,500 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2j	Wave Trap Stand	0	EA	\$ 5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	,	\$ -	\$ 37,000	
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	\$ 18,500		\$ 37,000	
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -	\$ 7,955		\$ 15,910	
3.3d	Fuse Stand	0		\$ 7,955	\$ -	\$ 7,955		\$ 15,910	
3.3e	Bus Support 3ph	0	EA	\$ 3,330	\$ -	\$ 3,330		\$ 6,660	
3.3f	Bus Support 1 Ph	0	EA	\$ 1,850	\$ -		\$ -	\$ 3,700	
3.3g	Instrument Transformer Stand	0	EA	\$ 740	\$ -	\$ 740		\$ 1,480	
3.3h	Arrester Stand	0	EA	\$ 740	\$ -		\$ -	\$ 1,480	
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -		\$ -	\$ 7,400	
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
TOTAL CURC	TATION CTRUCTURES				4 204.400		å 201.400		å 752.200
	TATION STRUCTURES				\$ 381,100		\$ 381,100		\$ 762,200
4. MAJOR EQ									
4.1	345kV	_	FA	ć 220.000	ć	ć 00.000	ć	ć 200.000	¢
4.1a	Circuit Breakers	0		\$ 220,000	\$ -		\$ -	\$ 300,000	
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000		\$ 80,000	
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ 3,300,000	\$ -		\$ -	\$ 4,050,000	
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ 3,300,000	\$ -		\$ -	\$ 4,050,000	
4.1e	345 kV (3) Bay Breaker-and-a-half GIS system	1	EA	\$ 12,700,000	\$ 12,700,000	\$ 4,266,670	\$ 4,266,670	\$ 16,966,670	\$ 16,966,670
4.2	230kV		F.4	445.000	•	4 00 000	٨	405.000	A
4.2a	Circuit Breakers	0	EA	\$ 115,000	\$ -	7 00,000	\$ -	\$ 195,000	
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
	asely.								
4.3	115kV		E4	ć 53.000	ć	ć co.000	ć	ć 442.000	<u> </u>
4.3a	Circuit Breakers	0	EA	\$ 52,000	\$ -		\$ -	\$ 112,000 \$ 60,000	
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL MAIO	DR EQUIPTMENT				\$ 12,700,000		\$ 4,266,670		\$ 16.966.670
	IIPTMENT / MATERIALS				\$ 12,700,000		\$ 4,266,670		\$ 16,966,670
5. 3WALL EQU	345kV								
5.1a	Line Switches - 3ph w/ motor operator	6	EA	\$ 40,000	\$ 240,000	\$ 17,500	\$ 105,000	\$ 57,500	\$ 345,000
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 35,000	\$ 240,000		\$ -	\$ 50,000	
5.1c	VT'S	18	EA	\$ 25,000	\$ 450,000		\$ 216,000	. , , ,	\$ 666,000
5.1d	CT'S	18	EA	\$ 23,000				\$ 21,000	
5.1e	CCVT'S	0	EA	\$ 13,000	\$ 254,000		\$ -	\$ 21,000	
5.1e	Arresters	18	EA	\$ 6,500	\$ 117,000		\$ 27,000	\$ 8,000	
5.1g	Wave Traps	6	EA	\$ 13,000	\$ 78,000		\$ 48,000	\$ 21,000	
5.1h	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000		\$ 50,000	\$ 250,000	
3.111	Station Service Transformers	<u> </u>	LA.	200,000	200,000	30,000	5 50,000	2 250,000	2 250,000
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0		\$ 30,000	\$ -		\$ -	\$ 47,500	
5.2c	VT'S	0	EA	\$ 13,000	\$ -	, ,	\$ -	\$ 21,000	
5.2d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000		\$ 21,000	
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -		\$ -	\$ 16,000	
5.2f	Arresters	0	EA	\$ 5,000	\$ -	,	\$ -	\$ 11,000	
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -		\$ -	\$ 21,000	
5.2h	Station Service Transformers	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
5.2j	Station Service Transformers	- i		,	7	7	,	7	7
5.2,		1							
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ 33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0		\$ 28,000	т	\$ 17,500		\$ 45,500	
5.3c	VT'S	0		\$ 13,000	\$ -	\$ 8,000		\$ 21,000	
5.3d	CT'S	0		\$ 13,000	\$ -	\$ 8,000		\$ 21,000	
5.3e	CCVT'S	0		\$ 13,000	\$ -	\$ 8,000		\$ 21,000	
5.3f	Arresters	0		\$ 8,000	\$ -	\$ 6,000		\$ 9,420	
5.3g	Wave Traps	0		\$ 3,420	\$ -		\$ -		\$ -
5.3h	Station Service Transformers	0		\$ -	\$ -		\$ -		\$ -
ااد.د	Dradion pervice transformers	1 0	L CA		-		- ب	· -	-

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
5.3j	Fuses	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
TOTAL CRAAL	L EQUIPTMENT / MATERIALS					\$ 1,319,000		\$ 590,000		Ś	1,909,000
	OUSE / PANELS / GENERATOR					\$ 1,319,000		\$ 590,000		Ş	1,909,000
6.1	CONTROL HOUSE	1	EA	Ś	1,950,000	\$ 1,950,000	\$ 340,000	\$ 340,000	\$ 2,290,000	\$	2,290,000
6.2	Protection and Telecom Equipment Panels	31	EA	\$		\$ 1,085,000	\$ 10,000	·	\$ 45,000		1,395,000
	resultant in the second				75.000	4 450 000	4 25.000	A 50.000	4 400 000		
6.3	125VDC Batteries	2	EA	\$		\$ 150,000	, ,	· · · · · · · · · · · · · · · · · · ·	\$ 100,000		200,000
6.4	Control Cables SCADA and Communications	1 0	LS EA	\$,	\$ 227,920 \$ -		\$ 227,920 \$ -	\$ 455,840 \$ -	\$	455,840 -
6.6	Low Voltage AC Distribution	2	EA	\$		•	\$ 100,000	·	\$ 150,000		300,000
6.7	DC Distribution System	2	EA	Ś	50,000				\$ 150,000		300,000
6.8	Security	1	EA	Ś	7,500	\$ 7,500	\$ 7,500		\$ 15,000	\$	15,000
6.9	Fire Alarm	1	EA	Ś	7,500	\$ 7,500	\$ 7,500		\$ 15,000		15,000
6.10	Generator	1	EA	Ś		\$ 100,000	\$ 80,000		\$ 180,000		180,000
0.20				Ť	===,===	+ ====	7 00,000	+	7 200,000	т	
TOTAL - CONT	ROL HOUSE / PANELS / GENERATOR					\$ 3,727,920		\$ 1,422,920		\$	5,150,840
7. MISC ITEMS											
7.1	Conduit & Cable Trench System	200	LF	\$	185.00	\$ 37,000	\$ 170.00	\$ 34,000	\$ 355	\$	71,000
7.2	Rigid Bus	100	LF	\$	125.07	\$ 12,507	\$ 237.10	\$ 23,710	\$ 362	\$	36,217
7.3	Strain Bus	600	LF	\$	39.30	\$ 23,580	\$ 53.35	\$ 32,010	\$ 93	\$	55,590
7.4	Grounding System	13,000	LF	\$	6.93		\$ 32.58			\$	513,630
7.5	Strain Bus Insulators - 345kV	0	EA	\$,	\$ -	\$ 1,050		\$ 3,050		-
7.6	Strain Bus Insulators - 230kV	0	EA	\$	1,400		\$ 750		\$ 2,150		-
7.7	Strain Bus Insulators - 115kV	0	EA	\$	1,000		\$ 550		\$ 1,550		-
7.8	Low Voltage AC Station Service	1		\$		\$ 50,000	\$ 75,000	· · · · · · · · · · · · · · · · · · ·	\$ 125,000		125,000
7.9	SSVT Service	1	LS	\$,	\$ 45,000			\$ 90,000		90,000
7.10	Control Conduits from Trench to Equipment	1	LS	\$	50,000	\$ 50,000	, ,	\$ 50,000	\$ 100,000	\$	100,000
7.11 7.12	Misc. Materials (Above and Below Ground)	1	LS	\$	50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 100,000	>	100,000
7.13 7.14											
7.15 7.16											
7.17											
7.17											
7.19				1							
7.20											
TOTAL - MISC	ITEMS					\$ 358,177		\$ 733,260		Ś	1,091,437
-	etown Substation GIS - Install					\$ 20,040,102		\$ 9,831,655		\$	29,871,757
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization			1						_	
8.1	Mob / Demob	1.0	LS	\$	-	\$ -	\$ 298,718	\$ 298,718	\$ 298,718	\$	298,718
8.2	Project Management, Material Handling & Amenities Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler	1	LS			\$ -	\$ 1,135,351	\$ 1,135,351	\$ 1,135,351	\$	1,135,351
	and Cost Manager, SHEQ Staff, and Admin Staff)	_				•	,,	. , , , , ,	, , , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	l .	,,
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 298,718	\$ 298,718	\$ 298,718	\$	298,718
8.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 298,718	\$ 298,718	\$ 298,718	\$	298,718
	Engineering										
8.5	Design Engineering	1		\$			\$ 2,389,741				2,389,741
8.6	LiDAR	-	LS	\$		\$ -		\$ -	\$ -	\$	-
8.7	Geotech	-	EA	\$			\$ 3,500		\$ 3,500		-
8.8	Surveying/Staking	1	Site	\$	-	\$ -	\$ 209,102	\$ 209,102	\$ 209,102	\$	209,102
<u> </u>	Testing & Commissioning			1		A	4 005:	A 005:	4 005:	_	200 4
8.9	Testing & Commissioning of T-Line and Equipment Permitting and Additional Costs	1	LS	\$	-	\$ -	\$ 896,153	\$ 896,153	\$ 896,153	\$	896,153
9.10	Permitting and Additional Costs Environmental Licensing & Permitting Costs		16	\$		ć	ć	ć	ć	,	
	Environmental Licensing & Permitting Costs Environmental Mitigation	-	LS LS	\$		\$ - \$ -		\$ - \$ -	\$ -	\$	-
8.12	Warranties / LOC's	1		\$			\$ 89,615				89,615
0.12	warrances / LOC 3	1	l ro	۲		-	05,015	y 05,015	03,015	۲,	02,013

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material	Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
8.13	Real Estate Costs (New)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$	-	\$ 198,000	\$ 198,000	\$ 198,000	\$ 19	98,000
8.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
8.17		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
8.18	Sales Tax on Materials	1	LS	\$ 1,603,208	\$	1,603,208	\$ -	\$ -	\$ 1,603,208	\$ 1,60	03,208
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 1,091	\$ 1,091	\$ 1,091	\$	1,091
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	1,603,208		\$ 5,815,206		\$ 7,41	18,414

NAT & NYPA - T027 - (Segment A, Double Circuit) ESTIMATE ASSUMPTIONS & CLARIFICATIONS

- 1 Cost Estimate is based on 2017 rates.
- Construction schedule is in accordance with proposed schedule we have assumed continuous working with no breaks in the schedule. Six months have been added to the construction schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.).
- We have assumed a typical work week of five-(5) days per week at ten-(10) hours per day (5 x 10 hour days).
- 4 All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017.
- 5 We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type.
- Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not enough information to provide a quantified estimate for this item, allowance is included in the contingency monies.
- Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for formal quotes.
- Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing.
- 9 A Contractor Mark-Up (OH&P) of 15% has been included in the Total section.
- 10 We have assumed that all project details provided are accurate unless noted otherwise.
- 11 Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%)
- 12 A contractor allowance of 1% for mobilization and demobilization has been included in the total section.
- A contractor allowance of 3.289% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safety inspector, compliance inspector, environmental inspector, and SWPP inspector.
- 14 An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section.
- 15 A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section.
- An allowance of 5% for transmission design and engineering has been included in the total section.
- 17 An allowance of 8% for substation design and engineering has been included in the total section.
- 18 An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section.
- An allowance of 0.3% for LIDAR of the transmission line has been included in the total section.
- 20 An allowance of 3.75% for substation testing and commissioning has been included in the total section.
- 21 An allowance of \$20,000.00 per circuit for transmission line testing and commissioning has been included in the total section.
- New York state sales tax of 8% is included in all material pricing.
- 23 An allowance of 1.5% for insurance is included in the DPS sheet.
- The SUF estimates for the stations are rough order of magnitude estimates. No engineering was performed and SECo did not have access to record drawings.
- 25 The SUF estimates for the Everett Wolf Road 115kV 1.3 mile line segment upgrade was obtained from the SIS. SECo did not estimate.



		NY Power Authority and North American Transmission (T028)	
		Description	Total Amount (In thousand \$)
	1	Transmission Lines	
	1.1	Clearing & Access	\$50,021
	1.2	Foundations	\$23,713
	1.3	Structures	\$60,645
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$35,494
	1.5	Insulators, Fitting and Hardwares	\$11,907
		Subtotal (1)	\$181,780
	2	Substations	
l st	2.1	Rotterdam Substation	\$48,340
Direct Cost	2.2	Edic Substation	\$2,153
irec	2.3	Princetown Substation	\$12,718
	2.4	New Scotland Substation	\$5,264
	2.5	Porter Substation	\$546
	2.6	Knickerbocker Substation	\$0
	2.7	Marcy Substation	\$0
	2.8	Substation Interconnections	\$8,301
		Subtotal (2)	\$77,322
		Total (1+2)	\$259,101
		Contractors Mark-up (15% of Total 1+2)	\$38,865
		Total Direct Cost (A)	\$297,967
	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$2,591
_ ا	3.2	Project Management, Material Handling & Amenities	\$18,417
Indirect Cost	3.3	Engineering	\$17,763
ect	3.4	Testing & Commissioning	\$1,840
Indii	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$20,533
	3.6	Compensation for use of NYPA Structures (1 Circuit)	\$8,919
	3.7	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$8,096
		Total Indirect Cost (3)	\$78,159
		Subtotal Project Cost (B=A+3) 2017 \$	\$376,125
	4	Network Upgrade Facilities (NUF)	
	4.1	Network upgrade facility proposed as element of the Project (Marcy and Edic Terminals)	\$7,727
	4.2	Network upgrade facility identified during Evaluation	\$0
		Subtotal NUF Cost (C)	\$7,727
		Total Project Cost (B+C) 2017 \$	\$383,852
		Total Project Cost 2018 \$	\$395,368

5/22/2018 Page 1 of 65

NAT & NYPA - T028 - (Segment A, Enhanced)

Estimate Revision:	7

	NAT & NYPA - T028 - (Segment A, Enhanced) - Direct Costs	Total Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Edic to Princetown	\$ 122,948,939
Direct Labor, Material & Equipment Costs	B. Transmission Line Princetown to Rotterdam	\$ 20,488,282
Direct Labor, Material & Equipment Costs	C. Transmission Line Princetown to New Scotland	\$ 38,342,499
Direct Labor, Material & Equipment Costs	D. Rotterdam Substation - Install	\$ 44,728,474
Direct Labor, Material & Equipment Costs	E. Rotterdam Substation - Removal	\$ 3,611,030
Direct Labor, Material & Equipment Costs	F. Edic Substation - Install	\$ 2,117,185
Direct Labor, Material & Equipment Costs	G. Edic Substation - Removal	\$ 35,750
Direct Labor, Material & Equipment Costs	H. New Scotland Substation - Install	\$ 5,182,753
Direct Labor, Material & Equipment Costs	I. New Scotland Substation - Removal	\$ 81,300
Direct Labor, Material & Equipment Costs	J. Porter Substation - Install	\$ 71,912
Direct Labor, Material & Equipment Costs	K. Porter Substation - Removal	\$ 474,313
Direct Labor, Material & Equipment Costs	L. Interconnection Edic Station	\$ 1,784,075
Direct Labor, Material & Equipment Costs	M. Interconnection New Scotland Station	\$ 2,594,271
Direct Labor, Material & Equipment Costs	N. Interconnections (Various Lines for Edic to New Scotland)	\$ -
Direct Labor, Material & Equipment Costs	O. System Upgrade Facilities (Various Lines for Edic to New Scotland)	\$ -
Direct Labor, Material & Equipment Costs	P. System Upgrade Facilities (Various Stations for Edic to New Scotland)	\$ 5,519,000
Direct Labor, Material & Equipment Costs	Q. Interconnection Rotterdam Station	\$ 3,922,412
Direct Labor, Material & Equipment Costs	R. Princetown Switchyard - Install	\$ 12,718,239
	SUBTOTAL:	\$ 264,620,435
	CONTRACTOR MARK-UP (OH&P)	\$ 39,693,065
	CONTINGENCY ON ENTIRE PROJECT	\$ -
	TOTAL DIRECT:	\$ 304,313,500

	NAT & NYPA - T028 - (Segment A, Enhanced) - Indirect Costs	Тс	tal Each Segment
Indirect Costs	A. Transmission Line Edic to Princetown	\$	37,913,843
Indirect Costs	B. Transmission Line Princetown to Rotterdam	\$	4,538,550
Indirect Costs	C. Transmission Line Princetown to New Scotland	\$	9,279,647
Indirect Costs	D. Rotterdam Substation - Install	\$	11,041,603
Indirect Costs	E. Rotterdam Substation - Removal	\$	596,103
Indirect Costs	F. Edic Substation - Install	\$	522,430
Indirect Costs	G. Edic Substation - Removal	\$	5,866
Indirect Costs	H. New Scotland Substation - Install	\$	1,260,653
Indirect Costs	I. New Scotland Substation - Removal	\$	13,340
Indirect Costs	J. Porter Substation - Install	\$	14,798
Indirect Costs	K. Porter Substation - Removal	\$	77,82
Indirect Costs	L. Interconnection Edic Station	\$	343,365
Indirect Costs	M. Interconnection New Scotland Station	\$	514,73
Indirect Costs	N. Interconnections (Various Lines for Edic to New Scotland)	\$	-
Indirect Costs	O. System Upgrade Facilities (Various Lines for Edic to New Scotland)	\$	-
Indirect Costs	P. System Upgrade Facilities (Various Stations for Edic to New Scotland)	\$	1,380,000
Indirect Costs	Q. Interconnection Rotterdam Station	\$	690,199
Indirect Costs	R. Princetown Switchyard - Install	\$	3,249,664
Indirect Costs	Legal and Permitting (Includes Legal, Envir. Lisc. & Permit., and Envir. Mitagation)	\$	8,095,924
	TOTAL INDIREC	T: \$	79,538,546

Page 2 of 65
Direct & Indirect Totals

TOTAL ESTIMATED COST: \$

383,852,046

A. Transmission Line Edic to Princetown

NAT & NYPA - T028 - (Segment A, Enhanced)

Estimate 7 Revision: Total: \$ 160,862,783

NAT & NYPA - T028 - (Segment A, Enhanced)											
		Supply		Installation		Total					
A. Transmission Line Edic to Princetown											
1. CLEARING & ACCESS	\$	41,500	\$	35,680,876	\$	35,722,376					
2. FOUNDATIONS	\$	3,098,282	\$	10,723,946	\$	13,822,229					
3. STRUCTURES	\$	14,839,646	\$	25,190,231	\$	40,029,876					
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	4,932,573	\$	20,897,590	\$	25,830,163					
5. INSULATORS, FITTINGS, HARDWARE	\$	5,125,311	\$	2,418,984	\$	7,544,295					
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	2,242,985	\$	35,670,858	\$	37,913,843					
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-					
SUBTOTAL:	\$	30,280,297	\$	130,582,485	\$	160,862,783					
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-					
TOTAL:	\$	30,280,297	\$	130,582,485	\$	160,862,783					

D	escri	ptio	n of	Wo	rk:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
A. Trans	mission Line Edic to Princetown								
1. CLEARING 8	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	8.0	Acre	\$ -	\$ -	\$ 15,000	\$ 120,000	\$ 15,000	\$ 120,000
1.2	Clearing the ROW - Light (mowing)	194.0	Acre		\$ -	\$ 5,000	\$ 970,000	\$ 5,000	\$ 970,000
1.3	Permanent Access Road	70,540.8	LF	\$ -	\$ -	\$ 45			\$ 3,174,336
1.4	Silt Fence	352,704.0	LF	\$ -	\$ -	\$ 4	\$ 1,410,816	\$ 4	\$ 1,410,816
1.5	Matting - Access and ROW	282,163.2	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	25,200.0	LF	\$ -	\$ -	\$ 70		·	
1.7	Snow Removal	66.8	Mile	\$ -	\$ -	\$ 16,000	, , ,	<u> </u>	
1.8	ROW Restoration	66.8	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	1,680,000.0	SF	\$ -	\$ -	\$ 4	,,	<u> </u>	\$ 5,913,600
1.10	Restoration for Work Pad areas	336,000.0	SF	\$ -	\$ -	\$ 0.15	,		\$ 50,400
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	•	\$ 20,035 \$ 14,445	
1.12	Air Bridge Stabilized Construction Entrance	- 50	EA EA	\$ - \$ -	1 7	\$ 14,445 \$ 4.580	•	7,	
	Maintenance and Protection of Traffic on Public Roads	100	LS	\$ - \$ -	\$ -	\$ 4,580 \$ 4,130	\$ 229,000 \$ 413,000	\$ 4,580	\$ 229,000 \$ 413,000
1.14	Culverts / Misc. Access	100	EA	\$ 750	7		\$ 413,000	<u> </u>	\$ 413,000
1.15	Gates	17	EA EA	\$ 750		\$ 1,250	\$ 12,500	\$ 2,000	
1.17	Concrete Washout Station	50	EA	\$ 2,000	\$ 34,000 c	\$ 1,850	\$ 92,500	· · · · · · · · · · · · · · · · · · ·	
	RING & ACCESS:	30	EA	, -	\$ 41.500	3 1,630	\$ 35,680,876	\$ 1,030	\$ 35,722,376
2. FOUNDATION					7 41,300		33,000,870		33,722,370
2.1	Direct Embed Foundations - 4' x 16'	416	EA	\$ 941	\$ 391,345	\$ 7,398	\$ 3,077,513	\$ 8,339	\$ 3,468,858
		2	EA EA	\$ 995					
2.2	Direct Embed Foundations - 4' x 17'								
2.3	Direct Embed Foundations - 4' x 19'	52	EA	\$ 1,104	+ '		\$ 452,576		\$ 509,979
2.4	Direct Embed Foundations - 4' x 21'	4	EA	\$ 1,213	· · · · · · · · · · · · · · · · · · ·			<u> </u>	
2.5	Direct Embed Foundations - 4' x 23'	16	EA	\$ 1,322				L'	
2.6	Direct Embed Foundations - 4' x 25'	4	EA	\$ 1,430	\$ 5,721	\$ 11,314	\$ 45,258	\$ 12,745	\$ 50,979
2.7	Direct Embed Foundations - 6' x 18'	6	EA	\$ 1,857	\$ 11,145	\$ 18,603	\$ 111,621	\$ 20,461	\$ 122,766
2.8	Direct Embed Foundations - 6' x 19'	6	EA	\$ 1,952	\$ 11,711	\$ 19,583	\$ 117,496	\$ 21,534	\$ 129,207
2.9	Direct Embed Foundations - 6' x 20'	14	EA	\$ 2,046	\$ 28,648	\$ 20,562	\$ 287,864	\$ 22,608	\$ 316,512
2.10	Direct Embed Foundations - 6' x 21'	15	EA	\$ 2,141	\$ 32,110	\$ 21,541	\$ 323,113	\$ 23,681	\$ 355,222
2.11	Direct Embed Foundations - 6' x 22'	7	EA	\$ 2,235	\$ 15,645	\$ 22,520	\$ 157,640	\$ 24,755	\$ 173,285
2.12	Direct Embed Foundations - 6' x 25'	6	EA	\$ 2,518	\$ 15,109	\$ 25,457	\$ 152,744	\$ 27,976	\$ 167,854
2.13	Direct Embed Foundations - 6' x 26'	1	EA	\$ 2,613			\$ 26,437	\$ 29,049	\$ 29,049
2.14	Direct Embed Foundations - 6' x 28'	3	EA	\$ 2,707				\$ 30,123	
2.15	Direct Embed Foundations - 6' x 29'	3	EA	\$ 2,896	+ '		\$ 88,122	<u> </u>	
2.15	Direct Embed Foundations - 6' x 33'	3	EA	\$ 3,273	-			-	
					+ ' ' -		-		
2.17	Direct Embed Foundations - 7' x 27'	2	EA	\$ 3,337	+		\$ 74,631	\$ 40,652	\$ 81,305
2.18	Direct Embed Foundations - 7' x 28'	1	EA	\$ 3,452	\$ 3,452	\$ 38,648	\$ 38,648	\$ 42,101	\$ 42,101

Page 3 of 65

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
2.19	Direct Embed Foundations - 7' x 49'	1	EA	\$ 5,880	\$ 5,880	\$ 66,635	\$ 66,635	\$ 72,515	\$ 72,515
2.20	Direct Embed Foundations - 7' x 61'	1	EA	\$ 7,267	\$ 7,267	\$ 82,628	\$ 82,628	\$ 89,894	\$ 89,894
2.21	Drilled Pier - 6' x 20'	54	EA	\$ 18,064	\$ 975,459	\$ 18,261	\$ 986,079	\$ 36,325	\$ 1,961,539
2.22	Drilled Pier - 7' x 19'	15	EA	\$ 23,416	\$ 351,246	\$ 23,671	\$ 355,070	\$ 47,088	\$ 706,315
2.23	Drilled Pier - 7' x 21'	12	EA	\$ 25,758	\$ 309,096	\$ 26,038	\$ 312,461	\$ 51,796	\$ 621,558
2.24	Drilled Pier - 7' x 22'	6	EA	\$ 26,929	\$ 161,573	\$ 27,222	\$ 163,332	\$ 54,151	\$ 324,905
2.26	Drilled Pier - 7' x 23'	3	EA	\$ 28,100	\$ 84,299	\$ 28,406	\$ 85,217	\$ 56,505	\$ 169,516
2.27	Drilled Pier - 7' x 33'	6	EA	\$ 39,808	\$ 238,847	\$ 40,241	\$ 241,447	\$ 80,049	\$ 480,295
2.28	Drilled Pier - 7' x 42'	3	EA	\$ 50,345	\$ 151,036	\$ 50,893	\$ 152,680	\$ 101,239	\$ 303,716
2.29	Drilled Pier - 8' x 27'	2	EA	\$ 42,819	\$ 85,637	\$ 57,340	\$ 114,680	\$ 100,158	\$ 200,317
2.30	Drilled Pier - 8' x 29'	2	EA	\$ 45,877	\$ 91,754	\$ 61,436	\$ 122,871	\$ 107,313	\$ 214,625
2.31	Rock Excavation Adder	1,342	СҮ	\$ -	\$ -	\$ 2,000	\$ 2,684,000	\$ 2,000	\$ 2,684,000
TOTAL - FOUN	DATIONS:				\$ 3,098,282		\$ 10,723,946		\$ 13,822,229
3. STRUCTURE	S								
3.1	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 115'	7	Structure	\$ 50,024	\$ 350,168	\$ 30,014	\$ 210,101	\$ 80,038	\$ 560,269
3.2	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 120'	4	Structure	\$ 52,207	\$ 208,828	\$ 31,324	\$ 125,297	\$ 83,531	\$ 334,125
3.3	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 130'	3	Structure	\$ 58,257	\$ 174,770	\$ 34,954	\$ 104,862	\$ 93,210	\$ 279,631
3.4	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 135'	10	Structure	\$ 60,884	\$ 608,835	\$ 36,530	\$ 365,301	\$ 97,414	\$ 974,136
3.5	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 145'	1	Structure	\$ 64,473	\$ 64,473	\$ 38,684	\$ 38,684	\$ 103,156	\$ 103,156
3.6	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 115'	1	Structure	\$ 72,039	\$ 72,039	\$ 43,223	\$ 43,223	\$ 115,262	\$ 115,262
3.7	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 130'	3	Structure	\$ 85,082	\$ 255,245	\$ 51,049	\$ 153,147	\$ 136,130	\$ 408,391
3.8	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 135'	1	Structure	\$ 92,278	\$ 92,278	\$ 55,367	\$ 55,367	\$ 147,645	\$ 147,645
3.9	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$ 116,328	\$ 116,328	\$ 69,797	\$ 69,797	\$ 186,125	\$ 186,125
3.10	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 120'	1	Structure	\$ 127,558	\$ 127,558	\$ 76,535	\$ 76,535	\$ 204,092	\$ 204,092
3.11	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 150'	1	Structure	\$ 208,033	\$ 208,033	\$ 124,820	\$ 124,820	\$ 332,852	\$ 332,852
3.12	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 160'	1	Structure	\$ 238,595	\$ 238,595	\$ 143,157	\$ 143,157	\$ 381,751	\$ 381,751
3.13	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 75'	1	Structure	\$ 24,476	\$ 24,476	\$ 14,685	\$ 14,685	\$ 39,161	\$ 39,161
3.14	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 80'	2	Structure	\$ 25,826	\$ 51,652	\$ 15,496	\$ 30,991	\$ 41,322	\$ 82,643
3.15	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 84'	169	Structure	\$ 29,526	\$ 4,989,894	\$ 17,716	\$ 2,993,936	\$ 47,242	\$ 7,983,830
3.16	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 89'	36	Structure	\$ 32,708	\$ 1,177,488	\$ 19,625	\$ 706,493	\$ 52,333	\$ 1,883,981
3.17	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 93'	23	Structure	\$ 34,540	\$ 794,409	\$ 20,724	\$ 476,645	\$ 55,263	\$ 1,271,054
3.18	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 98'	10	Structure	\$ 37,500	\$ 374,995	\$ 22,500	\$ 224,997	\$ 59,999	\$ 599,992
3.19	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 102'	4	Structure	\$ 43,901	\$ 175,602	\$ 26,340	\$ 105,361	\$ 70,241	\$ 280,963
3.20	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 107'	2	Structure	\$ 45,936	\$ 91,871	\$ 27,561	\$ 55,123	\$ 73,497	\$ 146,994
3.21	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 80'	2	Structure	\$ 55,241	\$ 110,482	\$ 33,145	\$ 66,289	\$ 88,386	\$ 176,771
3.22	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 85'	19	Structure	\$ 57,813	\$ 1,098,438	\$ 34,688	\$ 659,063	\$ 92,500	\$ 1,757,500
3.23	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 90'	2	Structure	\$ 61,050	\$ 122,100	\$ 36,630	\$ 73,260	\$ 97,680	\$ 195,360
3.24	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 95'	2	Structure	\$ 65,120	\$ 130,240	\$ 39,072	\$ 78,144	\$ 104,192	\$ 208,384
3.25	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 100'	1	Structure	\$ 68,635	\$ 68,635	\$ 41,181	\$ 41,181	\$ 109,816	\$ 109,816
3.26	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 105'	1	Structure	\$ 72,872	\$ 72,872	\$ 43,723	\$ 43,723	\$ 116,594	\$ 116,594
3.27	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 75'	2	Structure	\$ 61,513	\$ 123,025	\$ 36,908	\$ 73,815	\$ 98,420	\$ 196,840
3.28	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 80'	3	Structure	\$ 69,079	\$ 207,237	\$ 41,447	\$ 124,342	\$ 110,526	\$ 331,579
3.29	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 85'	4	Structure	\$ 75,739	\$ 302,956	\$ 45,443	\$ 181,774	\$ 121,182	\$ 484,730
3.30	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 90'	4	Structure	\$ 81,493	\$ 325,970	\$ 48,896	\$ 195,582		
3.31	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 80'	1	Structure	\$ 97,403	\$ 97,403	\$ 58,442	\$ 58,442	\$ 155,844	\$ 155,844
3.32	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 85'	6	Structure	\$ 105,802					
3.33	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 90'	6	Structure	\$ 117,253		\$ 70,352		· · · · · · · · · · · · · · · · · · ·	
3.34	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 95'	1	Structure	\$ 129,408		\$ 77,645			
3.35	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$ 178,026	\$ 178,026	\$ 106,815			
3.36	Remove Existing Foundation	50	EA	\$ -	\$ -	\$ 7,500			
3.37	Remove Existing Structure and Accessories	994	EA	\$ -	\$ -	·	\$ 12,425,000		
3.38	Install Grounding and Grounding Accessories	666	Pole	\$ 506	\$ 336,996	\$ 5,539	\$ 3,688,641	\$ 6,045	\$ 4,025,637
3.39									
3.40									

	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sun	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
TOTAL - STRUCT	TURES:				\$ 14,839,64	5	\$ 25,190,231		\$ 40,029,876
4. CONDUCTOR,	, SHIELDWIRE, OPGW								
4.1 3	345kV - (1) 954kcmil 54/7 ACSS "Cardinal" (Edic to 12.6 Miles)	2,228,688	LF	\$ 1.90	\$ 4,234,50	7 \$ 5.00	\$ 11,143,440	\$ 6.90	\$ 15,377,947
4.2	(1) OPGW 36 Fiber AC-33/38/571 (Edic to 12.6 Miles)	301,954	LF	\$ 1.35	\$ 407,63	3 \$ 5.00	\$ 1,509,770	\$ 6.35	\$ 1,917,408
4.3	(1) 3/8" EHS7 Steel (Edic to 12.6 Miles)	271,656	LF	\$ 0.47	\$ 127,67	3 \$ 5.00	\$ 1,358,280	\$ 5.47	\$ 1,485,958
4.4									
4.5									
4.6									
	Remove Existing Conductor and Accessories	121.0	Mile	\$ -	\$ -	\$ 30,000	\$ 3,630,000	\$ 30,000.00	
4.8	Remove Existing OPGW and Accessories	108.4	Mile	\$ -	\$ -	\$ 12,000	\$ 1,300,800	\$ 12,000.00	
4.9	Remove Existing OHSW and Accessories	108.4	Mile	\$ -	\$ -	\$ 12,000	\$ 1,300,800	\$ 12,000.00	\$ 1,300,800
4.10									
4.11									
4.12									
	Rider Poles (187 Locations)	93	Set	\$ 1,750				\$ 5,250.00	
	Rider Poles - Relocated	94	Set	\$ -	\$ -	\$ 3,500		\$ 3,500.00	
	CTOR, SHIELDWIRE, OPGW:				\$ 4,932,57	3	\$ 20,897,590		\$ 25,830,163
	FITTINGS, HARDWARE								
	345kV Tangent (1-Group of 18-Bells Each Assembly)	1,276	Assembly	\$ 1,800	\$ 2,296,80				
	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	480	Assembly	\$ 1,800	\$ 864,00) \$ 720	· ·	\$ 2,520	
5.3		-	Assembly		\$ -		\$ -	\$ -	\$ -
	OPGW Assembly - Tangent	304	Assembly	\$ 200				\$ 350	
	OPGW Assembly - Angle / DE	64	Assembly	\$ 250		_	\$ 9,600	\$ 400	
	OHSW Assembly - Tangent	274	Assembly	\$ 200		_	\$ 41,100	\$ 350	
	OHSW Assembly - Angle / DE	56	Assembly	\$ 250					
	OPGW Splice Boxes	27	Assembly	\$ 1,746			\$ 61,398	\$ 4,020	
	OPGW Splice & Test	27	EA	\$ 2,520				\$ 5,040	
	Spacer - Conductor	5,244	EA	\$ 50				\$ 85	
	Vibration Dampers - Conductor	4,164	EA	\$ 35	\$ 145,74	_		\$ 70	
	Shield wire / OPGW Dampers, Misc. Fittings	1,087	EA	\$ 27				\$ 62	
	Replace - Mono Pole Vertical Tangent (1-Group of 18-Bells Each Assembly)	480	Assembly	\$ 1,800	\$ 864,00		\$ 345,600	\$ 2,520	
	Replace - Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	195	Assembly	\$ 1,800	\$ 351,00	_	\$ 140,400	\$ 2,520	
	Guys, Anchors, and Accessories	-	EA	\$ 912	\$ -	\$ 1,058	\$ -	\$ 1,970	\$ -
	Misc. materials (Signs and Markers)	66.8	Mile	\$ 770			\$ 67,201	\$ 1,776	
	ITORS, FITTINGS, HARDWARE:				\$ 5,125,31		\$ 2,418,984		\$ 7,544,295
A. Transm	nission Line Edic to Princetown				\$ 28,037,31	2	\$ 94,911,627		\$ 122,948,939
6. MOB/DEMOR	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
C	Contractor Mobilization / Demobilization								
6.1 N	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 1,229,489	\$ 1,229,489	\$ 1,229,489	\$ 1,229,489
F	Project Management, Material Handling & Amenities								
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 6,280,035	\$ 6,280,035	\$ 6,280,035	\$ 6,280,035
6.3 L	Utility PM and Project Oversite	1	LS		s -	\$ 1,229,489	\$ 1,229,489	\$ 1,229,489	\$ 1,229,489
	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,229,489	\$ 1,229,489	\$ 1,229,489	
	Engineering	1		7	-	7 1,225,465	+ 1,225,403	- 1,225,465	- 1,223,403
	Design Engineering	1	LS	\$ -	\$ -	\$ 6,147,447	\$ 6,147,447	\$ 6,147,447	\$ 6,147,447
	Lidar	1	LS	\$ -	\$ -	\$ 368,847			
	Geotech	67	Location	\$ -	\$ -				
	Surveying/Staking	1	LS	\$ -	\$ -				
	Testing & Commissioning	-		1	<u> </u>	1 222,013	. 222,313	1 222,513	
	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs	-		1	·	1 .5,000	,300		
	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-	Environmental Mitigation	_	LS	\$ -	\$ -	- '	*	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	e Ma	laterial Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 368,847	\$ 368,847	\$ 368,847	\$ 368,847
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$	-	\$ 8,640,000	\$ 8,640,000	\$ 8,640,000	\$ 8,640,000
6.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.17	Compensation for use of 1 Ckt - NYPA Structures (92 Structures)	1	LS	\$ -	\$	-	\$ 8,919,123	\$ 8,919,123	\$ 8,919,123	\$ 8,919,123
6.18	Sales Tax on Materials	1	LS	\$ 2,242,98	5 \$	2,242,985	\$ -	\$ -	\$ 2,242,985	\$ 2,242,985
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 122,949	\$ 122,949	\$ 122,949	\$ 122,949
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	2,242,985		\$ 35,670,858		\$ 37,913,843

Page 6 of 65

A. TL Edic-Princetown

NAT & NYPA - T028 - (Segment A, Enhanced)

B. Transmission Line Princetown to Rotterdam

Estimate 7 Revision:

Total: \$ 25,026,832

NAT & NYPA - T028 - (Segment A, Enhanced)											
	Supply			Installation		Total					
B. Transmission Line Princetown to Rotterdam											
1. CLEARING & ACCESS	\$	6,000	\$	3,038,200	\$	3,044,200					
2. FOUNDATIONS	\$	417,002	\$	3,778,708	\$	4,195,711					
3. STRUCTURES	\$	3,876,135	\$	4,280,943	\$	8,157,078					
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	722,365	\$	2,620,705	\$	3,343,070					
5. INSULATORS, FITTINGS, HARDWARE	\$	1,199,031	\$	549,192	\$	1,748,223					
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	497,643	\$	4,040,907	\$	4,538,550					
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-					
SUBTOTAL:	\$	6,718,177	\$	18,308,655	\$	25,026,832					
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-					
TOTAL:	\$	6,718,177	\$	18,308,655	\$	25,026,832					

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
B. Trans	mission Line Princetown to Rotterdam								
1. CLEARING 8	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	24.0	Acre	\$ -	\$ -	\$ 5,000	\$ 120,000	,	•
1.3	Permanent Access Road	5,280	LF	\$ -	\$ -	\$ 45			
1.4	Silt Fence	26,400	LF	\$ -	\$ -	\$ 4			
1.5	Matting - Access and ROW	21,120	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	2,775	LF	\$ -	\$ -	\$ 70	,		
1.7	Snow Removal	5	Mile	\$ -	\$ -	\$ 16,000			
1.8	ROW Restoration	5	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	185,000	SF	\$ -	\$ -		\$ 651,200		,
1.10	Restoration for Work Pad areas	37,000	SF	\$ -	\$ -	\$ 0.2			
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035		\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance	10	EA	\$ -	\$ -	\$ 4,580			
1.14	Maintenance and Protection of Traffic on Public Roads	10	EA	\$ -	\$ -	\$ 4,130 \$ 2,500			
1.15	Gates	- 8	EA EA	\$ 2,000 \$ 750	·	\$ 2,500 \$ 1,250		\$ 4,500 \$ 2,000	
1.16 1.17	Culverts / Misc. Access Concrete Washout Station	10	EA EA	\$ 750	\$ 6,000	\$ 1,250			
	RING & ACCESS:	10	EA	\$ -	\$ 6,000	\$ 1,850	\$ 18,500	\$ 1,850	\$ 18,500
2. FOUNDATIO					\$ 6,000		\$ 3,036,200		\$ 3,044,200
2.1	Direct Embed Foundations - 6' x 18'	56	EA	\$ 1,857	\$ 104,018	\$ 18,603	\$ 1,041,794	\$ 20,461	\$ 1,145,812
2.2	Direct Embed Foundations - 6' x 20'	4	EA	\$ 2,046	\$ 8,185	\$ 20,562			
2.3	Direct Embed Foundations - 6' x 22'	8	EA	\$ 2,235	\$ 17,880	\$ 22,520			
2.4	Direct Embed Foundations - 7' x 25'	4	EA	\$ 3,105	\$ 12,422				
2.5	Drilled Pier - 6' x 19'	6	EA	\$ 17,204	\$ 103,223	\$ 17,391	\$ 104,347		\$ 207,570
2.6	Drilled Pier - 8' x 27'	4	EA	\$ 42,819	\$ 171,274	\$ 57,340	\$ 229,359	\$ 100,158	\$ 400,633
2.7	Rock Excavation Adder	1,001.1	CY	\$ -	\$ -	\$ 2,000	\$ 2,002,200	\$ 2,000	\$ 2,002,200
TOTAL - FOUN	DATIONS:				\$ 417,002		\$ 3,778,708		\$ 4,195,711
3. STRUCTURE	S								
3.1	2x 1-CKT 345KV DELTA TANGENT (0°-1°) - 115'	24	Structure	\$ 85,544	\$ 2,053,056	\$ 51,326	\$ 1,231,834	\$ 136,870	\$ 3,284,890
3.2	2x 1-CKT 345KV DELTA TANGENT (0°-1°) - 135'	2	Structure	\$ 106,005	\$ 212,010	\$ 63,603	\$ 127,206	\$ 169,608	\$ 339,216
3.3	2x 1-CKT 345KV DELTA SMALL ANGLE (1°-15°) - 115'	2	Structure	\$ 141,673	\$ 283,346	\$ 85,004	\$ 170,008		\$ 453,354
3.4	2x 1-CKT 345KV VERTICAL TANGENT DEADEND (0°-5°) - 115'	4	Structure	\$ 109,816	\$ 439,264	\$ 65,890	\$ 263,558		· · · · · · · · · · · · · · · · · · ·
3.5	2x 1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (0 -5) - 115'	2	Structure	\$ 232,656	\$ 465,312	\$ 139,594	\$ 279,187		
3.6	2x 1-CKT 345KV VERTICAL MIEDIOM ANGLE DEADEND (13 -00) - 115	1	Structure	\$ 176,342	\$ 176,342	\$ 105,805	\$ 105,805		
	` '			T -: -/- :-					
3.7	2x 1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 65′	1	Structure	ŷ 33,138	\$ 99,493	ÿ 33,030			
3.8	2x 1-CKT 345KV DELTA TANGENT (0°-1°) HD- 115′	1	Structure	\$ 105,820	\$ 105,820	\$ 63,492	\$ 63,492	\$ 169,312	\$ 169,312

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.9	Remove Existing Foundation	22	EA	\$	-	\$ -	\$ 7,500	\$ 163,500	\$ 7,500	\$ 163,500
3.10	Remove Existing Structure and Accessories	109	EA	\$	-	\$ -	\$ 12,500	\$ 1,362,500	\$ 12,500	\$ 1,362,500
3.11	Install Grounding and Grounding Accessories	82	Pole	\$	506	\$ 41,492	\$ 5,539	\$ 454,157	\$ 6,045	\$ 495,649
	CTURES PRINCTOWN TO NEW SCOTLAND:					\$ 3,876,135		\$ 4,280,943		\$ 8,157,078
	DR, SHIELDWIRE, OPGW									
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal" (R1 - R36)	339,293	LF	\$	1.90	\$ 644,657	\$ 5.00	\$ 1,696,465	\$ 6.90	\$ 2,341,122
4.2	(1) OPGW 36 Fiber AC-33/38/571 (R1 - R36)	28,274	LF	\$	1.35	· ,	\$ 5.00	\$ 141,370	-	\$ 179,540
4.3	(1) 3/8" EHS7 Steel (R1 - R36)	28,274	LF	\$	0.47	\$ 13,289	\$ 5.00	\$ 141,370		\$ 154,659
4.5	Remove Existing Conductor and Accessories	10.0	Mile	\$	-	\$ -	\$ 30,000	\$ 300,000		\$ 300,000
4.6	Remove Existing OPGW and Accessories	10.0	Mile	\$	-	\$ -	\$ 12,000	\$ 120,000	, , , , , , , , , , , , , , , , , , , ,	\$ 120,000
4.7	Remove Existing OHSW and Accessories	10.0	Mile	\$		\$ -	\$ 12,000	\$ 120,000	, , , , , , , , , , , , , , , , , , , ,	\$ 120,000
4.8	Rider Poles	15	EA	\$	1,750	\$ 26,250	\$ 3,500	\$ 52,500	\$ 5,250.00	\$ 78,750
4.9	Rider Poles - Relocated	14	Set	\$	-	\$ -	\$ 3,500	\$ 49,000	\$ 3,500.00	\$ 49,000
	UCTOR, SHIELDWIRE, OPGW:					\$ 722,365		\$ 2,620,705		\$ 3,343,070
5. INSULATOR	R, FITTINGS, HARDWARE									
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	348	Assembly	\$	1,800	\$ 626,400	\$ 720	\$ 250,560	, , , , ,	\$ 876,960
5.2	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	240	Assembly	\$	1,800	\$ 432,000	\$ 720	\$ 172,800	\$ 2,520	\$ 604,800
5.3	OPGW Assembly - Tangent	29	Assembly	\$	200	\$ 5,800	\$ 150	\$ 4,350	\$ 350	\$ 10,150
5.4	OPGW Assembly - Angle / DE	16	Assembly	\$	250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.5	OHSW Assembly - Tangent	29	Assembly	\$	200	\$ 5,800	\$ 150	\$ 4,350	\$ 350	\$ 10,150
5.6	OHSW Assembly - Angle / DE	16	Assembly	\$	250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.7	OPGW Splice Boxes	8	Assembly	\$	1,746	\$ 13,969	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161
5.8	OPGW Splice & Test	8	EA	\$	2,520	\$ 20,160	\$ 2,520	\$ 20,160	\$ 5,040	\$ 40,320
5.9	Spacer - Conductor	1,002	EA	\$	50	\$ 50,100	\$ 35	\$ 35,070	\$ 85	\$ 85,170
5.10	Vibration Dampers - Conductor	852	EA	s	35	\$ 29,820	\$ 35	\$ 29,820	\$ 70	\$ 59,640
5.11	Shieldwire / OPGW Dampers, Misc. Fittings	116	EA	Ś	27		\$ 35	\$ 4,060	-	\$ 7,192
5.12	Guys, Anchors, and Accessories	-	EA	Ś		\$ -	\$ 1,058	\$ -		\$ -
5.13	Misc. materials (Signs and Markers)	5.0	Mile	Ś	770	·	\$ 1,006	\$ 5,030		\$ 8,880
	LATORS. FITTINGS. HARDWARE:	5.0	WIIIC	7	770	\$ 1,199,031	7 1,000	\$ 549,192	Ş 1,770	\$ 1,748,223
D Tuene	mission Line Dringstown to Dettorden					\$ 6,220,534		\$ 14,267,748		\$ 20,488,282
	mission Line Princetown to Rotterdam					\$ 0,220,334		\$ 14,207,748		20,466,262
6. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
C 1	Contractor Mobilization / Demobilization		1.5	Ś		\$ -	\$ 204.883	\$ 204.883	ć 204.002	\$ 204.883
6.1	Mob / Demob Project Management, Material Handling & Amenities	1	LS	\$	-	\$ -	\$ 204,883	\$ 204,883	\$ 204,883	\$ 204,883
6.2	Project Management, Waterial Handling & Americas Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 1,046,509	\$ 1,046,509	\$ 1,046,509	\$ 1,046,509
6.3	Utility PM and Project Oversite	1	LS			Ś -	\$ 204,883	\$ 204,883	\$ 204,883	\$ 204,883
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 204,883	\$ 204,883		\$ 204,883
	Engineering									
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 1,024,414	\$ 1,024,414	\$ 1,024,414	\$ 1,024,414
6.6	LIDAR	1	LS	\$	-	\$ -	\$ 61,465	\$ 61,465	\$ 61,465	\$ 61,465
6.7	Geotech	5	Location	\$	-	\$ -	\$ 3,500	\$ 17,500	\$ 3,500	\$ 17,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 143,418	\$ 143,418	\$ 143,418	\$ 143,418
6.9	Testing & Commissioning Testing & Commissioning of T-Line and Equipment	1	LS	\$	_	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
0.5	Permitting and Additional Costs	1	LJ .	+~	-	* *	7 40,000	÷ 40,000	40,000	
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$		\$ -	\$ -	\$ -		\$ -
6.12	Warranties / LOC's	1	LS	\$		\$ -	\$ 61,465			
6.13	Real Estate Costs (New ROW)	1	LS	\$		\$ -	\$ -	\$ -		\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$		\$ -	\$ 1,011,000	*		
6.15	Legal Fees	-	LS	\$		\$ -	\$ -	\$ -		\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$		\$ -		\$ -		\$ -
6.18	Sales Tax on Materials	1	LS	\$	497,643	\$ 497,643	\$ -	\$ -	\$ 497,643	\$ 497,643
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 20,488	\$ 20,488	\$ 20,488	\$ 20,488

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 497,643		\$ 4,040,907		\$ 4,538,55

Page 9 of 65

C. Transmission Line Princetown to New Scotland

NAT & NYPA - T028 - (Segment A, Enhanced)

Estimate Revision: 7 Total: \$ 47,622,147

NAT & NYPA - T028 - (Segment A, Enhanced)											
	Supply			Installation		Total					
C. Transmission Line Princetown to New Scotland											
1. CLEARING & ACCESS	\$	31,000	\$	11,223,694	\$	11,254,694					
2. FOUNDATIONS	\$	1,194,705	\$	4,499,949	\$	5,694,653					
3. STRUCTURES	\$	6,879,617	\$	5,578,039	\$	12,457,656					
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	1,564,842	\$	4,756,290	\$	6,321,132					
5. INSULATORS, FITTINGS, HARDWARE	\$	1,767,073	\$	847,291	\$	2,614,365					
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	914,979	\$	8,364,668	\$	9,279,647					
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-					
SUBTOTAL:	\$	12,352,215	\$	35,269,931	\$	47,622,147					
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-					
TOTAL:	\$	12,352,215	\$	35,269,931		47,622,147					

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
C. Transr	mission Line Princetown to New Scotland								
1. CLEARING &	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	26.0	Acre	\$ -	\$ -	\$ 15,000	\$ 390,000	\$ 15,000	\$ 390,000
1.2	Clearing the ROW - Light (mowing)	57.0	Acre	\$ -	\$ -	\$ 5,000	\$ 285,000	\$ 5,000	\$ 285,000
1.3	Permanent Access Road	20,803.2	LF	\$ -		\$ 45		,	
1.4	Silt Fence	104,016.0	LF	\$ -	\$ -	\$ 4			,
1.5	Matting - Access and ROW	83,212.8	LF	\$ -		\$ 70			
1.6	Matting - To Work Area	3,375.0	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	19.7	Mile	\$ -	т	\$ 16,000			
1.8	ROW Restoration	19.7	Mile	\$ -	\$ -	\$ 10,000		. ,	
1.9	Work Pads	645,000.0	SF	\$ -	\$ -	\$ 4			
1.10	Restoration for Work Pad areas	129,000.0	SF	\$ -	\$ -	\$ 0.2			
1.11	Temporary Access Bridge	-	EA	\$ - \$ -	7	\$ 20,035 \$ 14.445		7/	\$ -
1.12	Air Bridge Stabilized Construction Entrance	2	EA EA	\$ - \$ -		\$ 14,445 \$ 4,580		\$ 14,445 \$ 4,580	\$ 28,890
1.13	Maintenance and Protection of Traffic on Public Roads	50		\$ - \$ -	\$ - \$ -	\$ 4,580			
1.14	Gates	11	EA EA	\$ 2,000	т				
1.15	Culverts / Misc. Access	11		\$ 2,000					
1.17	Concrete Washout Station	30		\$ 730	\$ 3,000	\$ 1,850		. ,	\$ 55,500
	ING & ACCESS:	30	LA	, -	\$ 31,000	\$ 1,030	\$ 11,223,694	3 1,630	\$ 11,254,694
2. FOUNDATIO					31,000		7 11,223,034		7 11,254,054
2.1	Direct Embed Foundations - 4' x 16'	100	EA	\$ 941	\$ 94,073	\$ 7,398	\$ 739,787	\$ 8,339	\$ 833,860
2.2	Direct Embed Foundations - 4' x 19'	14		\$ 1,104					
2.3	Direct Embed Foundations - 4' x 21'	2		\$ 1,213					
2.4	Direct Embed Foundations - 6' x 18'	9	EA	\$ 1,857			\$ 167,431	\$ 20,461	
2.5	Direct Embed Foundations - 6' x 20'	14	EA	\$ 2,046	\$ 28,648	\$ 20,562	\$ 287,864	\$ 22,608	\$ 316,512
2.6	Direct Embed Foundations - 6' x 21'	25	EA	\$ 2,141	\$ 53,516	\$ 21,541	\$ 538,521	\$ 23,681	\$ 592,037
2.7	Direct Embed Foundations - 6' x 22'	4	EA	\$ 2,235	\$ 8,940	\$ 22,520	\$ 90,080	\$ 24,755	\$ 99,020
2.8	Direct Embed Foundations - 6' x 25'	5	EA	\$ 2,518	\$ 12,591	\$ 25,457	\$ 127,287	\$ 27,976	\$ 139,878
2.9	Direct Embed Foundations - 6' x 29'	1	EA	\$ 2,896	\$ 2,896	\$ 29,374	\$ 29,374	\$ 32,270	\$ 32,270
2.10	Direct Embed Foundations - 6' x 34'	4	EA	\$ 3,273	\$ 13,093	\$ 33,290	\$ 133,162	\$ 36,564	\$ 146,255
2.11	Direct Embed Foundations - 6' x 42'	3	EA	\$ 4,123	\$ 12,369	\$ 42,103	\$ 126,308	\$ 46,225	\$ 138,676
2.12	Direct Embed Foundations - 7' x 25'	1		\$ 3,105		\$ 34,650			\$ 37,756
2.13	Direct Embed Foundations - 7' x 27'	1	EA	\$ 3,337	\$ 3,337	\$ 37,316	\$ 37,316	\$ 40,652	\$ 40,652
2.14	Direct Embed Foundations - 7' x 28'	1	EA	\$ 3,452		\$ 38,648			\$ 42,101
2.15	Drilled Pier - 6' x 20'	6	EA	\$ 18,064		\$ 18,261			\$ 217,949
2.16	Drilled Pier - 7' x 19'	15	EA	\$ 23,416	\$ 351,246	\$ 23,671	\$ 355,070	\$ 47,088	\$ 706,315
2.17	Drilled Pier - 7' x 24'	3		\$ 29,270		\$ 29,589		\$ 58,860	\$ 176,579
2.18	Drilled Pier - 8' x 27'	1		\$ 42,819		\$ 43,285			\$ 86,103
2.19	Drilled Pier - 8' x 83'	1		\$ 128,456				. ,	\$ 300,475
2.20	Drilled Pier - 8' x 89'	1	EA	\$ 137,631	\$ 137,631	\$ 184,307	\$ 184,307	\$ 321,938	\$ 321,938
2.21	Drilled Pier - 9' x 34'	1	EA	\$ 67,740	\$ 67,740	\$ 90,713	\$ 90,713		\$ 158,454

Page 10 of 65

1.	Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3	2.22	Rock Excavation Adder	482.40	СУ	\$ -	\$ -	\$ 2,000	\$ 964,800	\$ 2,000	\$ 964,800
1.1 1.673 SerV VERTICAL PROMISE (P. 17) 1.07 1.07	TOTAL - FOUN	DATIONS:				\$ 1,194,705		\$ 4,499,949		\$ 5,694,653
13 COT MANY VIPTOR ANGEMENT OF 17 1-207 5 50.000 5 7.0										
1-07 1-07										
1.5 CCT MOCK VIPTICA TARRIFFE (PL 1) 1875										
1.5 ACCE PARCY VERTICAL PROPERTY (97.7) + 155 1.										
1 Service		, ,								
1. CT SECURITION SECURI										
1.5 1.5		, ,								
1										
1.10 I.CET SERGY VERTECAL MODIUM ANGE OF CAPPED (1974) 1974 15 154,21 15 154,22 15 154,24 154,24 154,										
1.12 CASH JAMAN HEMAN ENGRED (19-17-192)	3.10		1	Structure	\$ 98,883	\$ 98,883	\$ 59,330	\$ 59,330	\$ 158,212	\$ 158,212
\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	3.11	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 84'	43	Structure	\$ 29,526	\$ 1,269,618	\$ 17,716	\$ 761,771	\$ 47,242	\$ 2,031,389
3 SCH SARVI FERMET MANUAL MAGE (\$1-72)-207 \$ \$7,407 \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$1,700 \$ \$ \$1,700 \$ \$ \$1,700 \$ \$1,700 \$ \$ \$1,700		1-CKT 345KV H-FRAME TANGENT (0°-1°) - 89'		Structure						
1										
3.1					,					
1 1 1 1 1 1 1 1 1 1										
3.18 CCT 35NY 3-FDIC MEDIUM ANGLE DEADED (15-67) - 87 5 155,844 5 779,22 5 155,844 5 779,22 5 20,000 5 20,0									,	
3.19 1.007 SASKY # PARION MADRILM ANGELE (BARANNO (15"-607") **S** 1										
3.20 1.CCT 8360V 940PL MADULM ANGELE PAGEND (15'-69')-115' 7 Structure 5 3.66.81 5 106.815 5 28.48.41 5 3.27.81 5 22.48.41 5 3.27		, ,			. ,					
\$2.12 \$2.07 \$1.05 \$3.0										
3.22 2-CT 1150V1355V VERTICAL TAMORIT (71-17-125")		, ,								
3.22 2-CTT 158/7/356V VERTICAL TRANSFORT ("1-1") - 135" 1 Structure \$ 88,984 \$ 41,336 \$ 41,336 \$ 130,23 \$ 130,23 \$ 232,23 \$ 232,27 \$										
3.24 2-CRT 115KY/35KY VERTICAL MEDIUM ANGLE DEADNIN [15*07]*15" 1 Structure 5 140,480 5 134,680 5 104,285 5 104,285 5 278,080										
3.76 2.CKT ISA/QASKN_VERRICAL MEDIUM ANGLE DELADEND [15*60] - 125	3.24		1	Structure	\$ 149,480	\$ 149,480	\$ 89,688	\$ 89,688	\$ 239,168	\$ 239,168
3.27 15/07 DJMM 70 E, Dmiled Pier, 85 2 5tructure 5 58,164 5 116,328 5 34,888 66,777 5 93,062 5 386,170 3.28 8.28	3.25	2-CKT 115KV/345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$ 173,808	\$ 173,808	\$ 104,285			\$ 278,092
3.28 Remove Existing Foundation										
3.29 Remove Existing Structure and Accessories 24 EA \$ \$ \$ 1.500 \$ 300,000 \$ 12,500 \$ 300,000 \$ 12,500 \$ 300,000 \$ 3.0 \$ 3.0 \$ 3.0 \$ 108,000 \$ 108,0	3.27	115KV DUMMY DE, Drilled Pier, 85'	2	Structure	\$ 58,164	\$ 116,328	\$ 34,898	\$ 69,797	\$ 93,062	\$ 186,125
3.00 Install Grounding Accessories 214 Pole \$ 5.06 \$ 1.08,284 \$ 5.539 \$ 1.185,239 \$ 6,045 \$ 1.293,522	3.28	Remove Existing Foundation	4	EA	\$ -	\$ -	\$ 7,500	\$ 30,000	\$ 7,500	\$ 30,000
STATE STRUCTURES	3.29	Remove Existing Structure and Accessories	24	EA	\$ -	\$ -	\$ 12,500	\$ 300,000	\$ 12,500	\$ 300,000
State Stat	3.30	Install Grounding and Grounding Accessories	214	Pole	\$ 506	\$ 108,284	\$ 5,539	\$ 1,185,239	\$ 6,045	\$ 1,293,523
A.CONDUCTOR, SHELDWIRE, OPGW	TOTAL - STRU					\$ 6,879,617		\$ 5,578,039		\$ 12,457,656
4.2 (1) OPGW 36 Fiber AC-33/38/571 (ENS-336 to ENS-464) 110,326 LF \$ 1.35 \$ 148,940 \$ 5.00 \$ 551,630 \$ 6.35 \$ 700,57 \$ 4.3 (1) 3/8" EHS7 Steel (ENS-336 to ENS-464) 75,398 LF \$ 0.47 \$ 35,437 \$ 5.00 \$ 376,990 \$ 5.47 \$ 412,42 \$ 4.4 \$. \$ 5 . \$	4. CONDUCTO	R, SHIELDWIRE, OPGW								
4.3 (1) 3/8" EHS7 Steel (ENS-336 to ENS-464) 75,398 LF \$ 0.47 \$ 35,437 \$ 5.00 \$ 376,990 \$ 5.47 \$ 412,42 4.4	4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal" (ENS-336 to ENS-464)	661,954	LF	\$ 1.90	\$ 1,257,713	\$ 5.00	\$ 3,309,770	\$ 6.90	\$ 4,567,483
4.4 -	4.2	(1) OPGW 36 Fiber AC-33/38/571 (ENS-336 to ENS-464)	110,326	LF	\$ 1.35	\$ 148,940	\$ 5.00	\$ 551,630	\$ 6.35	\$ 700,570
4.4 -	4.3	(1) 3/8" FHS7 Steel (ENS-336 to ENS-464)	75 398	I F	\$ 0.47	\$ 35.437	\$ 5.00	\$ 376,990	\$ 5.47	\$ 412.427
4.5		(2) 5/6 2/15/ 5/62/ (2/15/55/6/2/15/16/1/								
4.6 (1) OPGW 36 Fiber AC-33/38/571 (ENS-336 to ENS-464) - LF \$ 1.35 \$ - \$ 5.00 \$ - \$ 5.47 \$ - 4.7 (1) 3/8" EHST Steel (ENS-336 to ENS-464) - LF \$ 0.47 \$ - \$ 5.00 \$ - \$ 5.47 \$ - 4.8 Remove Existing Conductor and Accessories 2.5 Mile \$ - \$ - \$ 5.00 \$ 5.00 \$ 75,000 \$ 30,000 0 \$ 75,000 \$ 30,000 0 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,0	-	11EW (1) 0EAkomil E4/7 ACSS "Cardinal" (ENS 226 to ENS 464)		15						·
4.7 (1) 3/8" EHS7 Steel (ENS-336 to ENS-464) - LF \$ 0.47 \$ - \$ 5.00 \$ 75,000 \$ 30,000.00 \$ 75,000 \$ 30,000.00 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 75,000 \$ 30,000 \$ 12,000.00 \$ \$ 30,000 \$ 12,000.00 \$ \$ 30,000 \$ 12,000.00 \$ \$ 30,000 \$ \$ 30			41,380			,				
4.8 Remove Existing Conductor and Accessories 2.5 Mile \$ - \$ - \$ 30,000 \$ 75,000 \$ 30,000.00 \$ 75,000 \$ 30,000.00 \$ 75,000 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000 \$ \$ 30,000 \$ \$ \$ 30,000 \$ \$ \$ 30,000 \$ \$ \$ 30,000 \$ \$ \$ 30,000 \$ \$ \$ 30,000 \$ \$ \$ \$ 30,000 \$ \$ \$ \$ \$ 30,000 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.6	(1) OPGW 36 Fiber AC-33/38/571 (ENS-336 to ENS-464)	-	LF						
4.9 Remove Existing OPGW and Accessories 2.5 Mile \$ - \$ 12,000 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 130,000 \$ 130,000 \$ 130,000 \$ 130,000 \$ 130,000 \$ 130,000 \$ 130,000 \$ 130,000 \$ 130,000 \$ 130,000 \$ 130,000 \$ 130,000 \$ 130,000 \$ 130,000 \$ 130,000 \$ 130,000 \$ 13		(1) 3/8" EHS7 Steel (ENS-336 to ENS-464)		LF	•					
4.10 Remove Existing OHSW and Accessories 2.5 Mile \$ - \$ - \$ 12,000 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 12,000.00 \$ 30,000 \$ 13,000.00 \$ 30,000 \$ 87,500.00 \$ 131,25 \$ 4.12 Rider Poles - Relocated 25 Set \$ - \$ - \$ 3,500.00 \$ 87,500.00 \$ 87,500 \$ 3,500.00 \$ 87,500.00 \$ 87,500 \$ 3,500.00 \$ 87,500.00 \$ <td>4.8</td> <td>Remove Existing Conductor and Accessories</td> <td></td> <td>Mile</td> <td>\$ -</td> <td></td> <td>\$ 30,000</td> <td>\$ 75,000</td> <td>\$ 30,000.00</td> <td>\$ 75,000</td>	4.8	Remove Existing Conductor and Accessories		Mile	\$ -		\$ 30,000	\$ 75,000	\$ 30,000.00	\$ 75,000
4.11 Rider Poles (50 Locations) 25 Set \$ 1,750 \$ 43,750 \$ 3,500 \$ 87,500 \$ 5,250,00 \$ 131,25 4.12 Rider Poles - Relocated 25 Set \$ - \$ - \$ 3,500 \$ 87,500 \$ 33,500.00 \$ 87,50 TOTAL - CONDUCTOR, SHIELDWIRE, OPGW: \$ 1,564,842 \$ \$ 4,756,290 \$ 6,321,13 5.1 345kV Tangent (1-Group of 18-Bells Each Assembly) 538 Assembly \$ 1,800 \$ 968,400 \$ 720 \$ 387,560 \$ 1,355,76 5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) 78 Assembly \$ 900 \$ 70,200 \$ 560 \$ 43,680 \$ 1,460 \$ 113,88 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 255 Assembly \$ 1,800 \$ 459,000 \$ 720 \$ 183,600 \$ 2,520 \$ 642,60 5	4.9	Remove Existing OPGW and Accessories	2.5	Mile	\$ -	\$ -	\$ 12,000	\$ 30,000	\$ 12,000.00	\$ 30,000
4.12 Rider Poles - Relocated 25 Set \$ - \$ - \$ 3,500 \$ 87,500 \$ 3,500.00 \$ 87,500 TOTAL - CONDUCTOR, SHIELDWIRE, OPGW: \$ 1,564,842 \$ 4,756,290 \$ 6,321,13 5. INSULATOR, HITINGS, HARDWARE \$ 1,800 \$ 968,400 \$ 720 \$ 387,500 \$ 1,355,76 5.1 345kV Tangent (1-Group of 18-Bells Each Assembly) 5 38 Assembly \$ 1,800 \$ 968,400 \$ 720 \$ 387,500 \$ 1,355,76 5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) 78 Assembly \$ 900 \$ 70,200 \$ 560 \$ 43,680 \$ 1,460 \$ 113,88 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 255 Assembly \$ 1,800 \$ 459,000 \$ 720 \$ 183,600 \$ 2,520 \$ 642,60 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Ass	4.10	Remove Existing OHSW and Accessories	2.5	Mile	\$ -	\$ -	\$ 12,000	\$ 30,000	\$ 12,000.00	\$ 30,000
S 1,564,842 S 4,756,290 S 6,321,13	4.11	Rider Poles (50 Locations)	25	Set	\$ 1,750	\$ 43,750	\$ 3,500	\$ 87,500	\$ 5,250.00	\$ 131,250
S. INSULATOR, FITTINGS, HARDWARE S. INSULATOR, Group of 18-Bells Each Assembly S. INSULATOR, GROUP,	4.12	Rider Poles - Relocated	25	Set	\$ -	\$ -	\$ 3,500	\$ 87,500	\$ 3,500.00	\$ 87,500
5.1 345kV Tangent (1-Group of 18-Bells Each Assembly) 538 Assembly \$ 1,800 \$ 968,400 \$ 720 \$ 387,360 \$ 2,520 \$ 1,355,76 5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) 78 Assembly \$ 900 \$ 70,200 \$ 560 \$ 43,680 \$ 1,460 \$ 113,88 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 255 Assembly \$ 1,800 \$ 459,000 \$ 720 \$ 183,600 \$ 2,520 \$ 642,60 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 21 Assembly \$ 900 \$ 18,900 \$ 560 \$ 17,60 \$ 1,460 \$ 30,66 5.5 Assembly \$ 900 \$ 18,900 \$ 560 \$ 17,60 \$ 1,460 \$ 30,66 5.5 Assembly \$ 900 \$ 18,900 \$ 560 \$ 17,60 \$ 1,460 \$ 30,66 5.5 Assembly \$ 900 \$ 18,900 \$ 500 \$ 17,60 \$ 1,460 \$ 30,66 5.5 Assembly \$ 900 \$ 18,900 \$ 500 \$ 1,600 \$ 1,600 \$ 30,66 5.6 Assembly \$ 900 <td></td> <td></td> <td></td> <td></td> <td></td> <td>\$ 1,564,842</td> <td></td> <td>\$ 4,756,290</td> <td></td> <td>\$ 6,321,132</td>						\$ 1,564,842		\$ 4,756,290		\$ 6,321,132
5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) 78 Assembly \$ 900 \$ 70,200 \$ 560 \$ 43,680 \$ 1,460 \$ 113,88 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 255 Assembly \$ 1,800 \$ 459,000 \$ 720 \$ 183,600 \$ 2,520 \$ 642,60 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 21 Assembly \$ 900 \$ 18,900 \$ 500 \$ 1,460 \$ 30,66 5.5 Assembly \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$<										
5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 255 Assembly \$ 1,800 \$ 459,000 \$ 720 \$ 183,600 \$ 2,520 \$ 642,60 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 21 Assembly \$ 900 \$ 18,900 \$ 560 \$ 11,760 \$ 1,460 \$ 30,66 5.5 Assembly \$ - \$ - \$ - \$ - \$ - \$ - \$ - 5.6 Assembly \$ - \$ - \$ - \$ - \$ - \$ - 5.7 OPGW Assembly - Tangent 110 Assembly \$ 200 \$ 22,000 \$ 150 \$ 16,500 \$ 350 \$ 38,50				<u>.</u>						
5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 21 Assembly \$ 900 \$ 18,900 \$ 560 \$ 11,760 \$ 1,460 \$ 30,66 5.5 Assembly \$ -										
5.5 Assembly \$ - \$				<u>.</u>						
5.6 Assembly \$ - \$		115KV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	21		\$ 900		\$ 560			
5.7 OPGW Assembly - Tangent 110 Assembly \$ 200 \$ 22,000 \$ 150 \$ 16,500 \$ 350 \$ 38,50				<u>.</u>						
		OPGW Assembly - Tangent	110		\$ 200	_	\$ 150			
5.8 OPGW Assembly - Angle / DE 34 Assembly \$ 250 \$ 8,500 \$ 150 \$ 5,100 \$ 400 \$ 13,60	5.8	OPGW Assembly - Angle / DE	34	Assembly						

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.9	OHSW Assembly - Tangent	61	Assembly	\$ 200		\$ 150			
5.10	OHSW Assembly - Angle / DE	24	Assembly	\$ 250	\$ 6,000	\$ 150		\$ 400	\$ 9,600
5.11	OPGW Splice Boxes	8	Assembly	\$ 1,746	-,	\$ 2,274			\$ 32,161
5.12	OPGW Splice & Test	8	EA	\$ 2,520		\$ 2,520			\$ 40,320
5.13	Spacer - Conductor	1,773	EA	\$ 50	\$ 88,650	\$ 35	\$ 62,055	\$ 85	\$ 150,705
5.14	Vibration Dampers - Conductor	1,596	EA	\$ 35	\$ 55,860	\$ 35	\$ 55,860	\$ 70	\$ 111,720
5.15	Shieldwire / OPGW Dampers, Misc. Fittings	293	EA	\$ 27		•	. ,		•
5.16	Guys, Anchors, and Accessories	-	EA	\$ 912		\$ 1,058		\$ 1,970	
5.17	Misc. materials (Signs and Markers)	19.9	Mile	\$ 770	,	\$ 1,006	\$ 20,019	\$ 1,776	· · · · · · · · · · · · · · · · · · ·
TOTAL - INSU	ILATORS, FITTINGS, HARDWARE:				\$ 1,767,073		\$ 847,291		\$ 2,614,365
C. Trans	smission Line Princetown to New Scotland				\$ 11,437,237		\$ 26,905,263		\$ 38,342,499
6. MOB/DEN	IOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 383,425	\$ 383,425	\$ 383,425	\$ 383,425
	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 1,958,474	\$ 1,958,474	\$ 1,958,474	\$ 1,958,474
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 383,425	\$ 383,425	\$ 383,425	\$ 383,425
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 383,425	\$ 383,425	\$ 383,425	\$ 383,425
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,917,125	\$ 1,917,125	\$ 1,917,125	\$ 1,917,125
6.6	Lidar	1	LS	\$ -	\$ -	\$ 115,027	\$ 115,027	\$ 115,027	\$ 115,027
6.7	Geotech	20	Location	\$ -	\$ -	\$ 3,500	\$ 70,000	\$ 3,500	\$ 70,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 268,397	\$ 268,397	\$ 268,397	\$ 268,397
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs					,			
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 115,027	\$ 115,027	\$ 115,027	\$ 115,027
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ 215,000	\$ 215,000	\$ 215,000	\$ 215,000
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 2,477,000	\$ 2,477,000	\$ 2,477,000	\$ 2,477,000
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 914,979	\$ 914,979	\$ -	\$ -	\$ 914,979	\$ 914,979
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	,	\$ -	\$ 38,342	\$ 38,342	\$ 38,342	
	B/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 914,979	,-	\$ 8,364,668	,-	\$ 9,279,647

NAT & NYPA - T026 - (Segment A, Base)

D. Rotterdam Substation - Install

Estimate 7 Revision: Total: \$ 55,770,077

NAT & NYPA - T026	- (Segment A, B	ase)		
		Supply	Installation	Total
D. Rotterdam Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	2,896,891	\$ 8,763,755	\$ 11,660,646
2. SUBSTATION FOUNDATIONS	\$	2,443,003	\$ 2,616,200	\$ 5,059,203
3. SUBSTATION STRUCTURES	\$	944,980	\$ 944,980	\$ 1,889,960
4. MAJOR EQUIPTMENT	\$	11,915,000	\$ 2,970,000	\$ 14,885,000
5. SMALL EQUIPTMENT / MATERIALS	\$	1,994,540	\$ 1,060,500	\$ 3,055,040
6. CONTROL HOUSE / PANELS	\$	2,927,500	\$ 1,477,500	\$ 4,405,000
7. MISC ITEMS	\$	1,441,675	\$ 2,331,950	\$ 3,773,625
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,965,087	\$ 9,076,516	\$ 11,041,603
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ - (
SUBTOTAL:	\$	26,528,676	\$ 29,241,401	\$ 55,770,077
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	26,528,676	\$ 29,241,401	\$ 55,770,077

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
D. Rotte	rdam Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	7.4	ACRES	\$	-	\$ -	\$ 203,000	\$ 1,497,125	\$ 203,000	\$ 1,497,125
1.2	Station stone within substation fence.	3,175	CY	\$	27	\$ 85,725	\$ 75	\$ 238,125	\$ 102	\$ 323,850
1.3	Substation Fence	2,130	LF	\$	100	\$ 213,000	\$ 100	\$ 213,000	\$ 200	\$ 426,000
1.4	Retaining Wall (1065' x 13')	1	LS	\$	406,755	\$ 406,755	\$ 925,345	\$ 925,345	\$ 1,332,100	\$ 1,332,100
1.5	Compacted Fill (124,583cy Sand)	124,583	CY	\$	17	\$ 2,117,911	\$ 20	\$ 2,491,660	\$ 37	\$ 4,609,571
1.6	Permanent Access Road - 20'-Wide (From Gordon RD)	2,100	LF	\$	35	\$ 73,500	\$ 285	\$ 598,500	\$ 320	\$ 672,000
1.7	Natural Gas Transmission Line Relocation	1	LS	\$	-		\$ 2,800,000	\$ 2,800,000	\$ 2,800,000	\$ 2,800,000
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 2,896,891		\$ 8,763,755		\$ 11,660,646
2. SUBSTATIO	N FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	8	EA	\$	14,940		\$ 16,000	\$ 128,000		
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	32	EA	\$	26,145	\$ 836,640	\$ 28,000	\$ 896,000	\$ 54,145	\$ 1,732,640
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145		\$ 28,000		\$ 54,145	
2.1e	Switch Stand Foundations	102	EA	\$	4,482	,	\$ 4,800	\$ 489,600		\$ 946,764
2.1f	Station Service Transformer Stand Foundation	1	EA	\$	4,482	\$ 4,482	\$ 4,800	\$ 4,800	\$ 9,282	\$ 9,282
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	Ÿ	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	42	EA	\$	4,482		\$ 4,800	\$ 201,600		\$ 389,844
2.1j	Instrument Transformer Stand Foundations	33	EA	\$	4,482	\$ 147,906	\$ 4,800	\$ 158,400	\$ 9,282	\$ 306,306

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.1k	Arrester Stand Foundations	6	EA	\$ 4,482	\$ 26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$ 55,692
2.1m	Wave Trap Stand Foundations	2	EA	\$ 4,482	\$ 8,964	\$ 4,800	\$ 9,600	\$ 9,282	\$ 18,564
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
2.2a	Circuit Breaker Foundations	1	EA	\$ 11,952	\$ 11,952	\$ 12,800	\$ 12,800	\$ 24,752	\$ 24,752
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$ 22,410	\$ 89,640	\$ 24,000	\$ 96,000	\$ 46,410	\$ 185,640
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	8	EA	\$ 3,735	\$ 29,880	\$ 4,000	\$ 32,000	\$ 7,735	\$ 61,880
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2j	Instrument Transformer Stand Foundations	9	EA	\$ 3,735	\$ 33,615	\$ 4,000	\$ 36,000	\$ 7,735	\$ 69,615
2.2k	Arrester Stand Foundations	3	EA	\$ 3,735	\$ 11,205	\$ 4,000	\$ 12,000	\$ 7,735	\$ 23,205
2.2m	Wave Trap Stand Foundations	1	EA	\$ 3,735	\$ 3,735	· · · · · · · · · · · · · · · · · · ·	\$ 4,000	\$ 7,735	\$ 7,735
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									-
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$ 16,434	\$ 65,736	,	\$ 70,400		\$ 136,136
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e	Switch Stand Foundations	4	EA	\$ 2,988	\$ 11,952	\$ 3,200	\$ 12,800	\$ 6,188	\$ 24,752
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ 11,552		\$ -	\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	\$ -
2.3g 2.3h		0	EA	\$ 2,988	\$ -	,	\$ -	\$ 6,188	
	Bus Support 1 Ph Foundations Instrument Transformer Stand Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3j			EA	7		7	,	,	
2.3k	Arrester Stand Foundations	6		ļ ·	1	· · · · · · · · · · · · · · · · · · ·	, ,,,,,	\$ 6,188 \$ 6,188	\$ 37,128
2.3m	Wave Trap Stand Foundations	0	EA	,	\$ -	\$ 3,200	\$ -	7 0,200	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations					4			
2.4a	345-230kV Transformer Foundation w/ Oil Containment	1	EA	\$ 97,110	\$ 97,110		\$ 104,000	\$ 201,110	
2.4b	345-115kV Transformer Foundation w/ Oil Containment	2	EA	\$ 74,700	\$ 149,400	\$ 80,000	\$ 160,000	\$ 154,700	\$ 309,400
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ 97,110					
2.5b	Generator Foundation	1	EA	\$ 16,000	\$ 16,000	\$ 17,000	\$ 17,000	\$ 33,000	\$ 33,000
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ 5,229		\$ 5,600		\$ 10,829	
2.6b				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
	TATION FOUNDATIONS				\$ 2,443,003		\$ 2,616,200		\$	5,059,203
	N STRUCTURES									
3.1	345kV									
3.1a	Substation A-Frame Structures - Stand alone	8	EA	\$ 37,000	\$ 296,000	\$ 37,000	\$ 296,000	\$ 74,000	_	592,000
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	 	-
3.1c	Switch Stands	17	EA	\$ 14,800	\$ 251,600		\$ 251,600	\$ 29,600	 	503,200
3.1d	Station Service Transformer Stand	1	EA	\$ 14,800	\$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600		29,600
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.1f	Bus Support 1 Ph	42	EA	\$ 3,700	\$ 155,400	\$ 3,700	\$ 155,400	\$ 7,400	_	310,800
3.1g	Instrument Transformer Stand	33	EA	\$ 1,850	\$ 61,050	\$ 1,850	\$ 61,050	\$ 3,700	 	122,100
3.1h	Arrester Stand	6	EA	\$ 1,850	\$ 11,100	\$ 1,850	\$ 11,100	\$ 3,700	\$	22,200
3.1j	Wave Trap Stand	2	EA	\$ 7,400	\$ 14,800	\$ 7,400	\$ 14,800	\$ 14,800	\$	29,600
3.1k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
3.2	230kV									
3.2a	Substation A-Frame Structures - Stand alone	1	EA	\$ 33,300	\$ 33,300	\$ 33,300	\$ 33,300	\$ 66,600	\$	66,600
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$	-
3.2c	Switch Stands	2	EA	\$ 12,025	\$ 24,050	\$ 12,025	\$ 24,050	\$ 24,050	\$	48,100
3.2d	Station Service Transformer Stand	0	EA	\$ 12,025	\$ -	\$ 12,025	\$ -	\$ 24,050	\$	-
3.2e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.2f	Bus Support 1 Ph	0	EA	\$ 2,775	\$ -	\$ 2,775	\$ -	\$ 5,550	\$	_
3.2g	Instrument Transformer Stand	9	EA	\$ 1,295	\$ 11,655	\$ 1,295	\$ 11,655	\$ 2,590	 	23,310
3.2h	Arrester Stand	3	EA	\$ 1,295	\$ 3,885		\$ 3,885	\$ 2,590	_	7,770
3.2j	Wave Trap Stand	1	EA	\$ 5,550	\$ 5,550	\$ 5,550	\$ 5,550	\$ 11,100	Ś	11,100
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	5	-
			2.1	φ 0,5	<u> </u>	φ 0,.73	<u> </u>	• 12,550	Ť	
3.3	115kV									
3.3a	Substation A-Frame Structures - Stand alone	2	EA	\$ 18,500	\$ 37,000	\$ 18,500	\$ 37,000	\$ 37,000	\$	74,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$	-
3.3c	Switch Stands	2	EA	\$ 7,955	\$ 15,910	\$ 7,955	\$ 15,910	\$ 15,910	\$	31,820
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$	-
3.3e	Bus Support 3ph	0	EA	\$ 3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$	-
3.3f	Bus Support 1 Ph	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$	-
3.3g	Instrument Transformer Stand	6	EA	\$ 740	\$ 4,440	\$ 740	\$ 4,440	\$ 1,480	\$	8,880
3.3h	Arrester Stand	6	EA	\$ 740	\$ 4,440	\$ 740	\$ 4,440	\$ 1,480	\$	8,880
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$	-
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	+	-
	TATION STRUCTURES				\$ 944,980		\$ 944,980		\$	1,889,960
4. MAJOR EQU										
4.1	345kV									
4.1a	Circuit Breakers	8	EA	\$ 200,000	\$ 1,600,000		\$ 640,000	\$ 280,000	+	2,240,000
4.1b	Capacitor Banks	0		\$ -						-
4.1c	345 kV - 230 kV Auto Transformer	1	EA	\$ 3,400,000				\$ 4,150,000		4,150,000
4.1d	345 kV - 115 kV Auto Transformer	2	EA	\$ 3,400,000	\$ 6,800,000	\$ 750,000	\$ 1,500,000	\$ 4,150,000	\$	8,300,000
4.2	230kV									
4.2a	Circuit Breakers	1	EA	\$ 115,000				\$ 195,000	_	195,000
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$	-
4.3	115kV									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
4.3a	Circuit Breakers	0	EA	\$ 52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAJOI	L R EQUIPTMENT				\$ 11,915,000		\$ 2,970,000		\$ 14,885,000
5. SMALL EQUI	PTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	2	EA	\$ 40,000	\$ 80,000	\$ 15,000	\$ 30,000	\$ 55,000	\$ 110,000
5.1b	Disconnect Switches - 3ph w/ manual operator	17	EA	\$ 35,000	\$ 595,000	\$ 17,500	\$ 297,500	\$ 52,500	\$ 892,500
5.1c	VT'S	6	EA	\$ 25,000	\$ 150,000	\$ 12,000	\$ 72,000	\$ 37,000	\$ 222,000
5.1d	CT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000
5.1e	CCVT'S	21	EA	\$ 13,000	\$ 273,000	\$ 8,000	\$ 168,000	\$ 21,000	\$ 441,000
5.1f	Arresters	15	EA	\$ 6,500	\$ 97,500	\$ 1,500	\$ 22,500	\$ 8,000	\$ 120,000
5.1g	Wave Traps	2	EA	\$ 13,000	\$ 26,000	\$ 8,000	\$ 16,000	\$ 21,000	\$ 42,000
	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000	\$ 50,000	\$ 50,000	\$ 250,000	\$ 250,000
5.1j									
	230kV								
	Line Switches - 3ph w/ motor operator	1	EA	\$ 35,000	\$ 35,000		\$ 15,000	\$ 50,000	
	Disconnect Switches - 3ph w/ manual operator	1	EA	\$ 30,000	\$ 30,000		\$ 17,500	\$ 47,500	\$ 47,500
	VT'S	3	EA	\$ 13,000	\$ 39,000		\$ 24,000	\$ 21,000	\$ 63,000
	CT'S	3	EA	\$ 13,000	\$ 39,000		\$ 24,000	\$ 21,000	\$ 63,000
	CCVT'S	3	EA	\$ 10,000	\$ 30,000		\$ 18,000	\$ 16,000	\$ 48,000
	Arresters	6	EA	\$ 5,000	\$ 30,000		\$ 36,000	\$ 11,000	\$ 66,000
	Wave Traps	1	EA	\$ 13,000	\$ 13,000	\$ 8,000	\$ 8,000	\$ 21,000	\$ 21,000
	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3	115kV								
	Line Switches - 3ph w/ motor operator	2	EA	\$ 33,000	\$ 66,000	\$ 15,000	\$ 30,000	\$ 48,000	\$ 96,000
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000	\$ -	\$ 17,500	\$ -	\$ 45,500	\$ -
	VT'S	6	EA	\$ 13,000	\$ 78,000	, , , , , , , , , , , , , , , , , , , ,	\$ 48,000	\$ 21,000	
	CT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000
	CCVT'S	2	EA	\$ 8,000	\$ 16,000	\$ 8,000	\$ 16,000	\$ 16,000	\$ 32,000
	Arresters	12	EA	\$ 3,420	\$ 41,040		\$ 72,000	\$ 9,420	\$ 113,040
	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ 72,000	\$ -	\$ -
	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3]	1 4363		EA .	-	-	-	-	÷ -	-
	EQUIPTMENT / MATERIALS				\$ 1,994,540		\$ 1,060,500		\$ 3,055,040
	DUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	1	EA	\$ 975,000	\$ 975,000	\$ 170,000	\$ 170,000	\$ 1,145,000	\$ 1,145,000
6.2	Protection and Telecom Equipment Panels	29	EA	\$ 35,000	\$ 1,015,000	\$ 10,000	\$ 290,000	\$ 45,000	\$ 1,305,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,000
	Control Cables	1	LS	\$ 472,500	\$ 472,500		\$ 472,500	\$ 945,000	\$ 945,000
	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$ 300,000

6.8 Securit 6.9 Fire Al: 6.10 Genera	vistribution System rity				erial Supply Rate	Material Supply Cost	Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
6.9 Fire Ala 6.10 Genera	rity	2	EA	\$	50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$	300,000
6.10 Genera		1	EA	\$	7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$	15,000
	Alarm	1	EA	\$	7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$	15,000
TOTAL - CONTROL HO	erator	1	EA	\$	100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$	180,000
TOTAL - CONTROL HO											
	OUSE / PANELS / GENERATOR					\$ 2,927,500		\$ 1,477,500		\$	4,405,000
7. MISC ITEMS											
7.1 Condu	duit & Cable Trench System	1,950	LF	\$	185.00	\$ 360,750	\$ 170.00	\$ 331,500	\$ 355	\$	692,250
7.2 Rigid B	Bus, Fittings & Insulators	2,500	LF	\$	125.07	\$ 312,675	\$ 237.10	\$ 592,750	\$ 362	\$	905,425
7.3 Strain	n Bus, Connectors & Insulators	2,000	LF	\$	39.30	\$ 78,600	\$ 53.35	\$ 106,700	\$ 93	\$	185,300
7.4 Ground	unding System	25,000	LF	\$	6.93	\$ 173,250	\$ 32.58	\$ 814,500	\$ 40	\$	987,750
7.5 Strain	n Bus Insulators - 345kV	48	EA	\$	2,000	\$ 96,000	\$ 1,050	\$ 50,400	\$ 3,050	\$	146,400
7.6 Strain	n Bus Insulators - 230kV	6	EA	\$	1,400	\$ 8,400	\$ 750	\$ 4,500	\$ 2,150	\$	12,900
7.7 Strain	n Bus Insulators - 115kV	12	EA	\$	1,000	\$ 12,000	\$ 550	\$ 6,600	\$ 1,550	\$	18,600
7.8 Low Vo	Voltage AC Station Service	1	LS	\$	50,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$	125,000
7.9 SSVT S	Service	1	LS	\$	45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 90,000	\$	90,000
7.10 Contro	rol Conduits from Trench to Equipment	1	LS	\$	125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$	250,000
7.11 Misc. N	. Materials (Above and Below Ground)	1	LS	\$	180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$	360,000
7.12											
7.13											
7.14											
7.15											
7.16											
7.17											
7.18											
7.19											
7.20				1							
TOTAL - MISC ITEMS	S					\$ 1,441,675		\$ 2,331,950		\$	3,773,625
	m Substation - Install					\$ 24,563,589		\$ 20,164,885		\$	44,728,474
	IGINEERING, PERMITTING, T&C, PM & INDIRECTS:					, , , , , , , , , , , , , , , , , , , ,					, ,,,,,
	ractor Mobilization / Demobilization										
	/ Demob	1.0	LS	\$	-	\$ -	\$ 447,285	\$ 447,285	\$ 447,285	\$	447,285
	ect Management, Material Handling & Amenities						,	, ,	,		,
	ect Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 2,284,659	\$ 2,284,659	\$ 2,284,659	\$	2,284,659
8.3 Utility	ry PM and Project Oversite	1	LS	1		\$ -	\$ 447,285	\$ 447,285	\$ 447,285	\$	447,285
	Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 447,285			\$	447,285
—	neering										
8.5 Design	gn Engineering	1	LS	\$	-	\$ -	\$ 3,578,278	\$ 3,578,278	\$ 3,578,278	\$	3,578,278
8.6 LiDAR	R	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.7 Geotee	rech	4	EA	\$	-	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	Ś	14,000
L	eying/Staking	1	Site	\$		\$ -	\$ 313,099				313,099
	ing & Commissioning	1	Site	+	-	· · · · · · · · · · · · · · · · · · ·	2 313,033	2 313,099	2 313,033	7	313,033
	ing & Commissioning ing & Commissioning of T-Line and Equipment	1	LS	\$		\$ -	\$ 1,118,212	\$ 1,118,212	\$ 1,118,212	ć	1,118,212

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	ate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	- :	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	- :	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$.	- :	\$ -	\$ 134,185	\$ 134,185	\$ 134,185	\$ 134,185
8.13	Real Estate Costs (New)	-	LS	\$.	- :	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$.	- :	\$ -	\$ 247,500	\$ 247,500	\$ 247,500	\$ 247,500
8.15	Legal Fees	-	LS	\$ -	- :	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$.	- :	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$.	- :	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 1,965,0	087	\$ 1,965,087	\$ -	\$ -	\$ 1,965,087	\$ 1,965,087
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 44,728	\$ 44,728	\$ 44,728	\$ 44,728
TOTAL - MOB,	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,965,087		\$ 9,076,516		\$ 11,041,603

Page 18 of 65

D. SS Rotterdam-Install

E. Rotterdam Substation - Removal

Estimate Revision: 7 Total: \$ 4,207,133

NAT & NYPA - T028 - (Segment	nt A, Enhanced)		
	Supply	Installation	Total
E. Rotterdam Substation - Removal			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ -	\$ 1,472,750	\$ 1,472,750
2. SUBSTATION FOUNDATIONS	\$ -	\$ 617,400	\$ 617,400
3. SUBSTATION STRUCTURES	\$ -	\$ 534,900	\$ 534,900
4. MAJOR EQUIPTMENT	\$ -	\$ 147,000	\$ 147,000
5. SMALL EQUIPTMENT / MATERIALS	\$ -	\$ 169,500	\$ 169,500
6. CONTROL HOUSE / PANELS	\$ -	\$ 150,000	\$ 150,000
7. MISC ITEMS	\$ -	\$ 519,480	\$ 519,480
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ -	\$ 596,103	\$ 596,103
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ -	\$ 4,207,133	\$ 4,207,133
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ -	\$ 4,207,133	\$ 4,207,133

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
E. Rotte	rdam Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	6.3	ACRES	\$ -	\$ -	\$ 203,000	\$ 1,268,750	\$ 203,000	\$ 1,268,750
1.2	Station stone within substation fence.	2,000	CY	\$ -	\$ -	\$ 102	\$ 204,000	\$ 102	\$ 204,000
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	PREP/ GRADING/ FENCING / CIVIL				\$ -		\$ 1,472,750		\$ 1,472,750
2. SUBSTATIO	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2	230kV								
2.2a	Circuit Breaker Foundations	9	EA	\$ -	\$ -	\$ 7,200	\$ 64,800	\$ 7,200	\$ 64,800
2.2b	Capacitor Bank Foundations	2	EA	\$ -	\$ -		\$ 64,000	\$ 32,000	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	1	EA	\$ -	\$ -	\$ 22,000	\$ 22,000	\$ 22,000	\$ 22,000
2.2d	Caisson DE Foundations (for DE A frame str stand alone) Caisson DE Foundations (for DE A frame str shared column)	5	EA	\$ -	\$ -	\$ 11,000	\$ 55,000	\$ 11,000	
2.2u 2.2e	Switch Stand Foundations	15	EA	\$ -	\$ -	\$ 5,200	\$ 78,000	\$ 5,200	\$ 78,000
2.2f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ 78,000	\$ -	\$ -
2.2g	Bus Support 3ph Foundations	4	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2g 2.2h	Bus Support 1 Ph Foundations	59	EA	\$ -	\$ -	\$ 2,400	\$ 141,600	\$ 2,400	\$ 141,600
	Instrument Transformer Stand Foundations	15	EA	\$ -	\$ -	\$ 2,400	\$ 36,000	\$ 2,400	\$ 36,000
2.2j 2.2k	Arrester Stand Foundations	6	EA	\$ -	\$ - \$ -	\$ 2,400	\$ 36,000	\$ 2,400	\$ 14,400
2.2K 2.2m		0	EA EA		\$ -	, , , , , ,			\$ 14,400
	Wave Trap Stand Foundations	-			T	•		·	•
2.2n 2.2p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2μ									
2.3	115kV								
2.3a		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Circuit Breaker Foundations								*
2.3b	Capacitor Bank Foundations Caisson DE Foundations (for DE A frame str stand alone)	0	EA EA		1			\$ - \$ -	\$ - \$ -
2.3c		0					\$ - \$ -		
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0 3	EA		·		'		-
2.3e	Switch Stand Foundations		EA		<u> </u>	,	, ,,,,,	,	
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	3	EA	\$ -	\$ -	\$ 42,000	\$ 126,000	\$ 42,000	\$ 126,000
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
							,		
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
								-	
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0		\$ -		\$ -	\$ -		\$ -
TOTAL - SUBS	TATION FOUNDATIONS				\$ -		\$ 617,400		\$ 617,400
3. SUBSTATIO	N STRUCTURES								
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	1	EA	\$ -	\$ -	\$ 27,000	\$ 27,000	\$ 27,000	\$ 27,000
3.2b	Substation A-Frame Structures - Shared Column	5	EA	\$ -	\$ -	\$ 27,000	\$ 135,000	\$ 27,000	\$ 135,000
3.2c	Switch Stands	15	EA	\$ -	\$ -	\$ 9,750	\$ 146,250	\$ 9,750	\$ 146,250
3.2d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2e	Bus Support 3ph	4	EA	\$ -	\$ -	\$ 2,250	\$ 9,000	\$ 2,250	\$ 9,000
3.2f	Bus Support 1 Ph	59	EA	\$ -	\$ -	\$ 2,250	\$ 132,750	\$ 2,250	\$ 132,750
3.2g	Instrument Transformer Stand	15	EA	\$ -	\$ -	\$ 1,050	\$ 15,750	\$ 1,050	\$ 15,750
3.2h	Arrester Stand	6	EA	\$ -	\$ -	\$ 1,050	\$ 6,300	\$ 1,050	\$ 6,300
3.2j	Wave Trap Stand	3	EA	\$ -	\$ -	\$ 4,500	\$ 13,500	\$ 4,500	\$ 13,500
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	2	EA	\$ -	\$ -	\$ 15,000	\$ 30,000	\$ 15,000	\$ 30,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	3	EA	\$ -	\$ -	\$ 6,450	\$ 19,350	\$ 6,450	\$ 19,350
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBS	TATION STRUCTURES				\$ -		\$ 534,900		\$ 534,900
4. MAJOR EQU					*		7 33 1,533		7 00 ,,000
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	9	EA	\$ -	\$ -	\$ 7,000	\$ 63,000	\$ 7,000	\$ 63,000
4.2b	Capacitor Banks	2	EA	\$ -	\$ -	\$ 42,000	\$ 84,000	\$ 42,000	\$ 84,000
	· ·					,,,,,	. ,,,,,,,	,	
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				<u> </u>					
TOTAL - MAIO	DR EQUIPTMENT				\$ -		\$ 147,000		\$ 147,000
	IPTMENT / MATERIALS				,		7 147,000		Ţ 147,000
5.1	345kV								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	1	TOTAL
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$	-
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$	-
5.1c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.1d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.1e	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$	-
5.1f	Arresters	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$	-
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$	-
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.1j										
5.2	230kV									
5.2a	Line Switches - 3ph w/ motor operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$	16,500
5.2b	Disconnect Switches - 3ph w/ manual operator	12	EA	\$ -	\$ -	\$ 5,500	\$ 66,000	\$ 5,500	\$	66,000
5.2c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.2d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.2e	CCVT'S	8	EA	\$ -	\$ -	\$ 1,500	\$ 12,000	\$ 1,500	\$	12,000
5.2f	Arresters	15	EA	\$ -	\$ -	\$ 2,500	\$ 37,500	\$ 2,500	\$	37,500
5.2g	Wave Traps	3	EA	\$ -	\$ -	\$ 2,500	\$ 7,500	\$ 2,500	\$	7,500
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.2j										
										,
5.3	115kV									
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.3b	Disconnect Switches - 3ph w/ manual operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$	16,500
5.3c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.3d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.3e	CCVT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.3f	Arresters	9	EA	\$ -	\$ -	\$ 1,500	\$ 13,500	\$ 1,500	\$	13,500
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				\$ -		\$ 169,500		\$	169,500
	OUSE / PANELS / GENERATOR				7		7 210,000		*	
6.1	CONTROL HOUSE	1	EA	\$ -	\$ -	\$ 150,000	\$ 150,000	\$ 150,000	\$	150,000
6.2	PANELS	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
6.4	Protection and Telecom Equipment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
6.8	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
TOTAL - CONT	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ 150,000		\$	150,000
7. MISC ITEMS										
7.1	Conduit & Cable Trench System	1	LS	\$ -	\$ -	\$ 42,000.00	\$ 42,000	\$ 42,000	\$	42,000
7.2	Rigid Bus, Fittings & Insulators	3,200	LF	\$ -	\$ -	\$ 126.25	\$ 404,000	\$ 126	\$	404,000

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipmo Supply Rate	ent	Labor & Equipment Cost	Total Unit Rate		TOTAL
7.3	Strain Bus, Connectors & Insulators	800	LF	\$ -	\$ -	\$ 39	0.35	\$ 31,480	\$ 39	\$	31,480
7.4	Grounding System	1	LS	\$ -	\$ -	\$ 42,000	0.00	\$ 42,000	\$ 42,000	\$	42,000
7.5											
7.6											
7.7											
7.8											
7.9											
7.10											
7.11											
7.12											
7.13											
7.14											
7.15											
TOTAL - MISC	ITEMS				\$ -			\$ 519,480		\$	519,480
E. Rotter	rdam Substation - Removal				\$ -			\$ 3,611,030		\$	3,611,030
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 36,	110	\$ 36,110	\$ 36,110	\$	36,110
	Project Management, Material Handling & Amenities										
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 184,	446	\$ 184,446	\$ 184,446	\$	184,446
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 36,	110	\$ 36,110	\$ 36,110	\$	36,110
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 36,	110	\$ 36,110	\$ 36,110	\$	36,110
	Engineering					,		,	· , , , , , , , , , , , , , , , , , , ,		
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 288,	882	\$ 288,882	\$ 288,882	Ś	288,882
8.6	LiDAR	-	LS	\$ -	\$ -		_	\$ -	\$ -	\$	
8.7	Geotech	-	EA	\$ -	\$ -	-	\rightarrow	\$ -	\$ 3,500	\$	
8.8	Surveying/Staking	-	Site	\$ -	\$ -	· ·	-	\$ -	\$ 25,277	<u> </u>	_
	Testing & Commissioning			T	-			*	+,	-	
8.9	Testing & Commissioning of T-Line and Equipment	_	LS	\$ -	\$ -	\$ 90.	276	\$ -	\$ 90,276	Ś	
	Permitting and Additional Costs			T	-	,		*	7 77,2.1	-	
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	Ś	-	\$ -	\$ -	Ś	
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	1	-	\$ -	\$ -	\$	-
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 10,	_	\$ 10,833	\$ 10,833	\$	10,833
8.13	Real Estate Costs (New)		LS	\$ -	\$ -	-	_	\$ -	\$ -	\$	-
8.14	Real Estate Costs (New)	_	LS	\$ -	\$ -		_	\$ -	\$ -	Ś	
8.15	Legal Fees		LS	\$ -	\$ -		\rightarrow	\$ - \$ -	\$ -	Ś	
8.16	Allowance for Funds Used During Construction (AFUDC)		LS	\$ -	\$ -	· .		\$ -	\$ -	\$	
8.17	- moranee is runas osca buring construction (Al obe)		LS	\$ -	\$ -	-	-	\$ -	\$ -	\$	
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	-	\rightarrow	\$ - \$ -	\$ -	Ś	
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	- -	\$ -	T		\$ 3,611	\$ 3,611	\$	3,611
	rees for permiss, meading roadway, ramoad, building or other local permits				\$ -	, J	~++	\$ 596,103	9 3,011	ļ ,	596,103

F. Edic Substation - Install

Estimate Revision: 7 Total: \$ 2,639,615

NAT & NYPA - T028 - (Segmen	nt A, En	hanced)			
		Supply	Installation		Total
F. Edic Substation - Install					
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	2,025	\$	5,625	\$ 7,650
2. SUBSTATION FOUNDATIONS	\$	100,098	\$	107,200	\$ 207,298
3. SUBSTATION STRUCTURES	\$	44,400	\$	44,400	\$ 88,800
4. MAJOR EQUIPTMENT	\$	200,000	\$	80,000	\$ 280,000
5. SMALL EQUIPTMENT / MATERIALS	\$	280,000	\$	133,500	\$ 413,500
6. CONTROL HOUSE / PANELS	\$	173,850	\$	98,850	\$ 272,700
7. MISC ITEMS	\$	339,357	\$	507,880	\$ 847,237
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	91,178	\$	431,251	\$ 522,430
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$ -
SUBTOTAL:	\$	1,230,908	\$	1,408,706	\$ 2,639,615
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$ -
TOTAL:	\$	1,230,908	\$	1,408,706	\$ 2,639,615

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
F. Edic S	ubstation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$	-	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	75	CY	\$	27		\$ 75		\$ 102	\$ 7,65
1.3	Substation Fence	0	LF	\$	100		\$ 100		\$ 200	•
1.4	Permanent Access Road - 20'-Wide	0	LF	\$	35	\$ -	\$ 285	\$ -	\$ 320	\$ -
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										<u> </u>
1.12										
1.13										
1.14										
1.15										<u> </u>
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 2,025		\$ 5,625		\$ 7,65
	N FOUNDATIONS									
	345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$	14,940		\$ 16,000		\$ 30,940	
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000		\$ 116,025	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	26,145	\$ -	\$ 28,000		\$ 54,145	
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145		\$ 28,000	•	\$ 54,145	•
2.1e	Switch Stand Foundations	6	EA	\$	4,482	\$ 26,892	\$ 4,800		\$ 9,282	
	Station Service Transformer Stand Foundation	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	
	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	0	EA	\$	4,482		\$ 4,800		\$ 9,282	
2.1j	Instrument Transformer Stand Foundations	9	EA	\$	4,482	\$ 40,338	\$ 4,800		\$ 9,282	
	Arrester Stand Foundations	3	EA	\$	4,482	\$ 13,446	\$ 4,800		\$ 9,282	
2.1m	Wave Trap Stand Foundations	1	EA	\$	4,482		\$ 4,800	\$ 4,800	\$ 9,282	
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p										<u> </u>
2.2	230kV									
2.2a	Circuit Breaker Foundations	0	EA	Ś	11,952	ċ	\$ 12,800	ċ	\$ 24,752	ė
2.2a 2.2b	Capacitor Bank Foundations	0	EA EA	Ś	44,820		\$ 12,800		\$ 24,752	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA EA	\$	22,410		\$ 24,000		\$ 92,820	
2.2c 2.2d	Caisson DE Foundations (for DE A frame str stand alone) Caisson DE Foundations (for DE A frame str shared column)	0	EA EA	\$	22,410		\$ 24,000		\$ 46,410	
		0	EA EA	Ś	3,735		\$ 24,000		\$ 46,410	
2.2e	Switch Stand Foundations	U	EA] >	3,/35	> -	ş 4,000	> -	ş /,/35	- •

Item	Item Description	Estimated Quantity	Unit of Measure	Material	Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2f	Fuse Stand Foundations	0	EA	\$	3,735		\$ 4,000	\$ -		\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$			\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$	3,735			\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$	3,735		\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$	3,735		, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 7,735	
2.2m	Wave Trap Stand Foundations	0	EA	\$	3,735		\$ 4,000 \$ -	\$ - \$ -	\$ 7,735	\$ - \$ -
2.2n 2.2p	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.3	115kV									
2.3a	Circuit Breaker Foundations	0	EA	\$	5,229		\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$	33,615		\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	16,434		\$ 17,600		\$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	16,434		\$ 17,600			\$ -
2.3e	Switch Stand Foundations	0	EA	\$				\$ -		\$ -
2.3f	Fuse Stand Foundations	0	EA	\$	2,988			\$ -	\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$	2,988			\$ -	\$ 6,188	\$ - \$ -
2.3h 2.3j	Bus Support 1 Ph Foundations Instrument Transformer Stand Foundations	0	EA EA	\$	2,988 2,988		\$ 3,200 \$ 3,200	\$ - \$ -	\$ 6,188 \$ 6,188	\$ - \$ -
2.3j 2.3k	Instrument Transformer Stand Foundations Arrester Stand Foundations	0	EA	\$	2,988		\$ 3,200	т	\$ 6,188	\$ -
2.3K 2.3m	Wave Trap Stand Foundations	0	EA	\$			\$ 3,200		\$ 6,188	\$ -
2.3m	Station Service Foundations	0	EA	\$		7		\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$			\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations			·						
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$	97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$	74,700		\$ 80,000	\$ -	\$ 154,700	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$			\$ 60,000	\$ -	\$ 134,700	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$			\$ -	\$ -	\$ -	\$ -
	·	0	EA	,		Ŷ	Ÿ	<u>, </u>	Ť	<u>, </u>
2.5	Control House Foundations / Pad					1		•		•
2.5a	Control House / Pad	0	EA	\$	76,194	7	\$ 81,600	\$ -	\$ 157,794	\$ -
2.5b	Generator Foundation	0	EA	\$	16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6	Lightning Mast Foundations				5 220	^	Å 5.000	<u></u>	d 40.000	^
2.6a 2.6b	70' Lightning Mast Foundation	0	EA EA	\$	5,229		\$ 5,600 \$ -	\$ - \$ -	\$ 10,829 \$ -	\$ - \$ -
2.6c	60' Lightning Mast Foundation 50' Lightning Mast Foundation	0	EA	\$			7	\$ - \$ -	\$ - \$ -	\$ -
2.00	30 Lightning Wast Foundation	0	LA	1		· -	y -	· -	· -	-
TOTAL - SUBS	STATION FOUNDATIONS					\$ 100,098		\$ 107,200		\$ 207,298
3. SUBSTATIO	ON STRUCTURES									
3.1	345kV									
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$	37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$	37,000	·	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1c								\$ 14,800	\$ 29,600	\$ 29,600
	Switch Stands	1	EA	\$	14,800		, ,,,,,			
3.1d	Station Service Transformer Stand	0	EA	\$	14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
3.1d 3.1e	Station Service Transformer Stand Bus Support 3ph	0	EA EA	\$	14,800	\$ - \$ -	\$ 14,800 \$ -	\$ - \$ -	\$ -	\$ -
3.1d 3.1e 3.1f	Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph	0 0 0	EA EA EA	\$ \$ \$	14,800 - 3,700	\$ - \$ - \$ -	\$ 14,800 \$ - \$ 3,700	\$ - \$ - \$ -	\$ - \$ 7,400	\$ - \$ -
3.1d 3.1e 3.1f 3.1g	Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand	0 0 0 9	EA EA EA	\$ \$ \$	14,800 - 3,700 1,850	\$ - \$ - \$ - \$ 16,650	\$ 14,800 \$ - \$ 3,700 \$ 1,850	\$ - \$ - \$ - \$ 16,650	\$ - \$ 7,400 \$ 3,700	\$ - \$ - \$ 33,300
3.1d 3.1e 3.1f 3.1g 3.1h	Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 0 9 3	EA EA EA EA	\$ \$ \$ \$	14,800 - 3,700 1,850 1,850	\$ - \$ - \$ - \$ 16,650 \$ 5,550	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850	\$ - \$ - \$ - \$ 16,650 \$ 5,550	\$ - \$ 7,400 \$ 3,700 \$ 3,700	\$ - \$ - \$ 33,300 \$ 11,100
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand	0 0 0 9 3 1	EA EA EA EA EA	\$ \$ \$ \$ \$	14,800 - 3,700 1,850 1,850 7,400	\$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400	\$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800	\$ - \$ - \$ 33,300 \$ 11,100 \$ 14,800
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures	0 0 0 9 3	EA EA EA EA	\$ \$ \$ \$	14,800 - 3,700 1,850 1,850	\$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850	\$ - \$ - \$ - \$ 16,650 \$ 5,550	\$ - \$ 7,400 \$ 3,700 \$ 3,700	\$ - \$ - \$ 33,300 \$ 11,100
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV	0 0 0 9 3 1	EA EA EA EA EA EA EA EA	\$ \$ \$ \$ \$	14,800 - 3,700 1,850 1,850 7,400 6,475	\$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ -	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475	\$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ -	\$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950	\$ - \$ - \$ 33,300 \$ 11,100 \$ 14,800 \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone	0 0 0 9 3 1 0	EA EA EA EA EA EA EA EA EA	\$ \$ \$ \$ \$ \$ \$ \$	14,800 - 3,700 1,850 1,850 7,400 6,475	\$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ -	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300	\$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ -	\$ \$.7,400 \$.3,700 \$.3,700 \$.14,800 \$.12,950 \$ \$ \$	\$ - \$ - \$ 33,300 \$ 11,100 \$ 14,800 \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0 0 9 3 1 0	EA	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	14,800 - 3,700 1,850 1,850 7,400 6,475 33,300 33,300	\$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ -	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300	\$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ -	\$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600	\$ - \$ 33,300 \$ 11,100 \$ 14,800 \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands	0 0 9 9 3 1 0	EA E	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	14,800 - 3,700 1,850 1,850 7,400 6,475 33,300 33,300 12,025	\$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025	\$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050	\$ - \$ 33,300 \$ 11,100 \$ 14,800 \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 0 9 9 3 1 0	EA E	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	14,800 - 3,700 1,850 1,850 7,400 6,475 33,300 33,300 12,025 12,025	\$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025	\$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ -	\$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050	\$ - \$ 33,300 \$ 11,100 \$ 14,800 \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2c 3.2d	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3 ph	0 0 9 3 1 0 0 0 0 0	EA E	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	14,800 - 3,700 1,850 1,850 7,400 6,475 33,300 33,300 12,025 12,025	\$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 16,650 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ -	\$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ -	\$ \$.7,400 \$.3,700 \$.3,700 \$.14,800 \$.12,950 \$.66,600 \$.66,600 \$.24,050 \$.24,050 \$	\$ - \$ 33,300 \$ 11,100 \$ 14,800 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2d 3.2d 3.2d	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph	0 0 9 3 1 0 0 0 0 0 0	EA E	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	14,800 - 3,700 1,850 7,400 6,475 33,300 33,300 12,025 12,025 - 2,775	\$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ -	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ - \$ 2,775	\$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 16,650 \$ 7,400 \$ - \$ -	\$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ - \$ 5,550	\$ - \$ 33,300 \$ 11,100 \$ 14,800 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2a 3.2b 3.2c 3.2c 3.2d 3.2c 3.2d 3.2c	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand	0 0 9 9 3 1 0 0 0 0 0 0 0	EA E	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	14,800 - 3,700 1,850 1,850 7,400 6,475 33,300 33,300 12,025 - 2,775 1,295	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 12,025 \$ 12,025 \$ - \$ 2,775 \$ 1,295	\$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ - \$ 5,550 \$ 2,590	\$ - \$ 33,300 \$ 11,100 \$ 14,800 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2d 3.2d 3.2d	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph	0 0 9 3 1 0 0 0 0 0 0	EA E	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	14,800 - 3,700 1,850 7,400 6,475 33,300 33,300 12,025 12,025 - 2,775	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 12,025 \$ 12,025 \$ 2,775 \$ 1,295 \$ 1,295	\$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ - \$ 5,550	\$ - \$ 33,300 \$ 11,100 \$ 14,800 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Mater	ial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3	115kV									
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$	18,500	т	\$ 18,500	•	\$ 37,000	\$ -
3.3c	Switch Stands	0	EA	\$	7,955		\$ 7,955		\$ 15,910	
3.3d	Fuse Stand	0	EA	\$	7,955			\$ -	\$ 15,910	\$ -
3.3e	Bus Support 3ph	0	EA	\$	3,330		\$ 3,330	·	\$ 6,660	
3.3f	Bus Support 1 Ph	0	EA	\$	1,850		\$ 1,850	\$ -	\$ 3,700	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$	740		\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0	EA	\$	740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3j	Wave Trap Stand	0	EA	\$	3,700		\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$	6,475		\$ 6,475		\$ 12,950	·
	TATION STRUCTURES					\$ 44,400		\$ 44,400		\$ 88,800
1. MAJOR EQU										
4.1	345kV	1	ΕΔ.	ć	200,000	ć 200.000	ć 00.000	ć 00.000	ć 200.000	ć 200 000
4.1a	Circuit Breakers	1	EA	\$	200,000		\$ 80,000	\$ 80,000	\$ 280,000	
4.1b	Capacitor Banks	0	EA	\$		\$ - \$ -	\$ 80,000 \$ 750,000	\$ -	\$ 80,000 \$ 750,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer		EA	\$				\$ -		\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$	-	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2 4.2a		0	EA	\$	115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.2a 4.2b	Circuit Breakers	0	EA	\$		\$ - \$ -	\$ 80,000	т	\$ 195,000 \$ 80,000	•
4.20	Capacitor Banks	U	EA	3	-	\$ -	\$ 80,000	\$ -	\$ 80,000	-
4.3	115kV									
4.3a	Circuit Breakers	0	EA	\$	52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks	0	EA	\$		\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAJO	R EQUIPTMENT					\$ 200,000		\$ 80,000		\$ 280,000
S. SMALL EQUI	PTMENT / MATERIALS									
5.1	345kV									
5.1a	Line Switches - 3ph w/ motor operator	1	EA	\$	40,000	+,	\$ 15,000	\$ 15,000	\$ 55,000	\$ 55,000
5.1b	Disconnect Switches - 3ph w/ manual operator	1	EA	\$	35,000	\$ 35,000	\$ 17,500	\$ 17,500	\$ 52,500	\$ 52,500
5.1c	VT'S	3	EA	\$	25,000		\$ 12,000	\$ 36,000	\$ 37,000	\$ 111,000
5.1d	CT'S	3	EA	\$	13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1e	CCVT'S	3	EA	\$	13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1f	Arresters	6	EA	\$	-,	7	\$ 1,500	\$ 9,000	\$ 8,000	\$ 48,000
5.1g	Wave Traps	1	EA	\$,	\$ 13,000	\$ 8,000	\$ 8,000	\$ 21,000	\$ 21,000
5.1h	Station Service Transformers	0	EA	\$	200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j										
5.2	230kV									
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$	35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$	30,000	\$ -	\$ 17,500	\$ -	\$ 47,500	\$ -
5.2c	VT'S	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2d	CT'S	0	EA	\$	13,000		\$ 8,000	\$ -	\$ 21,000	\$ -
5.2e	CCVT'S	0	EA	\$	10,000	\$ -	\$ 6,000	\$ -	\$ 16,000	\$ -
5.2f	Arresters	0	EA	\$	5,000	\$ -	\$ 6,000	\$ -	\$ 11,000	\$ -
5.2g	Wave Traps	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2h	Station Service Transformers	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j										
5.3	115kV		Γ^	·	22.000	ć	ć 4F.000	ć	ć 40.000	
5.3a	Line Switches - 3ph w/ motor operator	0	EA EA	\$	33,000		\$ 15,000 \$ 17,500		\$ 48,000 \$ 45,500	
	Disconnect Switches - 3ph w/ manual operator	0	EA EA	\$	28,000 13,000		\$ 17,500		\$ 45,500	
	VT'S CT'S	0		\$	13,000		\$ 8,000		\$ 21,000	
	CCVT'S	0		\$	8,000		\$ 8,000		\$ 21,000	
5.3e 5.3f	Arresters	0		\$	3,420		\$ 6,000		\$ 16,000	
5.3g	Wave Traps	0	EA	\$				\$ -	\$ 9,420	\$ -
5.3g 5.3h	Station Service Transformers	0		\$				\$ -		\$ -
5.3j	Fuses	0	EA	\$				\$ -	\$ -	\$ -
ارد.د	. 4060	U	L/\	+-	-	· -	¥ -	· ·	· ·	· -

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6. CONTROL H	IOUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -
6.2	Protection and Telecom Equipment Panels	3	EA	\$ 35,000	\$ 105,000	\$ 10,000	\$ 30,000	\$ 45,000	\$ 135,000
6.3	125VDC Batteries	0	EA	\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	Control Cables	1	LS	\$ 68,850	\$ 68,850	\$ 68,850	\$ 68,850	\$ 137,700	\$ 137,700
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ 50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
6.7	DC Distribution System	0	EA	\$ 50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
6.8	Security	0	EA	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.9	Fire Alarm	0	EA	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.10	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
	ROL HOUSE / PANELS / GENERATOR				\$ 173,850		\$ 98,850		\$ 272,700
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	800	LF	\$ 185.00	\$ 148,000	\$ 170.00	\$ 136,000	\$ 355	
7.2	Rigid Bus, Fittings & Insulators	0	L.S.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7.3	Strain Bus, Connectors & Insulators	2,500	LF	\$ 39.30	\$ 98,250	\$ 53.35	\$ 133,375	\$ 93	\$ 231,625
7.4	Grounding System	1	L.S.	\$ 10,395.00	\$ 10,395	\$ 73,305.00	\$ 73,305	\$ 83,700	\$ 83,700
7.5	Strain Bus Insulators - 345kV	24	EA	\$ 2,000	\$ 48,000		\$ 25,200	\$ 3,050	
7.6	Strain Bus Insulators - 230kV	0	EA	\$ 1,400	\$ -	\$ 750	\$ -	\$ 2,150	\$ -
7.7	Strain Bus Insulators - 115kV	0		\$ 1,000	\$ -	•	\$ -	\$ 1,550	
7.8	Low Voltage AC Station Service	0	LS	\$ 50,000	\$ -		\$ -	\$ 125,000	
7.9	SSVT Service	0		\$ 45,000	\$ -	\$ 45,000	\$ -	\$ 90,000	
7.10	Control Conduits from Trench to Equipment	1	LS	\$ 14,000	\$ 14,000		\$ 70,000	\$ 84,000	
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$ 20,712	\$ 20,712		\$ 70,000	\$ 90,712	
7.12			-				, ,,,,,,		
7.13									
7.14									
7.15									
7.16									
7.17									
7.18									
7.19									
7.20									
7.21									
7.22									
7.23									
7.24									
7.25									
TOTAL - MISC	ITEMS				\$ 339,357		\$ 507,880		\$ 847,237
F. Edic S	ubstation - Install				\$ 1,139,730		\$ 977,455		\$ 2,117,185
8. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$ 21,172
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 108,142	\$ 108,142	\$ 108,142	\$ 108,142
						4 24:	4 24:	A 24:==	A 24:==
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 21,172	\$ 21,172	\$ 21,172	
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$ 21,172
0.5	Engineering Design Engineering		LS		ć	ć 400.000	6 460.375	ć 400.000	ć 400.3==
8.5	Design Engineering	1		\$ -	\$ -		\$ 169,375	\$ 169,375	
8.6	LiDAR	-	LS	\$ - \$ -	\$ - \$ -	\$ -	\$ -		\$ - \$ 14,000
8.7	Geotech Suppositing (Stakking	1		·		\$ 3,500			
8.8	Surveying/Staking Testing & Commissioning	1	Site	\$ -	\$ -	\$ 14,820	ب (14,820	\$ 14,820	\$ 14,820
8.9	Testing & Commissioning Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 52,930	\$ 52,930	\$ 52,930	\$ 52,930
	Permitting and Additional Costs	_		1		. 22,350		,-50	,500
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -			\$ -		\$ -
8.12	Warranties / LOC's	1		\$ -	\$ -				
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -			\$ -	
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -			\$ -	
		1		1.		i *	ı ·		D 27 -£(5

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supp	ply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	91,178	\$ 91,178	\$ -	\$ -	\$ 91,178	\$ 91,178
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 2,117	\$ 2,117	\$ 2,117	\$ 2,117
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 91,178		\$ 431,251		\$ 522,430

Page 28 of 65

G. Edic Substation - Removal

Estimate Revision: 7 Total: \$ 41,616

NAT & NYPA - T028 - (Segme	nt A, Enhanced)				
	Supply		Installation	Total	
G. Edic Substation - Removal					
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ -	\$	-
2. SUBSTATION FOUNDATIONS	\$	-	\$ 14,000	\$	14,000
3. SUBSTATION STRUCTURES	\$	-	\$ 6,750	\$	6,750
4. MAJOR EQUIPTMENT	\$	-	\$ -	\$	-
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ 4,500	\$	4,500
6. CONTROL HOUSE / PANELS	\$	-	\$ -	\$	-
7. MISC ITEMS	\$	-	\$ -	\$	10,500
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$ 5,866	\$	5,866
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-
SUBTOTAL:	\$	-	\$ 31,116	\$	41,616
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-
TOTAL:	\$		\$ 31,116	\$	41,616

	of Wo	

2.1b Capacitor Bank Foundations 0 EA \$ - \$ - \$ -	\$ 203,000 \$ 75 \$ 150	\$ -
1.1 Site Works including clearing, sediment controls, rough grading, and final grading.	\$ 75	\$ -
1.2 Station stone within substation fence.	\$ 75	\$ -
1.3 Substation Fence		
1.4	\$ 150	\$ -
1.5		
1.6		
1.7 1.8 1.9 1.10 1.11 1.12 1.13 1.14 1.15 1.15 1.17 1.18 1.19 1.19 1.19 1.19 1.10 1.11 1.12 1.13 1.14 1.15 1.15 1.16 1.17 1.18 1.19 1.19 1.19 1.19 1.10 1.10 1.10 1.11 1.11		
1.8 1.9 1.10 1.11 1.12 1.13 1.14 1.15 1.15 1.17 1.18 1.19 1.19 1.19 1.19 1.10 1.11 1.12 1.13 1.14 1.15 1.15 1.16 1.17 1.18 1.19 1.19 1.19 1.19 1.19 1.10 1.10 1.11 1.11		
1.9 1.10 1.11 1.12 1.13 1.14 1.15 1.15 1.17 1.15 1.17 1.18 1.19 1.19 1.19 1.19 1.19 1.10 1.11 1.11		
1.10		
1.11		
1.12		
1.13		
1.14		
1.15		
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL \$ - \$ - \$ - \$ -		
2.1 345kV EA \$		S -
2.1 345kV EA \$ - \$ 14,000 \$ 14,000 2.1a Circuit Breaker Foundations 1 EA \$ - \$ - \$ 14,000 \$ 14,000 \$ 14,000 \$ - <td></td> <td>3 -</td>		3 -
2.1a Circuit Breaker Foundations 1 EA \$ - \$ - \$ 14,000 \$ 14,000 2.1b Capacitor Bank Foundations 0 EA \$ - <		
2.1b Capacitor Bank Foundations 0 EA \$ - \$ <th< td=""><td>\$ 14,000</td><td>\$ 14,0</td></th<>	\$ 14,000	\$ 14,0
2.1c Caisson DE Foundations (for DE A frame str stand alone) 0 EA \$ - \$ - \$ - 2.1d Caisson DE Foundations (for DE A frame str shared column) 0 EA \$ - \$ - \$ -	\$ -	\$ -
2.1d Caisson DE Foundations (for DE A frame str shared column) 0 EA \$ - \$ - \$ -	\$ -	\$ -
	\$ -	\$ -
1 4.1E 13WILLI 3 GIU FOU II GUI I GU	\$ -	Š -
2.1f Station Service Transformer Stand Foundation 0 EA \$ - \$ - \$ -	\$ -	\$ -
2.1g Bus Support 3ph Foundations 0 EA \$ - \$ - \$ -	\$ -	\$ -
	\$ 2,400	\$ -
2.1j Instrument Transformer Stand Foundations 0 EA \$ - \$ - \$ -	\$ -	\$ -
2.1k Arrester Stand Foundations 0 EA \$ - \$ - \$ - \$	\$ -	\$ -
2.1m Wave Trap Stand Foundations 0 EA \$ - \$ - \$ -	\$ -	\$ -
2.1n Misc. Structure Foundations 0 EA \$ - \$ - \$ - \$ - \$ - \$	\$ -	\$ -
2.1p 0 EA \$ - \$ - \$ -	\$ -	\$ -
2.2 230kV		
2.2a Circuit Breaker Foundations 0 EA \$ - \$ - 7,200 \$ -	\$ 7,200	
	\$ 32,000	
	\$ 22,000	
	\$ 11,000	
2.2e Switch Stand Foundations 0 EA \$ - \$ 5,200 \$ -		
2.2f Station Service Transformer Stand Foundation 0 EA \$ - \$ - \$ - \$ -	\$ 5,200 \$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2g	Bus Support 3ph Foundations	0	EA	\$ -			\$ -		\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ -	·			\$ 2,400	
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -		\$ -	\$ 2,400	
2.2k	Arrester Stand Foundations	0	EA	\$ -	\$ -			\$ 2,400	
2.2m	Wave Trap Stand Foundations	0	EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ -
2.2n 2.2p	Misc. Structure Foundations	0	EA EA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.2μ		0	EA	, -	, -	, -	· -	, -	· -
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -		•	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -			\$ -	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -			\$ -	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Townstown on Foundations								
2.4	Transformer Foundations 345-230kV Transformer Foundation w/ Oil Containment	0	ГА	\$ -	\$ -	ċ	\$ -	ċ	\$ -
2.4a 2.4b	345-115kV Transformer Foundation w/ Oil Containment 345-115kV Transformer Foundation w/ Oil Containment	0	EA EA	·	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	-
2.40 2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -				\$ - \$ -
2.4c	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
2.40	113KV-05KV Transformer Foundation wy Oil Containment	U	EA	, -	· -	, -	· -	, -	-
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b		0	EA	\$ -	\$ -			\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	FATION FOUNDATIONS				\$ -		\$ 14,000		\$ 14,000
	N STRUCTURES								
3.1 3.1a	345kV Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -			\$ -	\$ -
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d	Station Service Transformer Stand	0	EA	\$ -	\$ -			\$ -	\$ -
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	3	EA	\$ -	\$ -	\$ 2,250		\$ 2,250	\$ 6,750
3.1g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -			\$ 27,000	
3.2b	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -			\$ 27,000	
3.2c	Switch Stands	0	EA	\$ -		\$ 9,750		\$ 9,750	
3.2d	Station Service Transformer Stand	0		\$ -	\$ -			\$ -	
3.2e 3.2f	Bus Support 3ph Bus Support 1 Ph	0	EA EA	\$ -	\$ -			\$ - \$ 2,250	
3.2f 3.2g	Instrument Transformer Stand	0		\$ - \$ -		\$ 2,250		\$ 2,250	
3.2g 3.2h	Arrester Stand	0		\$ -	\$ -			\$ 1,050	
3.2j	Wave Trap Stand	0		\$ -	\$ -			\$ 4,500	
3.2k	Misc. Structures	0		\$ -	\$ -			\$ -	
									•
	1						·		

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	0	EA	\$ -	\$ -		\$ -		\$ -
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
3.3f 3.3g	Bus Support 1 Ph	0	EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
3.3g 3.3h	Instrument Transformer Stand Arrester Stand	0	EA EA	\$ - \$ -	\$ -		\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
				T	*	*	T	*	-
TOTAL - SUBS	TATION STRUCTURES				\$ -		\$ 6,750		\$ 6,750
4. MAJOR EQU	IIPTMENT								
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV	0	FA	Ć.	ć	ć 7,000	ć	ć 7,000	A
4.2a 4.2b	Circuit Breakers Capacitor Banks	0	EA EA	\$ - \$ -	\$ - \$ -	\$ 7,000 \$ 42,000	\$ - \$ -	\$ 7,000 \$ 42,000	\$ - \$ -
4.20	Capacitor Bariks	U	EA	, -	ş -	\$ 42,000	, -	\$ 42,000	· -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJO	R EQUIPTMENT				\$ -		\$ -		\$ -
5. SMALL EQU	IPTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -		\$ -	\$ 5,500	
5.1c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d 5.1e	CT'S CCVT'S	0	EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ 2,500	\$ - \$ -	\$ - \$ 2,500	\$ - \$ -
5.1e 5.1f	Arresters	3	EA EA	\$ -	\$ -	\$ 2,500	\$ 4,500	\$ 2,500	
5.1g	Wave Traps	0	EA	\$ -	\$ -		\$ -	\$ 2,500	
5.1h	Station Service Transformers	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
5.1j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -		\$ -	\$ 5,500	
5.2c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d	CT'S	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
5.2e	CCVT'S	0	EA	\$ -	\$ -		\$ -	\$ 1,500	
5.2f	Arresters	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2g 5.2h	Wave Traps Station Service Transformers	0	EA EA	\$ - \$ -	\$ - \$ -	\$ 2,500 \$ -	\$ - \$ -	\$ 2,500 \$ -	\$ - \$ -
5.2n 5.2j	Station Service Hallstothlets	0	EA EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2		0	LA	* 1	· ·	¥	· ·	¥	-
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
5.3c	VT'S	0		\$ -	\$ -		\$ -		\$ -
5.3d	CT'S	0	EA	\$ -			\$ -		\$ -
5.3e	CCVT'S	0		\$ -	\$ -		\$ -		\$ -
5.3f	Arresters	0	EA	\$ -		\$ 1,500		\$ 1,500	
5.3g	Wave Traps	0		\$ -	\$ -		\$ -		\$ -
5.3h	Station Service Transformers	0		\$ -	\$ -		\$ -		\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CACAL	 L EQUIPTMENT / MATERIALS				\$ -		\$ 4,500		\$ 4,500
	OUSE / PANELS / GENERATOR				\$ -		<i>ϕ</i> 4,500		\$ 4,500
J. CONTROL F	OOSE / TANES / GENERATOR								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
6.2	Protection and Telecom Equipment Panels	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Security	0	EA	\$ -	\$ -	\$ -	\$ -	•	\$ -
	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
0.10	Generator	0	EA	3 -	ş -	ş -	ş -	ş -	, -
TOTAL CONT	DOLLIQUES / DANIELS / CENTRATOR				A		A		
	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS									
	Conduit & Cable Trench System	0	EA	\$ -	\$ -		\$ -	\$ 42,000	
	Rigid Bus, Fittings & Insulators	1	LS	\$ -	\$ -	\$ 10,500.00	\$ 10,500	\$ 10,500	
	Strain Bus, Connectors & Insulators	0	EA	\$ -	\$ -		\$ -	\$ 39	
7.4	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.11									
7.13									
7.14									
7.15									
TOTAL - MISC	ITEMS				\$ -		\$ 10,500		\$ 10,500
G. Edic S	ubstation - Removal				\$ -		\$ 35,750		\$ 35,750
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
		1.0	1.0	ć	<u> </u>	ć 250	ć 250	ć 250	ć 250
	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 358	\$ 358	\$ 358	\$ 358
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 1,826	\$ 1,826	\$ 1,826	\$ 1,826
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 358	\$ 358	\$ 358	\$ 358
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 358	\$ 358	\$ 358	\$ 358
	Engineering								
	Design Engineering	1	LS	Ś -	\$ -	\$ 2,860	\$ 2,860	\$ 2,860	\$ 2,860
	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Surveying/Staking	-	Site	\$ -	\$ -	\$ 250	\$ -	\$ 250	
	Testing & Commissioning		site	-	-	250	-	y 250	-
			LS	ć	\$ -	\$ 894	ć	\$ 894	ė.
	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 894	\$ -	ə 894	\$ -
	Permitting and Additional Costs							•	
	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 107		\$ 107	
	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17	g		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	т	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits		LS		\$ -		\$ -	\$ 36	
	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	-	L)		\$ -	ر 35	\$ 5,866	35 ب	\$ 5,866

Page 32 of 65

H. New Scotland Substation - Install

Estimate Revision: 7 Total: \$ 6,443,406

NAT & NYPA - T028 - (Segmen	t A, Enhai	nced)		
		Supply	Installation	Total
H. New Scotland Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	4,050	\$ 11,250	\$ 15,300
2. SUBSTATION FOUNDATIONS	\$	406,368	\$ 435,200	\$ 841,568
3. SUBSTATION STRUCTURES	\$	199,800	\$ 199,800	\$ 399,600
4. MAJOR EQUIPTMENT	\$	600,000	\$ 240,000	\$ 840,000
5. SMALL EQUIPTMENT / MATERIALS	\$	353,000	\$ 192,500	\$ 545,500
6. CONTROL HOUSE / PANELS	\$	726,650	\$ 500,400	\$ 1,227,050
7. MISC ITEMS	\$	525,680	\$ 788,055	\$ 1,313,735
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	225,244	\$ 1,035,409	\$ 1,260,653
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	3,040,792	\$ 3,402,614	\$ 6,443,406
CONTINGENCY ON ENTIRE PROJECT	\$	=	\$ -	\$ -
TOTAL:	\$	3,040,792	\$ 3,402,614	\$ 6,443,406

)es	crip	tion	of '	W	or	k:
-----	------	------	------	---	----	----

H. New Scotland Substation - Install	- \$ 20	0 \$ - 2 \$ 15,300 0 \$ - 0 \$ -
1.1 Site Works including clearing, sediment controls, rough grading, and final grading. 0 ACRES \$ - \$ 203,000 \$ 1.2 Station stone within substation fence. 150 CY \$ 27 \$ 4,050 \$ 75 \$ 1.3 Substation Fence 0 LF \$ 100 \$ - \$ 100 \$ 1.4 Permanent Access Road - 20'-Wide (From Gordon RD) 0 LF \$ 35 \$ - \$ 285 \$ 1.5 1.6 1.7 1.8 1.9 1.9 1.9 1.10 1.11 1.11 1.11 1.11 1.11 1.11 1.11 1.11 1.11 1.11 1.12 1.13 1.14 1.15 1.14 1.15 1.14 1.15 1.15 1.14 1.15 1.11 1.11 1.11 1.12 1.12 1.13 1.14 1.15	11,250 \$ 10 - \$ 20	2 \$ 15,300 0 \$
1.2 Station stone within substation fence. 1.3 Substation Fence 1.4 Permanent Access Road - 20'-Wide (From Gordon RD) 1.5	11,250 \$ 10 - \$ 20	2 \$ 15,300 0 \$
1.3 Substation Fence 0 LF \$ 100 \$ \$ \$ \$ \$ \$ \$ \$ \$	- \$ 20	0 \$ -
1.4 Permanent Access Road - 20'-Wide (From Gordon RD) 1.5		
1.5 1.6 1.7 1.8 1.9 1.10 1.11 1.12 1.13 1.14 1.15 1.15 1.17 1.18 1.19 1.19 1.19 1.10 1.11 1.11 1.12 1.13 1.14 1.15 1.15 1.16 1.17 1.18 1.19 1.19 1.19 1.19 1.10 1.10 1.11 1.11	- \$ 33	0 \$ -
1.6 1.7 1.8 1.9 1.10 1.11 1.11 1.12 1.13 1.14 1.15 1.15 1.17 1.18 1.19 1.19 1.19 1.19 1.10 1.11 1.12 1.13 1.14 1.15 1.15 1.15 1.16 1.17 1.18 1.19 1.19 1.19 1.19 1.19 1.19 1.19		
1.7		
1.8 1.9 1.10 1.11 1.12 1.13 1.14 1.15 TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL 2. Substration Foundations 2. Circuit Breaker Foundations 3 EA \$ 14,940 \$ 44,820 \$ 16,000 \$		
1.9 1.10 1.11 1.12 1.13 1.14 1.15 1.15 1.17 1.18 1.19 1.19 1.19 1.19 1.19 1.19 1.19		
1.10		
1.11		
1.12		
1.13		
1.14		
1.15		
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL \$ 4,050 \$ 2. SUBSTATION FOUNDATIONS \$ \$ 2.1 345kV \$ \$ 2.1a Circuit Breaker Foundations 3 EA \$ 14,940 \$ 44,820 \$ 16,000 \$		
2. SUBSTATION FOUNDATIONS Substance of the production of the p		
2.1 345kV EA \$ 14,940 \$ 44,820 \$ 16,000 \$ 2.1a Circuit Breaker Foundations 3 EA \$ 14,940 \$ 44,820 \$ 16,000 \$	11,250	\$ 15,300
2.1a Circuit Breaker Foundations 3 EA \$ 14,940 \$ 44,820 \$ 16,000 \$		
	10.000 4 30.0	0 4 00 000
2.1b Capacitor Bank Foundations 0 EA \$ 56,025 \$ - \$ 60,000 \$	48,000 \$ 30,94 - \$ 116,02	0 \$ 92,820 5 \$ -
2.1b Capacitor Bank Foundations 0 EA \$ 56,025 \$ - \$ 60,000 \$ 2.1c Caisson DE Foundations (for DE A frame str stand alone) 4 EA \$ 26,145 \$ 104,580 \$ 28,000 \$		5 \$ 216,580
2.1d Caisson DE Foundations (for DE A frame str shared column) 0 EA \$ 20,143 \$ 1.04,360 \$ 2,000 \$		5 \$ -
2.10 (absorber productions) 0 (EA) 20,129 (3 - 3 20,000) 2.10 (absorber productions) 24 (EA) 4,482 (5 107,588 (5 4,800) 5	9 31,12	2 \$ 222,768
2.1e Switch Station Service Transformer Stand Foundation 0 EA \$ 4,482 \$ - \$ 4,800 \$		2 \$ -
2.11 Sus Support 3ph Foundations 0 EA \$ - \$ - \$	- \$ 5,20	
2.1h Bus Support 1 Ph Foundations 15 EA \$ 4.482 \$ 67.230 \$ 4.800 \$		2 \$ 139,230
2.1j Instrument Transformer Stand Foundations 12 EA \$ 4,482 \$ 53,784 \$ 4,800 \$		2 \$ 111,384
2.1k Arrester Stand Foundations 3 EA \$ 4.482 \$ 13.446 \$ 4.800 \$		2 \$ 27,846
2.1m Wave Trap Stand Foundations 1 EA \$ 4.482 \$ 4.800 \$		2 \$ 9.282
2.1n Misc. Structure Foundations 0 EA \$ - \$ - \$	- S -	\$ -
2.1p 0 EA \$ - \$ - \$	- \$ -	
2.2 230kV		
2.2a Circuit Breaker Foundations 0 EA \$ 11,952 \$ - \$ 12,800 \$		2 \$ -
2.2b Capacitor Bank Foundations 0 EA \$ 44,820 \$ - \$ 48,000 \$	4 00.00	0 \$ -
2.2c Caisson DE Foundations (for DE A frame str stand alone) 0 EA \$ 22,410 \$ - \$ 24,000 \$	- \$ 92,82	0 \$ -
2.2d Caisson DE Foundations (for DE A frame str shared column) 0 EA \$ 22,410 \$ - \$ 24,000 \$		0 \$ -
2.2e Switch Stand Foundations 0 EA \$ 3,735 \$ - \$ 4,000 \$	- \$ 46,4: - \$ 46,4:	5 \$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735		\$ 4,000		\$ 7,735	
2.2g 2.2h	Bus Support 3ph Foundations Bus Support 1 Ph Foundations	0	EA EA	\$ - \$ 3,735	7		\$ - \$ -	\$ - \$ 7,735	\$ - \$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ - \$ -	. ,	\$ -	\$ 7,735	
2.2j 2.2k	Arrester Stand Foundations	0	EA				\$ -	\$ 7,735	
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -		\$ -	\$ 7,735	
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.2p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	, ,,,,,,	\$ -	\$ 10,829	
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -		\$ -	\$ 69,615	
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -		\$ -		\$ -
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	,	\$ -	\$ 6,188	\$ -
2.3g	Bus Support 1 Ph Foundations	0	EA	\$ 2,988 \$ 2.988	\$ -		\$ -	\$ 6,188 \$ 6.188	
2.3h 2.3j	Bus Support 1 Ph Foundations Instrument Transformer Stand Foundations	0	EA EA	\$ 2,988 \$ 2,988	\$ - \$ -		\$ - \$ -	\$ 6,188 \$ 6,188	
2.3j 2.3k	Arrester Stand Foundations	0	EA	\$ 2,988	\$ - \$ -		\$ - \$ -	\$ 6,188	
2.3K 2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3m	Station Service Foundations	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
			27.	Ŷ	Ť	Ť	Ÿ	Ŷ	Ÿ
2.4	Transformer Foundations			07.440	<u> </u>	404000	^	Å 201.110	•
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -		\$ -	\$ 201,110	
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -		\$ -	\$ 154,700	
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -			\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5 2.5a	Control House Foundations / Pad Control House / Pad	0	EA	\$ 76,194	\$ -	\$ 81,600	\$ -	\$ 157,794	\$ -
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	т
				7 =3,333	*		T	7 25,722	,
2.6 2.6a	Lightning Mast Foundations 70' Lightning Mast Foundation	2	EA	\$ 5,229	\$ 10,458	\$ 5,600	\$ 11,200	\$ 10,829	\$ 21,658
2.6b	70 Lightning Wast Foundation	0	EA	\$ 5,229	\$ 10,458		\$ 11,200	\$ 10,829	\$ 21,656
2.6c		0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
TOTAL - SURS	STATION FOUNDATIONS				\$ 406,368		\$ 435,200		\$ 841,568
	ON STRUCTURES				ţ 100,500		, 105,200		Ç 0.12,500
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	1	EA	\$ 37,000	\$ 37,000		\$ 37,000	\$ 74,000	
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	-
	Switch Stands		i		·				\$ 118,400
3.1c		4	EA	\$ 14,800	\$ 59,200		\$ 59,200	\$ 29,600	
3.1d	Station Service Transformer Stand	0	EA	\$ 14,800	\$ 59,200 \$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
3.1d 3.1e	Station Service Transformer Stand Bus Support 3ph	0	EA EA	\$ 14,800 \$ -	\$ 59,200 \$ - \$ -	\$ 14,800 \$ -	\$ - \$ -	\$ 29,600 \$ -	\$ - \$ -
3.1d 3.1e 3.1f	Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph	0 0 15	EA EA EA	\$ 14,800 \$ - \$ 3,700	\$ 59,200 \$ - \$ - \$ 55,500	\$ 14,800 \$ - \$ 3,700	\$ - \$ - \$ 55,500	\$ 29,600 \$ - \$ 7,400	\$ - \$ - \$ 111,000
3.1d 3.1e 3.1f 3.1g	Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand	0 0 15 12	EA EA EA EA	\$ 14,800 \$ - \$ 3,700 \$ 1,850	\$ 59,200 \$ - \$ - \$ 55,500 \$ 22,200	\$ 14,800 \$ - \$ 3,700 \$ 1,850	\$ - \$ - \$ 55,500 \$ 22,200	\$ 29,600 \$ - \$ 7,400 \$ 3,700	\$ - \$ - \$ 111,000 \$ 44,400
3.1d 3.1e 3.1f 3.1g 3.1h	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 15 12	EA EA EA	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850	\$ 59,200 \$ - \$ - \$ 55,500 \$ 22,200 \$ 5,550	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850	\$ - \$ 55,500 \$ 22,200 \$ 5,550	\$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700	\$ - \$ - \$ 111,000 \$ 44,400 \$ 11,100
3.1d 3.1e 3.1f 3.1g	Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand	0 0 15 12	EA EA EA EA	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850	\$ 59,200 \$ - \$ - \$ 55,500 \$ 22,200	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ - \$ 55,500 \$ 22,200 \$ 5,550	\$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700	\$ - \$ - \$ 111,000 \$ 44,400 \$ 11,100 \$ 14,800
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand	0 0 15 12 3 1	EA EA EA EA EA	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400	\$ 59,200 \$ - \$ 5,5500 \$ 22,200 \$ 7,400	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ 55,500 \$ 22,200 \$ 5,550 \$ 7,400	\$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800	\$ - \$ - \$ 111,000 \$ 44,400 \$ 11,100 \$ 14,800
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70'	0 0 15 12 3 1	EA EA EA EA EA	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400	\$ 59,200 \$ - \$ 5,500 \$ 22,200 \$ 5,550 \$ 7,400 \$ 12,950	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ 5,500 \$ 22,200 \$ 5,550 \$ 7,400 \$ 12,950	\$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800	\$ - \$ 111,000 \$ 44,400 \$ 11,100 \$ 14,800 \$ 25,900
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70'	0 0 15 12 3 1 1 2	EA	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300	\$ 59,200 \$ - \$ 5,500 \$ 22,200 \$ 5,550 \$ 7,400 \$ 12,950	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475	\$ - \$ 5,500 \$ 22,200 \$ 5,550 \$ 7,400 \$ 12,950	\$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600	\$ - \$ - \$ 111,000 \$ 44,400 \$ 11,100 \$ 14,800 \$ 25,900 \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70' 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands	0 0 15 12 3 1 1 2	EA	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025	\$ 59,200 \$ - \$ 5,500 \$ 22,200 \$ 5,550 \$ 7,400 \$ 12,950	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025	\$ - \$ 5,500 \$ 22,200 \$ 5,550 \$ 7,400 \$ 12,950 \$ - \$ - \$ -	\$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050	\$ - \$ 111,000 \$ 44,400 \$ 11,100 \$ 14,800 \$ 25,900
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70' 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 0 15 12 3 3 1 1 2	EA E	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025	\$ 59,200 \$ - \$ 5,500 \$ 22,200 \$ 5,550 \$ 12,950 \$ 12,950	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025	\$ - \$ 5,500 \$ 22,200 \$ 5,550 \$ 7,400 \$ 12,950 \$ - \$ - \$ - \$ - \$ 5	\$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050	\$ - \$ 111,000 \$ 44,400 \$ 11,100 \$ 25,900 \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2e	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70' 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3 ph	0 0 15 12 3 1 1 2	EA E	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 1,2,025 \$ -	\$ 59,200 \$ - \$ 5,500 \$ 22,200 \$ 5,550 \$ 7,400 \$ 12,950 \$ - \$ - \$ 5 \$ - \$ 5	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ -	\$ - \$ 5,500 \$ 22,200 \$ 5,550 \$ 7,400 \$ 12,950 \$ - \$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ -	\$ - \$ - \$ 111,000 \$ 44,400 \$ 11,100 \$ 14,800 \$ 25,900 \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2d 3.2e 3.2f	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70' 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph	0 0 15 12 3 1 1 2 0 0 0 0 0	EA E	\$ 14,800 \$ \$ 3,700 \$ 1,850 \$ 1,850 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ \$ 2,775	\$ 59,200 \$ - \$ 5 \$ 55,500 \$ 22,200 \$ 5,550 \$ 7,400 \$ 12,950 \$ - \$ - \$ - \$ - \$ - \$ 5,550	\$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ - \$ 2,775	\$ - \$ 55,500 \$ 22,200 \$ 5,550 \$ 7,400 \$ 12,950 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ - \$ 5,550	\$ - \$ - \$ 111,000 \$ 44,400 \$ 11,100 \$ 14,800 \$ 25,900 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2e	Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70' 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3 ph	0 0 15 12 3 1 1 2	EA E	\$ 14,800 \$ \$ 3,700 \$ 1,850 \$ 1,850 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ \$ 2,775	\$ 59,200 \$ - \$ 5 \$ 55,500 \$ 22,200 \$ 5,550 \$ 7,400 \$ 12,950 \$ - \$ - \$ - \$ - \$ 5,550 \$ 7,400 \$ 12,950	\$ 14,800 \$ \$ 3,700 \$ 1,850 \$ 1,850 \$ 6,475 \$ 6,475 \$ 33,300 \$ 12,025 \$ 12,025 \$ \$ 2,775 \$ 1,295	\$ - \$ 5,500 \$ 22,200 \$ 5,550 \$ 7,400 \$ 12,950 \$ - \$ - \$ - \$ - \$ 5 - \$ 5 \$ - \$ 5	\$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ -	\$ - \$ 111,000 \$ 44,400 \$ 11,100 \$ 14,800 \$ 25,900

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -		\$ -	\$ 15,910	
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -		\$ -	\$ 15,910	\$ -
3.3e	Bus Support 3ph	0	EA	\$ 3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	
3.3h	Arrester Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
TOTAL - SUBS	TATION STRUCTURES				\$ 199,800		\$ 199,800		\$ 399,600
4. MAJOR EQU					\$ 155,600		3 133,000		\$ 355,000
4.1	345kV								
4.1a	Circuit Breakers	3	EA	\$ 200,000	\$ 600,000	\$ 80,000	\$ 240,000	\$ 280,000	\$ 840,000
4.1b	Capacitor Banks	0		\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ 115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAIO	 DR EQUIPTMENT				\$ 600,000		\$ 240,000		\$ 840,000
	IPTMENT / MATERIALS				\$ 000,000		240,000		3 840,000
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	1	EA	\$ 40,000	\$ 40,000	\$ 15,000	\$ 15,000	\$ 55,000	\$ 55,000
5.1b	Disconnect Switches - 3ph w/ manual operator	3	EA	\$ 35,000	\$ 105,000			\$ 52,500	
5.1c	VT'S	3	EA	\$ 13,000	\$ 39,000	\$ 12,000	\$ 36,000	\$ 25,000	\$ 75,000
5.1d	CT'S	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1e	CCVT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000
5.1f	Arresters	6		\$ 6,500	\$ 39,000		\$ 9,000	\$ 8,000	
5.1g	Wave Traps	1	EA	\$ 13,000	\$ 13,000		\$ 8,000	\$ 21,000	
5.1h	Station Service Transformers	0	EA	\$ 200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,000	\$ -		\$ -	\$ 47,500	
5.2c	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	
5.2d	CT'S	0		\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -	\$ 6,000	\$ -	\$ 16,000	\$ -
5.2f	Arresters	0	EA	\$ 5,000	\$ -	\$ 6,000	\$ -	\$ 11,000	\$ -
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -		\$ -	\$ 21,000	
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ 33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0			•	\$ 17,500		\$ 45,500	
5.3c	VT'S	0		\$ 13,000		\$ 8,000		\$ 21,000	
5.3d	CT'S	0		\$ 13,000		\$ 8,000		\$ 21,000	
5.3e	CCVT'S	0				\$ 8,000		\$ 16,000	
5.3f	Arresters	0		\$ 3,420	\$ -	\$ 6,000		\$ 9,420	
5.3g	Wave Traps	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
									D 25 -5 (5

	Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
CONTROL (1909) CONT	TOTAL - SMALI	L EQUIPTMENT / MATERIALS					\$ 353,000		\$ 192,500		\$	545,500
A												
3 2000 Centerins	6.1	CONTROL HOUSE	1	EA	\$	243,750	\$ 243,750	\$ 42,500	\$ 42,500	\$ 286,250	\$	286,250
4-4 Control Cables 2 1-3 2.07,900 3 207,900					ļ.		\$ 175,000		\$ 50,000		·	225,000
Social and Communications							\$ -		\$ -		_	- 445.000
Section Continue of the Co					<u> </u>						_	
Contribution system									т			
6.8 Security 0 FA 5 7,500 5 7,500 5 5 5,000 5 5 5 5 5 5 5 5 5					_							150,000
Georgia Fire Name											_	-
Control Cont												-
Table Tabl							\$ -					-
Table Tabl												
Total Conduct & California System 1							\$ 726,650		\$ 500,400		\$	1,227,050
1												
7.3 Strain Bus, Connectors & Insulators	7.1	Conduit & Cable Trench System	1	L.S.	\$	55,500.00	\$ 55,500	\$ 76,500.00	\$ 76,500	\$ 132,000	\$	132,000
7.4 Grounding System	7.2	Rigid Bus, Fittings & Insulators	1	L.S.	\$	62,535.00	\$ 62,535	\$ 118,550.00	\$ 118,550	\$ 181,085	\$	181,085
7.5 Strain Plus Insulators - 3454V	7.3	Strain Bus, Connectors & Insulators	1	L.S.	\$	92,250.00	\$ 92,250	\$ 114,135.00	\$ 114,135	\$ 206,385	\$	206,385
Fig.		Grounding System	1				\$ 10,395		\$ 48,870		\$	59,265
7.7 Strain Bus Insulators - 15AV					-				\$ -		<u> </u>	-
7.9 Style="bloom: square; bloom:									-		_	-
7-9 SSVT Service									т			-
7.10 Control Conduits from French to Equipment 1 LS \$ 125,000 \$ 125,000 \$ 250,000 \$ 25												-
7.11 Misc. Materials (Above and Below Ground)					_					1,	_	
7.12 Install new communication tower foundation.												
Relocate esting communication tower.					7	180,000						75,000
7.14												50,000
7.15 7.18 7.19 7.20 7.21 7.21 7.24 7.24 7.25 7.28 8.MOS/DEMOS, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization 8. MOS/DEMOS, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: 8. MOS/DEMOS, ENGINEERING, FRAMITHING, T&C, PM & INDIRECTS: 8. MOS/DEMOS, ENGINEERING, T&C, PM & INDIRECTS: 8. MOS/DEMOS, ENGINEERING, FRAMITHING, T&C, PM & INDIRECTS: 8. MOS/DEMOS, ENGINEERING, FRAMITHING, T&C, PM & INDIRECTS: 8. MOS/DEMOS, ENGINEERING, FRAMITHING, T&C, PM & INDIRECTS: 8. MOS/DEMOS, ENGINEERING, T&C, PM & INDIRECTS: 8. MOS/DEMOS, T&C,				-								
7.17 7.18 7.19 7.20 7.21 7.21 7.23 7.23 7.24 7.25 7.28 7.29 7.28 7.29 7.29 7.29 7.29 7.20 7.20 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.29 7.29 7.29 7.29 7.20 7.20 7.21 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.29 7.29 7.29 7.29 7.29 7.20 7.20 7.20 7.21 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 8.MOS/DEWOS, ENGINEERING, FERMITING, T&C, PM & NURRECTS: Contractor Mobilization / Demobilization 8.1 Mob / Demob 8.2 Project Management, Material Handling & Amenities Project Management, Material Handling & Amenities 8.2 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 8.3 Untility PM and Project Oversite 8.4 Site Accommodation, Facilities, Storage 1 LS \$ S - S 5 1,828 \$ 51,82												
7.18 7.20 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.28 7.29 7.29 7.29 7.29 7.29 7.29 7.20 7.21 7.22 7.28 7.29 7.29 7.29 7.29 7.29 7.29 7.20 7.20 7.21 7.21 7.22 7.23 7.24 7.25 7.26 7.27 8. MOS/DEWOS, ENGINERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization 8. Mob/ Demob 8. Mob/ Demob 9. September &												
7.19 7.20 7.21 7.22 7.23 7.24 7.25 7.27 7.28 7.29 7.29 7.29 7.29 7.29 7.29 7.29 7.29												
7.20 7.21 7.22 7.23 7.24 7.25 7.31 7.24 7.25 7.31 7.32 7.4 7.55 7.73 7.74 7.75 7.75 7.76 7.76 7.77 8. MOS/DEMOS, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization 8. 1												
7.21												
7.22 7.23 7.24 7.25 7.25 7.26 7.25 7.25 7.26 7.26 7.26 7.27 7.25 7.26 7.27 7.26 7.												
7.23 7.24 7.25 7.25 7.75 7.76 7.76 7.77 7.78 7.78 7.78 7.78 7.79 7.79 7.79												
7.24												
TOTAL - MISC ITEMS												
H. New Scotland Substation - Install \$ 2,367,205 \$ 5,1827	7.25											
S. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization / D	TOTAL - MISC	ITEMS					\$ 525,680		\$ 788,055		\$	1,313,735
S. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization / D	H. New S	Scotland Substation - Install					\$ 2,815,548		\$ 2,367,205		\$	5,182,753
Contractor Mobilization / Demobilization S.1 Mob / Demob S.1 LS S S S S S S S S							, , , ,		,,			
8.1 Mob / Demob	J. INIOD/DENIC											
Project Management, Material Handling & Amenities 1	8.1		1	LS	\$	-	\$ -	\$ 51.828	\$ 51.828	\$ 51.828	\$	51,828
8.2 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 8.3 Utility PM and Project Oversite 8.4 Site Accommodation, Facilities, Storage 8.5 Design Engineering 8.6 LIDAR 8.7 Geotech 8.8 Surveying/Staking 9 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 1 LS 9 264,727 \$ 264			-		T .		•	. 22,320	,520	. 22,320	·	,
8.3 Utility PM and Project Oversite 1 LS \$ - \$ 51,828 </td <td>8.2</td> <td>Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)</td> <td>1</td> <td>LS</td> <td></td> <td></td> <td></td> <td>\$ 264,727</td> <td>\$ 264,727</td> <td>\$ 264,727</td> <td>\$</td> <td>264,727</td>	8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 264,727	\$ 264,727	\$ 264,727	\$	264,727
8.4 Site Accommodation, Facilities, Storage 1 LS \$ - \$ - \$ 51,828 \$ 51,400 \$ 414,620 \$ 414,	- 0.2			1.0	-		ć	ć E4.000	ć F4.000	ć F4.000	<u>,</u>	F4 030
Engineering					5				<u> </u>			51,828
8.5 Design Engineering 1 LS \$ - \$ 414,620 <	0.4		1	LJ	,	-	-	y 31,028	y 31,028	y 31,028	,	31,028
8.6 LIDAR - LS \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 14,00 \$ 3,500 \$ 14,00 \$ 3,500 \$ 14,00 \$ 36,279 \$ <td>8.5</td> <td><u> </u></td> <td>1</td> <td>LS</td> <td>\$</td> <td>-</td> <td>\$ -</td> <td>\$ 414,620</td> <td>\$ 414,620</td> <td>\$ 414,620</td> <td>\$</td> <td>414,620</td>	8.5	<u> </u>	1	LS	\$	-	\$ -	\$ 414,620	\$ 414,620	\$ 414,620	\$	414,620
8.7 Geotech 4 EA \$ - \$ - \$ 14,00 \$ 3,500 \$ 14,00 \$ 3,500 \$ 14,00 \$ 3,500 \$ 14,00 \$ 3,6279 \$ 36,279 \$ 3												-
Testing & Commissioning												14,000
	8.8	Surveying/Staking	1	Site	\$	-	\$ -	\$ 36,279	\$ 36,279	\$ 36,279	\$	36,279
							<u> </u>					
8.9 Testing & Commissioning of T-Line and Equipment 1 LS \$ - \$ - \$ 129,569 \$	8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 129,569	\$ 129,569	\$ 129,569	\$	129,569

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cos	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Permitting and Additional Costs								
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 15,548	\$ 15,548	\$ 15,548	\$ 15,548
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 225,244	\$ 225,24	4 \$ -	\$ -	\$ 225,244	\$ 225,244
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 5,183	\$ 5,183	\$ 5,183	\$ 5,183
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 225,24	4	\$ 1,035,409		\$ 1,260,653

Page 37 of 65
H. SS New Scot.-Install

NAT & NYPA - T028 - (Segment A, Enhanced) I. New Scotland Substation - Removal

94,640

Total: \$

NAT & NYPA - T028 - (Segme	nt A, Enhanced)		
	Supply	Installation	Total
I. New Scotland Substation - Removal			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ -	\$ -	\$ -
2. SUBSTATION FOUNDATIONS	\$ -	\$ 28,800	\$ 28,800
3. SUBSTATION STRUCTURES	\$ -	\$ 27,000	\$ 27,000
4. MAJOR EQUIPTMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPTMENT / MATERIALS	\$ -	\$ 4,500	\$ 4,500
6. CONTROL HOUSE / PANELS	\$ -	\$ -	\$ -
7. MISC ITEMS	\$ -	\$ 21,000	\$ 21,000
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ -	\$ 13,340	\$ 13,340
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ -	\$ 94,640	\$ 94,640
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ -	\$ 94,640	\$ 94,640

Description of Work:	

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
I. New S	cotland Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
2. SUBSTATIO	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	7	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	12	EA	\$ -	\$ -	\$ 2,400	\$ 28,800	\$ 2,400	\$ 28,800
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200		\$ 7,200	
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000	\$ -	\$ 32,000	\$ -

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000	\$ -	\$ 22,000	\$ -
	Caisson DE Foundations (for DE A frame str shared column)	0		\$ -	\$ -		\$ -	\$ 11,000	
	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	
	Station Service Transformer Stand Foundation	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph Foundations	0	EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ 2,400	\$ - \$ -	\$ - \$ 2.400	\$ -
2.2h 2.2j	Bus Support 1 Ph Foundations Instrument Transformer Stand Foundations	0	EA EA	\$ - \$ -	\$ - \$ -	\$ 2,400 \$ 2,400	\$ - \$ -	\$ 2,400 \$ 2,400	\$ - \$ -
	Arrester Stand Foundations	0		\$ -	\$ -		\$ -	\$ 2,400	•
	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	115kV								
	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Capacitor Bank Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str shared column) Switch Stand Foundations	0	EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ 5,200	\$ - \$ -	\$ - \$ 5,200	\$ - \$ -
	Fuse Stand Foundations	0		\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations				A		<u> </u>	<u> </u>	A
	345-230kV Transformer Foundation w/ Oil Containment 345-115kV Transformer Foundation w/ Oil Containment	0	EA EA	\$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
20	222XV GSXV Transformer Foundation Wy on contaminent		271	Ť	Ť	Ÿ	Ŷ	Ÿ	Ť
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightning Mast Foundations				_	-	1	1	
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b 2.6c		0	EA EA	\$ - \$ -	\$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.00		0	EA	· -	· -	-	, -	· -	· -
TOTAL - SUBST	I FATION FOUNDATIONS				\$ -		\$ 28,800		\$ 28,800
3. SUBSTATION					*		20,000		
	345kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph	12	EA	\$ -	\$ -		\$ 27,000		\$ 27,000
3.1g	Instrument Transformer Stand	0	EA EA	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
	Arrester Stand Wave Trap Stand	0	EA EA	\$ -	\$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1K				-	-	-	7	7	Ŧ
3.2	230kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
	Switch Stands	0		\$ -	\$ -			\$ 9,750	
	Station Service Transformer Stand	0		\$ -	\$ -	<u> </u>	\$ -		\$ -
	Bus Support 3ph	0		\$ -			\$ -		\$ -
		0	I FA		-	\$ 2,250	Ś - I	c 2.2E0	\$ -
	Bus Support 1 Ph Instrument Transformer Stand	0		\$ -	\$ -	\$ 1,050		\$ 2,250 \$ 1,050	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2h	Arrester Stand	0	EA	\$ -	\$ -	\$ 1,050	\$ -	\$ 1,050	\$ -
3.2j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ 4,500	\$ -	\$ 4,500	\$ -
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0		\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	0		\$ -	\$ -	\$ 6,450		\$ 6,450	\$ -
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e 3.3f	Bus Support 3ph	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ - \$ -
3.3g	Bus Support 1 Ph Instrument Transformer Stand	0		\$ -	\$ -		\$ -	\$ -	\$ -
3.3h	Arrester Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.5K	This structures	·	271	Ť	Ť	*	· ·	Ÿ	*
TOTAL - SUBST	TATION STRUCTURES				\$ -		\$ 27,000		\$ 27,000
4. MAJOR EQU							, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,,,,,,,
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL 14410	D FOLUDTAFAIT						^		A
	R EQUIPTMENT				\$ -		\$ -		\$ -
5. SWIALL EQU 5.1	PTMENT / MATERIALS 345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -			\$ 5,500	\$ -
5.1c	VT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S	0		\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Arresters	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
5.1g	Wave Traps	0		\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0		\$ -	\$ -	\$ 5,500		\$ 5,500	
5.2b	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -	\$ 5,500		\$ 5,500	\$ -
5.2c	VT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d	CT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S	0		\$ -	\$ -	\$ 1,500		\$ 1,500	\$ -
5.2f	Arresters	0		\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2g	Wave Traps Station Service Transformers	0	EA EA	\$ - \$ -	\$ - \$ -	\$ 2,500 \$ -	\$ - \$ -	\$ 2,500	\$ - \$ -
5.2h 5.2j	Station Service Transformers	<u> </u>	EA	\$ -	\$ -	\$ -	\$ -	, -	\$ -
3.2				1	 				
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0			\$ -	\$ 5,500		\$ 5,500	
	VT'S	0			\$ -		\$ -	\$ 5,500	\$ -
5.3c					\$ -		\$ -		\$ -
5.3c 5.3d	CT'S	0	L EA						
5.3c 5.3d 5.3e	CT'S CCVT'S	0		\$ -	\$ -		\$ -	\$ -	\$ -
5.3d			EA	\$ -			\$ -		\$ -
5.3d 5.3e	CCVT'S	0	EA EA	\$ - \$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CRANI	EQUIPTMENT / MATERIALS				Š -		\$ 4,500		\$ 4,500
	DUSE / PANELS / GENERATOR				Ş -		\$ 4,500		\$ 4,500
	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
	Protection and Telecom Equipment Panels	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	SCADA and Communications	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Low Voltage AC Distribution	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	DC Distribution System	0		\$ -	\$ -		\$ -	\$ -	\$ -
	Security	0		\$ -	\$ -		\$ -	\$ -	\$ -
	Fire Alarm	0		\$ -	\$ - \$ -		\$ -	\$ - \$ -	\$ -
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONTR	OL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS					¥ .		,		-
	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
	Rigid Bus, Fittings & Insulators	1	LS	\$ -	\$ -	\$ 21,000.00	\$ 21,000	\$ 21,000	\$ 21,000
	Strain Bus, Connectors & Insulators	0		\$ -	\$ -	\$ 21,000.00	\$ -	\$ 21,000	\$ -
7.4	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10 7.11									
7.11									
7.12									
7.14									
7.15									
TOTAL - MISC I	TEMS				\$ -		\$ 21,000		\$ 21,000
I. New Sc	otland Substation - Removal				\$ -		\$ 81,300		\$ 81,300
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 813	\$ 813	\$ 813	\$ 813
	Project Management, Material Handling & Amenities								
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS		\$ -	\$ 4,153	\$ 4,153	\$ 4,153	\$ 4,153
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 813	\$ 813	\$ 813	\$ 813
	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 813	\$ 813	\$ 813	\$ 813
	Engineering								
	Design Engineering	1		\$ -	\$ -	\$ 6,504	\$ 6,504	\$ 6,504	
	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Geotech Grant Country (Country Country	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Surveying/Staking Testing & Commissioning	-	Site	\$ -	\$ -	\$ 569	\$ -	\$ 569	\$ -
8.9	Testing & Commissioning Testing & Commissioning of T-Line and Equipment Permitting and Additional Costs	-	LS	\$ -	\$ -	\$ 2,033	\$ -	\$ 2,033	\$ -
	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 244	\$ 244	\$ 244	\$ 244
	Real Estate Costs (New)	-	LS	\$ -	\$ -		\$ -	\$ -	\$ -
	Real Estate Costs (Incumbent Utility)	•	LS	\$ -	\$ -		\$ -	\$ -	\$ -
	Legal Fees	-	LS	\$ -	\$ -		\$ -	\$ -	\$ -
	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ - \$ 81	\$ -	\$ - \$ 81	\$ -
	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	\$ 81		\$ 81	\$ - \$ 13,340
TOTAL - MOB/E	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				-		\$ 13,340		ې 13,:

NAT & NYPA - T028 - (Segment A, Enhanced) Total: \$ 86,710

NAT & NYPA - T028 - (Segment A, Enhanced)										
		Supply	I	nstallation		Total				
J. Porter Substation - Install										
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$	-				
2. SUBSTATION FOUNDATIONS	\$	-	\$	-	\$	-				
3. SUBSTATION STRUCTURES	\$	-	\$	-	\$	-				
4. MAJOR EQUIPTMENT	\$	-	\$	-	\$	-				
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	-	\$	-				
6. CONTROL HOUSE / PANELS	\$	-	\$	-	\$	-				
7. MISC ITEMS	\$	15,008	\$	56,904	\$	71,912				
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,201	\$	13,597	\$	14,798				
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-				
SUBTOTAL:	\$	16,209	\$	70,501	\$	86,710				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL:	\$	16,209	\$	70,501	\$	86,710				

	ion o		

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply R	te Material Supply C	cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
J. Porter	Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$	\$	-	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$	27 \$	-	\$ 75	\$ -	\$ 102	\$ -
	Substation Fence	0	LF	\$	00 \$	-	\$ 100	\$ -	\$ 200	\$ -
1.4										
1.5										
1.6										
1.7										
1.8										
						-				
1.10										
1.12						-				
1.13										
1.14						-				
1.15										
	REP/ GRADING/ FENCING / CIVIL				Ś	-		\$ -		\$ -
	N FOUNDATIONS				,			Ŷ		<u> </u>
	345kV									
2.1a	Circuit Breaker Foundations	0	EA	\$ 14,9	40 \$	-	\$ 16,000	\$ -	\$ 30,940	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,0	25 \$	-	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 26,	45 \$	-	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,	45 \$	-	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ 4,4	32 \$	-	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ 4,4	32 \$	-	\$ 4,800	\$ -	\$ 9,282	\$ -
	Bus Support 3ph Foundations	0	EA	T	T	-	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	0	EA	\$ 4,4		_	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 9,282	
	Instrument Transformer Stand Foundations	0	EA	\$ 4,4		_	\$ 4,800	·	\$ 9,282	
2.1k	Arrester Stand Foundations	0	EA	\$ 4,			, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 9,282	
	Wave Trap Stand Foundations	0	EA	\$ 4,		_	\$ 4,800	·	\$ 9,282	
	Misc. Structure Foundations	0	EA	\$	\$	-	\$ -	\$ -	\$ -	\$ -
2.1p					-		_	_	_	
	20011/			\$	\$	-	\$ -	\$ -	\$ -	\$ -
2.2 2.2a	230kV Circuit Breaker Foundations		EA	\$ 11.5	2 6		\$ 12,800	ć	\$ 24,752	ć
		0				-				
2.2b 2.2c	Capacitor Bank Foundations Caisson DE Foundations (for DE A frame str stand alone)	0	EA EA	\$ 44,8			\$ 48,000 \$ 24,000		\$ 92,820 \$ 46,410	
	Caisson DE Foundations (for DE A frame str stand alone) Caisson DE Foundations (for DE A frame str shared column)	0	EA EA		10 \$	-			\$ 46,410	
2.20	Caisson De Foundations (for De A frame str Shared column)	0	EA] \$ 22,	TO 2	-	\$ 24,000	- ا	3 46,410	

Page 42 of 65

2.2f Stati 2.2g Bus: 2.2h Bus: 2.2l Instr 2.2k Arre 2.2m Wav 2.2n Misc 2.2p 2.3 115i 2.3a Circc 2.3b Capa 2.3c Caiss 2.3d Caiss	Item Description witch Stand Foundations stion Service Transformer Stand Foundation s Support 3ph Foundations s Support 1 Ph Foundations strument Transformer Stand Foundations returnent Transformer Stand Foundations rester Stand Foundations see Trap Stand Foundations sec. Structure Foundations	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA	\$ 3,735 \$ 3,735 \$ - \$ 3,735 \$ - \$ 3,735 \$ 3,735 \$ 3,735			\$ - \$ - \$ 5	\$ 7,735	\$ - \$ - \$ -
2.2f Stati 2.2g Bus: 2.2h Bus: 2.2j Instr 2.2k Arre 2.2m Wav 2.2n Misc 2.2p 2.3 115i 2.3a Circc 2.3b Capa: 2.3c Cais: 2.3d Cais:	ation Service Transformer Stand Foundation S Support 3ph Foundations S Support 1 Ph Foundations strument Transformer Stand Foundations rester Stand Foundations ave Trap Stand Foundations sc. Structure Foundations	0 0 0 0 0	EA EA EA EA	\$ 3,735 \$ - \$ 3,735 \$ 3,735	\$ - \$ - \$ -	\$ 4,000 \$ - \$ 4,000	\$ - \$ - \$ -	\$ 7,735 \$ - \$ 7,735	\$ - \$ - \$ -
2.2g Bus: 2.2h Bus: 2.2l Instr 2.2k Arre 2.2m Wav 2.2n Misc 2.2p 2.3 115l 2.3a Circu 2.3b Caps 2.3c Caiss 2.3d Caiss 2.3d Caiss	s Support 3ph Foundations s Support 1 Ph Foundations trument Transformer Stand Foundations rester Stand Foundations ave Trap Stand Foundations sc. Structure Foundations	0 0 0 0	EA EA EA	\$ - \$ 3,735 \$ 3,735	\$ - \$ -	\$ - \$ 4,000	\$ - \$ -	\$ - \$ 7,735	\$ - \$ -
2.2h Bus: 2.2j Instr 2.2k Arre 2.2m Wav 2.2n Misc 2.2p 2.3 115i 2.3a Circu 2.3b Capp: 2.3c Caiss 2.3d Caiss 2.3d Caiss	s Support 1 Ph Foundations strument Transformer Stand Foundations rester Stand Foundations ave Trap Stand Foundations sc. Structure Foundations	0 0 0	EA EA EA	\$ 3,735 \$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j Instr 2.2k Arre 2.2m Wav 2.2n Misc 2.2p 2.3 115l 2.3a Circ 2.3b Capa 2.3c Capa 2.3d Caiss 2.3d Caiss	strument Transformer Stand Foundations rester Stand Foundations ave Trap Stand Foundations sc. Structure Foundations	0 0 0	EA EA	\$ 3,735		, , , , , , , , , , , , , , , , , , , ,	-	. ,	
2.2k Arre 2.2m Wava 2.2n Misc 2.2p 2.3 115i 2.3a Circc 2.3b Caps 2.3c Caiss 2.3d Caiss	rester Stand Foundations ave Trap Stand Foundations sc. Structure Foundations	0	EA		\$ -	\$ 4,000	ا ۔ ا		
2.2m Wav 2.2n Misc 2.2p 2.3 115l 2.3a Circu 2.3b Capa 2.3c Caist 2.3d Caist	ave Trap Stand Foundations sc. Structure Foundations	0		'S 3,735 I	•		-	\$ 7,735	
2.2n Misc 2.2p 2.3 115i 2.3a 15c 2.3b Capa 2.3c Capa 2.3d Cais:	sc. Structure Foundations	_	EA i		\$ -	T .,	\$ -	\$ 7,735	
2.2p 2.3 115i 2.3a Circu 2.3b Capa 2.3c Cais: 2.3d Cais:		U		\$ 3,735		, , , , , , , , , , , , , , , , , , , ,	\$ - \$ -	\$ 7,735 \$ -	
2.3a Circu 2.3b Capa 2.3c Caiss 2.3d Caiss	Elav	1	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3a Circu 2.3b Capa 2.3c Caiss 2.3d Caiss									
2.3b Capa 2.3c Caiss 2.3d Caiss	cuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3c Caise 2.3d Caise	pacitor Bank Foundations	0		\$ -	\$ -		\$ -	\$ -	\$ -
2.3d Caiss	isson DE Foundations (for DE A frame str stand alone)	0		\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	
	isson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e Swit	ritch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3f Fuse	se Stand Foundations	0	EA	7 -,000	\$ -	\$ 3,200	\$ -	\$ 6,188	
	s Support 3ph Foundations	0		, , , , , , , , , , , , , , , , , , , ,			\$ -	\$ 6,188	
	s Support 1 Ph Foundations	0		\$ 2,988	\$ -		\$ -	\$ 6,188	
	strument Transformer Stand Foundations	0		\$ 2,988	\$ -		\$ -		\$ -
	rester Stand Foundations	0		\$ 2,988	\$ -		\$ -	\$ 6,188	
	ave Trap Stand Foundations	0		\$ 2,988	\$ - \$ -		\$ -	\$ 6,188 \$ -	
	ation Service Foundations sc. Structure Foundations	0	EA EA	\$ - \$ -	\$ - \$ -		\$ - \$ -		\$ - \$ -
z.sp Ivisc	Sc. Structure Foundations	0	EA	-	-	, -	, -	-	-
	ansformer Foundations								
	5-230kV Transformer Foundation w/ Oil Containment	0			•	. ,	\$ -	\$ 201,110	
	5-115kV Transformer Foundation w/ Oil Containment	0		, , , , , ,	\$ -		\$ -	\$ 154,700	
	0kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d 115k	5kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ntrol House Foundations / Pad			4 75.404	<u> </u>	d 04.500		457.704	
	ontrol House / Pad enerator Foundation	0		\$ 76,194 \$ 16,000	\$ - \$ -	7	\$ - \$ -		\$ - \$ -
2.50 Geni	merator roundation	0	EA	\$ 16,000	÷ -	\$ 17,000	-	\$ 33,000	-
2.6 Light	htning Mast Foundations								
	Lightning Mast Foundation	0		\$ 5,229	\$ -	\$ 5,600		. ,	\$ -
2.6b		0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ON FOUNDATIONS				\$ -		\$ -		\$ -
3. SUBSTATION STR									
3.1 345					4		4		
	bstation A-Frame Structures - Stand alone bstation A-Frame Structures - Shared Column	0		\$ 37,000 \$ 37,000	\$ - \$ -	\$ 37,000 \$ 37,000	\$ - \$ -	\$ 74,000 \$ 74,000	\$ - \$ -
	vitch Stands	0		\$ 14,800	\$ -		\$ -	\$ 29,600	•
	ation Service Transformer Stand	0		\$ 14,800	\$ -		\$ -	\$ 29,600	
	s Support 3ph	0		\$ -					\$ -
	s Support 1 Ph	0	EA				\$ -	\$ 7,400	
	strument Transformer Stand	0		\$ 1,850			\$ -	\$ 3,700	•
	rester Stand	0	EA	\$ 1,850	\$ -	\$ 1,850		\$ 3,700	
	ave Trap Stand	0	EA	\$ 7,400	\$ -	\$ 7,400	\$ -	\$ 14,800	\$ -
3.1k Misc	sc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.2 230	0kV								
	bstation A-Frame Structures - Stand alone	0				\$ 33,300		\$ 66,600	
	bstation A-Frame Structures - Shared Column	0		\$ 33,300				\$ 66,600	
3.2b Subs		1 -	'	10 12025	\$ -	\$ 12,025	ا	\$ 24,050	\$ -
3.2b Subs 3.2c Swit	ritch Stands	0		\$ 12,025					
3.2b Subs 3.2c Swit 3.2d Stati	ation Service Transformer Stand	0	EA	\$ 12,025	\$ -	\$ 12,025	\$ -	\$ 24,050	\$ -
3.2b Subs 3.2c Swit 3.2d Stati 3.2e Bus	ation Service Transformer Stand s Support 3ph	0	EA EA	\$ 12,025 \$ -	\$ - \$ -	\$ 12,025 \$ -	\$ - \$ -	\$ 24,050 \$ -	\$ - \$ -
3.2b Subs 3.2c Swit 3.2d Stati 3.2e Bus 3.2f Bus	stion Service Transformer Stand s Support 3ph s Support 1 Ph	0 0 0	EA EA EA	\$ 12,025 \$ - \$ 2,775	\$ - \$ - \$ -	\$ 12,025 \$ - \$ 2,775	\$ - \$ - \$ -	\$ 24,050 \$ - \$ 5,550	\$ - \$ - \$ -
3.2b Subs 3.2c Swit 3.2d Stati 3.2e Bus 3.2f Bus 3.2g Instr	ation Service Transformer Stand s Support 3ph	0	EA EA EA	\$ 12,025 \$ -	\$ - \$ - \$ -	\$ 12,025 \$ -	\$ - \$ - \$ - \$ -	\$ 24,050 \$ -	\$ - \$ - \$ - \$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -		\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -		\$ -	\$ 37,000	
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -		\$ -	\$ 15,910	
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -	\$ 7,955		\$ 15,910	
3.3e 3.3f	Bus Support 3ph Bus Support 1 Ph	0	EA EA	\$ 3,330 \$ 1,850	\$ - \$ -	\$ 3,330 \$ 1,850	\$ - \$ -	\$ 6,660 \$ 3,700	
3.3g	Instrument Transformer Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0	EA	\$ 740	\$ -		\$ -	\$ 1,480	
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
TOTAL CURS	TATION CTRUCTURES				A		^		<u> </u>
4. MAJOR EQU	ATION STRUCTURES				\$ -		\$ -		\$ -
4. MAJOR EQU	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
				,		1		, ,,,,,,,,	
TOTAL - MAJO	R EQUIPTMENT				\$ -		\$ -		\$ -
	PTMENT / MATERIALS								
5.1	345kV			4 25 000	À	45.000	<u> </u>	4 50,000	A
5.1a 5.1b	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	0	EA EA	\$ 35,000 \$ 40,000	\$ - \$ -		\$ - \$ -	\$ 50,000 \$ 57,500	
5.1c	VT'S	0	EA	\$ 40,000	\$ -	\$ 12,000	\$ -	\$ 12,000	\$ -
5.1d	CT'S	0	EA	\$ 13,000	\$ -	,	\$ -	\$ 21,000	
5.1e	CCVT'S	0	EA	\$ 13,000	\$ -		\$ -	\$ 21,000	
5.1f	Arresters	0	EA	\$ 6,500	\$ -	\$ 1,500	\$ -	\$ 8,000	\$ -
5.1g	Wave Traps	0	EA	\$ 13,000	\$ -	,	\$ -	\$ 21,000	
5.1h	Station Service Transformers	0	EA	\$ 200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 30,000	\$ -	\$ 15,000	\$ -	\$ 45,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 35,000	\$ -		\$ -	\$ 52,500	
5.2c	VT'S	0	EA	\$ 13,000	\$ -		\$ -	\$ 21,000	
5.2d	CT'S	0	EA	\$ 13,000	\$ -		\$ -	\$ 21,000	\$ -
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -	\$ 6,000		\$ 16,000	
5.2f	Arresters	0	EA	\$ 5,000	\$ -		\$ -	\$ 11,000	
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -		\$ -	\$ 21,000	
5.2h 5.2j	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2]									
5.3	115kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ 28,000	\$ -	\$ 15,000	\$ -	\$ 43,000	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 33,000	\$ -	\$ 17,500	\$ -	\$ 50,500	\$ -
	VT'S	0	EA	\$ 13,000				\$ 21,000	
	CT'S	0	EA	\$ 13,000				\$ 21,000	
5.3e	CCVT'S	0	EA		\$ -	\$ 8,000		\$ 16,000	
5.3f	Arresters Wave Traps	0	EA	\$ 3,420		\$ 6,000		\$ 9,420	
5.3g 5.3h	Station Service Transformers	0	EA EA	\$ - \$ -	\$ - \$ -		\$ - \$ -	\$ - \$ -	\$ - \$ -
5.3j	Fuses	0	EA	\$ -	\$ -		\$ -	\$ -	
3.5,					•		•		
		1			·	1			

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				\$ -		\$ -		\$ -
6. CONTROL H	OUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -
6.2	Protection and Telecom Equipment Panels	0	EA	\$ 35,000	\$ -	\$ 10,000	\$ -	\$ 45,000	\$ -
6.3	125VDC Batteries	0	EA	\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	Control Cables	0	LS	\$ 35,000	\$ -	\$ 12,500	\$ -	\$ 47,500	
6.5	SCADA and Communications	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0		\$ 50,000	\$ -	\$ 100,000		\$ 150,000	· ·
6.7	DC Distribution System	0	EA	\$ 50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	
6.8	Security	0	EA	\$ 7,500	\$ -		\$ -	\$ 15,000	
6.9	Fire Alarm	0	EA	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	
6.10	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	
					*	7 00,000	-		*
TOTAL - CONT	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	0	LF	\$ 185.00	\$ -	\$ 170.00	\$ -	\$ 355	\$ -
7.2	Rigid Bus, Fittings & Insulators	1	LS	\$ 15,008.40	\$ 15,008			\$ 71,912	
7.3	Strain Bus, Connectors & Insulators	0	LF	\$ 13.38	\$ -	\$ 39.35	\$ -	\$ 53	\$ -
7.4	Grounding System	0	LF	\$ 6.93	\$ -	\$ 32.58	\$ -	\$ 40	\$ -
7.5	Strain Bus Insulators - 345kV	0	EA	\$ 2,000	\$ -	\$ 1,050	\$ -	\$ 3,050	\$ -
7.6	Strain Bus Insulators - 230kV	0	EA	\$ 1,400	\$ -	\$ 750		\$ 2,150	
7.7	Strain Bus Insulators - 115kV	0		\$ 1,000	\$ -	•	\$ -	\$ 1,550	
7.8	Low Voltage AC Station Service	0	LS	\$ 50,000	\$ -		\$ -	\$ 125,000	
7.9	SSVT Service	0	LS	\$ 45,000	\$ -		\$ -	\$ 90,000	
7.10	Control Conduits from Trench to Equipment	0	LS	\$ 125,000	\$ -	\$ 125,000	\$ -	\$ 250,000	•
7.11	Misc. Materials (Above and Below Ground)	0	LS	\$ 180,000	\$ -	\$ 180,000	\$ -	\$ 360,000	
7.12			-					,,	
7.13									
7.14									
7.15									
7.16									
7.17									
7.18									
7.19									
7.20									
7.21									
7.22									
7.23									
7.24									
7.25									
TOTAL - MISC	ITEMS				\$ 15,008		\$ 56,904		\$ 71,912
I Porter	Substation - Install				\$ 15,008		\$ 56,904		\$ 71,912
					25,000		50,304		7 71,312
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
0.1	Contractor Mobilization / Demobilization		1.0	ć	ć	ć 710	ć 710	ė -	6 710
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
-	Project Management, Material Handling & Amenities								ļ
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS		\$ -	\$ 3,673	\$ 3,673	\$ 3,673	\$ 3,673
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 719	\$ 719	\$ 719	\$ 719
8.4	Site Accommodation, Facilities, Storage	1		\$ -	\$ -				
	Engineering	-	-						
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 5,753	\$ 5,753	\$ 5,753	\$ 5,753
8.6	LiDAR	-	Mile	\$ -	\$ -			\$ -	
8.7	Geotech	-	Site	\$ -	\$ -			\$ -	
8.8	Surveying/Staking	-	Site	\$ -	\$ -			\$ 503	
	Testing & Commissioning								
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 1,798	\$ 1,798	\$ 1,798	\$ 1,798
	The second secon			1.	1.1				

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Permitting and Additional Costs								
8.10	Environmental Licensing & Permitting Costs		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 216	\$ 216	\$ 216	\$ 216
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 1,201	\$ 1,201	\$ -	\$ -	\$ 1,201	\$ 1,201
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	\$ 72	\$ -	\$ 72	\$ -
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 1,201		\$ 13,597		\$ 14,798

Page 46 of 65

NAT & NYPA - T028 - (Segment A, Enhanced) K. Porter Substation - Removal

552,137

Total: \$

NAT & NYPA - T028 - (Segment A, Enhanced)										
	Sup	ply	1	nstallation		Total				
K. Porter Substation - Removal										
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$	-				
2. SUBSTATION FOUNDATIONS	\$	-	\$	126,600	\$	126,600				
3. SUBSTATION STRUCTURES	\$	-	\$	206,100	\$	206,100				
4. MAJOR EQUIPTMENT	\$	-	\$	43,500	\$	43,500				
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	59,500	\$	59,500				
6. CONTROL HOUSE / PANELS	\$	-	\$	-	\$	-				
7. MISC ITEMS	\$	-	\$	38,613	\$	38,613				
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$	77,824	\$	77,824				
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$					
SUBTOTAL:	\$	-	\$	552,137	\$	552,137				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL	ć		ć	552 137	ć	552 137				

e coer ip tioir	0

Estimate Revision:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
K. Porte	r Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75		\$ 75	
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
	N FOUNDATIONS								
	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	Ť.
2.1k	Arrester Stand Foundations	0	EA	т	· ·	T .	7	т	7
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	· ·	7	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
2.2a	Circuit Breaker Foundations	3	EA	\$ -	\$ -	\$ 7,200	\$ 21,600	\$ 7,200	\$ 21,600
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000	\$ -	\$ 32,000	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000	\$ -	\$ 22,000	\$ -
									Page 47 of 65

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Caisson DE Foundations (for DE A frame str shared column)	5		\$ -	\$ -	\$ 11,000	,	\$ 11,000	
	Switch Stand Foundations	5		\$ -	\$ -			\$ 5,200	
	Station Service Transformer Stand Foundation	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	0		\$ -	\$ -	\$ 2,400		\$ 2,400	
	Instrument Transformer Stand Foundations	4		\$ -	\$ -			\$ 2,400	
	Arrester Stand Foundations	6		\$ -	\$ -	\$ 2,400			\$ 14,400
	Wave Trap Stand Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
	115kV								
	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Capacitor Bank Foundations	0		\$ -	\$ -	\$ -		\$ -	\$ -
	Caisson DE Foundations (for DE A frame str stand alone)	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str shared column)	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Switch Stand Foundations	0		\$ -	\$ -		\$ -	\$ 5,200	
	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Instrument Transformer Stand Foundations	0		\$ -	\$ -	\$ -		\$ -	\$ -
	Arrester Stand Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Wave Trap Stand Foundations	0		\$ -	\$ -	\$ -		\$ -	\$ -
	Station Service Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Transformer Foundations							·	
	345-230kV Transformer Foundation w/ Oil Containment	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	345-115kV Transformer Foundation w/ Oil Containment	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	230kV-115kV Transformer Foundation w/ Oil Containment	0		\$ -	\$ -	\$ 42,000		. , , ,	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Control House Foundations / Pad				A		A	A	•
2.5a	Control House / Pad	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	State of the Secret Form destance								
	Lightning Mast Foundations		FA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6a 2.6b	70' Lightning Mast Foundation	0	EA	·	7	'			
2.6c		0	EA EA	\$ -	\$ -	\$ - \$ -		\$ - \$ -	\$ - \$ -
2.00		U	EA	, -	· -	, -	\$ -	, -	•
TOTAL - SUBST	TATION FOUNDATIONS				\$ -		\$ 126,600		\$ 126,600
3. SUBSTATION					Ţ		7 120,000		7 120,000
	345kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0		\$ -	\$ -	\$ -	•	\$ -	\$ -
	Switch Stands	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Station Service Transformer Stand	0		\$ -	\$ -	\$ -		\$ -	\$ -
	Bus Support 3ph	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Instrument Transformer Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Wave Trap Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Misc. Structures	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
									•
3.2	230kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
				\$ -	\$ -	\$ 27,000		\$ 27,000	
3.2a	Substation A-Frame Structures - Shared Column	5			·				
3.2a 3.2b		5		\$ -	- \$	\$ 9,750	\$ 58,500	\$ 9,750	\$ 58,500
3.2a 3.2b 3.2c	Substation A-Frame Structures - Shared Column Switch Stands	6	EA						
3.2a 3.2b 3.2c 3.2d	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	6	EA EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2a 3.2b 3.2c 3.2d 3.2e	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	6 0 0	EA EA EA	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
3.2a 3.2b 3.2c 3.2d 3.2e 3.2f	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	6	EA EA EA	\$ -	\$ - \$ - \$ -	\$ - \$ -	\$ - \$ - \$	\$ - \$ - \$ 2,250	\$ - \$ - \$ -

						Labor & Equipment	Labor & Equipment		
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Supply Rate	Cost	Total Unit Rate	TOTAL
3.2j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ 4,500	\$ -	\$ 4,500	\$ -
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0		\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	
3.3b	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	0		\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f 3.3g	Bus Support 1 Ph Instrument Transformer Stand	0	EA EA	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
3.3h	Arrester Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.38	wisc. Structures	0	LA	, -	· -	7	· -	· -	-
TOTAL - SUBST	ATION STRUCTURES				\$ -		\$ 206,100		\$ 206,100
4. MAJOR EQU							200,100		200,100
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	3	EA	\$ -	\$ -	\$ 14,500	\$ 43,500	\$ 14,500	\$ 43,500
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	R EQUIPTMENT				\$ -		\$ 43,500		\$ 43,500
	PTMENT / MATERIALS								
5.1 5.1a	345kV	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1a 5.1b	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
5.1c	VT'S	0	EA	\$ -	\$ -	\$ 3,300	\$ -	\$ 3,300	\$ -
5.1d	CT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	
5.1f	Arresters	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	
5.1g	Wave Traps	0	EA	\$ -	\$ -		\$ -	\$ 2,500	
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	2	EA	\$ -	\$ -	\$ 5,500	\$ 11,000	\$ 5,500	
5.2b	Disconnect Switches - 3ph w/ manual operator	3		\$ -	\$ -		\$ 16,500	\$ 5,500	
5.2c	VT'S	2		\$ -	\$ -	, ,	\$ 3,000	\$ 1,500	
5.2d	CT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S	6	EA	\$ -	\$ -		\$ 9,000	\$ 1,500	
5.2f	Arresters	6	EA	\$ -	\$ -	\$ 2,500	\$ 15,000	\$ 2,500	\$ 15,000
5.2g	Wave Traps	2	EA	\$ -	\$ -	\$ 2,500	\$ 5,000	\$ 2,500	
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3	115kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -		\$ -	\$ 5,500	
5.3c	VT'S	0		\$ -	\$ -	\$ 3,300	\$ -		\$ -
5.3d	CT'S	0		\$ -	\$ -	\$ -	\$ -		\$ -
5.3e	CCVT'S	0		\$ -	\$ -		\$ -		\$ -
5.3f	Arresters	0		\$ -	\$ -		\$ -	\$ 1,500	
5.3g	Wave Traps	0		\$ -			\$ -		\$ -
5.3h	Station Service Transformers	0		\$ -			\$ -		\$ -
	Fuses	0		\$ -	\$ -		\$ -		\$ -
	•								D 40 -£ (5

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
TOTAL - SMALL	EQUIPTMENT / MATERIALS				\$ -		\$ 59,500		\$ 59,500
	DUSE / PANELS / GENERATOR				,		39,300		33,300
	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
	Protection and Telecom Equipment Panels	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
_	125VDC Batteries	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Control Cable	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	SCADA and Communications	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Low Voltage AC Distribution	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	DC Distribution System	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Security	0		\$ -	\$ -		\$ -	\$ -	\$ -
	Fire Alarm	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Generator	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				T	-	*	-	T	*
TOTAL - CONTR	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS									
	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
	Rigid Bus, Fittings & Insulators	1		\$ -	\$ -	\$ 18,937.50		\$ 18,938	\$ 18,938
	Strain Bus, Connectors & Insulators	1		\$ -	\$ -	\$ 19,675.00		\$ 19,675	\$ 19,675
	Grounding System	0		\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5				T		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	T	1,	*
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC I	TEMS				\$ -		\$ 38,613		\$ 38,613
					\$ -		\$ 474,313		
	Substation - Removal				\$ -		\$ 474,313		\$ 474,313
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
	Project Management, Material Handling & Amenities								
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler								
	and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS		\$ -	\$ 24,227	\$ 24,227	\$ 24,227	\$ 24,227
	Utility PM and Project Oversite	1			\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
	Engineering								
	Design Engineering	1		\$ -	\$ -	\$ 37,945	\$ 37,945	\$ 37,945	\$ 37,945
	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Surveying/Staking	-	Site	\$ -	\$ -	\$ 3,320	\$ -	\$ 3,320	\$ -
	Testing & Commissioning								
	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 11,858	\$ -	\$ 11,858	\$ -
	Permitting and Additional Costs								
	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 1,423		\$ 1,423	\$ 1,423
	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -		\$ -	\$ -	\$ -
	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Sales Tax on Materials	1		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	\$ 474	\$ -	\$ 474	\$ -
TOTAL - MOB/I	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 77,824		\$ 77,824

NAT & NYPA - T028 - (Segment A, Enhanced)

L. Interconnection Edic Station

Estimate Revision: 7 Total: \$ 2,127,440

NAT & NYPA - T028 - (Segment A	, Enhar	nced)		
		Supply	Installation	Total
L. Interconnection Edic Station				
1. CLEARING & ACCESS	\$	-	\$ 367,850	\$ 367,850
2. FOUNDATIONS	\$	168,366	\$ 170,169	\$ 338,536
3. STRUCTURES	\$	501,469	\$ 321,821	\$ 823,289
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$ -	\$ -
5. INSULATORS, FITTINGS, HARDWARE	\$	160,000	\$ 94,400	\$ 254,400
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	66,387	\$ 276,979	\$ 343,365
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	896,222	\$ 1,231,219	\$ 2,127,440
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	896,222	\$ 1,231,219	\$ 2,127,440

ption		

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply I	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
L. Interc	onnection Edic Station										
1. CLEARING 8	CLEARING & ACCESS										
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$ -	\$ 15,000	\$ -	\$ 15,000	\$	-
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$	-	\$ -	\$ 5,000	\$ 10,000			10,000
1.3	Access Road	-	LF			\$ -	\$ 45		\$ 45		-
1.4	Silt Fence	3,500.0	LF	7		\$ -	\$ 4	\$ 14,000			14,000
1.5	Matting - Access and ROW	3,500.0	LF			\$ -	\$ 70				245,000
1.6	Matting - To Work Area	300.0	LF			\$ -	\$ 70				21,000
1.7	Snow Removal	-	LS			\$ -	\$ 516,800		\$ 516,800		-
1.8	ROW Restoration	0.5	Mile			\$ -	,				5,000
1.9	Work Pads	20,000.0	SF	7		\$ -		\$ 70,400			70,400
1.10	Restoration for Work Pad areas	4,000.0	SF			\$ -	\$ 0.2				600
1.11	Temporary Access Bridge	-	EA			\$ -	\$ 20,035		\$ 20,035		-
1.12	Air Bridge	-	EA			\$ -	\$ 14,445		\$ 14,445		-
1.13	Stabilized Construction Entrance	-	EA			\$ -	\$ 4,580		\$ 4,580		-
1.14 1.15	Maintenance and Protection of Traffic on Public Roads	-	EA		,000	\$ -	\$ 4,130 \$ 2,500		\$ 4,130 \$ 4,500		-
	Gates	-	EA		750		\$ 2,500 \$ 1,250				-
1.16 1.17	Culverts / Misc. Access	-	EA EA						\$ 2,000 \$ 1,850		1,850
1.17	Concrete Washout Station	1	EA	\$		\$ - \$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$	- 1,850
1.19						\$ -		\$ - \$ -		Ś	
1.19	Crushed Rock	0	CY	\$	27		\$ 75		\$ 102	T	
	RING & ACCESS	0	CI	7		\$ -	<i>J</i> 75	\$ 367,850	ÿ 102	Ś	367,850
						÷ -		\$ 307,830		٦	307,830
2. FOUNDATIO											
2.1	Foundation – Drilled Pier – 8'X 27'	3	EA		,332		\$ 41,774	\$ 125,322			249,317
2.2	Foundation – Drilled Pier – 8'X 29'	1	EA	\$ 44	,372	\$ 44,372	\$ 44,847	\$ 44,847	\$ 89,219	\$	89,219
2.3	Rock Excavation Adder	-	CY	\$	-	\$ -	\$ 2,000	\$ -	\$ 2,000	\$	-
2.4											
2.5										<u> </u>	
2.6										↓	
2.7										—	
2.8										↓	
2.9 2.10										—	
2.10										⊢—	
2.11					-					├─	
2.12					-					\vdash	
2.13					-					\vdash	
	1			l						——	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.15									
TOTAL - FOUN	DATIONS				\$ 168,366		\$ 170,169		\$ 338,536
3. STRUCTURE									
	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) – 105′	3	Structure	\$ 98,883		\$ 59,330	\$ 177,989	\$ 158,212	\$ 474,636
3.2	2-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$ 202,797					\$ 324,475
3.3	Install Grounding and Grounding Accessories	4	Pole	\$ 506	\$ 2,024	\$ 5,539	\$ 22,154	\$ 6,045	\$ 24,178
3.4					\$ -		\$ -		\$ -
3.5									_
3.6					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ - \$ -
3.12					7		Ÿ		
3.13				-	\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUC	I CTURES				\$ 501,469		\$ 321,821		\$ 823,289
	R, SHIELDWIRE, OPGW				501,403		J J21,021		Ç 023,263
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90	Š -	\$ 5.00	\$ -	\$ 6.90	\$ -
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$ 1.35		\$ 5.00		\$ 6.35	\$ -
4.3	(1) 3/8" EHS7 Steel	-	LF	\$ 0.47		\$ 5.00	\$ -	\$ 5.47	
4.5	Remove Existing Cable From Existing Structures	-	Mile	\$ -		\$ 30,000	\$ -	\$ 30,000.00	\$ -
4.6	Remove Existing OPGW Cable	-	Mile		\$ -	\$ 12,000	\$ -	\$ 12,000.00	\$ -
4.7	Remove Existing EH7	-	Mile	\$ -	*	\$ 12,000	\$ -	\$ 12,000.00	\$ -
4.8						, , , , , , , , , , , , , , , , , , , ,		,	
4.9		-							
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDI	JCTOR, SHIELDWIRE, OPGW:				\$ -		\$ -		\$ -
5. INSULATOR	FITTINGS, HARDWARE								
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)								
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)								
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	60	Assembly	\$ 1,800	\$ 108,000	\$ 720	\$ 43,200	\$ 2,520	\$ 151,200
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)								
5.5	OPGW Assembly - Tangent	-	Assembly		\$ -	\$ 150	\$ -	\$ 350	
5.6	OPGW Assembly - Angle / DE	4	Assembly		\$ 1,000	\$ 150	\$ 600		\$ 1,600
5.7	OHSW Assembly - Angle / DE	4	Assembly		\$ 1,000	\$ 150	\$ 600		\$ 1,600
5.8	OPGW Splice Boxes	-	Set	\$ 1,750		\$ 1,746	\$ -	\$ 3,496	\$ -
5.9	OPGW Splice & Test	-	EA	\$ 1,400		\$ 2,520	\$ -	\$ 3,920	
5.10	Spacer - Conductor	-	EA		\$ -	\$ 35		\$ 85	
5.11	Vibration Dampers - Conductor	-	EA		\$ -	\$ 35		\$ 70	
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$ 27	\$ -	\$ 35	\$ -	\$ 62	\$ -
5.13	Guys, Anchors, and Accessories	_	EA	\$ 720	\$ -	\$ 885	\$ -	\$ 1,605	\$ -
						*			-
5.14 5.15	Misc. materials (Signs and Markers)	-	Mile	7/0	\$ -	\$ 1,006	\$ -	\$ 1,776	\$ -
5.16									
5.17									
5.18									
5.19	Interconnection Arrangements	1	EA	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 100,000	\$ 100,000
5.20				1 22,000			. 22,300		
	ATOR, FITTINGS, HARDWARE				\$ 160,000		\$ 94,400		\$ 254,400
	onnection Edic Station				\$ 829,835		\$ 954,240		\$ 1,784,075
					9 023,033		9 334,240		7 1,704,073
6. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
- 6.1	Contractor Mobilization / Demobilization		1.5	-	ļ .	6 47011	ć 47.044	ć 47.044	ć 47.04
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
—	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 91,128	\$ 91,128	\$ 91,128	\$ 91,128

Item	Item Description	Estimated Quantity	Unit of Measure	Material Suppl	y Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
	Engineering									ļ
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 89,204	\$ 89,204	\$ 89,204	\$ 89,204
6.6	LiDAR	-	LS	\$	-	\$ -	\$ 5,352	\$ -	\$ 5,352	\$ -
6.7	Geotech	1	Location	\$	-	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 12,489	\$ 12,489	\$ 12,489	\$ 12,489
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 5,352	\$ 5,352	\$ 5,352	\$ 5,352
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ (56,387	\$ 66,387	\$ -	\$ -	\$ 66,387	\$ 66,387
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 1,784	\$ 1,784	\$ 1,784	\$ 1,784
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 66,387		\$ 276,979		\$ 343,365

Page 53 of 65

NAT & NYPA - T028 - (Segment A, Enhanced) M. Interconnection New Scotland Station

7		Total:	\$ 3,109,008	
NAT & NYPA - T028 - (Segmen	t A, Enha	nced)		
		Supply	Installation	Total
M. Interconnection New Scotland Station				
1. CLEARING & ACCESS	\$	-	\$ 367,850	\$ 367,850
2. FOUNDATIONS	\$	365,657	\$ 473,093	\$ 838,749
3. STRUCTURES	\$	655,465	\$ 445,628	\$ 1,101,092
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	3,555	\$ 26,100	\$ 29,655
5. INSULATORS, FITTINGS, HARDWARE	\$	161,130	\$ 95,795	\$ 256,925
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	94,864	\$ 419,873	\$ 514,737
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	\$ -
SUBTOTAL:	\$	1,280,670	\$ 1,828,338	\$ 3,109,008
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -

	CONTINGENCY ON ENTIRE PROJECT	\$ -							
	TOTAL:	\$ 1,280,670	\$ 1,828,338	\$ 3,109,008					
Description	of Work:								
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
M. Inter	connection New Scotland Station								
1. CLEARING 8	& ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$ -	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	3,500.0	LF	\$ -	\$ -	\$ 4	\$ 14,000	\$ 4	\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$ -	\$ -	\$ 70	\$ 245,000	\$ 70	\$ 245,000
1.6	Matting - To Work Area	300.0	LF	\$ -	\$ -	\$ 70	\$ 21,000	\$ 70	\$ 21,000
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800		\$ 516,800	
1.8	ROW Restoration	0.5	Mile	\$ -	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.9	Work Pads	20,000.0	SF	\$ -	\$ -	\$ 4			\$ 70,400
1.10	Restoration for Work Pad areas	4,000.0	SF	\$ -	\$ -	\$ 0.2			\$ 600
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	·	\$ 20,035	•
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance	_	EA	\$ -	\$ -	\$ 4,580	·	\$ 4,580	
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130		\$ 4,130	
1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500		\$ 4,500	
1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850		\$ 1,850	
1.18					\$ -		\$ -		\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEAF	RING & ACCESS				\$ -		\$ 367,850		\$ 367,850
2. FOUNDATIO	ONS								
2.1	Foundation – Drilled Pier – 8'X 50'	3	EA	\$ 76,500	\$ 229,501	\$ 77,320	\$ 231,959	\$ 153,820	\$ 461,459
2.2	Foundation – Drilled Pier – 8'X 89'	1	EA	\$ 136,156	\$ 136,156	\$ 137,614	\$ 137,614	\$ 273,770	\$ 273,770
2.3	Rock Excavation Adder	51.8	СУ	\$ -	\$ -	\$ 2,000	\$ 103,520	\$ 2,000	\$ 103,520
2.4									
2.5									
2.6									
2.7									
2.8									
2.9 2.10									
2.10									
2.11									
,		i e		1	1	1	1		

Estimate

Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Mater	ial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
2.13											
2.14											
2.15								4			
TOTAL - FOUN						\$ 365,657		\$ 473,093		\$	838,749
3. STRUCTURES	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115'	3	Structure	\$	178,026	\$ 534,077	\$ 106,815	\$ 320,446	\$ 284,841	¢	854,522
3.2	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$	116,328	\$ 116,328	\$ 69,797		\$ 186,125		186,125
3.3	Install Grounding and Grounding Accessories	10	Structure	\$	506	\$ 5,060	\$ 5,539	\$ 55,385	\$ 6,045	\$	60,445
3.4						\$ -		\$ -			
3.5						<u>^</u>		\$ -			
3.6						\$ - \$ -		\$ - \$ -			
3.8						\$ -		\$ -			
3.9						\$ -		\$ -			-
3.10						\$ -		\$ -			
3.11						\$ -		\$ -			
3.12				+		\$ -		\$ -			
3.13				+		\$ -		\$ -			
3.14						\$ -		\$ -			
3.15						\$ -		\$ -			
TOTAL - STRUC	TURES					\$ 655,465		\$ 445,628		\$	1,101,092
	R, SHIELDWIRE, OPGW										
	345kV - (2) 954kcmil 54/7 ACSS "Cardinal"	1,500	LF	\$	1.90						10,350
4.2	(1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	1,500	LF LF	\$	1.35 0.47		\$ 5.00 \$ 5.00		\$ 6.35 \$ 5.47		8,205
4.5	Remove Existing 345kV Cable From Existing Structures	0.3	Mile	\$	- 0.47	\$ 703	\$ 30,000	\$ 7,500			7,500
4.6	Remove Existing OPGW Cable	-	Mile	\$	-	\$ -	\$ 12,000	, , , , , , , , , , , , , , , , , , , ,	\$ 12,000.00		-
4.7	Remove Existing EH7	0.3	Mile	\$	-	\$ -	\$ 12,000	\$ 3,600			3,600
4.8											
4.9						_					
4.10 4.11	Rider Poles - Relocated Rider Poles	-	Set EA	\$	1,750	\$ - \$ -	\$ 3,500 \$ 3,500	· .	\$ 3,500.00 \$ 5,250.00		-
	JCTOR, SHIELDWIRE, OPGW:		LA	3	1,750	\$ 3,555	\$ 3,300	\$ 26,100	\$ 3,230.00	\$	29,655
	FITTINGS, HARDWARE					ÿ 3,555		20,100		Ť	25,055
	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$	1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$	-
	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$	900	\$ -	\$ 560		\$ 1,460		-
	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	60	Assembly	\$	1,800	\$ 108,000			\$ 2,520		151,200
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) OPGW Assembly - Tangent	-	Assembly Assembly	\$	900	\$ - \$ -	\$ 560 \$ 150	·	\$ 1,460 \$ 350		-
	OPGW Assembly - Tangent OPGW Assembly - Angle / DE	-	Assembly	\$	250		\$ 150		\$ 400		-
	OHSW Assembly - Angle / DE	4	Assembly	\$	250	\$ 1,000			\$ 400	\$	1,600
	OPGW Splice Boxes	-	Set	\$	1,750	\$ -	\$ 1,746	\$ -	\$ 3,496	\$	-
	OPGW Splice & Test	-	EA	\$	1,400		\$ 2,520		\$ 3,920		-
	Spacer - Conductor	9	EA	\$	50				\$ 85		765
5.11	Vibration Dampers - Conductor	48	EA	\$		\$ 1,680			\$ 70		3,360
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$	27	\$ -	\$ 35	\$ -	\$ 62	\$	-
5.13	Guys, Anchors, and Accessories	-	EA	\$	720	\$ -	\$ 885	\$ -	\$ 1,605	\$	-
5.14	Misc. materials (Signs and Markers)	-	Mile	\$	770		\$ 1,006	\$ -	\$ 1,776		-
5.15				1		\$ -	A	\$ -	A	\$	-
5.16	Interconnection Arrangements	1	EA	\$	50,000		\$ 50,000		\$ 100,000		100,000
5.17 5.18						\$ - \$ -		\$ - \$ -		\$	-
5.19						\$ -		\$ -		\$	-
5.20						\$ -		\$ -		\$	•
	ATOR, FITTINGS, HARDWARE					\$ 161,130		\$ 95,795		\$	256,925
M. Interd	connection New Scotland Station					\$ 1,185,806		\$ 1,408,465		\$	2,594,271
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
	Mob / Demob	1	LS	\$	-	\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$	25,943
	Project Management, Material Handling & Amenities	1	1				1			1	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 132,511	\$ 132,511	\$ 132,511	\$ 132,511
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$ 25,943
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 25,943	\$ 25,943	\$ 25,943	\$ 25,943
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 129,714	\$ 129,714	\$ 129,714	\$ 129,714
6.6	Lidar	1	LS	\$ -	\$ -	\$ 7,783	\$ 7,783	\$ 7,783	\$ 7,783
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 18,160	\$ 18,160	\$ 18,160	\$ 18,160
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 7,783	\$ 7,783	\$ 7,783	\$ 7,783
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 94,864	\$ 94,864	\$ -	\$ -	\$ 94,864	. ,
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 2,594	\$ 2,594	\$ 2,594	
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 94,864		\$ 419,873		\$ 514,737

Page 56 of 65

NAT & NYPA - T028 - (Segment A, Enhanced)

System Upgrade Facilities (Various Stations for Edic/Marcy to New Scotland)

Estimate Revision: 7 Total: \$ 6,899,000

SYSTEM UPGI	RADE FACILITIES	Estimated Quantity	Unit of Measure	Material Supply Rate	te N	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate		TOTAL
SUF SS1	Marcy 345kV Bay 3300 - Reconductor Strain Bus UNS-18 Marcy-New Scotland Line	1	LS	\$ -	\$	-	\$ -	\$ -	\$ 664,560	\$	665,00
SUF SS1	Removals	1	LS	\$ -	\$	-	\$ -	\$ -	\$ 30,000	\$	30,00
SUF SS1	Engineering, T&C, PM, Indirects (25%)		LS %							\$	174,00
SUF SS1	SUF SS1 - TOTAL:				\$	-		\$ -		\$	869,00
SUF SS2	Marcy 345kV Bay 3100 - Reconductor Strain Bus, Replace (3) breakers and wave trap UE1-7- Marcy-Edic Line	1	LS	\$ -	\$	-	\$ -	\$ -	\$ 2,946,086	\$	2,947,00
SUF SS2	Removals	1	LS	\$ -	\$	-	\$ -	\$ -	\$ 120,720	\$	121,00
SUF SS2	Engineering, T&C, PM, Indirects (25%)		LS %							\$	767,00
SUF SS2	SUFSS 2 - TOTAL:				\$	-		\$ -		\$	3,835,00
SUF SS3	Edic 345kV Bay - UE1-7- Marcy-Edic Line Replace (2) breakers and wave trap	1	LS						\$ 1,661,294	\$	1,662,00
SUF SS3	Removals	1	LS	\$ -	\$	-	\$ -	\$ -	\$ 93,120	\$	94,00
SUF SS3	Engineering, T&C, PM, Indirects (25%)		LS %							\$	439,00
SUF SS3	SUF SS3 - TOTAL:				\$	-		\$ -		\$	2,195,00
SUF SS4		•	LS	\$ -	\$	-	\$ -	\$ -		\$	-
SUF SS4	Removals		LS %						\$ -	\$	-
SUF SS4	Engineering, T&C, PM, Indirects (25%)		LS %							\$	-
SUF SS4	SUF SS4 - TOTAL:				\$	-		\$ -		\$	-
SUF SS5		-	LS	\$ -	\$	-	\$ -	\$ -		\$	-
SUF SS5	Removals		LS %						\$ -	\$	-
SUF SS5	Engineering, T&C, PM, Indirects (25%)		LS %							\$	-
SUF SS5	SUF SS4 - TOTAL:				\$	-		\$ -		\$	-
	STATIONS SUF DIRECT TOTAL:									\$	5,519,000
	STATIONS SUF INDIRECT TOTAL:									\$	1,380,000
	STATIONS SUF TOTAL									Ś	6,899,000

NAT & NYPA - T028 - (Segment A, Enhanced) N. Interconnection Rotterdam Station

stimate levision:	7		Total:	\$ 4,612,611	
	NAT & NYPA - T028 -	(Segment A, En	hanced)		
			Supply	Installation	Total
	N. Interconnection Rotterdam Station				
	1. CLEARING & ACCESS	\$	-	\$ 1,233,050	\$ 1,233,050
	2. FOUNDATIONS	\$	192,145	\$ 325,963	\$ 518,108
	3. STRUCTURES	\$	546,722	\$ 837,150	\$ 1,383,872
	4. CONDUCTOR, SHIELDWIRE, OPGW	\$	65,923	\$ 437,250	\$ 503,173
	5. INSULATORS, FITTINGS, HARDWARE	\$	165,730	\$ 118,480	\$ 284,210
	6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	77,642	\$ 612,557	\$ 690,199
	CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
	SUBTOTAL:	\$	1,048,161	\$ 3,564,450	\$ 4,612,611
	CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
	TOTAL:	\$	1,048,161	\$ 3,564,450	\$ 4,612,611
escriptio	n of Work:				

Description	or work.									
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	ite	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
N. Interd	connection Rotterdam Station									
1. CLEARING 8	& ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	7.0	Acre	\$.	. \$	\$ -	\$ 15,000	\$ 105,000	\$ 15,000	\$ 105,000
1.2	Clearing the ROW - Light (mowing)	5.0	Acre	\$ -	. \$	\$ -	\$ 5,000	\$ 25,000		
1.3	Access Road	-	LF	\$ -	. \$	\$ -	\$ 45		\$ 45	
1.4	Silt Fence	4,800.0	LF	\$ -	. \$	\$ -	\$ 4			
1.5	Matting - Access and ROW	4,800.0	LF	\$ -	. \$	\$ -	\$ 70			\$ 336,000
1.6	Matting - To Work Area	2,400.0	LF	\$ -	. \$	\$ -	\$ 70			\$ 168,000
1.7	Snow Removal	-	LS	\$ -	. \$	\$ -	\$ 516,800			\$ -
1.8	ROW Restoration	1.0	Mile	\$ -	Y	7	\$ 10,000			\$ 10,000
1.9	Work Pads	160,000.0	SF	\$.	. \$	\$ -	\$ 4			\$ 563,200
1.10	Restoration for Work Pad areas	32,000.0	SF	\$ -	Y	7	\$ 0.2	\$ 4,800		\$ 4,800
1.11	Temporary Access Bridge	-	EA	\$ -		r	\$ 20,035	\$ -	\$ 20,035	•
1.12	Air Bridge	-	EA	\$ -	_ Y	7	\$ 14,445	\$ -		\$ -
1.13	Stabilized Construction Entrance	-	EA	\$ -		7	\$ 4,580	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	7	\$ -	\$ 4,130			\$ -
1.15	Gates	-	EA	\$ 2,0		\$ -	\$ 2,500			\$ -
1.16	Culverts / Misc. Access	-	EA		50 \$		\$ 1,250		,	\$ -
1.17	Concrete Washout Station	1	EA	\$ -		7	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18					\$	7		\$ -		\$ -
1.19					\$	r		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$	27 \$		\$ 75		\$ 102	
	RING & ACCESS				\$	\$ -		\$ 1,233,050		\$ 1,233,050
2. FOUNDATION										
2.1	10' ED Rock BF	6	EA		58 \$	\$ 2,145				
2.2	15' ED Rock BF	18	EA	,	36 \$					\$ 106,178
2.3	20' ED Rock BF	4	EA		15 \$	\$ 2,860	\$ 7,150			\$ 31,460
2.4	Foundation – Drilled Pier – 8'X 29'	4	EA	\$ 44,3	72 \$	\$ 177,487	\$ 44,847	\$ 179,388	\$ 89,219	\$ 356,875
2.5	Rock Excavation Adder	-	CY	\$.	. \$	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.6					\$	\$ -		\$ -		\$ -
2.7					\$	\$ -		\$ -		\$ -
2.8					\$	\$ -		\$ -		\$ -
2.9			<u> </u>		\$	\$ -		\$ -		\$ -
2.10					\$	\$ -		\$ -		\$ -
2.11			<u> </u>		\$	\$ -		\$ -		\$ -
2.12					\$	r		\$ -		\$ -
2.13					\$	\$ -		\$ -		\$ -

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rat	e Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.14					\$ -		\$ -		\$ -
2.15					\$ -		\$ -		\$ -
TOTAL - FOUN					\$ 192,145		\$ 325,963		\$ 518,108
3. STRUCTURE									
3.1	15kV 3-CKT TANGENT DIST WOOD POLE	3	Pole	\$ 3,50				\$ 7,100	\$ 21,300
3.2	15Kv 3-CKT MA DIST WOOD POLE	1	Pole	\$ 3,50				\$ 7,100	\$ 7,100
3.3	15kV 3-CKT DE - WOOD POLE	2	Pole	\$ 3,50				\$ 7,100	\$ 14,200
3.4	115kV 1-CKT TANGENT - WOOD POLE	5	Pole	\$ 4,50				\$ 8,900	\$ 44,500
3.5	115kV 1-CKT MA - WOOD POLE	2	Pole	\$ 4,50				\$ 8,900	\$ 17,800
3.6	115kV 1-CKT DE - WOOD POLE	11	Pole	\$ 5,50					\$ 115,500
3.7	115kV 2-CKT TANGENT - WOOD POLE	4	Pole		0 \$ 22,000			,	\$ 42,000 \$ 632,848
3.8	115kV 2-CKT DE - STEEL POLE		Pole	\$ 98,88			<u> </u>		
3.9	Remove Existing Structure and Accessories	24	EA		\$ - \$ -	\$ 12,300	\$ 295,200 \$ -	\$ 12,300	\$ 295,200
3.10					\$ - \$ -		\$ -		\$ - \$ -
3.11	Install Crounding and Crounding Assessaries	32	Christian	\$ 50		\$ 5,539	7	\$ 6.045	<u> </u>
3.12	Install Grounding and Grounding Accessories	32	Structure	\$ 50	\$ 16,192	\$ 5,539	l .	\$ 6,045	\$ 193,424
3.14					\$ -		\$ - \$ -		\$ - \$ -
3.14					\$ -		\$ -		\$ -
TOTAL - STRUC	TTIPES				\$ 546,722		\$ 837,150		\$ 1,383,872
	R, SHIELDWIRE, OPGW				\$ 340,722		\$ 657,130		3 1,363,672
4. CONDUCTO 4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	23,400	LF	\$ 1.9	0 \$ 44,460	\$ 5.00	\$ 117,000	\$ 6.90	\$ 161,460
4.1	(1) OPGW 36 Fiber AC-33/38/571	23,400	LF		5 \$ -	\$ 5.00		\$ 6.35	
4.3	(1) 3/8" EHS7 Steel	7,800	LF		7 \$ 3,666		'	\$ 5.47	
4.5	Remove Existing Cable	6.6	Mile	\$		\$ 30,000		\$ 30,000.00	\$ 197,700
4.6	Remove Existing EH7	2.2	Mile	\$ -		\$ 12,000		\$ 12,000.00	\$ 26,400
4.7	15kV - (1) 477kcmil 26/7 ACSR "Hawk"	9,630	LF	\$ 1.6		\$ 5.00		\$ 6.62	\$ 63,751
4.8	15kV - (1) 336kcmil 26/7 ACSK "Hawk"	1,800	LF		2 \$ 2,196			\$ 6.22	
4.9	13KV - (1) 330KCHIII 20/7 ACSIX EHIHEE	-	Li	7 1.2	2,150	3.00	3,000	ÿ 0.22	7 11,150
4.10	Rider Poles - Relocated	-	Set	Ś -	\$ -	\$ 3,500	Ś -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA		0 \$ -	\$ 3,500		\$ 5,250.00	\$ -
	JCTOR, SHIELDWIRE, OPGW:			-/	\$ 65,923	7 3,330	\$ 437,250	, , , , , , , , , , , , , , , , , , , ,	\$ 503,173
5. INSULATOR	FITTINGS, HARDWARE								
5.1	115kV Tangent (1-Group of 9-Bells Each Assembly)	33	Assembly	\$ 1,00	0 \$ 33,000	\$ 560	\$ 18,480	\$ 1,560	\$ 51,480
5.2	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	66	Assembly	\$ 1,00	0 \$ 66,000	\$ 560	\$ 36,960	\$ 1,560	\$ 102,960
5.3	15kV Tangent	12	Assembly	\$ 10	0 \$ 1,200	\$ 75	\$ 900	\$ 175	\$ 2,100
5.4	15kV Dead-end & Angle Insulators	18	Assembly	\$ 10	0 \$ 1,800	\$ 75	\$ 1,350	\$ 175	\$ 3,150
5.5	Neutral, Distribution, Tangent	4	Assembly	\$ 10	0 \$ 400	\$ 75	\$ 300	\$ 175	\$ 700
5.6	Neutral, Distribution, DE/Side	2	Assembly	\$ 10	0 \$ 200	\$ 75	\$ 150	\$ 175	\$ 350
5.7	Jumper, DE/Angle, 3PH	4	Assembly		0 \$ 400			\$ 175	\$ 700
5.8	OPGW Assembly - Tangent	2	Assembly	\$ 20	0 \$ 400	\$ 150	\$ 300	\$ 350	\$ 700
5.9	OSHW Assembly - Tangent	11	Assembly		0 \$ 2,750				\$ 4,400
5.10	OHSW Assembly - Angle / DE	38	Assembly	\$ 25				\$ 400	\$ 15,200
5.11	OPGW Splice Boxes	-	Set	\$ 1,75		\$ 1,746		\$ 3,496	\$ -
5.12	OPGW Splice & Test	-	EA	\$ 1,40		\$ 2,520		\$ 3,920	\$ -
5.13	Spacer - Conductor	-	EA		0 \$ -	\$ 35		\$ 85	\$ -
5.14	Vibration Dampers - Conductor	-	EA		5 \$ -	\$ 35		\$ 70	\$ -
5.15	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA		7 \$ -	\$ 35		\$ 62	
5.16	Guys, Anchors, and Accessories	14.0	EA		0 \$ 10,080			\$ 1,605	
5.17	Misc. materials (Signs and Markers)	-	Mile	\$ 77	0 \$ -	\$ 1,006		\$ 1,776	\$ -
5.18					\$ -		\$ -		\$ -
5.19	Interconnection Arrangements	8	EA	\$ 5,00		\$ 5,000		\$ 10,000	\$ 80,000
5.20					\$ -	1	\$ -		\$ -
5.21					\$ -		\$ -		\$ -
5.22					\$ -	-	\$ -		\$ -
5.23	ATOR, FITTINGS, HARDWARE				\$ -		Υ		\$ - \$ 284.210
					\$ 165,730				, , , , ,
N. Interd	connection Rotterdam Station				\$ 970,519		\$ 2,951,893		\$ 3,922,412
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 39,224	\$ 39,224	\$ 39,224	\$ 39,224
	Project Management, Material Handling & Amenities								
	·			•		*			

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Suppl	y Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 200,351	\$ 200,351	\$ 200,351	\$ 200,351
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 39,224	\$ 39,224	\$ 39,224	\$ 39,224
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 39,224	\$ 39,224	\$ 39,224	\$ 39,224
	Engineering									
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 196,121	\$ 196,121	\$ 196,121	\$ 196,121
6.6	LiDAR	1	LS	\$ -	\$	-	\$ 11,767	\$ 11,767		11,767
6.7	Geotech	1	Location	\$ -	\$	-	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 27,457	\$ 27,457	\$ 27,457	\$ 27,457
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 11,767	\$ 11,767	\$ 11,767	\$ 11,767
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 77,642	\$ 7	77,642	\$ -	\$ -	\$ 77,642	\$ 77,642
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 3,922	\$ 3,922	\$ 3,922	\$ 3,922
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 7	77,642		\$ 612,557		\$ 690,199

Page 60 of 65

NAT & NYPA - T028 - (Segment A, Enhanced)

Q. Princetown Switchyard - Install

Estimate Revision: 7 Total: \$ 15,967,903

NAT & NYPA - T028 - (Segmen	nt A, En	hanced)				
	Supply Installation				Total	
Q. Princetown Switchyard - Install						
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	163,560	\$	909,775	\$	1,073,335
2. SUBSTATION FOUNDATIONS	\$	1,193,706	\$	1,213,490	\$	2,407,196
3. SUBSTATION STRUCTURES	\$	582,750	\$	582,750	\$	1,165,500
4. MAJOR EQUIPTMENT	\$	800,000	\$	320,000	\$	1,120,000
5. SMALL EQUIPTMENT / MATERIALS	\$	1,382,000	\$	636,000	\$	2,018,000
6. CONTROL HOUSE / PANELS	\$	1,621,800	\$	1,043,550	\$	2,665,350
7. MISC ITEMS	\$	895,854	\$	1,373,004	\$	2,268,858
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	531,174	\$	2,718,490	\$	3,249,664
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	7,170,844	\$	8,797,059	\$	15,967,903
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL:	\$	7,170,844	\$	8,797,059	\$	15,967,903

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
Q. Princ	etown Switchyard - Install										
	GRADING/ FENCING / CIVIL										
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	3.1	ACRES	\$	-	\$ -	\$ 203,000	\$ 634,375	\$ 203,000	\$	634,375
1.2	Station stone within substation fence.	1,080	CY	\$	27	\$ 29,160	\$ 75	\$ 81,000	\$ 102	\$	110,160
1.3	Substation Fence	1,260	LF	\$	100	\$ 126,000	\$ 100	\$ 126,000	\$ 200	\$	252,000
1.4	Permanent Access Road - 20'-Wide (Extend Existing)	240	LF	\$	35	\$ 8,400	\$ 285	\$ 68,400	\$ 320	\$	76,800
1.5											
1.6										L	
1.7										Ь—	
1.8 1.9										├	
1.10										 	
1.11										\vdash	
1.12											
1.13											
1.14											
1.15											
	PREP/ GRADING/ FENCING / CIVIL					\$ 163,560		\$ 909,775		\$	1,073,335
2. SUBSTATIO 2.1	N FOUNDATIONS 765kV										
2.1a	Circuit Breaker Foundations		EA.	\$ 22	2,410	\$ -	\$ 24,000	\$ -	\$ 46,410	ć	_
2.1b	Capacitor Bank Foundations Capacitor Bank Foundations		EA.	\$ 22	-,410	\$ -	\$ 24,000	\$ -	\$ 40,410	5	-
2.1c	Caisson DE Foundations (for DE A frame str stand alone)		EA.	\$ 52	2,290	\$ -	\$ 56,000	\$ -	\$ 108,290	\$	-
2.1d	Caisson DE Foundations (for DE A frame str shared column)		EA.	\$ 52	2,290	\$ -	\$ 56,000	\$ -	\$ 108,290	\$	-
2.1e	Switch Stand Foundations		EA.	\$ 8	3,964	\$ -	\$ 8,964		\$ 17,928		-
2.1f	Fuse Stand Foundations		EA.		3,964	\$ -	\$ 8,964		\$ 17,928		-
2.1g	Bus Support 1ph Foundations (High Bus)		EA.	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.1h	Bus Support 1 Ph Foundations (Low Bus)		EA.		3,964	\$ -	\$ 8,964		\$ 17,928		-
2.1j	Instrument Transformer Stand Foundations		EA.	-	3,964	\$ -	\$ 8,964 \$ 8,964	<u> </u>	\$ 17,928 \$ 17.928		-
2.1k 2.1m	Arrester Stand Foundations Wave Trap Stand Foundations		EA.		3,964 3,964	\$ - \$ -	\$ 8,964 \$ 8,964		\$ 17,928 \$ 17,928		-
2.1m	Misc. Structure Foundations		EA.	Ś	-	\$ -	\$ 6,504	\$ -	\$ 17,528	5	-
2.1p	Misc. Structure Foundations		En.	7		Ÿ	Ÿ	Ÿ	, , , , , , , , , , , , , , , , , , ,		
2.2	345kV										
2.2a	Circuit Breaker Foundations	4	EA.	\$ 14	1,940	\$ 59,760	\$ 14,940	\$ 59,760	\$ 29,880	\$	119,520
2.2b	Capacitor Bank Foundations	0	EA		5,025	\$ -	\$ 60,000		\$ 116,025		-
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	16	EA.		,145	\$ 418,320				-	836,640
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA.		,145	\$ -	\$ 26,145		\$ 52,290		-
2.2e	Switch Stand Foundations	48	EA.		1,482 1,482	\$ 215,136 \$ 26,892					430,272 53,784
2.2f	Fuse Stand Foundations	6	EA.] \$ 4	1,482	\$ 26,892	\$ 4,482	\$ 26,892	\$ 8,964		.ge 61 of 65

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2g	Bus Support 1ph Foundations (High Bus)	0	EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations (Low Bus)	39	EA.	\$ 4,482	\$ 174,798	\$ 4,482	\$ 174,798	\$ 8,964	\$ 349,596
2.2j	Instrument Transformer Stand Foundations	36	EA.	\$ 4,482	\$ 161,352		\$ 161,352		\$ 322,704
2.2k	Arrester Stand Foundations	12	EA.	\$ 4,482	\$ 53,784		\$ 53,784	\$ 8,964	
2.2m	Wave Trap Stand Foundations	4	EA.	\$ 4,482	\$ 17,928	\$ 4,482	\$ 17,928	\$ 8,964	\$ 35,856
2.2n	Misc. Structure Foundations		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600		\$ 34,034	
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -		\$ -		\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -		\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -	,	\$ -	\$ 6,188	
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -		\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations 765-345kV Transformer Foundation w/ Oil Containment		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4a	765-345KV Transformer Foundation W/ Oil Containment		EA.	<u> </u>	\$ -		\$ -		, -
2.4b	765-345kV Transformer Fire Wall		EA.	\$ 106,074	\$ -	\$ 113,600	\$ -	\$ 219,674	\$ -
2.4c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad / Generator / Station Service Distribution Line								
2.5a	Control House / Pad - 25' x 50'	1		\$ 17,928	·			\$ 37,128	
2.5b	Generator Foundation	1	EA	\$ 16,434	\$ 16,434			\$ 34,034	
2.5c	Station Service Distribution Line - 3ph.	1	LS	\$ -	\$ -	\$ 15,120	\$ 15,120	\$ 15,120	\$ 15,120
2.6	Lightning Mast Foundations		EA.	\$ 5,229	ć 24.274	ć F.600	ć 22.500	\$ 10.829	ć C4.074
2.6a 2.6b	70' Lightning Mast Foundation	6	EA	\$ 5,229 \$ -	\$ 31,374 \$ -	\$ 5,600 \$ -	\$ 33,600 \$ -	,	\$ 64,974 \$ -
2.6c				\$ -	\$ -	\$ -	\$ -		\$ -
2.00				-	-	-	, -	, -	-
TOTAL - SUBS	ITATION FOUNDATIONS				\$ 1,193,706		\$ 1,213,490		\$ 2,407,196
	ON STRUCTURES				Ţ 1,133,700		Ţ,E10) 150		2,107,130
3.1	765kV								
3.1a	Substation A-Frame Structures - Stand alone		EA.	\$ 111,000	\$ -	\$ 111,000	\$ -	\$ 222,000	\$ -
3.1b	Substation A-Frame Structures - Shared Column		EA.	\$ 111,000	\$ -		\$ -	\$ 222,000	
3.1c	Switch Stands		EA.	\$ 22,200	\$ -		\$ -	\$ 44,400	
3.1d	Station Service Transformer Stand		EA.	\$ -	\$ -	\$ -	\$ -		\$ -
3.1e	Bus Support 1ph (High Bus)		EA.	\$ 7,400	\$ -		\$ -	\$ 14,800	
3.1f	Bus Support 1 Ph (low Bus)		EA.	\$ 5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
3.1g	Instrument Transformer Stand		EA.	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.1h	Arrester Stand		EA.	\$ 3,700	\$ -	\$ 3,700	\$ -		\$ -
3.1j	Wave Trap Stand		EA.	\$ 9,250	\$ -	\$ 9,250	\$ -		\$ -
3.1k	Lightning Mast		EA.	\$ 9,250	\$ -	\$ 9,250	\$ -	\$ 18,500	\$ -
	345kV								
3.2				¢ 27,000	\$ 148,000	\$ 37,000	\$ 148,000	\$ 74,000	\$ 296,000
3.2 3.2a		А	FΔ				1 - 1-0,000	- ,-,000	
3.2a	Substation A-Frame Structures - Stand alone	4		\$ 37,000 \$ 37,000			Ś -	\$ 74,000	Ś -
3.2a 3.2b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000		\$ 74,000 \$ 29,600	
3.2a 3.2b 3.2c	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands	0 8	EA EA	\$ 37,000 \$ 14,800	\$ - \$ 118,400	\$ 37,000 \$ 14,800	\$ 118,400	\$ 29,600	\$ 236,800
3.2a 3.2b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA EA EA	\$ 37,000	\$ - \$ 118,400 \$ 14,800	\$ 37,000 \$ 14,800 \$ 14,800	\$ 118,400 \$ 14,800	\$ 29,600	\$ 236,800 \$ 29,600
3.2a 3.2b 3.2c 3.2d	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 8 1	EA EA EA EA	\$ 37,000 \$ 14,800 \$ 14,800	\$ - \$ 118,400 \$ 14,800 \$ -	\$ 37,000 \$ 14,800 \$ 14,800 \$ 5,550	\$ 118,400 \$ 14,800 \$ -	\$ 29,600 \$ 29,600 \$ 11,100	\$ 236,800 \$ 29,600 \$ -
3.2a 3.2b 3.2c 3.2d 3.2e	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	0 8 1 0	EA EA EA EA	\$ 37,000 \$ 14,800 \$ 14,800 \$ 5,550	\$ - \$ 118,400 \$ 14,800 \$ - \$ 144,300	\$ 37,000 \$ 14,800 \$ 14,800 \$ 5,550 \$ 3,700	\$ 118,400 \$ 14,800 \$ - \$ 144,300	\$ 29,600 \$ 29,600 \$ 11,100 \$ 7,400	\$ 236,800 \$ 29,600 \$ - \$ 288,600
3.2a 3.2b 3.2c 3.2d 3.2e 3.2f	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph	0 8 1 0 39	EA EA EA EA EA	\$ 37,000 \$ 14,800 \$ 14,800 \$ 5,550 \$ 3,700	\$ - \$ 118,400 \$ 14,800 \$ - \$ 144,300 \$ 66,600	\$ 37,000 \$ 14,800 \$ 14,800 \$ 5,550 \$ 3,700 \$ 1,850	\$ 118,400 \$ 14,800 \$ - \$ 144,300 \$ 66,600	\$ 29,600 \$ 29,600 \$ 11,100 \$ 7,400 \$ 3,700	\$ 236,800 \$ 29,600 \$ - \$ 288,600 \$ 133,200
3.2a 3.2b 3.2c 3.2d 3.2e 3.2f 3.2g	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand	0 8 1 0 39 36	EA EA EA EA EA EA EA EA	\$ 37,000 \$ 14,800 \$ 14,800 \$ 5,550 \$ 3,700 \$ 1,850	\$ - \$ 118,400 \$ 14,800 \$ - \$ 144,300 \$ 66,600 \$ 22,200	\$ 37,000 \$ 14,800 \$ 14,800 \$ 5,550 \$ 3,700 \$ 1,850 \$ 1,850	\$ 118,400 \$ 14,800 \$ - \$ 144,300 \$ 66,600 \$ 22,200	\$ 29,600 \$ 29,600 \$ 11,100 \$ 7,400 \$ 3,700 \$ 3,700	\$ 236,800 \$ 29,600 \$ - \$ 288,600 \$ 133,200 \$ 44,400

3.3a S 3.3b S 3.3c S 3.3d F 3.3e E 3.3f E 3.3g I 3.3h A 3.3j V	115kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Fuse Stand	0							
3.3a S 3.3b S 3.3c S 3.3d F 3.3e E 3.3f E 3.3g I 3.3h A 3.3j V	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands								
3.3b S 3.3c S 3.3d F 3.3e E 3.3f E 3.3g II 3.3h A 3.3j V	Substation A-Frame Structures - Shared Column Switch Stands		EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c S 3.3d F 3.3e E 3.3f E 3.3g II 3.3h A 3.3j V	Switch Stands	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3d F 3.3e E 3.3f E 3.3g I 3.3h A 3.3j V		0	EA	\$ 7,955	\$ -		\$ -	\$ 15,910	•
3.3e E 3.3f E 3.3g I 3.3h / 3.3j \		0	EA	\$ 7,955	\$ -		\$ -	\$ 15,910	
3.3f E 3.3g I 3.3h A 3.3j V	Bus Support 3ph	0	EA	\$ 3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$ -
3.3g I 3.3h / 3.3j \	Bus Support 1 Ph	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	•
3.3h /	Instrument Transformer Stand	0	EA	\$ 740	\$ -		\$ -	\$ 1,480	
3.3j \	Arrester Stand	0	EA	\$ 740	\$ -		\$ -	\$ 1,480	
	Wave Trap Stand	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	
	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	'	\$ 12,950	
	ivisc. Structures		EA.	9 0,475	7	9 0,475	7	7 12,550	7
OTAL - SUBST/	ATION STRUCTURES				\$ 582,750		\$ 582,750		\$ 1,165,500
MAJOR EQUIP					302,730		302,730		7 1,103,300
	345kV								
	Circuit Breakers	4	EA	\$ 200,000	\$ 800,000	\$ 80,000	\$ 320,000	\$ 280,000	\$ 1,120,000
	Capacitor Banks		EA	\$ -	\$ -	\$ 80,000	\$ 320,000	\$ 80,000	\$ 1,120,000
7.20	capacitor paring		LA.	1	· ·	y 30,000		2 30,000	-
4.3 1	115kV								
	Circuit Breakers	0	EA	\$ 52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	Ś -
	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
		"	- LA	· ·	· ·	- 00,000	-	5 55,500	*
OTAL - MAJOR	REQUIPTMENT				\$ 800,000		\$ 320,000		\$ 1,120,000
	PTMENT / MATERIALS				ψ σσο,σσσ		\$20,000		Ţ 1,120,000
	345kV								
	Line Switches - 3ph w/ motor operator	4	EA	\$ 40,000	\$ 160,000	\$ 15,000	\$ 60,000	\$ 55,000	\$ 220,000
	Disconnect Switches - 3ph w/ manual operator	8	EA	\$ 35,000	\$ 280,000		\$ 140,000	\$ 52,500	
	VT'S	12	EA	\$ 25,000	\$ 300,000		\$ 144,000		\$ 444,000
	CT'S	12	EA	\$ 13,000	\$ 156,000		\$ 96,000	\$ 21,000	
	CCVT'S	12	EA	\$ 13,000	\$ 156,000		\$ 96,000	\$ 21,000	
	Arresters	12	EA	\$ 6,500	\$ 78,000	\$ 1,500	\$ 18,000	\$ 8,000	\$ 96,000
	Wave Traps	4	EA	\$ 13,000	\$ 52,000	\$ 8,000	\$ 32,000	\$ 21,000	\$ 84,000
	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000		\$ 50,000	\$ 250,000	
5.2j	Station Service mansionners	1	LA	200,000	200,000	30,000	30,000	250,000	3 230,000
3.2									
.3 1	115kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ 33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000	\$ -		\$ -	\$ 45,500	
	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	•
	CCVT'S	0	EA	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 16,000	\$ -
	Arresters	0	EA	\$ 3,420	\$ -		\$ -	\$ 9,420	•
	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Station Service Transformers	0	EA	\$ -	\$ -	·	\$ -	\$ -	\$ -
	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OTAL - SMALL	EQUIPTMENT / MATERIALS				\$ 1,382,000		\$ 636,000		\$ 2,018,000
CONTROL HO	DUSE / PANELS / GENERATOR								
	CONTROL HOUSE	1	EA	\$ 245,750	\$ 245,750	\$ 37,500	\$ 37,500	\$ 283,250	\$ 283,250
	Protection and Telecom Equipment Panels	18	EA	\$ 35,000	\$ 630,000		\$ 180,000	\$ 45,000	
						·	,	,	
	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	
	Control Cables	1	LS	\$ 281,050					
	SCADA and Communications	0	EA	\$ 35,000				\$ 47,500	
	Low Voltage AC Distribution	2					, ,		
	DC Distribution System	2		\$ 50,000	\$ 100,000				
	Security	1		\$ 7,500					
	Fire Alarm	1		\$ 7,500	\$ 7,500				
6.10	Generator	1	EA	\$ 100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$ 180,000
OTAL CONTE	ON HOUSE / DANIELS / CENTERATOR				4 (2)		4 4045		A 2.00F
MISC ITEMS 3	OL HOUSE / PANELS / GENERATOR				\$ 1,621,800		\$ 1,043,550		\$ 2,665,350

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
7.15	Conduit & Cable Trench System	1,200	LF	\$ 12	5.07	\$ 150,084	\$ 170.00	\$ 204,000	\$ 295	\$	354,084
7.16	Rigid Bus, Fittings & Insulators	1,000	LF	\$ 12	5.07	\$ 125,070	\$ 237.10	\$ 237,100	\$ 362	\$	362,170
7.17	Strain Bus, Connectors & Insulators	1,600	LF	\$ 6	1.50	\$ 98,400	\$ 78.69	\$ 125,904	\$ 140	\$	224,304
7.18	Grounding System	10,000	LF	\$	6.93	\$ 69,300	\$ 32.58	\$ 325,800	\$ 40	\$	395,100
7.19	Strain Bus Insulators - 345kV	24	EA	\$ 2	,000	\$ 48,000	\$ 1,050	\$ 25,200	\$ 3,050	\$	73,200
7.20	Low Voltage AC Station Service	1	LS	\$ 50	,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$	125,000
7.21	SSVT Service	1	LS	\$ 50	,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$	125,000
7.22	Control Conduits from Trench to Equipment	1	LS	\$ 125	,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$	250,000
7.23	Misc. Materials (Above and Below Ground)	1	LS	\$ 180	,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$	360,000
7.24	·									1	
7.25											
7.26										1	
7.27										1	
7.28										1	
7.29											
TOTAL - MISC	TITEMS					\$ 895,854		\$ 1,373,004		\$	2,268,858
	etown Switchyard - Install					\$ 6,639,670		\$ 6,078,569		\$	12,718,239
8. MOB/DEMO	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization									<u> </u>	
8.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 127,182	\$ 127,182	\$ 127,182	\$	127,182
	Project Management, Material Handling & Amenities									<u> </u>	
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 649,627	\$ 649,627	\$ 649,627	\$	649,627
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 127,182	\$ 127,182	\$ 127,182	\$	127,182
8.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 127,182		\$ 127,182		127,182
	Engineering									1	
8.5	Design Engineering	1	LS	\$	-	\$ -	\$ 1,017,459	\$ 1,017,459	\$ 1,017,459	\$	1,017,459
8.6	LiDAR		LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	
8.7	Geotech	4	EA	\$	-	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$	14,000
8.8	Surveying/Staking	1	Site	\$	-	\$ -	\$ 89,028	\$ 89,028	\$ 89,028	\$	89,028
	Testing & Commissioning										
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 317,956	\$ 317,956	\$ 317,956	\$	317,956
	Permitting and Additional Costs										
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 38,155	\$ 38,155	\$ 38,155	\$	38,155
8.13	Real Estate Costs (New)		LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$	-	\$ -	\$ 198,000	\$ 198,000	\$ 198,000	\$	198,000
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.18	Sales Tax on Materials	1	LS	\$ 531	,174	\$ 531,174	\$ -	\$ -	\$ 531,174	\$	531,174
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 12,718	\$ 12,718	\$ 12,718		12,718
TOTAL - MOR	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 531,174		\$ 2,718,490		\$	3,249,664

Page 64 of 65

R. SY Princetown - Install

	NAT & NYPA - T028 - (Segment A, Enhanced)
	ESTIMATE ASSUMPTIONS & CLARIFICATIONS
1	Cost Estimate is based on 2017 rates.
2	Construction schedule is in accordance with proposed schedule - we have assumed continuous working with no breaks in the schedule. Six months have been added to the construction
_	schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.).
	We have assumed a typical work week of five-(5) days per week at ten-(10) hours per day (5 x 10 hour days).
	All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017.
5	We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type.
6	Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not enough information to provide a quantified estimate for this item, allowance is included in the contingency monies.
7	Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for formal quotes.
8	Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing.
9	A Contractor Mark-Up (OH&P) of 15% has been included in the Total section.
10	We have assumed that all project details provided are accurate unless noted otherwise.
11	Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%)
12	A contractor allowance of 1% for mobilization and demobilization has been included in the total section.
13	A contractor allowance of 4.44% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safety inspector, compliance inspector, environmental inspector, and SWPP inspector.
14	An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section.
15	A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section.
16	An allowance of 5% for transmission design and engineering has been included in the total section.
17	An allowance of 8% for substation design and engineering has been included in the total section.
18	An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section.
19	An allowance of 0.3% for LIDAR of the transmission line has been included in the total section.
20	An allowance of 3.75% for substation testing and commissioning has been included in the total section.
21	An allowance of \$20,000.00 per circuit for transmission line testing and commissioning has been included in the total section.
	New York state sales tax of 8% is included in all material pricing.
23	An allowance of 1.5% for insurance is included in the DPS sheet.
24	The SUF estimates for the stations are rough order of magnitude estimates. No engineering was performed and SECo did not have access to record drawings.

Assumptions & Clarifications
Page 65 of 65



1.2 Foundations 1.3 Structures 1.4 Conductor, Shiedwire and Optical Ground Wire 1.5 Insulators, Fitting and Hardwares 2 Substations 2.1 Rotterdam Substation 2.2 Edic Substation 2.3 Princetown Substation 2.4 New Scotland Substation 2.5 Porter Substation 2.6 Knickerbocker Substation 2.7 Marcy Substation 2.8 Substation Interconnections Subtotal (2) Total (1+2) \$	
1.1 Clearing & Access 1.2 Foundations 1.3 Structures 1.4 Conductor, Shiedwire and Optical Ground Wire 1.5 Insulators, Fitting and Hardwares 2 Substations 2.1 Rotterdam Substation 2.2 Edic Substation 2.3 Princetown Substation 2.4 New Scotland Substation 2.5 Porter Substation 2.6 Knickerbocker Substation 2.7 Marcy Substation 2.8 Substation Interconnections Subtotal (2) Total (1+2) \$	\$43,503 \$80,620 \$41,525 \$18,615
1.2 Foundations 1.3 Structures 1.4 Conductor, Shiedwire and Optical Ground Wire 1.5 Insulators, Fitting and Hardwares 2 Substations 2.1 Rotterdam Substation 2.2 Edic Substation 2.3 Princetown Substation 2.4 New Scotland Substation 2.5 Porter Substation 2.6 Knickerbocker Substation 2.7 Marcy Substation 2.8 Substation Interconnections Subtotal (2) Total (1+2) \$	\$43,503 \$80,620 \$41,525 \$18,615
1.3 Structures 1.4 Conductor, Shiedwire and Optical Ground Wire 1.5 Insulators, Fitting and Hardwares Subtotal (1) \$ 2 Substations 2.1 Rotterdam Substation 2.2 Edic Substation 2.3 Princetown Substation 2.4 New Scotland Substation 2.5 Porter Substation 2.6 Knickerbocker Substation 2.7 Marcy Substation 2.8 Substation Interconnections Subtotal (2) Total (1+2) \$	\$80,620 \$41,525 \$18,615
1.4 Conductor, Shiedwire and Optical Ground Wire 1.5 Insulators, Fitting and Hardwares Subtotal (1) \$ 2 Substations 2.1 Rotterdam Substation 2.2 Edic Substation 2.3 Princetown Substation 2.4 New Scotland Substation 2.5 Porter Substation 2.6 Knickerbocker Substation 2.7 Marcy Substation 2.8 Substation Interconnections Subtotal (2) Total (1+2) \$	\$41,525 \$18,615
1.5 Insulators, Fitting and Hardwares Subtotal (1) \$ 2 Substations 2.1 Rotterdam Substation 2.2 Edic Substation 2.3 Princetown Substation 2.4 New Scotland Substation 2.5 Porter Substation 2.6 Knickerbocker Substation 2.7 Marcy Substation 2.8 Substation Interconnections Subtotal (2) Total (1+2) \$	\$18,615
Subtotal (1) 2 Substations 2.1 Rotterdam Substation 2.2 Edic Substation 2.3 Princetown Substation 2.4 New Scotland Substation 2.5 Porter Substation 2.6 Knickerbocker Substation 2.7 Marcy Substation 2.8 Substation Interconnections Subtotal (2) Total (1+2) \$	
2 Substations 2.1 Rotterdam Substation 2.2 Edic Substation 2.3 Princetown Substation 2.4 New Scotland Substation 2.5 Porter Substation 2.6 Knickerbocker Substation 2.7 Marcy Substation 2.8 Substation Interconnections Subtotal (2) Total (1+2) \$	237,347
2.1 Rotterdam Substation 2.2 Edic Substation 2.3 Princetown Substation 2.4 New Scotland Substation 2.5 Porter Substation 2.6 Knickerbocker Substation 2.7 Marcy Substation 2.8 Substation Interconnections Subtotal (2) Total (1+2) \$	
2.2 Edic Substation 2.3 Princetown Substation 2.4 New Scotland Substation 2.5 Porter Substation 2.6 Knickerbocker Substation 2.7 Marcy Substation 2.8 Substation Interconnections Subtotal (2) Total (1+2) \$	
2.4 New Scotland Substation 2.5 Porter Substation 2.6 Knickerbocker Substation 2.7 Marcy Substation 2.8 Substation Interconnections Substation Interconnections Subtotal (2) Total (1+2) \$	\$19,805
2.4 New Scotland Substation 2.5 Porter Substation 2.6 Knickerbocker Substation 2.7 Marcy Substation 2.8 Substation Interconnections Substation Interconnections Subtotal (2) Total (1+2) \$	\$2,185
2.4 New Scotland Substation 2.5 Porter Substation 2.6 Knickerbocker Substation 2.7 Marcy Substation 2.8 Substation Interconnections Substation Interconnections Subtotal (2) Total (1+2) \$	\$27,974
2.6 Knickerbocker Substation 2.7 Marcy Substation 2.8 Substation Interconnections Subtotal (2) Total (1+2) \$	\$3,615
2.7 Marcy Substation 2.8 Substation Interconnections Subtotal (2) Total (1+2) \$	\$546
2.8 Substation Interconnections Subtotal (2) Total (1+2) \$	\$0
Subtotal (2) Total (1+2) \$	\$0
Total (1+2) \$	\$8,383
	\$62,507
Contractors Mark-up (15% of Total 1+2)	299,855
50.00 april 10.00	\$44,978
Total Direct Cost (A) \$	344,833
3 Technical Services Costs	
3.1 Contractor Mobilization / Demobilization	\$2,999
	\$18,925
S 3.3 Engineering	\$19,832
3.3 Engineering 3.4 Testing & Commissioning 3.5 Permitting, Real Estate, Sales Tax and Additional Costs	\$1,560
3.5 Permitting, Real Estate, Sales Tax and Additional Costs	\$20,688
3.6 Compensation for use of NYPA Structures (1 Circuit)	\$8,919
3.7 Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,941
Total Indirect Cost (3)	\$80,864
Subtotal Project Cost (B=A+3) 2017 \$	425,697
4 Network Upgrade Facilities (NUF)	
4.1 NUF proposed as element of the Project	\$0
4.2 NUF identified during Evaluation	
Subtotal NUF Cost (C)	\$0
Total Project Cost (B+C) 2017 \$	
Total Project Cost 2018 \$	\$0

5/22/2018 Page 1 of 55

ITC - T031 - (Segment A)

Estimate Revision: 5

	ITC - T031 - (Segment A) - Direct Costs	Total Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Edic to Princetown	\$ 147,955,377
Direct Labor, Material & Equipment Costs	B. Transmission Line Princetown to Rotterdam	\$ 26,168,326
Direct Labor, Material & Equipment Costs	C. Transmission Line Princetown to New Scotland	\$ 63,223,686
Direct Labor, Material & Equipment Costs	D. Rotterdam Substation - Install	\$ 19,804,932
Direct Labor, Material & Equipment Costs	E. Rotterdam Substation - Removal	\$ -
Direct Labor, Material & Equipment Costs	F. Edic Substation - Install	\$ 2,148,785
Direct Labor, Material & Equipment Costs	G. Edic Substation - Removal	\$ 35,950
Direct Labor, Material & Equipment Costs	H. New Scotland Substation - Install	\$ 3,614,529
Direct Labor, Material & Equipment Costs	I. New Scotland Substation - Removal	\$ -
Direct Labor, Material & Equipment Costs	J. Porter Substation - Install	\$ 71,912
Direct Labor, Material & Equipment Costs	K. Porter Substation - Removal	\$ 474,313
Direct Labor, Material & Equipment Costs	L. Interconnection Edic Station	\$ 1,784,075
Direct Labor, Material & Equipment Costs	M. Interconnection New Scotland Station	\$ 2,676,471
Direct Labor, Material & Equipment Costs	N. Interconnection Rotterdam Station	\$ 3,922,412
Direct Labor, Material & Equipment Costs	O. System Upgrade Facilities (Various Lines for Edic to New Scotland)	\$ -
Direct Labor, Material & Equipment Costs	P. System Upgrade Facilities (Various Stations for Edic to New Scotland)	\$ -
Direct Labor, Material & Equipment Costs	Q. Princetown Switchyard - Install	\$ 27,974,019
	SUBTOTAL:	\$ 299,854,787
	CONTRACTOR MARK-UP (OH&P)	\$ 44,978,218
	CONTINGENCY ON ENTIRE PROJECT	\$ -
	TOTAL DIRECT:	\$ 344,833,005

	ITC - T031 - (Segment A) - Indirect Costs	1	Total Each Segment
Indirect Costs	A. Transmission Line Edic to Princetown	\$	39,405,617
Indirect Costs	B. Transmission Line Princetown to Rotterdam	\$	5,266,851
Indirect Costs	C. Transmission Line Princetown to New Scotland	\$	13,535,116
Indirect Costs	D. Rotterdam Substation - Install	\$	4,760,643
Indirect Costs	E. Rotterdam Substation - Removal	\$	-
Indirect Costs	F. Edic Substation - Install	\$	511,515
Indirect Costs	G. Edic Substation - Removal	\$	5,612
Indirect Costs	H. New Scotland Substation - Install	\$	852,011
Indirect Costs	I. New Scotland Substation - Removal	\$	-
Indirect Costs	J. Porter Substation - Install	\$	14,225
Indirect Costs	K. Porter Substation - Removal	\$	74,047
Indirect Costs	L. Interconnection Edic Station	\$	329,155
Indirect Costs	M. Interconnection New Scotland Station	\$	508,897
Indirect Costs	N. Interconnection Rotterdam Station	\$	658,957
Indirect Costs	O. System Upgrade Facilities (Various Lines for Edic to New Scotland)	\$	-
Indirect Costs	P. System Upgrade Facilities (Various Stations for Edic to New Scotland)	\$	-
Indirect Costs	Q. Princetown Switchyard - Install	\$	7,000,251
Indirect Costs	Legal and Permitting (Includes Legal, Envir. Lisc. & Permit., and Envir. Mitagation)	\$	7,940,904
	TOTAL INDIREC	T: \$	80,863,802
	TOTAL ESTIMATED CO	ST \$	425,696,808

A. Transmission Line Edic to Princetown

Total: \$ 187,360,994

ITC - T031 - (Segment A)

ITC - T03:	1 - (Segment A)					
		Supply		Installation		Total
A. Transmission Line Edic to Princetown						
1. CLEARING & ACCESS	\$	75,250	\$	37,260,504	\$	37,335,754
2. FOUNDATIONS	\$	6,908,556	\$	17,295,145	\$	24,203,701
3. STRUCTURES	\$	19,810,382	\$	29,562,906	\$	49,373,288
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	4,975,475	\$	21,134,180	\$	26,109,655
5. INSULATORS, FITTINGS, HARDWARE	\$	7,521,769	\$	3,411,210	\$	10,932,979
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	3,143,315	\$	36,262,303	\$	39,405,617
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	42,434,746	\$	144,926,248	\$	187,360,994
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL	ć	12 131 716	ć	1// 926 2/8	ć	187 360 994

Description of Work:

Estimate

Revision:

5

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
A. Trans	smission Line Edic to Princetown								
1. CLEARING	& ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	154.0	Acre		\$ -	<u> </u>			\$ 770,000
1.3	Access Road	70,963.2	LF	\$ -	\$ -	\$ 45			
1.4	Silt Fence	354,816.0	LF	\$ -	\$ -		\$ 1,419,264		\$ 1,419,264
1.5	Matting - Access and ROW	283,852.8	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	25,200.0	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	67.2	Mile	\$ -	\$ -	\$ 16,000	\$ 1,075,200		
1.8	ROW Restoration	67.2	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	2,225,000.0	SF SF	\$ - \$ -	\$ - \$ -		\$ 7,832,000		\$ 7,832,000
1.10	Restoration for Work Pad areas	445,000.0	EA	\$ - \$ -	\$ - \$ -	\$ 0.15 \$ 20,035	\$ 66,750 \$ -	\$ 20,035	\$ 66,750 \$ -
1.11	Temporary Access Bridge Air Bridge	-	EA EA	\$ -	\$ -	\$ 20,035	7	\$ 20,035	
1.12	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	
1.13	Maintenance and Protection of Traffic on Public Roads	100	EA	\$ -	\$ -	\$ 4,130	т	\$ 4,130	
1.15	Culverts / Misc. Access	55	EA	\$ 750	\$ 41,250	. ,	\$ 68,750	\$ 2,000	
1.16	Gates	17	EA	\$ 2,000	\$ 34,000	\$ 2,500	\$ 42,500		
1.17	Concrete Washout Station	40	EA	\$ -	\$ -	\$ 1,850			
	ARING & ACCESS:			-	\$ 75,250	-,555	\$ 37,260,504		\$ 37,335,754
2. FOUNDAT	ions				, , , ,		, , , , , , ,		
2.1	Direct Embed - 345kV SC 2-Pole Steel H-Frame - V-String - Tangent	806	EA	\$ 1,635	\$ 1,317,709	\$ 11,117	\$ 8,960,423	\$ 12,752	\$ 10,278,132
2.2	Drilled Pier - 345KV SC Steel 3-Pole Deadend	90	EA	\$ 44,372	\$ 3,993,462	\$ 44,847	\$ 4,036,230	\$ 89,219	\$ 8,029,692
2.3	Drilled Pier - 345KV SC Steel 3-Pole Storm Deadend	36	EA	\$ 44,372	\$ 1,597,385	\$ 44,847	\$ 1,614,492	\$ 89,219	\$ 3,211,877
2.4									
2.5									
2.6									
2.7									
2.8	Rock Excavation Adder	1,342	СҮ	\$ -	\$ -	\$ 2,000	\$ 2,684,000	\$ 2,000	\$ 2,684,000
2.9									
2.10									
TOTAL - FOU	NDATIONS:				\$ 6,908,556		\$ 17,295,145		\$ 24,203,701
3. STRUCTUE	RES								
3.1	Direct Embed - 345kV SC 2-Pole Steel H-Frame - V-String - Tangent	403	Structure	\$ 42,550	\$ 17,147,650	\$ 25,530	\$ 10,288,590	\$ 68,080	\$ 27,436,240
3.2	Drilled Pier - 345KV SC Steel 3-Pole Deadend	30	Structure	\$ 52,170		·	\$ 939,060	\$ 83,472	\$ 2,504,160
3.3	Drilled Pier - 345KV SC Steel 3-Pole Storm Deadend	12	Structure	\$ 52,170		,			
3.4				, ,		, , ,	.,.	-,	. , , ,
				1	-			-	

Page 3 of 55

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
3.5									
3.6									
3.7									
3.8	Remove Existing Foundation	50	EA	\$ -	\$ -	\$ 7,500	\$ 372,750	\$ 7,500	\$ 372,750
3.9	Remove Existing Structure and Accessories	994	EA	\$ -	\$ -	\$ 12,500	\$ 12,425,000	\$ 12,500	\$ 12,425,000
3.10	Install Grounding and Grounding Accessories	932	Pole	\$ 506	\$ 471,592	\$ 5,539	\$ 5,161,882	\$ 6,045	\$ 5,633,474
TOTAL - STRUC	TURES:				\$ 19,810,382		\$ 29,562,906		\$ 49,373,288
4. CONDUCTOR	R, SHIELDWIRE, OPGW								
4.1	345kV - (1) 954kcmil 54/7 ACSR "Cardinal" (Existing Structures 12.5 Miles)	2,241,994	LF	\$ 1.90	\$ 4,259,789	\$ 5.00	\$ 11,209,970	\$ 6.90	\$ 15,469,759
4.2	(1) OPGW 36 Fiber AC-33/38/571 (Existing Structures 12.5 Miles)	303,811	LF	\$ 1.35	\$ 410,145	\$ 5.00	\$ 1,519,055	\$ 6.35	\$ 1,929,200
4.3	(1) 3/8" EHS7 Steel (Existing Structures 12.5 Miles)	303,811	LF	\$ 0.47	\$ 142,791	\$ 5.00	\$ 1,519,055	\$ 5.47	\$ 1,661,846
4.4									
4.5									
4.6									
4.7	Remove Existing Conductor and Accessories	121.0	Mile	\$ -	\$ -	\$ 30,000	\$ 3,630,000	\$ 30,000.00	\$ 3,630,000
4.8	Remove Existing OPGW and Accessories	108.4	Mile	\$ -		\$ 12,000	\$ 1,300,800		\$ 1,300,800
4.9	Remove Existing OHSW and Accessories	108.4	Mile	\$ -	•	\$ 12,000	\$ 1,300,800	\$ 12,000.00	\$ 1,300,800
4.10		100.4	···iic	-	T	- 12,000	1,300,300	7 12,000.00	- 1,300,800
4.11									
4.11									
4.13									
4.13									1
4.14									1
	Diday Dalas (197 Lasations)	02	Cot	ć 1.7F0	ć 163.7F0	\$ 3,500	ć 22F F00	\$ 5,250,00	ć 400.3F0
4.16	Rider Poles (187 Locations)	93	Set	\$ 1,750 \$ -	\$ 162,750 \$ -	7			\$ 488,250
4.17	Rider Poles - Relocated	94	Set	\$ -	\$ -	\$ 3,500	\$ 329,000	\$ 3,500.00	\$ 329,000
4.18									
4.19									
4.20	LOTOR CHIEF PARK								
	JCTOR, SHIELDWIRE, OPGW:				\$ 4,975,475		\$ 21,134,180		\$ 26,109,655
	FITTINGS, HARDWARE								
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	2,418	Assembly	\$ 1,800	\$ 4,352,400	\$ 720		\$ 2,520	\$ 6,093,360
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 560		\$ 1,460	\$ -
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	504	Assembly	\$ 1,800	\$ 907,200	\$ 720	\$ 362,880	\$ 2,520	\$ 1,270,080
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.5	OPGW Assembly - Tangent	403	Assembly	\$ 200	\$ 80,600	\$ 150	\$ 60,450	\$ 350	\$ 141,050
5.6	OPGW Assembly - Angle / DE	84	Assembly	\$ 250	\$ 21,000	\$ 150			\$ 33,600
5.7	OHSW Assembly - Tangent	403	Assembly	\$ 200	\$ 80,600	\$ 150	\$ 60,450	\$ 350	\$ 141,050
5.8	OHSW Assembly - Angle / DE	84	Assembly	\$ 250	\$ 21,000	\$ 150	\$ 12,600		\$ 33,600
5.9	OPGW Splice Boxes	27	Set	\$ 1,746	\$ 47,146	\$ 2,145	,	\$ 3,891	\$ 105,061
5.10	OPGW Splice & Test	27	EA	\$ 2,520	+	\$ 989			\$ 94,752
5.11	Spacer - Conductor	10,977	EA	\$ 50	\$ 548,850	\$ 35	\$ 384,195	\$ 85	\$ 933,045
5.12	Vibration Dampers - Conductor	2,635	EA	\$ 35	\$ 92,225	\$ 35			\$ 184,450
5.13	Shield wire / OPGW Dampers, Misc. Fittings	1,332	EA	\$ 27	\$ 35,964	\$ 35			\$ 82,584
5.14	Jumpers at Existing Structures (New Cable to Existing)	-	EA	\$ 25,000	\$ -	\$ 25,000		\$ 50,000	\$ -
5.15	Replace - Mono Pole Vertical Tangent (1-Group of 18-Bells Each Assembly)	480	Assembly	\$ 1,800	\$ 864,000	\$ 720		\$ 2,520	\$ 1,209,600
5.16	Replace - Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	195	Assembly	\$ 1,800	\$ 351,000	\$ 720	\$ 140,400	\$ 2,520	\$ 491,400
5.17	Guys, Anchors, and Accessories	-	EA	\$ 719	\$ -	\$ 883	\$ -	\$ 1,602	\$ -
5.18	Misc. materials (Signs and Markers)	67.2	Mile	\$ 770	\$ 51,744	\$ 1,006	\$ 67,603	\$ 1,776	\$ 119,347
5.19		-		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - INSUL	ATORS, FITTINGS, HARDWARE:				\$ 7,521,769		\$ 3,411,210		\$ 10,932,979
A. Transr	mission Line Edic to Princetown				\$ 39,291,432		\$ 108,663,945		\$ 147,955,377
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
			1.6	4	\$ -	\$ 1,479,554	4 470 554	4 470 554	\$ 1,479,554
6.1	Mob / Demob	1	LS	\$ -	·	\$ 1,479,554	\$ 1,479,554	\$ 1,479,554	3 1,479,554

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Mai	terial Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 6,378,874	\$ 6,378,874	\$ 6,378,874	\$ 6,378,87
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 1,479,554	\$ 1,479,554	\$ 1,479,554	\$ 1,479,55
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 1,479,554	\$ 1,479,554	\$ 1,479,554	\$ 1,479,55
	Engineering									
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 7,397,769	\$ 7,397,769	\$ 7,397,769	\$ 7,397,76
6.6	LiDAR	1	LS	\$ -	\$	-	\$ 443,866	\$ 443,866	\$ 443,866	\$ 443,86
6.7	Geotech	67	Location	\$ -	\$	-	\$ 3,500	\$ 234,500	\$ 3,500	\$ 234,50
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 1,035,688	\$ 1,035,688	\$ 1,035,688	\$ 1,035,68
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,00
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 443,866	\$ 443,866	\$ 443,866	\$ 443,86
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$	-	\$ 6,782,000	\$ 6,782,000	\$ 6,782,000	\$ 6,782,00
6.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.17	Compensation for use of 1 Ckt - NYPA Structures (92 Structures)	1	LS	\$ -	\$	-	\$ 8,919,123	\$ 8,919,123	\$ 8,919,123	\$ 8,919,12
6.18	Sales Tax on Materials	1	LS	\$ 3,143,315	\$	3,143,315	\$ -	\$ -	\$ 3,143,315	\$ 3,143,31
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 147,955	\$ 147,955	\$ 147,955	\$ 147,95
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	3,143,315		\$ 36,262,303		\$ 39,405,61

ITC - T031 - (Segment A) B. Transmission Line Princetown to Rotterdam

Estimate Revision: 5 Total: \$ 31,435,177

ITC - T031 - (Segmen	t A)			
		Supply	Installation	Total
B. Transmission Line Princetown to Rotterdam				
1. CLEARING & ACCESS	\$	2,250	\$ 4,182,670	\$ 4,184,920
2. FOUNDATIONS	\$	1,369,010	\$ 5,146,318	\$ 6,515,328
3. STRUCTURES	\$	4,480,770	\$ 5,315,291	\$ 9,796,061
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	773,826	\$ 2,903,455	\$ 3,677,281
5. INSULATORS, FITTINGS, HARDWARE	\$	1,365,652	\$ 629,084	\$ 1,994,736
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	639,321	\$ 4,627,531	\$ 5,266,851
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	8,630,828	\$ 22,804,349	\$ 31,435,177
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	8,630,828	\$ 22,804,349	\$ 31,435,177

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
B. Transı	nission Line Princetown to Rotterdam								
1. CLEARING &	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	23.0	Acre	\$ -	\$ -	\$ 5,000	\$ 115,000	\$ 5,000	\$ 115,000
1.3	Access Road	5,280.0	LF	\$ -	\$ -	\$ 45			
1.4	Silt Fence	26,400.0	LF	\$ -	\$ -	\$ 4	,	<u>'</u>	\$ 105,600
1.5	Matting - Access and ROW	21,120.0	LF	\$ -	\$ -	\$ 70			
	Matting - To Work Area	2,775.0	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	5.0	Mile	\$ -	\$ -	\$ 16,000			\$ 80,000
1.8	ROW Restoration	5.0	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	505,000.0	SF	\$ -	\$ -		\$ 1,777,600		\$ 1,777,600
1.10	Restoration for Work Pad areas	101,000.0	SF	\$ -	\$ -	\$ 0.2	, ,,,,,		\$ 15,150
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035		\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580		\$ 4,580	
1.14	Maintenance and Protection of Traffic on Public Roads	29.0	EA	\$ -	\$ -	\$ 4,130			
1.15	Gates	-	EA	\$ 2,000		\$ 2,500		\$ 4,500	
1.16	Culverts / Misc. Access	3.0	EA	\$ 750	<u> </u>				
1.17	Concrete Washout Station	3.0	EA	\$ -	\$ -	\$ 1,850		\$ 1,850	
	ING & ACCESS:				\$ 2,250		\$ 4,182,670		\$ 4,184,920
2. FOUNDATIO									
2.1	Direct Embed - 345kV SC 2-Pole Steel H-Frame - V-String - Tangent	186	EA	\$ 1,635	\$ 304,087	\$ 11,117	\$ 2,067,790	\$ 12,752	\$ 2,371,877
2.2	Drilled Pier - 345KV SC Steel 3-Pole Deadend	18	EA	\$ 44,372	\$ 798,692	\$ 44,847	\$ 807,246	\$ 89,219	\$ 1,605,938
2.3	Drilled Pier - 345KV SC Steel 3-Pole Storm Deadend	6	EA	\$ 44,372	\$ 266,231	\$ 44,847	\$ 269,082	\$ 89,219	\$ 535,313
2.4									
2.5	Rock Excavation Adder	1,001.1	CY	\$ -	\$ -	\$ 2,000	\$ 2,002,200	\$ 2,000	\$ 2,002,200
2.6									
2.7									
2.8									
TOTAL - FOUN	DATIONS:				\$ 1,369,010		\$ 5,146,318		\$ 6,515,328
3. STRUCTURE					7,505,010		9 3,143,316		Ç 0,313,320
3.1	Direct Embed - 345kV SC 2-Pole Steel H-Frame - V-String - Tangent	93	Structure	\$ 42,550	\$ 3,957,150	\$ 25,530	\$ 2,374,290	\$ 68,080	\$ 6,331,440
3.2	Drilled Pier - 345KV SC Steel 3-Pole Deadend	6	Structure	, , , , , , , , , , , , , , , , , , , ,					\$ 500,832
		Ů							
3.3	Drilled Pier - 345KV SC Steel 3-Pole Storm Deadend	2	Structure	\$ 52,170	\$ 104,340	\$ 31,302	\$ 62,604	\$ 83,472	\$ 166,944
3.4									
3.5									
3.6									

3.7 Remove Existing Foundation 22 EA \$ - \$ \$ - \$ \$ 7.500 \$ 165.000	\$ 6,045 \$ 6,90 \$ 6,35 \$ 5,47 \$ 30,000.00 \$ 12,000.00 \$ 12,000.00 \$ 5,250.00 \$ 3,500.00 \$ 3,500.00	\$ 165,000 \$ 1,362,500 \$ 1,269,345 \$ 9,796,061 \$ 2,341,122 \$ 359,086 \$ 309,323 \$ 300,000 \$ 120,000 \$ 120,000 \$ 78,750 \$ 49,000 \$ 3,677,281
3.8 Remove Existing Structure and Accessories 109 EA \$ - \$ \$ - \$ \$ 12,500 \$ 1,362,500 3.9	\$ 6,90 \$ 6,35 \$ 5,47 \$ 30,000.00 \$ 12,000.00 \$ 12,000.00 \$ 3,500.00 \$ 3,500.00	\$ 1,362,500 \$ 1,269,345 \$ 9,796,061 \$ 2,341,122 \$ 359,086 \$ 309,323 \$ 300,000 \$ 120,000 \$ 120,000 \$ 78,750 \$ 49,000 \$ 3,677,281
3.9	\$ 6,045 \$ 6,90 \$ 6,35 \$ 5,47 \$ 30,000.00 \$ 12,000.00 \$ 12,000.00 \$ 5,250.00 \$ 3,500.00 \$ 3,500.00	\$ 1,269,345 \$ 9,796,061 \$ 2,341,122 \$ 359,086 \$ 309,323 \$ 300,000 \$ 120,000 \$ 120,000 \$ 78,750 \$ 49,000 \$ 3,677,281
3.10 Install Grounding and Grounding Accessories 210 Pole \$ 506 \$ 106,260 \$ 5,539 \$ 1,163,085 TOL.	\$ 6.90 \$ 6.35 \$ 5.47 \$ 30,000.00 \$ 12,000.00 \$ 12,000.00 \$ 5,250.00 \$ 3,500.00 \$ 2,500.00 \$ 1,460	\$ 9,796,061 \$ 2,341,122 \$ 359,086 \$ 309,323 \$ 300,000 \$ 120,000 \$ 120,000 \$ 78,750 \$ 49,000 \$ 3,677,281
S S S S S S S S S S	\$ 6.90 \$ 6.35 \$ 5.47 \$ 30,000.00 \$ 12,000.00 \$ 12,000.00 \$ 5,250.00 \$ 3,500.00 \$ 2,500.00 \$ 1,460	\$ 9,796,061 \$ 2,341,122 \$ 359,086 \$ 309,323 \$ 300,000 \$ 120,000 \$ 120,000 \$ 78,750 \$ 49,000 \$ 3,677,281
A. CONDUCTOR, SHIELDWIRE, OPGW A.1. 345kV - (1) 954kcmil 54/7 ACSR "Cardinal" 339,293 LF \$ 1.90 \$ 644,657 \$ 5.00 \$ 1,696,465 A.2. (1) OPGW 36 Fiber AC-33/38/571 56,549 LF \$ 1.35 \$ 76,341 \$ 5.00 \$ 282,745 A.3. (1) 3/8" EHS7 Steel 56,549 LF \$ 0.47 \$ 26,578 \$ 5.00 \$ 282,745 A.5. Remove Existing Conductor and Accessories 10.0 Mile \$ - \$ \$ - \$ \$ 30,000 \$ 300,000 A.6. Remove Existing OPGW and Accessories 10.0 Mile \$ - \$ \$ - \$ \$ 12,000 \$ 120,000 A.7. Remove Existing OHSW and Accessories 10.0 Mile \$ - \$ \$ - \$ \$ 12,000 \$ 120,000 A.8. Rider Poles \$ 1.750 \$ 26,250 \$ 3,500 \$ 52,500 A.9. Rider Poles - Relocated 14 Set \$ - \$ \$ - \$ \$ 3,500 \$ 52,500 A.9. Rider Poles - Relocated 14 Set \$ - \$ \$ - \$ \$ 3,500 \$ 52,500 A.9. Rider Poles - Relocated 14 Set \$ - \$ \$ - \$ \$ 3,500 \$ 52,500 A.9. Rider Poles - Relocated 14 Set \$ - \$ \$ - \$ \$ 3,500 \$ 52,500 A.9. Rider Poles - Relocated 15 Set \$ 1,750 \$ 26,250 \$ 3,500 \$ 52,500 A.9. Rider Poles - Relocated 15 Set \$ - \$ \$ - \$ \$ 3,500 \$ 52,500 A.9. Rider Poles - Relocated 5 \$ - \$ \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 A.9. Set \$ - \$ \$ - \$ \$ 3,500 \$ 52,500 A.9. S.9. S.9	\$ 6.35 \$ 5.47 \$ 30,000.00 \$ 12,000.00 \$ 12,000.00 \$ 5,250.00 \$ 3,500.00 \$ 2,525 \$ 1,460	\$ 2,341,122 \$ 359,086 \$ 309,323 \$ 300,000 \$ 120,000 \$ 120,000 \$ 78,750 \$ 49,000 \$ 3,677,281
4.1 345kV - (1) 954kcmil 54/7 ACSR "Cardinal" 339,293 LF \$ 1.90 \$ 644,657 \$ 5.00 \$ 1,696,465 \$ 4.2 (1) OPGW 36 Fiber AC-33/38/571 56,549 LF \$ 1.35 \$ 76,341 \$ 5.00 \$ 282,745 \$ 4.3 (1) 3/8" EHS7 Steel 56,549 LF \$ 0.47 \$ 26,578 \$ 5.00 \$ 282,745 \$ 4.5 Remove Existing Conductor and Accessories 10.0 Mile \$ -	\$ 6.35 \$ 5.47 \$ 30,000.00 \$ 12,000.00 \$ 12,000.00 \$ 5,250.00 \$ 3,500.00 \$ 2,525 \$ 1,460	\$ 359,086 \$ 309,323 \$ 300,000 \$ 120,000 \$ 120,000 \$ 78,750 \$ 49,000 \$ 3,677,281
4.2	\$ 6.35 \$ 5.47 \$ 30,000.00 \$ 12,000.00 \$ 12,000.00 \$ 5,250.00 \$ 3,500.00 \$ 2,525 \$ 1,460	\$ 359,086 \$ 309,323 \$ 300,000 \$ 120,000 \$ 120,000 \$ 78,750 \$ 49,000 \$ 3,677,281
4.3	\$ 5.47 \$ 30,000.00 \$ 12,000.00 \$ 12,000.00 \$ 5,250.00 \$ 3,500.00 \$ 2,525 \$ 1,460	\$ 309,323 \$ 300,000 \$ 120,000 \$ 120,000 \$ 78,750 \$ 49,000 \$ 3,677,281
4.5 Remove Existing Conductor and Accessories 10.0 Mile \$ - \$ - \$ \$ 30,000 \$ 300,000 \$ 4.6 Remove Existing OPGW and Accessories 10.0 Mile \$ - \$ - \$ \$ 12,000 \$ 120,000 \$ 4.7 Remove Existing OHSW and Accessories 10.0 Mile \$ - \$ \$ - \$ \$ 12,000 \$ 120,000 \$ 4.8 Rider Poles Rider Poles Relocated 11.5 Set \$ 1,750 \$ 26,250 \$ 3,500 \$ 52,500 \$ 4.9 Rider Poles - Relocated 14 Set \$ - \$ \$ - \$ \$ 3,500 \$ \$ 49,000 \$ \$ 100,000 \$ 10	\$ 30,000.00 \$ 12,000.00 \$ 12,000.00 \$ 5,250.00 \$ 3,500.00 \$ 2,520 \$ 2,520 \$ 1,460	\$ 300,000 \$ 120,000 \$ 120,000 \$ 78,750 \$ 49,000 \$ 3,677,281
4.6 Remove Existing OPGW and Accessories 10.0 Mile \$ - \$ - \$ 12,000 \$ 120,000 \$ 4.7 Remove Existing OHSW and Accessories 10.0 Mile \$ - \$ \$ - \$ \$ 12,000 \$ 120,000 \$ 4.8 Rider Poles 5 62,500 \$ 15 5 5 5 5 5 5 5 5	\$ 12,000.00 \$ 12,000.00 \$ 5,250.00 \$ 3,500.00 \$ 2,520 \$ 1,460	\$ 120,000 \$ 120,000 \$ 78,750 \$ 49,000 \$ 3,677,281
4.7 Remove Existing OHSW and Accessories 10.0 Mile \$ - \$ - \$ \$ 12,000 \$ 120,000 \$ 4.8 Rider Poles Rider Poles Relocated 15 Set \$ 1,750 \$ 26,250 \$ 3,500 \$ 52,500 \$ 4.9 Rider Poles - Relocated 14 Set \$ - \$ \$ - \$ \$ 3,500 \$ 49,000 \$ 100,000	\$ 12,000.00 \$ 5,250.00 \$ 3,500.00 \$ 2,520 \$ 1,460	\$ 120,000 \$ 78,750 \$ 49,000 \$ 3,677,281
4.8 Rider Poles 15 Set \$ 1,750 \$ 26,250 \$ 3,500 \$ 52,500 4.9 Rider Poles - Relocated 14 Set \$ - \$ - \$ 3,500 \$ 49,000 TOTAL: CONDUCTOR, SHIELDWIRE, OPGW: \$ 773,826 \$ 2,903,455 S. INSULATOR, FITTINGS, HARDWARE 5.1 345kV Tangent (1-Group of 18-Bells Each Assembly) 558 Assembly \$ 1,800 \$ 1,004,400 \$ 720 \$ 401,760 5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) - Assembly \$ 900 \$ - \$ 560 \$ - 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 96 Assembly \$ 1,800 \$ 172,800 \$ 720 \$ 69,120 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) - Assembly \$ 900 \$ - \$ 560 \$ - 5.5 OPGW Assembly - Tangent 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 13,950 5.6 OPGW Assembly - Angle / DE 16 Assembly \$ 200 \$ 18,600 \$ 150 \$ 2,400 5.8 OH	\$ 5,250.00 \$ 3,500.00 \$ 2,520 \$ 1,460	\$ 78,750 \$ 49,000 \$ 3,677,281
A.9 Rider Poles - Relocated 14 Set \$ - \$ - \$ \$ 3,500 \$ 49,000	\$ 3,500.00 \$ 2,520 \$ 1,460	\$ 49,000 \$ 3,677,281
4.9 Rider Poles - Relocated 14 Set \$ - \$ - \$ \$ 3,500 \$ 49,000	\$ 3,500.00 \$ 2,520 \$ 1,460	\$ 49,000 \$ 3,677,281
5. INSULATOR, FITTINGS, HARDWARE 5.1 345kV Tangent (1-Group of 18-Bells Each Assembly) 558 Assembly \$ 1,800 \$ 1,004,400 \$ 720 \$ 401,760 5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) - Assembly \$ 900 \$ - \$ 560 \$ - 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 96 Assembly \$ 1,800 \$ 172,800 \$ 720 \$ 69,120 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) - Assembly \$ 900 \$ - \$ 560 \$ - 5.5 OPGW Assembly - Tangent 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 13,950 5.6 OPGW Assembly - Angle / DE 16 Assembly \$ 200 \$ 18,600 \$ 150 \$ 2,400 5.7 OHSW Assembly - Tangent 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 2,400 5.8 OHSW Assembly - Angle / DE 16 Assembly \$ 20 \$ 18,600 \$ 150 \$ 2,400 5.9 OPGW Splice Boxes 8 Set \$ 1,750 \$ 14,000 \$ 1,746 \$ 13,	\$ 1,460	
5. INSULATOR, FITTINGS, HARDWARE 5.1 345kV Tangent (1-Group of 18-Bells Each Assembly) 558 Assembly \$ 1,800 \$ 1,004,400 \$ 720 \$ 401,760 5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) - Assembly \$ 900 \$ - \$ 560 \$ - 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 96 Assembly \$ 1,800 \$ 172,800 \$ 720 \$ 69,120 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) - Assembly \$ 900 \$ - \$ 560 \$ - 5.5 OPGW Assembly - Tangent 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 13,950 5.6 OPGW Assembly - Angle / DE 16 Assembly \$ 200 \$ 18,600 \$ 150 \$ 2,400 5.7 OHSW Assembly - Angle / DE 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 13,950 5.8 OHSW Assembly - Angle / DE 16 Assembly \$ 20 \$ 18,600 \$ 150 \$ 2,400 5.9 OPGW Splice Boxes 8 Set \$ 1,750 \$ 14,000 \$ 1,746 \$	\$ 1,460	
5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) - Assembly \$ 900 \$ - \$ 560 \$ - 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 96 Assembly \$ 1,800 \$ 172,800 \$ 720 \$ 69,120 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) - Assembly \$ 900 \$ - \$ 560 \$ - 5.5 OPGW Assembly - Tangent 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 2,400 5.6 OPGW Assembly - Angle / DE 16 Assembly \$ 250 \$ 4,000 \$ 150 \$ 2,400 5.7 OHSW Assembly - Angle / DE 16 Assembly \$ 250 \$ 4,000 \$ 150 \$ 2,400 5.8 OHSW Assembly - Angle / DE 16 Assembly \$ 250 \$ 4,000 \$ 150 \$ 2,400 5.9 OPGW Splice Bo	\$ 1,460	\$ 1.406.160
5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 96 Assembly \$ 1,800 \$ 172,800 \$ 720 \$ 69,120 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) - Assembly \$ 900 \$ - \$ 560 \$ - 5.5 OPGW Assembly - Tangent 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 13,950 5.6 OPGW Assembly - Angle / DE 16 Assembly \$ 250 \$ 4,000 \$ 150 \$ 2,400 5.7 OHSW Assembly - Tangent 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 2,400 5.8 OHSW Assembly - Angle / DE 16 Assembly \$ 200 \$ 18,600 \$ 150 \$ 13,950 5.8 OHSW Assembly - Angle / DE 16 Assembly \$ 20 \$ 18,600 \$ 150 \$ 2,400 5.9 OPGW Splice Boxes 8 Set \$ 1,750 \$ 14,000 \$ 1,746 \$ 13,969		
5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) - Assembly \$ 900 \$ - \$ 560 \$ - 5.5 OPGW Assembly - Tangent 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 13,950 5.6 OPGW Assembly - Angle / DE 16 Assembly \$ 250 \$ 4,000 \$ 150 \$ 2,400 5.7 OHSW Assembly - Tangent 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 13,950 5.8 OHSW Assembly - Angle / DE 16 Assembly \$ 250 \$ 4,000 \$ 150 \$ 2,400 5.9 OPGW Splice Boxes 8 Set \$ 1,750 \$ 14,000 \$ 1,746 \$ 13,969	\$ 2,520	\$ -
5.5 OPGW Assembly - Tangent 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 13,950 5.6 OPGW Assembly - Angle / DE 16 Assembly \$ 250 \$ 4,000 \$ 150 \$ 2,400 5.7 OHSW Assembly - Tangent 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 13,950 5.8 OHSW Assembly - Angle / DE 16 Assembly \$ 250 \$ 4,000 \$ 150 \$ 2,400 5.9 OPGW Splice Boxes 8 Set \$ 1,750 \$ 14,000 \$ 1,746 \$ 13,969		\$ 241,920
5.6 OPGW Assembly - Angle / DE 16 Assembly \$ 250 \$ 4,000 \$ 150 \$ 2,400 5.7 OHSW Assembly - Tangent 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 13,950 5.8 OHSW Assembly - Angle / DE 16 Assembly \$ 250 \$ 4,000 \$ 150 \$ 2,400 5.9 OPGW Splice Boxes 8 Set \$ 1,750 \$ 14,000 \$ 1,746 \$ 13,969	\$ 1,460	\$ -
5.7 OHSW Assembly - Tangent 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 13,950 5.8 OHSW Assembly - Angle / DE 16 Assembly \$ 250 \$ 4,000 \$ 150 \$ 2,400 5.9 OPGW Splice Boxes 8 Set \$ 1,750 \$ 14,000 \$ 1,746 \$ 13,969	\$ 350	\$ 32,550
5.7 OHSW Assembly - Tangent 93 Assembly \$ 200 \$ 18,600 \$ 150 \$ 13,950 5.8 OHSW Assembly - Angle / DE 16 Assembly \$ 250 \$ 4,000 \$ 150 \$ 2,400 5.9 OPGW Splice Boxes 8 Set \$ 1,750 \$ 14,000 \$ 1,746 \$ 13,969	\$ 400	\$ 6,400
5.8 OHSW Assembly - Angle / DE 16 Assembly \$ 250 \$ 4,000 \$ 150 \$ 2,400 5.9 OPGW Splice Boxes 8 Set \$ 1,750 \$ 14,000 \$ 1,746 \$ 13,969	\$ 350	\$ 32,550
5.9 OPGW Splice Boxes 8 Set \$ 1,750 \$ 14,000 \$ 1,746 \$ 13,969	\$ 400	\$ 6,400
	\$ 3,496	\$ 27,969
5.10 OPGW Splice & Test 8 EA \$ 1,400 \$ 11,200 \$ 2,520 \$ 20,160	\$ 3,920	\$ 31,360
5.11 Spacer - Conductor 1,919 EA \$ 50 \$ 95,950 \$ 35 \$ 67,165	\$ 85	\$ 163,115
5.12 Vibration Dampers - Conductor 432 EA \$ 35 \$ 15,120 \$ 35 \$ 15,120	\$ 70	\$ 30,240
5.13 Shieldwire / OPGW Dampers, Misc. Fittings 116 EA \$ 27 \$ 3,132 \$ 35 \$ 4,060	l .	\$ 7,192
5.14 Jumpers at Existing Structures (New Cable to Existing) - EA \$ 25,000 \$ - \$ 25,000 \$ -	\$ 50,000	\$ -
5.15 Guys, Anchors, and Accessories - EA \$ 719 \$ - \$ 883 \$ -	\$ 1,602	\$ -
5.16 Misc. materials (Signs and Markers) 5.0 Mile \$ 770 \$ 3,850 \$ 1,006 \$ 5,030	<u> </u>	\$ 8,880
TOTAL - INSULATORS, FITTINGS, HARDWARE: \$ 1,365,652 \$ 629,084	2,770	\$ 1,994,736
B. Transmission Line Princetown to Rotterdam \$ 7,991,508 \$ 18,176,818		\$ 26,168,326
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS		+,,
6. MOS DEMOG, ENGINEERING, FERMITING, TEX., FIR & INDIRECTS Contractor Mobilization / Demobilization		
6.1 Mob/Demob 1 LS \$ - \$ 261,683 \$ 261,683	\$ 261,683	\$ 261,683
Project Management, Material Handling & Amenities		+,
6.2 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 1 LS \$ 1,128,208 \$ 1,128,208	\$ 1,128,208	\$ 1,128,208
6.3 Utility PM and Project Oversite 1 LS \$ - \$ 261,683 \$ 261,683	\$ 261,683	\$ 261,683
6.4 Site Accommodation, Facilities, Storage 1 LS \$ - \$ - \$ 261,683 \$ 261,683	\$ 261,683	\$ 261,683
Engineering		
6.5 Design Engineering 1 LS \$ - \$ 1,308,416 \$ 1,308,416		\$ 1,308,416
6.6 LIDAR 1 LS \$ - \$ 78,505 \$ 78,505	\$ 78,505	\$ 78,505
6.7 Geotech 5 Location \$ - \$ - \$ 3,500 \$ 17,500	\$ 3,500	\$ 17,500
6.8 Surveying/Staking 1 LS \$ - \$ - \$ 183,178 \$ 183,178	\$ 183,178	\$ 183,178
Testing & Commissioning		
6.9 Testing & Commissioning of T-Line and Equipment 1 LS \$ - \$ - \$ 40,000 \$ 40,000	\$ 40,000	\$ 40,000
Permitting and Additional Costs	ć	
6.10 Environmental Licensing & Permitting Costs - LS \$ - \$ - \$ - 6.11 Environmental Mitigation - LS \$ -		\$ - \$ -
6.11 Environmental Minigation - LS \$ - \$ - \$ - \$ - \$ - 6.12 Warranties / LOC's 1 LS \$ - \$ - \$ 78,505 \$ 78,505		
		\$ 78,303
6.13 Real Estate Costs (New ROW) 1 LS \$ - \$ - \$ -		\$ 982,000

Item	item Description	Estimated Quantity	Unit of Measure	Mater	ial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)		LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$	639,321	\$ 639,321	\$ -	\$ -	\$ 639,321	\$ 639,321
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 26,168	\$ 26,168	\$ 26,168	\$ 26,168
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 639,321		\$ 4,627,531		\$ 5,266,851

C. Transmission Line Princetown to New Scotland

ITC - T031 - (Segment A)

Estimate Revision:

5 Total: \$ 76,758,803

ITC - T031 - (Segment A)			
	Supply	Installation	Total
C. Transmission Line Princetown to New Scotland			
1. CLEARING & ACCESS	\$ 31,000	\$ 11,532,694	\$ 11,563,694
2. FOUNDATIONS	\$ 5,878,220	\$ 6,905,973	\$ 12,784,193
3. STRUCTURES	\$ 10,575,689	\$ 10,875,263	\$ 21,450,952
4. CONDUCTOR, SHIELDWIRE, OPGW	\$ 2,759,967	\$ 8,977,795	\$ 11,737,762
5. INSULATORS, FITTINGS, HARDWARE	\$ 3,933,818	\$ 1,753,268	\$ 5,687,086
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,854,296	\$ 11,680,821	\$ 13,535,116
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 25,032,990	\$ 51,725,813	\$ 76,758,803
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 25,032,990	\$ 51,725,813	\$ 76,758,803

Description	of Work:								
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
C. Trans	mission Line Princetown to New Scotland								
1. CLEARING	& ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	26.0	Acre	\$ -	\$ -	\$ 15,000	\$ 390,000	\$ 15,000	\$ 390,000
1.2	Clearing the ROW - Light (mowing)	62.0	Acre	\$ -	\$ -	\$ 5,000		,	\$ 310,000
1.3	Access Road	20,803.2	LF	\$ -	7	\$ 45			
1.4	Silt Fence	104,016.0	LF	\$ -		\$ 4			,
1.5	Matting - Access and ROW	83,212.8	LF	\$ -	т	\$ 70			
1.6	Matting - To Work Area	3,375.0	LF	\$ -	7	\$ 70			
1.7	Snow Removal	19.7	Mile	\$ -	т	\$ 16,000	\$ 315,200		\$ 315,200
1.8	ROW Restoration	19.7	Mile	\$ -	\$ -	\$ 10,000	\$ 197,000		
1.9	Work Pads	725,000	SF	\$ - \$ -	\$ -	\$ 4 \$ 0.2	\$ 2,552,000		
1.10	Restoration for Work Pad areas	145,000	SF	7	7	7	\$ 21,750		
1.11	Temporary Access Bridge Air Bridge	- 2	EA EA	\$ - \$ -	\$ - \$ -	\$ 20,035 \$ 14,445	\$ -	T,	\$ - \$ 28,890
1.12	Stabilized Construction Entrance		EA	\$ -	\$ - \$ -	\$ 4,580	\$ 28,890		\$ 28,890
1.13	Maintenance and Protection of Traffic on Public Roads	50	EA EA	\$ -	\$ -	\$ 4,130	\$ 206,500		
1.15	Gates	11	EA	\$ 2,000	\$ 22,000	\$ 2,500	\$ 200,300		\$ 49,500
1.16	Culverts / Misc. Access	12	EA	\$ 750		\$ 1,250	\$ 15,000		\$ 24,000
1.17	Concrete Washout Station	30	EA	\$ -	\$ -	\$ 1,850	\$ 55,500	\$ 1,850	\$ 55,500
	RING & ACCESS:	30	27,	Ţ	\$ 31,000	Ţ <u>1,030</u>	\$ 11,532,694	7 2,030	\$ 11,563,694
2. FOUNDATI	ONS				, ,,,,,,		, , , , , , ,		, , , , , ,
2.1	Drilled Pier - 345KV DC Steel Mono-Pole Delta - V-String - Tangent	131	EA	\$ 26,483	\$ 3,469,324	\$ 26,767	\$ 3,506,479	\$ 53,250	\$ 6,975,803
2.2	Drilled Pier - 345KV DC Steel 2-Pole Delta - Deadend	20	EA	\$ 86,032	\$ 1,720,640	\$ 86,953	\$ 1,739,067	\$ 172,985	\$ 3,459,707
2.3	Drilled Pier - 345KV DC Steel 2-Pole Delta Storm - Deadend	8	EA	\$ 86,032	\$ 688,256	\$ 86,953	\$ 695,627	\$ 172,985	\$ 1,383,883
2.4									
2.5	Rock Excavation Adder	482.4	СУ	\$ -	\$ -	\$ 2,000	\$ 964,800	\$ 2,000	\$ 964,800
2.6									
2.7									
2.8									
2.9									
2.10									
TOTAL - FOUR					\$ 5,878,220		\$ 6,905,973		\$ 12,784,193
3. STRUCTUR								,	
3.1	Drilled Pier - 345KV DC Steel Mono-Pole Delta - V-String - Tangent	131	Structure				\$ 5,423,793		\$ 14,463,448
3.2	Drilled Pier - 345KV DC Steel 2-Pole Delta - Deadend	10	Structure	\$ 103,970			\$ 623,820		\$ 1,663,520
3.3	Drilled Pier - 345KV DC Steel 2-Pole Delta Storm - Deadend	4	Structure	\$ 103,970	\$ 415,880	\$ 62,382	\$ 249,528	\$ 166,352	\$ 665,408
3.4		1							

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.5	Remove Existing Foundation	348	EA	\$ -	\$ -	\$ 7,500	\$ 2,610,000	\$ 7,500	\$ 2,610,000
3.6 3.7	Remove Existing Structure and Accessories	87	EA	\$ -	\$ -	\$ 12,500	\$ 1,087,500	\$ 12,500	\$ 1,087,500
3.8	Install Grounding and Grounding Accessories	159	Pole	\$ 506	\$ 80,454	\$ 5,539	\$ 880,622	\$ 6,045	\$ 961,076
3.9				7 777	7 30,101		7 337,033	7 0/2 12	· · · · · · · · · · · · · · · · · · ·
3.10									
3.11									
3.12									
3.13									
3.15									
3.16									
3.17									
3.18									
3.19									
3.20 TOTAL - STRUC	TIDEC				\$ 10,575,689		\$ 10,875,263		\$ 21,450,952
	s, SHIELDWIRE, OPGW				\$ 10,575,689		\$ 10,875,263		\$ 21,450,952
4.1	345kV - (1) 954kcmil 54/7 ACSR "Cardinal"	1,323,907	LF	\$ 1.90	\$ 2,515,423	\$ 5.00	\$ 6,619,535	\$ 6.90	\$ 9,134,958
					7 -,0-0,1-0				
4.2	(1) OPGW 36 Fiber AC-33/38/571	110,326	LF	\$ 1.35	\$ 148,940	\$ 5.00	\$ 551,630	\$ 6.35	\$ 700,570
4.3	(1) 3/8" EHS7 Steel	110,326	LF	\$ 0.47	\$ 51,853				\$ 603,483
4.4	Remove Existing Conductor and Accessories	20.0	Mile	\$ -	\$ -	\$ 30,000	\$ 600,000		\$ 600,000
4.5	Remove Existing OPGW and Accessories	20.0	Mile	\$ -	\$ -	\$ 12,000	\$ 240,000		\$ 240,000
4.6	Remove Existing OHSW and Accessories	20.0	Mile	\$ -	\$ -	\$ 12,000	\$ 240,000		\$ 240,000
4.7	Rider Poles	25	EA	\$ 1,750	\$ 43,750	\$ 3,500	\$ 87,500	\$ 5,250.00	\$ 131,250
4.8	Rider Poles - Relocated	25	Set	\$ -	\$ -	\$ 3,500	\$ 87,500	\$ 3,500.00	\$ 87,500
4.9									
4.10									
	JCTOR, SHIELDWIRE, OPGW:				\$ 2,759,967		\$ 8,977,795		\$ 11,737,762
	FITTINGS, HARDWARE	1,572	Assambly	\$ 1,800	\$ 2,829,600	\$ 720	\$ 1,131,840	\$ 2,520	\$ 3,961,440
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly) 115kV Tangent (1-Group of 9-Bells Each Assembly)	1,572	Assembly Assembly	\$ 900	\$ 2,829,800	\$ 560	\$ 1,131,840		\$ 3,961,440
	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	336	Assembly	\$ 1,800	\$ 604,800	\$ 720			\$ 846,720
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)		Assembly	\$ 900	\$ -	\$ 560	\$ -		\$
5.5	OPGW Assembly - Tangent	131	Assembly	\$ 200	\$ 26,200	\$ 150	\$ 19,650	\$ 350	\$ 45,850
5.6	OPGW Assembly - Angle / DE	28	Assembly	\$ 250	\$ 7,000		\$ 4,200		\$ 11,200
5.7	OHSW Assembly - Tangent	131	Assembly	\$ 200	\$ 26,200	\$ 150	\$ 19,650	\$ 350	\$ 45,850
5.8 5.9	OHSW Assembly - Angle / DE	28	Assembly	\$ 250 \$ 1,746	\$ 7,000 \$ 5,238		\$ 4,200	\$ 400	\$ 11,200 \$ 11,673
	OPGW Splice Boxes OPGW Splice & Test	8	Set EA	\$ 1,746 \$ 2,520			\$ 6,435 \$ 7,915		\$ 11,673 \$ 28,075
5.11	Spacer - Conductor	6,533	EA	\$ 50					\$ 555,305
5.12	Vibration Dampers - Conductor	1,573	EA	\$ 35	\$ 55,055				\$ 110,110
	Shieldwire / OPGW Dampers, Misc. Fittings	398	EA	\$ 27					\$ 24,676
5.14	Guys, Anchors, and Accessories	-	EA	\$ 719	\$ -	\$ 883	\$ -	\$ 1,602	\$ -
5.15	Misc. materials (Signs and Markers)	19.7	Mile	\$ 770	\$ 15,169	\$ 1,006	\$ 19,818	\$ 1,776	\$ 34,987
5.16	Jumpers at Existing Structures (New Cable to Existing)	-	EA	\$ 25,000	\$ -	\$ 25,000	\$ -	\$ 50,000	\$ -
TOTAL - INSULA	TORS, FITTINGS, HARDWARE:				\$ 3,933,818		\$ 1,753,268		\$ 5,687,086
C. Transr	nission Line Princetown to New Scotland				\$ 23,178,694		\$ 40,044,992		\$ 63,223,686
6. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob Project Management, Material Handling & Amenities	1	LS	\$ -	\$ -	\$ 632,237	\$ 632,237	\$ 632,237	\$ 632,237
	Project Management, Material Handling & Amenities Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost								
6.2	Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 2,725,794	\$ 2,725,794	\$ 2,725,794	\$ 2,725,794
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 632,237	\$ 632,237	\$ 632,237	\$ 632,237
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -		\$ 632,237			
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,161,184	\$ 3,161,184	\$ 3,161,184	\$ 3,161,184

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.6	Lidar	1	LS	\$ -	\$ -	\$ 189,671	\$ 189,671	\$ 189,671	\$ 189,671
6.7	Geotech	20	Location	\$ -	\$ -	\$ 3,500	\$ 70,000	\$ 3,500	\$ 70,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 442,566	\$ 442,566	\$ 442,566	\$ 442,566
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 189,671	\$ 189,671	\$ 189,671	\$ 189,671
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ 215,000	\$ 215,000	\$ 215,000	\$ 215,000
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 2,687,000	\$ 2,687,000	\$ 2,687,000	\$ 2,687,000
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 1,854,296	\$ 1,854,296	\$ -	\$ -	\$ 1,854,296	\$ 1,854,296
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 63,224	\$ 63,224	\$ 63,224	\$ 63,224
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 1,854,296		\$ 11,680,821		\$ 13,535,116

Page 11 of 55

ITC - T031 - (Segment A) D. Rotterdam Substation - Install

Estimate Revision: 5 Total: \$ 24,565,575

ITC - T031 - (Segme	nt A)			
		Supply	Installation	Total
D. Rotterdam Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	189,890	\$ 2,766,050	\$ 2,955,940
2. SUBSTATION FOUNDATIONS	\$	1,035,342	\$ 1,108,800	\$ 2,144,142
3. SUBSTATION STRUCTURES	\$	432,900	\$ 432,900	\$ 865,800
4. MAJOR EQUIPTMENT	\$	7,515,000	\$ 1,820,000	\$ 9,335,000
5. SMALL EQUIPTMENT / MATERIALS	\$	673,000	\$ 333,000	\$ 1,006,000
6. CONTROL HOUSE / PANELS	\$	893,900	\$ 818,900	\$ 1,712,800
7. MISC ITEMS	\$	744,510	\$ 1,040,740	\$ 1,785,250
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	918,763	\$ 3,841,880	\$ 4,760,643
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	12,403,305	\$ 12,162,270	\$ 24,565,575
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	12,403,305	\$ 12,162,270	\$ 24,565,575

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Mat	terial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
D. Rotte	rdam Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	1.3	ACRES	\$	-	\$ -	\$ 1,300,000	\$ 1,625,000	\$ 1,300,000	\$ 1,625,000
1.2	Station stone within substation fence.	1,170	СУ	\$	27	\$ 31,590	\$ 75	\$ 87,750	\$ 102	\$ 119,340
1.3	Substation Fence	1,100	LF	\$	100	\$ 110,000	\$ 100	\$ 110,000	\$ 200	\$ 220,000
1.4	Permanent Access Road - 20'-Wide (From Gordon RD)	1,380	LF	\$	35	\$ 48,300	\$ 285	\$ 393,300	\$ 320	\$ 441,600
1.5										
1.6										
1.7	Natural Gas Transmission Line Relocation	1	LS	\$	-		\$ 550,000	\$ 550,000	\$ 550,000	\$ 550,000
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 189,890		\$ 2,766,050		\$ 2,955,940
2. SUBSTATION	FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	3	EA	\$	14,940	\$ 44,820	\$ 16,000	\$ 48,000	\$ 30,940	\$ 92,820
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	8	EA	\$	26,145	\$ 209,160	\$ 28,000	\$ 224,000	\$ 54,145	\$ 433,160
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	40	EA	\$	4,482	\$ 179,280	\$ 4,800	\$ 192,000	\$ 9,282	\$ 371,280
2.1f	Station Service Transformer Stand Foundation	4	EA	\$	4,482	\$ 17,928	\$ 4,800	\$ 19,200	\$ 9,282	\$ 37,128
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	14	EA	\$	4,482	\$ 62,748	\$ 4,800	\$ 67,200	\$ 9,282	\$ 129,948
2.1j	Instrument Transformer Stand Foundations	18	EA	\$	4,482	\$ 80,676	\$ 4,800	\$ 86,400	\$ 9,282	\$ 167,076
2.1k	Arrester Stand Foundations	6	EA	\$	4,482	\$ 26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$ 55,692
2.1m	Wave Trap Stand Foundations	2	EA	\$	4,482	\$ 8,964	\$ 4,800	\$ 9,600	\$ 9,282	\$ 18,564
2.1n	Misc. Structure Foundations		EA.	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	e Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.1p									
2.2	230kV								
2.2a	Circuit Breaker Foundations	1	EA	\$ 11,9					
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,8	_	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,4		\$ 24,000	\$ -	\$ 46,410	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,4	_	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	8	EA	\$ 3,7			\$ 32,000	\$ 7,735	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,7	<u> </u>	\$ 4,000		\$ 7,735	
2.2g	Bus Support 3ph Foundations	0	EA	\$ -		\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	9	EA	\$ 3,7			\$ 36,000	\$ 7,735	
2.2j	Instrument Transformer Stand Foundations	3	EA	\$ 3,7			\$ 12,000	\$ 7,735	\$ 23,205
2.2k	Arrester Stand Foundations	0	EA	\$ 3,7	_	\$ 4,000	\$ -	\$ 7,735	
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,7	_	\$ 4,000		\$ 7,735	
2.2n	Misc. Structure Foundations		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,2		\$ 5,600		\$ 10,829	
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,6	_	\$ 36,000		\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$ 16,4			\$ 70,400		\$ 136,136
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,4	_	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e	Switch Stand Foundations	4	EA	\$ 2,9	8 \$ 11,952	\$ 3,200	\$ 12,800	\$ 6,188	\$ 24,752
2.3f	Fuse Stand Foundations	0	EA	\$ 2,9		\$ 3,200		\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,9	8 \$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,9		\$ 3,200	\$ -	\$ 6,188	\$ -
2.3j	Instrument Transformer Stand Foundations	6	EA	\$ 2,9	8 \$ 17,928	\$ \$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3k	Arrester Stand Foundations	6	EA	\$ 2,9	8 \$ 17,928	\$ \$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,9	8 \$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	2	EA	\$ 97,1				\$ 201,110	
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,7	_	\$ 80,000	\$ -	\$ 154,700	
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad					4			
2.5a	Control House / Pad	0	EA	\$ 76,1	_	\$ 81,600	\$ -	\$ 157,794	\$ -
2.5b	Generator Foundation	0	EA	\$ 16,0	0 \$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6	Lightning Mast Foundations						4		A 94
	70' Lightning Mast Foundation	2	EA		9 \$ 10,458				
2.6b				\$ -		\$ -	\$ -		\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TATION FOUNDATIONS				\$ 1,035,342		\$ 1,108,800		\$ 2,144,142
	N STRUCTURES								
3.1	345kV		F.	6 2==	0 0 71.55		A 74.655	A 71.555	A
3.1a	Substation A-Frame Structures - Stand alone	2	EA	\$ 37,0	0 \$ 74,000	\$ 37,000	\$ 74,000	\$ 74,000	\$ 148,000

Item	Item Description E	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$	37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$	-
3.1c	Switch Stands	8	EA	\$	14,800	\$ 118,400	\$ 14,800	\$ 118,400	\$ 29,600	\$	236,800
3.1d	Station Service Transformer Stand	1	EA	\$	14,800	\$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600	\$	29,600
3.1e	Bus Support 3ph	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
3.1f	Bus Support 1 Ph	14	EA	\$	3,700	\$ 51,800	\$ 3,700	\$ 51,800	\$ 7,400	\$	103,600
3.1g	Instrument Transformer Stand	18	EA	\$	1,850	\$ 33,300	\$ 1,850	\$ 33,300	\$ 3,700	\$	66,600
3.1h	Arrester Stand	6	EA	\$	1,850	\$ 11,100	\$ 1,850	\$ 11,100	\$ 3,700	\$	22,200
3.1j	Wave Trap Stand	2	EA	\$	7,400	\$ 14,800	\$ 7,400	\$ 14,800	\$ 14,800	\$	29,600
3.1k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
3.2	230kV										
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$	33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$	-
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$	33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$	-
3.2c	Switch Stands	2	EA	\$	12,025	\$ 24,050	\$ 12,025	\$ 24,050	\$ 24,050	\$	48,100
3.2d	Station Service Transformer Stand	0	EA	\$	12,025	\$ -	\$ 12,025	\$ -	\$ 24,050	\$	-
3.2e	Bus Support 3ph	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
3.2f	Bus Support 1 Ph	9	EA	\$	2,775	\$ 24,975	\$ 2,775	\$ 24,975	\$ 5,550	\$	49,950
3.2g	Instrument Transformer Stand	3	EA	\$	1,295	\$ 3,885	\$ 1,295	\$ 3,885	\$ 2,590	\$	7,770
3.2h	Arrester Stand	0	EA	\$	1,295	\$ -	\$ 1,295	\$ -	\$ 2,590	\$	-
3.2j	Wave Trap Stand	0	EA	\$	5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$	-
3.2k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
3.3	115kV										
3.3a	Substation A-Frame Structures - Stand alone	2	EA	\$	18,500	\$ 37,000	\$ 18,500	\$ 37,000	\$ 37,000	\$	74,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$	-
3.3c	Switch Stands	2	EA	\$	7,955	\$ 15,910	\$ 7,955	\$ 15,910	\$ 15,910	\$	31,820
3.3d	Fuse Stand	0	EA	\$	7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$	-
3.3e	Bus Support 3ph	0	EA	\$	3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$	-
3.3f	Bus Support 1 Ph	0	EA	\$	1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$	-
3.3g	Instrument Transformer Stand	6	EA	\$	740		\$ 740	\$ 4,440	\$ 1,480	\$	8,880
3.3h	Arrester Stand	6	EA	\$	740	\$ 4,440	\$ 740	\$ 4,440	\$ 1,480	\$	8,880
3.3j	Wave Trap Stand	0	EA	\$	3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$	-
3.3k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
							<u> </u>				
TOTAL - SUBST	TATION STRUCTURES					\$ 432,900		\$ 432,900		Ś	865,800
4. MAJOR EQU						1 7/1		7			
4.1	345kV										
4.1a	Circuit Breakers	3	EA	\$	200,000	\$ 600,000	\$ 80,000	\$ 240,000	\$ 280,000	\$	840,000
4.1b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	\$	-
4.1c	345 kV - 230 kV Auto Transformer	2	EA	\$	3,400,000	\$ 6,800,000	\$ 750,000	\$ 1,500,000	\$ 4,150,000	\$	8,300,000
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$	3,400,000	\$ -	\$ 750,000	\$ -	\$ 4,150,000	\$	-
4.2	230kV										
4.2a	Circuit Breakers	1	EA	\$	115,000	\$ 115,000	\$ 80,000	\$ 80,000	\$ 195,000	\$	195,000
4.2b	Capacitor Banks	0	EA	\$	-	_	\$ 80,000		\$ 80,000	-	-
							· · · · · · · · · · · · · · · · · · ·		,		
4.3	115kV										
4.3a	Circuit Breakers	0	EA	\$	52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$	
4.3b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 60,000		\$ 60,000		-
							,		,		
TOTAL - MAJO	R EQUIPTMENT					\$ 7,515,000		\$ 1,820,000		\$	9,335,000
	PTMENT / MATERIALS					, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		. 1,020,000		_	2,333,030

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
5.1	345kV										
5.1a	Line Switches - 3ph w/ motor operator	2	EA	\$	40,000	\$ 80,000	\$ 15,000	\$ 30,000	\$ 55,000	\$	110,000
5.1b	Disconnect Switches - 3ph w/ manual operator	6	EA	\$	35,000	\$ 210,000	\$ 17,500	\$ 105,000	\$ 52,500	\$	315,000
5.1c	VT'S	6	EA	\$	25,000	\$ 150,000	\$ 12,000	\$ 72,000	\$ 37,000	\$	222,000
5.1d	CT'S	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	-
5.1e	CCVT'S	6	EA	\$	13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$	126,000
5.1f	Arresters	6	EA	\$	6,500	\$ 39,000	\$ 1,500	\$ 9,000	\$ 8,000	\$	48,000
_	Wave Traps	2	EA	\$	13,000	\$ 26,000		\$ 16,000	\$ 21,000	\$	42,000
	Station Service Transformers	0	EA	\$	200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$	-
5.1j											
	230kV						*				
	Line Switches - 3ph w/ motor operator	0	EA	\$	35,000		\$ 15,000	\$ -	\$ 50,000	-	-
	Disconnect Switches - 3ph w/ manual operator	2	EA	\$	30,000	\$ 60,000	\$ 17,500	\$ 35,000	\$ 47,500	\$	95,000
	VT'S	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	-
	CT'S	0	EA	\$	13,000		\$ 8,000	\$ -	\$ 21,000	\$	-
	CCVT'S	3	EA	\$	10,000	\$ 30,000	\$ 6,000	7 10,000	\$ 16,000 \$ 11,000	\$	48,000
	Arresters	0	EA	<u> </u>	5,000	\$ -	\$ 6,000	\$ -	7,	\$	
$\overline{}$	Wave Traps	0	EA	\$	13,000	\$ - \$ -	\$ 8,000 \$ -	\$ - \$ -	\$ 21,000 \$ -	\$	-
	Station Service Transformers	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	>	
5.2j											
5.3	115kV										
	Line Switches - 3ph w/ motor operator	0	EA	\$	33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$	
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$	28,000	\$ -	\$ 17,500	\$ -	\$ 45,500	\$	-
	VT'S	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	
	CT'S	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	-
	CCVT'S	0	EA	\$	8,000	\$ -	\$ 8,000	\$ -	\$ 16,000	\$	-
	Arresters	0	EA	\$	3,420	\$ -	\$ 6,000	\$ -	\$ 9,420	Ś	
	Wave Traps	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	Ś	
\vdash	Station Service Transformers	0	EA	\$	_	\$ -	\$ -	\$ -	\$ -	Ś	-
	Fuses	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	Ś	
				1		,	*	*	*		
TOTAL - SMALL	EQUIPTMENT / MATERIALS					\$ 673,000		\$ 333,000		Ś	1,006,000
	DUSE / PANELS / GENERATOR					7 3.3,535		7 333,333		7	_,,,,,,,,,
	CONTROL HOUSE	0	EA	\$	-	\$ -	\$ 85,000	\$ -	\$ 85,000	\$	
	Protection and Telecom Equipment Panels	8	EA	\$	35,000	\$ 280,000	\$ 10,000	\$ 80,000		\$	360,000
6.3	125VDC Batteries	0	EA	\$	75,000	\$ -	\$ 25,000	ė -	\$ 100,000	Ś	
	Control Cables	1	LS	\$	438,900	\$ 438,900	\$ 25,000	\$ 438,900	\$ 877,800	\$	877,800
	SCADA and Communications	1	EA EA	\$	75,000	\$ 438,900	\$ 438,900	\$ 438,900	\$ 175,000	\$	175,000
	Low Voltage AC Distribution	1	EA	\$		\$ 75,000			\$ 175,000	\$	150,000
	DC Distribution System	1	EA	\$	50,000	\$ 50,000	\$ 100,000	\$ 100,000	\$ 150,000	\$	150,000
\vdash	Security	0	EA	\$	7,500	\$ -	\$ 7,500	\$ 100,000	\$ 15,000	Ś	-
	Fire Alarm	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$	
	Generator	0	EA	\$	100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	Ś	
				Ė	,	-					
TOTAL - CONTR	OL HOUSE / PANELS / GENERATOR					\$ 893,900		\$ 818,900		\$	1,712,800
7. MISC ITEMS											

Item	ltem Description	Estimated Quantity	Unit of Measure	Materia	Il Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
7.1	Conduit & Cable Trench System	1,400	LF	\$	185.00	\$ 259,000	\$ 170.00	\$ 238,000	\$ 355	\$ 497,000
7.2	Rigid Bus, Fittings & Insulators	1,000	LF	\$	125.07	\$ 125,070	\$ 237.10	\$ 237,100	\$ 362	\$ 362,170
7.3	Strain Bus, Connectors & Insulators	0	LF	\$	39.30	\$ -	\$ 53.35	\$ -	\$ 93	\$ -
7.4	Grounding System	8,000	LF	\$	6.93	\$ 55,440	\$ 32.58	\$ 260,640		\$ 316,080
7.5	Strain Bus Insulators - 345kV	0	EA	\$	2,000		\$ 1,050	\$ -		\$ -
7.6	Strain Bus Insulators - 230kV	0	EA	\$	1,400		\$ 750	\$ -	. ,	\$ -
7.7	Strain Bus Insulators - 115kV	0	EA	\$	1,000					\$ -
7.8	Low Voltage AC Station Service	0	LS	\$	50,000	\$ -	\$ 75,000	\$ -	\$ 125,000	\$ -
7.9	SSVT Service	0	LS	\$	-,		\$ 45,000	\$ -		\$ -
7.10	Control Conduits from Trench to Equipment	1	LS	\$	125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$ 250,000
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$	180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$ 360,000
7.12										
7.13										
7.14										
7.15										
7.16										
7.17										
7.18										
7.19										
7.20										
TOTAL - MISC	ITEMS					\$ 744,510		\$ 1,040,740		\$ 1,785,250
D. Rotte	rdam Substation - Install					\$ 11,484,542		\$ 8,320,390		\$ 19,804,932
8. MOB/DEM	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 198,049	\$ 198,049	\$ 198,049	\$ 198,049
	Project Management, Material Handling & Amenities									
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 853,860	\$ 853,860	\$ 853,860	\$ 853,860
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 198,049	\$ 198,049	\$ 198,049	\$ 198,049
8.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 198,049	\$ 198,049	\$ 198,049	\$ 198,049
	Engineering									
8.5	Design Engineering	1	LS	\$	-	\$ -	\$ 1,584,395	\$ 1,584,395	\$ 1,584,395	\$ 1,584,395
8.6	LIDAR	-	LS	\$	-	\$ -	\$ -	\$ -		\$ -
8.7	Geotech	4	EA	\$	-	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$	-	\$ -	\$ 138,635	\$ 138,635		\$ 138,635
	Testing & Commissioning						· · · · · · · · · · · · · · · · · · ·		,	
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 495,123	\$ 495,123	\$ 495,123	\$ 495,123
	Permitting and Additional Costs	_	-	1			,:==	,	, =	,
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$	-	\$ -				\$ -
8.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 59,415			
8.13	Real Estate Costs (New)	-	LS	\$			\$ -			\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$			\$ 82,500			
8.15	Legal Fees	-	LS	\$						\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-		\$ -			\$ -
8.17	AFODC)	-	LS	\$	-		\$ -			\$ -
8.18	Sales Tax on Materials		LS	\$	918,763					
8.18	Fees for permits, including roadway, railroad, building or other local permits	1		۶	918,/63		\$ 19,805			
1 3.13	Trees for permits, including roadway, rain oad, building or other local permits	1	LJ.	1		¥ -	÷ 13,003	19,003	7 13,003	Page 16 of 55

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	1	TOTAL
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 918,763		\$ 3,841,880		\$	4,760,643

Page 17 of 55

D. SS Rotterdam-Install

ITC - T031 - (Segment A) F. Edic Substation - Install

5		Total:	\$	2,660,300		
ITC - T031	(Segment A)					
		Supply		Installation		Total
F. Edic Substation - Install						
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	2,025	\$	5,625	\$	7,650
2. SUBSTATION FOUNDATIONS	\$	100,098	\$	107,200	\$	207,298
3. SUBSTATION STRUCTURES	\$	44,400	\$	44,400	\$	88,800
4. MAJOR EQUIPTMENT	\$	200,000	\$	80,000	\$	280,000
5. SMALL EQUIPTMENT / MATERIALS	\$	280,000	\$	133,500	\$	413,500
6. CONTROL HOUSE / PANELS	\$	173,500	\$	130,800	\$	304,300
7. MISC ITEMS	\$	339,357	\$	507,880	\$	847,237
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	91,150	\$	420,364	\$	511,515
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	1,230,530	\$	1,429,769	\$	2,660,300
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL:	Ś	1.230.530	Ś	1.429.769	Ś	2,660,300

Description of Work	:

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
F. Edic S	ubstation - Install									
1. SITE PREP/	RADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$	-	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	75	CY	\$	27	\$ 2,025	\$ 75	\$ 5,625	\$ 102	\$ 7,650
1.3	Substation Fence	0	LF	\$	100		\$ 100		\$ 200	
1.4	Permanent Access Road - 20'-Wide (From Gordon RD)	0	LF	\$	35	\$ -	\$ 285	\$ -	\$ 320	\$ -
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
	REP/ GRADING/ FENCING / CIVIL					\$ 2,025		\$ 5,625		\$ 7,650
	FOUNDATIONS									
	345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$	14,940					
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025		\$ 60,000		\$ 116,025	
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	26,145		\$ 28,000		\$ 54,145	
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145		\$ 28,000		\$ 54,145	
	Switch Stand Foundations	6	EA	\$	4,482				\$ 9,282	
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482		\$ 4,800	\$ -	\$ 9,282	
	Bus Support 3ph Foundations	0	EA	\$		\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	0	EA	\$	4,482		\$ 4,800		\$ 9,282	
2.1j	Instrument Transformer Stand Foundations	9	EA	\$	4,482					
2.1k	Arrester Stand Foundations	3	EA	\$	4,482				\$ 9,282	
2.1m	Wave Trap Stand Foundations	1	EA	\$	4,482	. ,		. ,	\$ 9,282	
2.1n	Misc. Structure Foundations		EA.	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p										
	230kV									
2.2a	Circuit Breaker Foundations	0	EA	\$	11,952		\$ 12,800		\$ 24,752	
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -

						Labor O Foreignsont	Labor O Francisco		
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	0		\$ 3,735	\$ -		\$ -	\$ 7,735	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2g	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0		\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2j 2.2k	Instrument Transformer Stand Foundations Arrester Stand Foundations	0	EA EA	\$ 3,735 \$ 3,735	\$ - \$ -	\$ 4,000 \$ 4,000	\$ - \$ -	\$ 7,735 \$ 7,735	
2.2K	Wave Trap Stand Foundations	0		\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2m	Misc. Structure Foundations		EA.	\$ -	\$ -	\$ 4,000	\$ -	\$ -	\$ -
2.2p	mise. Stractare roundations			Ť	T	7	T	Ť	*
r									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0		\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	_
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0		\$ 16,434	\$ -		\$ -	\$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0		\$ 16,434	\$ -	+ · · · · · · · · · · · · · · · · · · ·	\$ -	\$ 34,034	
2.3e	Switch Stand Foundations	0		\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3f	Fuse Stand Foundations	0		\$ 2,988	\$ - \$ -	\$ 3,200		\$ 6,188	
2.3g	Bus Support 3ph Foundations	0		\$ 2,988 \$ 2,988	<u>.</u>	\$ 3,200 \$ 3,200	7	\$ 6,188 \$ 6,188	
2.3h 2.3j	Bus Support 1 Ph Foundations Instrument Transformer Stand Foundations	0		\$ 2,988	\$ - \$ -	\$ 3,200	\$ - \$ -	\$ 6,188	
2.3k	Arrester Stand Foundations	0		\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3n	Station Service Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0		\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0		\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad (40'x125')	0	EA	\$ 76,194	\$ -	\$ 81,600	\$ -	\$ 157,794	\$ -
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6	Lightning Mast Foundations				•				•
2.6a	70' Lightning Mast Foundation	0		\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	
2.6b	60' Lightning Mast Foundation	0	EA EA	\$ -	\$ -	\$ - \$ -	\$ -	\$ -	\$ -
2.6c	50' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBS	TATION FOUNDATIONS				\$ 100,098		\$ 107,200		\$ 207,298
	N STRUCTURES				Ţ 100,030		7 107,200		207,230
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1c	Switch Stands	1		\$ 14,800	\$ 14,800		\$ 14,800	\$ 29,600	\$ 29,600
3.1d	Station Service Transformer Stand	0	EA	\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
3.1e								_	
3.1f	Bus Support 1 Ph	0		\$ 3,700	\$ -	\$ 3,700		\$ 7,400	
3.1g	Instrument Transformer Stand	9		\$ 1,850	\$ 16,650		\$ 16,650	\$ 3,700	\$ 33,300
	A A Channel		EA	\$ 1,850	\$ 5,550		\$ 5,550 \$ 7,400	\$ 3,700 \$ 14,800	
3.1h	Arrester Stand	3		c 7400					3 14.800
3.1h 3.1j	Wave Trap Stand	1	EA	\$ 7,400 \$ 6,475	\$ 7,400		, ,		
3.1h			EA	\$ 7,400 \$ 6,475			, ,		
3.1h 3.1j	Wave Trap Stand	1	EA	, ,			, ,		
3.1h 3.1j 3.1k	Wave Trap Stand Misc. Structures	1	EA EA	, ,	\$ -		\$ -		\$ -
3.1h 3.1j 3.1k	Wave Trap Stand Misc. Structures 230kV	1 0	EA EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.1h 3.1j 3.1k 3.2 3.2a	Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone	0	EA EA EA	\$ 6,475	\$ - \$ - \$	\$ 6,475	\$ - \$	\$ 12,950 \$ 66,600	\$ - \$ - \$ -
3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d	Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	1 0 0 0 0 0 0	EA EA EA EA EA	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025	\$ - \$ - \$ - \$ - \$ -	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025	\$ - \$ - \$ - \$ - \$ -	\$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050	\$ - \$ - \$ - \$ - \$ -
3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2c	Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	0 0 0 0 0 0 0	EA EA EA EA EA EA	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ -	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ -	\$ - \$ - \$ - \$ - \$ - \$ -
3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2c 3.2d	Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	1 0 0 0 0 0 0	EA	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025 \$ - \$ 2,775	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050	\$ - \$ - \$ - \$ - \$ - \$ - \$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2h	Arrester Stand	0	EA	\$ 1,295	\$ -	\$ 1,295	\$ -	\$ 2,590	\$ -
3.2j	Wave Trap Stand	0	EA	\$ 5,550					\$ -
3.2k	Misc. Structures	0	EA	\$ 6,475				. ,	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0		\$ 18,500	\$ -	\$ 18,500	\$ -		\$ -
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -	\$ 7,955	\$ -		\$ -
3.3d	Fuse Stand	0	EA	\$ 7,955		\$ 7,955	\$ -		\$ -
3.3e	Bus Support 3ph	0	EA	\$ 3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
TOTAL - SUBST	TATION STRUCTURES				\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQU	JIPTMENT				,,,,,		7.55		1.,000
4.1	345kV								
4.1a	Circuit Breakers	1	EA	\$ 200,000	\$ 200,000	\$ 80,000	\$ 80,000	\$ 280,000	\$ 280,000
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	230kV			4 445 000	A	A 00.000	A	405.000	
4.2a	Circuit Breakers	0	EA	\$ 115,000	\$ -	\$ 80,000	\$ -		\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAJO	 REQUIPTMENT				\$ 200,000		\$ 80,000		\$ 280,000
	IPTMENT / MATERIALS				, ,,,,,,,		, ,,,,,,,,		23,222
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	1	EA	\$ 40,000	\$ 40,000	\$ 15,000	\$ 15,000	\$ 55,000	\$ 55,000
5.1b	Disconnect Switches - 3ph w/ manual operator	1	EA	\$ 35,000	\$ 35,000	\$ 17,500	\$ 17,500	\$ 52,500	\$ 52,500
5.1c	VT'S	3	EA	\$ 25,000	\$ 75,000	\$ 12,000	\$ 36,000	\$ 37,000	\$ 111,000
5.1d	CT'S	3	EA	\$ 13,000				\$ 21,000	
5.1e	CCVT'S	3	EA	\$ 13,000		\$ 8,000	\$ 24,000		\$ 63,000
5.1f	Arresters	6	EA	\$ 6,500		\$ 1,500	\$ 9,000		\$ 48,000
5.1g 5.1h	Wave Traps Station Service Transformers	1 0	EA EA	\$ 13,000 \$ 200,000	\$ 13,000 \$ -	\$ 8,000 \$ 50,000	\$ 8,000 \$ -		\$ 21,000 \$ -
5.1j	Station Service mansionners	0	LA	3 200,000	-	3 30,000	-	3 230,000	-
5.2	230kV				_		4		
5.2a 5.2b	Line Switches - 3ph w/ motor operator	0	EA EA	\$ 35,000 \$ 30,000	\$ - \$ -	\$ 15,000 \$ 17,500	\$ - \$ -	\$ 50,000 \$ 47,500	\$ - \$ -
5.20 5.2c	Disconnect Switches - 3ph w/ manual operator VT'S	0	EA	\$ 30,000		\$ 17,500	\$ -	\$ 21,000	
5.2d	CT'S	0	EA	\$ 13,000		\$ 8,000	\$ -		\$ -
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -	\$ 6,000	\$ -		\$ -
5.2f	Arresters	0	EA	\$ 5,000	\$ -	\$ 6,000	\$ -	,	\$ -
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -		y \$ -
5.2h	Station Service Transformers	0	EA		\$ -	\$ -	\$ -	, ,	\$ -
5.2j									
5.3	115kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ 33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0		\$ 28,000		\$ 17,500		\$ 45,500	
5.3c	VT'S	0	EA	\$ 13,000		\$ 8,000		\$ 21,000	•
5.3d	CT'S	0		\$ 13,000		\$ 8,000		\$ 21,000	
5.3e	CCVT'S	0	EA	\$ 8,000		\$ 8,000		\$ 16,000	
				1.1	Ċ.	\$ 6,000	\$ -	ć 0.430	\$ -
5.3f	Arresters	0		\$ 3,420				\$ 9,420	
5.3f 5.3g 5.3h	Arresters Wave Traps Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CRANI	FOUNDTMENT / MATERIAL C				\$ 280,000		\$ 133,500		\$ 413,500
	EQUIPTMENT / MATERIALS DUSE / PANELS / GENERATOR				\$ 280,000		\$ 133,500		\$ 413,500
	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	¢ .
	Protection and Telecom Equipment Panels	3	EA	\$ 35,000	\$ 105,000		\$ 30,000	\$ 45,000	\$ 135,000
	125VDC Batteries	0	EA	\$ 75,000	\$ -		\$ -	\$ 100,000	
	Control Cables	1	LS	\$ 68,500	\$ 68,500		\$ 100,800	\$ 169,300	
	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ 50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
	DC Distribution System	0	EA	\$ 50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	
	Security	0	EA	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	
	Fire Alarm	0	EA	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	
6.10	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
TOTAL CONTR	ROL HOUSE / PANELS / GENERATOR				ć 173.F00		ć 120.900		ć 204.200
7. MISC ITEMS	NOT HOUSE / FAIRELS / GENERATOR				\$ 173,500		\$ 130,800		\$ 304,300
	Conduit & Cable Trench System	800	L.S.	\$ 185.00	\$ 148,000	\$ 170.00	\$ 136,000	\$ 355	\$ 284,000
	Rigid Bus, Fittings & Insulators	0	L.S.	\$ 125.07	\$ -	\$ 237.10	\$ -	\$ 362	
	Strain Bus, Connectors & Insulators	2,500.0	L.S.	\$ 39.30	\$ 98,250		\$ 133,375	\$ 93	
	Grounding System	1	L.S.	\$ 10,395.00	\$ 10,395		\$ 73,305	\$ 83,700	
	Strain Bus Insulators - 345kV	24	EA	\$ 2,000	\$ 48,000		\$ 25,200	\$ 3,050	
7.6	Strain Bus Insulators - 230kV	0	EA	\$ 1,400	\$ -	\$ 750	\$ -	\$ 2,150	\$ -
7.7	Strain Bus Insulators - 115kV	0	EA	\$ 1,000	\$ -	\$ 550	\$ -	\$ 1,550	\$ -
	Low Voltage AC Station Service	0	LS	\$ 50,000	\$ -	\$ 75,000		\$ 125,000	
	SSVT Service	0	LS	\$ 45,000	\$ -	\$ 45,000	\$ -	\$ 90,000	
	Control Conduits from Trench to Equipment	1	LS	\$ 14,000	\$ 14,000		\$ 70,000	\$ 84,000	
	Misc. Materials (Above and Below Ground)	1	LS	\$ 20,712	\$ 20,712	\$ 70,000	\$ 70,000	\$ 90,712	\$ 90,712
7.12 7.13									
7.14									
7.15									
7.16									
7.17									
7.18									
7.19									
7.20									
7.21									
7.22									
7.23									
7.24									
7.25 TOTAL - MISC I	TTAKE .				4 222.257		d 507,000		4 047.007
					\$ 339,357		\$ 507,880		\$ 847,237
	ıbstation - Install				\$ 1,139,380		\$ 1,009,405		\$ 2,148,785
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization		-						
	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 21,488	\$ 21,488	\$ 21,488	\$ 21,488
	Project Management, Material Handling & Amenities								
1 X/ I	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 92,642	\$ 92,642	\$ 92,642	\$ 92,642
	Utility PM and Project Oversite	1	LS		\$ -	\$ 21,488	\$ 21,488	\$ 21,488	\$ 21,488
	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 21,488	\$ 21,488	\$ 21,488 \$ 21,488	\$ 21,488
	Engineering	1	LJ .	,	* *	21,400	y 21,400	y 21,400	· 21,700
	Design Engineering	1	LS	\$ -	\$ -	\$ 171,903	\$ 171,903	\$ 171,903	\$ 171,903
	LiDAR	-	LS	\$ -	\$ -		\$ -		\$ -
	Geotech	4	EA	\$ -		\$ 3,500			
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 15,041	\$ 15,041		
	Testing & Commissioning								
	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 53,720	\$ 53,720	\$ 53,720	\$ 53,720
	Permitting and Additional Costs								
	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -		\$ -	\$ -	
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	l Supply Rate	Material Supply C	ost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.12	Warranties / LOC's	1	LS	\$	-	\$	- \$	6,446	\$ 6,446	\$ 6,446	\$ 6,446
8.13	Real Estate Costs (New)	-	LS	\$	-	\$	- \$	-	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$	-	\$	- \$	-	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$	-	\$	- \$	-	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$	- \$	-	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$	- \$	-	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	91,150	\$ 91,3	150 \$	-	\$ -	\$ 91,150	\$ 91,150
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$	- \$	2,149	\$ 2,149	\$ 2,149	\$ 2,149
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 91,3	150		\$ 420,364		\$ 511,515

Page 22 of 55
F. SS Edic-Install

	ITC - T031 - (Segment	: A)						G. Edic	Substation	- Re	moval		
Estimate	5	Total:	Ś	41,562									
Revision:			<u> </u>	41,302									
	ITC - T031 - (Segme	ent A)											
		Supply	Insta	allation	Total								
	G. Edic Substation - Removal												
	1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ -			\$ -								
	2. SUBSTATION FOUNDATIONS	\$ -	\$	14,200		-							
	3. SUBSTATION STRUCTURES	\$ -	\$	6,750									
	4. MAJOR EQUIPTMENT	\$ -	\$		\$ -								
	5. SMALL EQUIPTMENT / MATERIALS	\$ -	\$	4,500									
	6. CONTROL HOUSE / PANELS	\$ -	\$		\$ -	-							
	7. MISC ITEMS	\$ -	\$			-							
	8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ -	\$	5,612	· · · · · · · · · · · · · · · · · · ·								
	CONTRACTOR MARK-UP (OH&P) SUBTOTAL:	\$ - \$ -	\$		\$ -								
	CONTINGENCY ON ENTIRE PROJECT	\$ -	\$	41,562	\$ 41,562 \$ -	4							
			3		•								
	TOTAL:	\$ -	\$	41,562	\$ 41,562								
Description	of Work:						_						
Item	Item Description	Estimated Quantity	Unit of	f Measure	Material Supply Rate	Material Supply Cost		bor & Equipment Supply Rate	Labor & Equipme Cost	ent	Total Unit Rate	Т	OTAL
	Substation - Removal												
	GRADING/ FENCING / CIVIL												
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0			\$ -	\$ -	\$			_	\$ 203,000		-
1.2	Station stone within substation fence.	0			\$ -	\$ -	\$		7		\$ 75		-
1.3	Substation Fence	0	-	LF	\$ -	\$ -	\$	150	\$	-	\$ 150	Ş	-
1.4													
1.5 1.6			-				-			_			
1.7			+				-						
1.8			+				+			-			
1.9							+			-			
1.10													
1.11													
1.12													
1.13													
1.14													
1.15													
	PREP/ GRADING/ FENCING / CIVIL					\$ -			\$	-		\$	-
	N FOUNDATIONS												
2.1	345kV				<u> </u>								
2.1a	Circuit Breaker Foundations	1			\$ -	\$ -	\$	14,200		,	\$ 14,200	\$	14,200
2.1b	Capacitor Bank Foundations	0			\$ -	\$ -	\$	-	'	-	\$ -	\$	-
2.1c 2.1d	Caisson DE Foundations (for DE A frame str stand alone)	0			\$ - \$ -	\$ - \$ -	\$			_		\$	-
2.10 2.1e	Caisson DE Foundations (for DE A frame str shared column) Switch Stand Foundations	0			\$ -	\$ - \$ -	\$	-		_	\$ - \$ -	\$	
2.1e 2.1f	Station Service Transformer Stand Foundation	0			\$ -	\$ -	\$		'	_	т	\$	
2.1r 2.1g	Bus Support 3ph Foundations	0			\$ -	\$ -	\$			_	\$ -	\$	
2.1g 2.1h	Bus Support 1 Ph Foundations	0		EA	\$ -	\$ -	\$		· ·		\$ 2,400		
2.1j	Instrument Transformer Stand Foundations	0			\$ -	\$ -	\$			_		\$	-
2.1k	Arrester Stand Foundations	0			\$ -	\$ -	\$	-	\$	_	\$ -	\$	-
2.1m	Wave Trap Stand Foundations	0			\$ -	\$ -	\$	-	•	_	\$ -	\$	-
2.1n	Misc. Structure Foundations				\$ -	\$ -	\$	-	\$	_		\$	-
2.1p													
2.2	230kV												
2.2a	Circuit Breaker Foundations	0			\$ -	\$ -	\$	7,200		_	\$ 7,200		-
2.2b	Capacitor Bank Foundations	0			\$ -	\$ -	\$				\$ 32,000		-
220	Chicago DE Foundations (for DE A frame str., stand alone)	1		EΛ	ć	l ċ	Ċ	22,000	ı c	- 1	¢ 22,000		

0

0

0

0

EA

EA

EΑ

EA

EΑ

\$

\$

\$

\$

Page 23 of 55

22,000 \$

11,000 \$

5,200 \$

- \$

\$

\$

\$

22,000 \$

11,000 \$

5,200 \$

- \$ - \$

2.2c

2.2d

2.2e

2.2f

2.2g

Switch Stand Foundations

Bus Support 3ph Foundations

Caisson DE Foundations (for DE A frame str. - stand alone)

Station Service Transformer Stand Foundation

Caisson DE Foundations (for DE A frame str. - shared column)

2-70	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.75 Proceedings of the control	2.2h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2-70 New Trans State Foundations	2.2j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2-72 Most Student touchditions		Arrester Stand Foundations				\$ -			\$ 2,400	
233 STANCE		Wave Trap Stand Foundations	0			\$ -			\$ -	
2.32 Content Provided Content of the Content of	2.2n	Misc. Structure Foundations		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.30 Carcult transfer residant force S	2.2p									
2.30 Carcult transfer residant force S	2.2	11567								
2-30 Capacitic Sack Foundations 0 EA 5 5 5 5 5 5 5 5 5			0	FA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.86 Calcinate of Financiations (or DR A farme at - stand acoupt) 0 EA 5 5 5 5 5 5 5 5 5						<u> </u>				•
2.24 Casson DE Foundations (for DE A Farmer strshared column)					'	·				
2-36 Suitch Stand Foundations 0 FA 5 5 5 5 5 5 5 5 5						·				
2.32 Les Sear Secretarions 0										
239 But Support 1 Pri Foundations 0 EA 5 5 5 5 5 5 5 5 5			0	EA	\$ -	\$ -		\$ -		
2.31			0			\$ -		\$ -	\$ -	\$ -
2.88 Arrester Stand Foundations			0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m Wave Trip Stand Foundations 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$			0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.39 Miss (includations 0 EA S S S S S S S S S			0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5		Wave Trap Stand Foundations				\$ -				
2.4 Tausformer Foundations	2.3n	Station Service Foundations	0		\$ -	\$ -		\$ -	\$ -	\$ -
2.48 345-230NT Transformer Foundation w/ OIS Containment	2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.48 345-230NT transformer Foundation w/ Oil Containment	2.4	- (- 1)								
2.46 345-115W Transformer Foundation w/ OIC Contaminent 0 EA S S S S S S S S S						A			A	A
2.46 3364-3155V Transformer Foundation w/ Oil Containment						'				
2.4 1154V-69W Transformer Foundations / Pad						:		t .		
2.5 Control House Foundations / Pad						'		'		
2.5	2.40	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	2.5	Control House Foundations / Rad								
2.5b Generator Foundation C			0	FA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6 Lighting Mast Foundations		·				'			•	•
2 6a 70 Lightning Mast Foundation 0 EA S S S S S S S S S	2.50	ocherator i odridatori		271	<u> </u>	Ť	<u> </u>	Ŷ	Ť	*
2 6a 70 Lightning Mast Foundation 0 EA S S S S S S S S S	2.6	Lightning Mast Foundations								
Content Cont	2.6a		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS	2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.19 35KY	2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.19 35KY										
3.1 345kV						\$ -		\$ 14,200		\$ 14,200
3.1a Substation A-Frame Structures - Stand alone 0 EA S - S - S - S S S S										
3.1b Substation A-Frame Structures - Shared Column 0 EA S -							4		A	4
3.1c Switch Stands					<u> </u>	'				•
3.1d Station Service Transformer Stand 0 EA \$ - \$ - \$ - \$ 5 - \$ \$ \$ \$ \$ \$ \$ \$ \$						'		_	•	
3.1e Sus Support 3ph 0 EA S - S					'	т				•
3.1f Bus Support 1 Ph 3 EA \$ -						'				
3.1g Instrument Transformer Stand 0 EA S -					·	т		_		•
3.1h Arrester Stand 0 EA S - S					<u> </u>	-				
3.1j Wave Trap Stand 0 EA \$ - \$ - \$ 5 - \$ \$ - \$ \$ \$ \$ \$ \$ \$						т				
3.1k Misc. Structures 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ \$ - \$ \$										
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ - \$ \$ 27,000 \$ 5 27,000 \$ \$ 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ - \$ \$ 27,000 \$ 5 27,000 \$ \$ \$ \$ \$ \$ \$ \$ \$						\$ -			\$ -	
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ - \$ \$ 27,000 \$ 5 27,000 \$ \$ 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ - \$ \$ 27,000 \$ 5 27,000 \$ \$ \$ \$ \$ \$ \$ \$ \$										
3.2b Substation A-Frame Structures - Shared Column 0 EA \$ - \$ \$ 27,000 \$ \$ \$ \$ \$ \$ \$ \$ \$										
3.2c Switch Stands 0 EA \$ - \$ 5 9,750 \$ - \$ 9,750 \$ \$ \$ \$ \$ \$ \$ \$ \$										
3.2d Station Service Transformer Stand 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ \$ - \$ \$ - \$ \$ \$ - \$ \$ \$										
3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ \$ - \$ \$ - \$ \$ \$ - \$ \$ \$										
3.2f Bus Support 1 Ph										
3.2g Instrument Transformer Stand 0 EA \$ - \$ 1,050 \$ - \$ 1,050 \$ 3.2h Arrester Stand 0 EA \$ - \$ 1,050 \$ - \$ 1,050 \$ 3.2j Wave Trap Stand 0 EA \$ - \$ - \$ 4,500 \$ - \$ 4,500 \$ 3.2k Misc. Structures 0 EA \$ - \$ - \$ - \$ - \$										
3.2h Arrester Stand 0 EA \$ - \$ 1,050 \$ - \$ 1,050 \$ 3.2j Wave Trap Stand 0 EA \$ - \$ <td></td>										
3.2j Wave Trap Stand 0 EA \$ - \$ 4,500 \$ - \$ 4,500 \$ 3.2k Misc. Structures 0 EA \$ - \$ - \$ - \$ - \$										
3.2k Misc Structures 0 EA \$ - \$ - \$ - \$ - \$										
2.2 115W	3.EK			25	T	<u> </u>	-	Ŧ	Ŧ	-
J.J IIJAV	3.3	115kV								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	0	EA	\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ATION STRUCTURES				\$ -		\$ 6,750		\$ 6,750
4. MAJOR EQUI									
	345kV			_	_	4			
	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d	22014/								
	230kV	^	Γ^	ć	ć	ć 7.000	ć	ć 7.000	ć
	Circuit Breakers	0	EA EA	\$ -	\$ -	\$ 7,000 \$ 42,000	\$ - \$ -	\$ 7,000 \$ 42,000	
4.20	Capacitor Banks	0	EA	\$ -	\$ -	42,000 ج	\$ -	ş 42,000	\$ -
4.3	115kV								
		0	ΓΛ	ċ	\$ -	ċ	ć	ċ	ć
	Circuit Breakers Capacitor Banks	0	EA EA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ -
4.30	Capacitor Banks	U	EA	3 -	, -	, -	, -	\$ -	, -
TOTAL - MAJOR	PECHIPTMENT				\$ -		\$ -		\$ -
	PTMENT / MATERIALS				, -		, -		, -
	345kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500		\$ 5,500	
	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Arresters	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j								·	
5.2	230kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.2f	Arresters	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
	115kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
	VT'S	0		\$ -	\$ -		\$ -		\$ -
	CT'S	0		\$ -			\$ -		\$ -
	CCVT'S	0		\$ -	\$ -		\$ -		\$ -
	Arresters	0		\$ -	\$ -	\$ 1,500		\$ 1,500	
	Wave Traps	0	EA	\$ -		\$ -	\$ -	\$ -	\$ -
	Station Service Transformers	0		\$ -	\$ -		\$ -		\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	FOUNDTIAL AND				\$ -		\$ 4,500		\$ 4,500
	EQUIPTMENT / MATERIALS DUSE / PANELS / GENERATOR				7		3 4,300		\$ 4,500

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
6.2	Protection and Telecom Equipment Panels	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Security	0	EA	\$ -	\$ -	\$ -	\$ -	•	\$ -
	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator	0	EA	3 -	ş -	3 -	ş -	ş -	, -
TOTAL CONT	DOLLIOUSE / DANIELS / CENTRATOR				A		A		
	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS									
	Conduit & Cable Trench System	0	EA	\$ -	\$ -		\$ -	\$ 42,000	
	Rigid Bus, Fittings & Insulators	1	LS	\$ -	\$ -	\$ 10,500.00	\$ 10,500	\$ 10,500	
7.3	Strain Bus, Connectors & Insulators	0	EA	\$ -	\$ -		\$ -	\$ 39	
	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.11									
7.13									
7.14									
7.15									
TOTAL - MISC	ITEMS				\$ -		\$ 10,500		\$ 10,500
G. Edic S	ubstation - Removal				\$ -		\$ 35,950		\$ 35,950
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
			1.0	ć	\$ -	ć 200	ć 200	ć 200	ć 200
	Mob / Demob	1	LS	\$ -	\$ -	\$ 360	\$ 360	\$ 360	\$ 360
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 1,550	\$ 1,550	\$ 1,550	\$ 1,550
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 360	\$ 360	\$ 360	\$ 360
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 360	\$ 360	\$ 360	\$ 360
	Engineering								
	Design Engineering	1	LS	Ś -	\$ -	\$ 2,876	\$ 2,876	\$ 2,876	\$ 2,876
8.6	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Surveying/Staking		Site	\$ -	\$ -		\$ -	\$ 252	
	Testing & Commissioning	_	Site	7	-	ý 252	· -	7 232	•
8.9			LS	<u></u>	\$ -	\$ 899	ć	\$ 899	
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 899	\$ -	\$ 899	\$ -
	Permitting and Additional Costs								
	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Warranties / LOC's	1	LS	\$ -	\$ -		\$ 108	\$ 108	
	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17			LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	т	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits		LS		\$ -		\$ -	\$ 36	
	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	-	LS		\$ -	35	\$ 5,612	ر ح	\$ 5,612
					- ا		5,612		5,612

ITC - T031 - (Segment A) H. New Scotland Substation - Install

Total: \$ 4,466,540

ITC - T031 -	(Segment A)				
		Supply	Installation		Total
H. New Scotland Substation - Install					
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	4,050	\$ 112,750	\$	116,80
2. SUBSTATION FOUNDATIONS	\$	283,113	\$ 303,200	\$	586,31
3. SUBSTATION STRUCTURES	\$	114,700	\$ 114,700	\$	229,40
4. MAJOR EQUIPTMENT	\$	200,000	\$ 80,000	\$	280,00
5. SMALL EQUIPTMENT / MATERIALS	\$	260,500	\$ 129,000	\$	389,50
6. CONTROL HOUSE / PANELS	\$	471,950	\$ 210,700	\$	682,65
7. MISC ITEMS	\$	596,373	\$ 733,493	\$	1,329,86
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	154,455	\$ 697,556	\$	852,01
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-
SUBTOTAL:	\$	2,085,140	\$ 2,381,399	\$	4,466,54
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-
TOTAL:	Ś	2.085.140	\$ 2.381.399	Ś	4.466.54

Description of	DI WORK:						
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipm Cost
II Now C	cotland Cubatation Install						

									4	
H. New S	Scotland Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0.50	ACRES	\$ -	\$ -	\$ 203,000	\$ 101,500	\$ 203,000	\$	101,500
1.2	Station stone within substation fence.	150	CY	\$ 27	\$ 4,050	\$ 75	\$ 11,250	\$ 102	\$	15,300
1.3	Substation Fence	0	LF	\$ 100	\$ -	\$ 100	\$ -	\$ 200	\$	-
1.4	Permanent Access Road - 20'-Wide	0	LF	\$ 35	\$ -	\$ 285	\$ -	\$ 320	\$	-
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ 4,050		\$ 112,750		\$	116,800
2. SUBSTATION	N FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$ 14,940	\$ 14,940	\$ 16,000	\$ 16,000	\$ 30,940	\$	30,940
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$	-
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$ 26,145				\$ 54,145		216,580
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$	-
2.1e	Switch Stand Foundations	6	EA	\$ 4,482						55,692
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$	-
	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
	Bus Support 1 Ph Foundations	9	EA	\$ 4,482						83,538
2.1j	Instrument Transformer Stand Foundations	9	EA	\$ 4,482						83,538
2.1k	Arrester Stand Foundations	3	EA	\$ 4,482						27,846
2.1m	Wave Trap Stand Foundations	1	EA	\$ 4,482	\$ 4,482	\$ 4,800	\$ 4,800	\$ 9,282	\$	9,282
2.1n	Misc. Structure Foundations	0	EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
2.1p										
	230kV									
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,952		\$ 12,800		\$ 24,752		-
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820		\$ 48,000		\$ 92,820		-
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$	-

TOTAL

Total Unit Rate

Estimate Revision:

Item Item Description Estimated Quantity Unit of Measure Material Supply Rate Material Supply Cos 2.2d Caisson DE Foundations (for DE A frame str shared column) 0 EA \$ 2.2,410 \$ - 2.2e Switch Stand Foundations 0 EA \$ 3,735 \$ - 2.2f Station Service Transformer Stand Foundation 0 EA \$ 3,735 \$ - 2.2g Bus Support 3ph Foundations 0 EA \$ - \$ - 2.2h Bus Support 1 Ph Foundations 0 EA \$ 3,735 \$ -	Supply Rate	Cost	Total Unit Rate	TOTAL
2.2e Switch Stand Foundations 0 EA \$ 3,735 \$ - 2.2f Station Service Transformer Stand Foundation 0 EA \$ 3,735 \$ - 2.2g Bus Support 3ph Foundations 0 EA \$ - \$ -	\$ 24,000			
2.2f Station Service Transformer Stand Foundation 0 EA \$ 3,735 \$ - 2.2g Bus Support 3ph Foundations 0 EA \$ - \$ -			\$ 46,410	
2.2g Bus Support 3ph Foundations 0 EA \$ - \$ -	\$ 4,000		\$ 7,735	
			\$ 7,735	
2.2h Bus Support 1 Ph Foundations U EA \$ 3,735 \$ -	\$ -	\$ -	\$ -	\$ -
2.21			\$ 7,735	
2.2j Instrument Transformer Stand Foundations 0 EA \$ 3,735 \$ - 2.2k Arrester Stand Foundations 0 EA \$ 3,735 \$ -	\$ 4,000 \$ 4,000		\$ 7,735 \$ 7,735	
2.2x Artiester stam roundations 0 EA \$ 3,735 \$ - 2.2x Wave Trap Stand Foundations 0 EA \$ 3,735 \$	\$ 4,000		\$ 7,735	
2.2n Misc. Structure Foundations 0 EA \$ - \$ -	\$ 4,000	\$ -	\$ 7,755	\$ -
2.2p	,	-	,	-
2.3 115kV				
2.3a Circuit Breaker Foundations 0 EA \$ 5,229 \$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b Capacitor Bank Foundations 0 EA \$ 33,615 \$ -			\$ 69,615	
2.3c Caisson DE Foundations (for DE A frame str stand alone) 0 EA \$ 16,434 \$ -	\$ 17,600		\$ 34,034	
2.3d Caisson DE Foundations (for DE A frame str shared column) 0 EA \$ 16,434 \$ -	\$ 17,600		\$ 34,034	
2.3e Switch Stand Foundations 0 EA \$ 2,988 \$ -	\$ 3,200		\$ 6,188	
2.3f Fuse Stand Foundations 0 EA \$ 2,988 \$ -	\$ 3,200		\$ 6,188	
2.3g Bus Support 3ph Foundations 0 EA \$ 2,988 \$ -			\$ 6,188	
2.3h Bus Support 1 Ph Foundations 0 EA \$ 2,988 \$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3j Instrument Transformer Stand Foundations 0 EA \$ 2,988 \$ -	\$ 3,200		\$ 6,188	
2.3k Arrester Stand Foundations 0 EA \$ 2,988 \$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3m Wave Trap Stand Foundations 0 EA \$ 2,988 \$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3n Station Service Foundations 0 EA \$ - \$	\$ -	\$ -	\$ -	\$ -
2.3p Misc. Structure Foundations 0 EA \$ - \$ -	\$ -	\$ -	\$ -	\$ -
2.4 Transformer Foundations				
2.4a 345-230kV Transformer Foundation w/ Oil Containment 0 EA \$ 97,110 \$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.4b 345-115kV Transformer Foundation w/ Oil Containment 0 EA \$ 74,700 \$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.4c 230kV-115kV Transformer Foundation w/ Oil Containment 0 EA \$ - \$ -	\$ -	\$ -	\$ -	\$ -
2.4d 115kV-69kV Transformer Foundation w/ Oil Containment 0 EA \$ - \$ -	\$ -	\$ -	\$ -	\$ -
2.5 Control House Foundations / Pad				
2.5a Control House / Pad 25' x 50' 1 EA \$ 27,639 \$ 27,639	9 \$ 29,600	\$ 29,600	\$ 57,239	\$ 57,239
2.5b Generator Foundation 0 EA \$ 16,000 \$	\$ 17,000		\$ 33,000	
2.6 Lightning Mast Foundations				
2.6a 70' Lightning Mast Foundation 2 EA \$ 5,229 \$ 10,45		\$ 11,200		
2.6b 0 EA \$ - \$ -	\$ -	\$ -	\$ -	\$ -
2.6c 0 EA \$ - \$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS \$ 283,11	3	\$ 303,200		\$ 586,313
3. SUBSTATION STRUCTURES				
3.1 345kV				
3.1a Substation A-Frame Structures - Stand alone				
3.1b Substation A-Frame Structures - Shared Column 0 EA \$ 37,000 \$ -	\$ 37,000		\$ 74,000	
3.1c Switch Stands				
3.1d Station Service Transformer Stand 0 EA \$ 14,800 \$ - 3.1e Bus Support 3ph 0 EA \$ - \$ -	\$ 14,800 \$ -	\$ -	\$ 29,600	\$ - \$ -
3.1e Bus Support 3ph 0 EA \$ - \$ - 3.1f Bus Support 1 Ph 9 EA \$ 3,700 \$ 33,30	<u>'</u>		\$ 7,400	
3.11 bus support 1711 9 EA \$ 3,700 \$ 35,50				
3.1g installment family 3 EA \$ 1,850 \$ 5,555 3 1,850 \$ 5,555			\$ 3,700	\$ 11,100
	0 \$ 7,400		-,	
3.1k Lightning Masts - 70' 0 EA \$ 6,475 \$ -	\$ 6,475		\$ 12,950	
3.2 230kV				
3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2b Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ -			\$ 66,600	
3.2c Substation A-Frame Structures - Shared Column			\$ 66,600	
	\$ 12,025		\$ 24,050	
3.2e Bus Support 3ph 0 EA \$ - \$ - \$	\$ 12,023	\$ -		\$ -
	\$ 2,775		\$ 5,550	
3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ -			\$ 2,590	
, , , , , , , , , , , , , , , , , , , ,	\$ 1,295		\$ 2,590	

2.33 Marc Servicemen	Item	ltem Description	Estimated Quantity	Unit of Measure	Mater	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3 Marc Structures	3.2j	Wave Trap Stand	0	EA	\$	5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
State		·			· ·						\$ -
2.5 Substitute Animal Structures Stard allower 0 EA S 13,000 S S 13,000 S S S S S S S S S			-		<u> </u>	-,				, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
2.5 Substitute Animal Structures Stard allower 0 EA S 13,000 S S 13,000 S S S S S S S S S	3.3	115kV									
3.38 Solitation A-Frame Solution December Solution Solut			0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.5 South-Stands											\$ -
13.15 First Stand 13.16 Birth Sports Sh 13.16 Birth Sports											\$ -
But September Description Descriptio			0						\$ -		
But September Description Descriptio	3.3e	Bus Support 3ph	0	EA	\$	3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$ -
3.38 Instrument Franchisment 0 EA \$ 700 \$. \$ 720 \$. \$. \$. \$. \$. \$. \$. \$. \$. \$	3.3f		0	EA							\$ -
3.3 Average Stand			0								\$ -
3.8 Mile. Shortners		Arrester Stand	0	EA	\$	740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3 Mile. Structures			0		\$	3,700	\$ -				\$ -
TOTAL - SUBSTATION STRUCTURES	3.3k		0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
### 4.1 SASW ### 4.1 Corruit treaters ### 4.1 SASW ### 4.1 Corruit treaters ### 4.1 SASW ### 4.1 Corruit treaters ### 4.1 Corruit treaters ### 4.1 Corruit treaters ### 4.2 Corruit treaters ### 4.3											
### A.1 Direct Breakers ### A.1 Direct Breakers ### A.2 Direct Breakers ### A.3 DISBN ### A.3 DISBN ### A.3 DIRECT Breakers ### A.3 DIRECT B	TOTAL - SUBST	ATION STRUCTURES					\$ 114,700		\$ 114,700		\$ 229,400
4.1	4. MAJOR EQU	IPTMENT									
A	4.1	345kV									
4.12 345 W. 230 W. Auto Transformer	4.1a	Circuit Breakers	1	EA	\$	200,000	\$ 200,000	\$ 80,000	\$ 80,000	\$ 280,000	\$ 280,000
## 14.0 345 W-115 V Auto Transformer 0 EA 5 5 750,000 5	4.1b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.2 236W	4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$	-	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$	-	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
A 3	4.2	230kV									
A3 115kV	4.2a	Circuit Breakers	0	EA	\$	115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
A-30 Circuit Breakers 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$	4.2b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
A-30 Circuit Breakers 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$											
A 30 Capactor Banks	4.3	115kV									
TOTAL - MADE REQUIPMENT MATERIALS	4.3a	Circuit Breakers	0	EA	\$	52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
S.MALI EQUIPMENT / MATERIALS Salay	4.3b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
S.MALI EQUIPMENT / MATERIALS Salay											
S.1 345kV							\$ 200,000		\$ 80,000		\$ 280,000
S.1a Line Switches - 3ph w/motor operator											
S.1b Disconnect Switches - 3ph w/ manual operator 1											
Silc VTS 3					+ -						
S.1d										. ,	\$ 52,500
Sile CCVTS 3											
S.1f Arresters S										, , , , , , , , , , , , , , , , , , , ,	
S.1g Wave Traps 1											\$ 63,000
S.1h Station Service Transformers 0 EA \$ 200,000 \$ - \$ 50,000 \$ - \$ \$ 250					-					,	\$ 24,000
S.1 S.2 230kV		•								. ,	\$ 21,000
S.2 230kV		Station Service Transformers	0	EA	\$	200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.2a Line Switches - 3ph w/ motor operator 0 EA \$ 30,000 \$ - \$ 15,000 \$ - \$ 45 5.2b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 35,000 \$ - \$ 5.2b 5.2c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 5.2b 5.2c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 13,000 \$ - \$ 6,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 13,000 \$ - \$ 6,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 10,000 \$ - \$ 6,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ \$ 5.2b 5.2c CCVTS 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ \$ 5.2c	5.1j										
5.2a Line Switches - 3ph w/ motor operator 0 EA \$ 30,000 \$ - \$ 15,000 \$ - \$ 45 5.2b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 35,000 \$ - \$ 5.2b 5.2c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 5.2b 5.2c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 13,000 \$ - \$ 6,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 13,000 \$ - \$ 6,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 10,000 \$ - \$ 6,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5.2b 5.2c CCVTS 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ \$ 5.2b 5.2c CCVTS 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ \$ 5.2c											
5.2b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 35,000 \$ - \$ 17,500 \$ - \$ 52,525 5.2c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ \$ 21,525 \$ 21,5			0	ΕΛ	ć	20,000	ė	ć 1E 000	ċ	\$ 45,000	\$ -
5.2c VT'S EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.2d CTS 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.2e CCVT'S 0 EA \$ 10,000 \$ - \$ 6,000 \$ - \$ 16 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000											
5.2d CT'S 0 EA \$ 13,000 \$ \$ - \$ \$ 8,000 \$ \$ - \$ \$ 21 5.2e CCVT'S 0 EA \$ 10,000 \$ \$ - \$ 6,000 \$ \$ - \$ 16 5.2f Arresters 0 EA \$ 5,000 \$ \$ - \$ 6,000 \$ \$ - \$ 11 5.2g Wave Traps 0 EA \$ 13,000 \$ - \$ \$ 8,000 \$ - \$ \$ 21 5.2h Station Service Transformers 0 EA \$ 13,000 \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ 5.2j Interview 0 EA \$ 28,000 \$ - \$ \$ 15,000 \$ \$ - \$ \$ 15 5.3d Line Switches - 3ph w/ motor operator 0 EA \$ 28,000 \$ - \$ \$ 15,000 \$ \$ - \$ \$ 43 5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 33,000 \$ - \$ 17,500 \$ - \$ \$ 50 5.3c VT'S 0 EA \$ 13,000 \$ - \$ \$ 8,000 \$ - \$ \$ 21 5.3d CTS 0 EA \$ 13,000 \$ - \$ \$ 8,000 \$ - \$ \$ 21 5.3d CCVT'S 0 EA \$ 8,000 \$ - \$ \$ 8,000 \$ - \$ \$ 21 5.3f Arresters 0 EA \$ 3,420 \$ - \$ \$ 6,000 \$ - \$ \$ 9.							т				
5.2e CCVT'S 0 EA \$ 10,000 \$ - \$ 6,000 \$ - \$ 16 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 6,000 \$ - \$ 11 5.2g Wave Traps 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.2h Station Service Transformers 0 EA \$ - \$									•		\$ -
5.2f Arresters 0 EA \$ 5,000 \$ - \$ 6,000 \$ - \$ 11 5.2g Wave Traps 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.2h Station Service Transformers 0 EA \$ - \$ 5 - \$ 5 - \$ 5 \$ 5 5.2j 115kV 0 EA \$ 28,000 \$ - \$ 15,000 \$ - \$ 43 5.3b Disconnect Switches - 3ph w/ motor operator 0 EA \$ 33,000 \$ - \$ 17,500 \$ - \$ 55 5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 52 5.3d CTS 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 52 5.3d CTS 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 52 5.3d CTS 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 52 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 52										, , , , , , , , , , , , , , , , , , , ,	\$ -
5.2g Wave Traps 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.2h Station Service Transformers 0 EA \$ - \$ <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>:</td> <td></td> <td>\$ -</td>									:		\$ -
5.2h Station Service Transformers 0 EA \$ - \$ 4 3 3 0 \$ - \$ 4 3 3 0 \$ - \$ 4 3 3 0 \$ - \$ 4 3 3 0 \$ - \$ 4 3 3 0 \$ - \$ 4 3 3 0 \$ - \$ 4 3 3 0 \$ - \$ 5 0 5 5 0 0 \$ <							•			. ,	\$ -
5.2j 5.2j 5.3 I15kV 5.3a Line Switches - 3ph w/ motor operator 0 EA \$ 28,000 \$ - \$ 15,000 \$ - \$ 43 5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 33,000 \$ - \$ 17,500 \$ - \$ 50 5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 10 EA \$ 8,000 \$ - \$ 9 5 4 \$ 10 \$ - \$ 8,000 \$ - \$ 9 9 5 <td< td=""><td></td><td></td><td></td><td></td><td>· ·</td><td></td><td></td><td>· · · · · · · · · · · · · · · · · · ·</td><td></td><td></td><td>\$ -</td></td<>					· ·			· · · · · · · · · · · · · · · · · · ·			\$ -
5.3 115kV EA \$ 28,000 \$ \$ - \$ 15,000 \$ \$ - \$ 43 5.3a Line Switches - 3ph w/ motor operator 0 EA \$ 33,000 \$ - \$ 17,500 \$ - \$ 50 5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 50 5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 516 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 99		Station Service Transformers	U	LA	1	-	· -	· -	-	-	· -
5.3a Line Switches - 3ph w/ motor operator 0 EA \$ 28,000 \$ - \$ 15,000 \$ - \$ 43 5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 33,000 \$ - \$ 17,500 \$ - \$ 50 5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 8,000 \$ - \$ 21 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9	3.2				1						
5.3a Line Switches - 3ph w/ motor operator 0 EA \$ 28,000 \$ - \$ 15,000 \$ - \$ 43 5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 33,000 \$ - \$ 17,500 \$ - \$ 50 5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 21 5.3f Arresters 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 8,000 \$ - \$ 21 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9	5.3	115kV									
5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 33,000 \$ \$ - \$ 17,500 \$ \$ - \$ 50 5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 8,000 \$ - \$ 8,000 \$ - \$ 12 5.3f Arresters 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 9			0	EA	\$	28.000	\$ -	\$ 15.000	\$ -	\$ 43,000	\$ -
5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9											
5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9								· · · · · · · · · · · · · · · · · · ·			
5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9											
5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9											
	5.3g	Wave Traps	0		\$					\$ -	
											\$ -
5.3j Fuses 0 EA \$ - \$ - \$ - \$											\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
TOTAL - SMALL	EQUIPTMENT / MATERIALS					\$ 260,500		\$ 129,000		\$	389,500
	OUSE / PANELS / GENERATOR					200,300		7 123,000		J	303,300
	CONTROL HOUSE	1	EA	\$	243,750	\$ 243,750	\$ 42,500	\$ 42,500	\$ 286,250	\$	286,250
	Protection and Telecom Equipment Panels	3	EA	\$			\$ 15,000	\$ 45,000	\$ 50,000		150,000
6.3 1	125VDC Batteries	0	EA	\$	75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$	-
6.4 C	Control Cables	1	LS	\$	123,200	\$ 123,200	\$ 123,200	\$ 123,200	\$ 246,400	\$	246,400
6.5 S	SCADA and Communications	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.6 L	Low Voltage AC Distribution	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$	-
6.7 D	DC Distribution System	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$	-
6.8 S	Security	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$	-
6.9 F	Fire Alarm	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$	-
6.10 G	Generator	0	EA	\$	100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$	-
	OL HOUSE / PANELS / GENERATOR					\$ 471,950		\$ 210,700		\$	682,650
7. MISC ITEMS											
	Conduit & Cable Trench System	1,200.0	LF	\$	185.00		\$ 170.00	\$ 204,000			426,000
7.2 R	Rigid Bus, Fittings & Insulators	180.0	LF	\$	125.07	\$ 22,513	\$ 237.10	\$ 42,678	\$ 362	\$	65,191
7.3 S	Strain Bus, Connectors & Insulators	100.0	LF	\$	39.30	\$ 3,930	\$ 53.35	\$ 5,335	\$ 93	Ś	9,265
								1			
	Grounding System	1,000.0	LF	\$	6.93		\$ 32.58	\$ 32,580	\$ 40		39,510
	Strain Bus Insulators - 345kV	18	EA	\$	_,		\$ 1,050		\$ 3,050		54,900
	Strain Bus Insulators - 230kV	0	EA	\$	1,400		\$ 750	\$ -	\$ 2,150		-
	Strain Bus Insulators - 115kV	0	EA	\$	1,000		\$ 550	\$ -	\$ 1,550		-
	Low Voltage AC Station Service	0	LS	\$	50,000	\$ -	\$ 75,000	\$ -	\$ 125,000		-
	SSVT Service	0	LS	\$	45,000	\$ -	\$ 45,000	\$ -	\$ 90,000	\$	-
7.10										-	
	Control Conduits from Trench to Equipment	1	LS	\$	125,000		\$ 125,000	· ,	\$ 250,000		250,000
	Misc. Materials (Above and Below Ground)	1	LS	\$	180,000	+,	\$ 180,000	\$ 180,000	\$ 360,000		360,000
	Install new communication tower foundation.	1	LS			\$ -	\$ 75,000	\$ 75,000	\$ 75,000		75,000
	Relocate existing communication tower.	1	LS	<u> </u>		\$ -	\$ 50,000	\$ 50,000	\$ 50,000	\$	50,000
7.15				-						⊢—	
7.16											
7.17				-						⊢—	
7.18 7.19				-						\vdash	
7.20				-						-	
7.21										\vdash	
7.22				-						\vdash	
7.23											
7.24											
7.25											
TOTAL - MISC IT	TEMS					\$ 596,373		\$ 733,493		Ś	1,329,866
II Now C	cotland Substation - Install									Ś	
						\$ 1,930,686		\$ 1,683,843		3	3,614,529
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
	Mob / Demob	1	LS	\$	-	\$ -	\$ 36,145	\$ 36,145	\$ 36,145	\$	36,145
P	Project Management, Material Handling & Amenities									<u> </u>	
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 155,835	\$ 155,835	\$ 155,835	\$	155,835
8.3 L	Utility PM and Project Oversite	1	LS			\$ -	\$ 36,145	\$ 36,145	\$ 36,145	\$	36,145
	Site Accommodation, Facilities, Storage	1	LS	\$		\$ -	\$ 36,145			1	36,145
	Engineering		2.5	Ť		7	- 50,145	- 50,145	50,143	Ť	30,143
	Design Engineering	1	LS	\$	-	\$ -	\$ 289,162	\$ 289,162	\$ 289,162	Ś	289,162
	LiDAR	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$	-
	Geotech	4		\$			\$ 3,500				14,000
	Surveying/Staking	1	Site	\$			\$ 25,302				25,302
	Testing & Commissioning		2,60	Ť		•	. 25,502	. 25,502	. 25,502	-	
	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 90,363	\$ 90,363	\$ 90,363	Ś	90,363
1 8,9 IT											50,555
	Permitting and Additional Costs			T .							

Item	Item Description	Estimated Quantity	Unit of Measure	Material Sup	ply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 10,844	\$ 10,844	\$ 10,844	\$ 10,844
8.13	Real Estate Costs (New)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	154,455	\$ 154,455	\$ -	\$ -	\$ 154,455	\$ 154,455
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 3,615	\$ 3,615	\$ 3,615	\$ 3,615
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 154,455		\$ 697,556		\$ 852,011

Page 31 of 55
H. SS New Scot.-Install

ITC - T031 - (Segment A) J. Porter Substation - Install Total: \$ 86,137

ITC - T031 - (Segme	nt A)			
		Supply	Installation	Total
J. Porter Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ -	\$ -
2. SUBSTATION FOUNDATIONS	\$	-	\$ -	\$ -
3. SUBSTATION STRUCTURES	\$	-	\$ -	\$ -
4. MAJOR EQUIPTMENT	\$	-	\$ -	\$ -
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ -	\$ -
6. CONTROL HOUSE / PANELS	\$	-	\$ -	\$ -
7. MISC ITEMS	\$	15,008	\$ 56,904	\$ 71,912
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,201	\$ 13,024	\$ 14,225
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	16,209	\$ 69,928	\$ 86,137
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	16,209	\$ 69,928	\$ 86,137

)acer	mti	an at	MALON	
Jesci	μu	OH O	Wor	٨.

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
J. Porter	Substation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 100	\$ -	\$ 100	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10								ļ	
1.11								<u> </u>	
1.12									
1.13									
1.14									
	 REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		Ś -
	N FOUNDATIONS				ş -		\$ -		\$ -
	345kV								
	Circuit Breaker Foundations	0	EA	\$ 14,940	\$ -	\$ 16,000	\$ -	\$ 30,940	\$ -
	Capacitor Bank Foundations	0	EA	\$ 56,025	\$ -	\$ 60,000		\$ 116,025	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 26,145	š -	\$ 28,000		\$ 54,145	
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,145	\$ -	\$ 28,000		\$ 54,145	
	Switch Stand Foundations	0	EA	\$ 4,482		\$ 4,800		\$ 9,282	
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	
2.1m	Wave Trap Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1n	Misc. Structure Foundations		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,952	\$ -	\$ 12,800		\$ 24,752	
	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000		\$ 92,820	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	
									Page 32 of 55

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -		\$ -	\$ 7,735	
	Wave Trap Stand Foundations	0	EA EA.	\$ 3,735	\$ - \$ -	\$ 4,000 \$ -	\$ - \$ -	\$ 7,735 \$ -	
2.2n 2.2p	Misc. Structure Foundations		EA.	\$ -	\$ -	ş -	\$ -	\$ -	\$ -
2.2μ									
2.3	115kV								
	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	
	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	
	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	
	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	
	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ -	\$ -	\$ -	\$ -
	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		-		,	- -	*			•
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ 76,194	\$ -	\$ 81,600	\$ -	\$ 157,794	\$ -
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
	Lightning Mast Foundations				•				
	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	
2.6b 2.6c		0	EA EA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.60		U	EA	\$ -	· -	ş -	\$ -	\$ -	, -
TOTAL - SUBST	ATION FOUNDATIONS				\$ -		\$ -		\$ -
3. SUBSTATION					Ÿ		Ţ		ý.
	345kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1c	Switch Stands	0	EA	\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
	Station Service Transformer Stand	0	EA	\$ 14,800	\$ -	\$ 14,800	•	\$ 29,600	
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph	0	EA	\$ 3,700	\$ -		\$ -	\$ 7,400	
	Instrument Transformer Stand	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
	Arrester Stand	0	EA	\$ 1,850 \$ 7,400	\$ -	\$ 1,850	\$ -	\$ 3,700 \$ 14.800	\$ -
	Wave Trap Stand Misc. Structures	0	EA EA	\$ 7,400 \$ 6,475	\$ - \$ -	\$ 7,400 \$ 6,475	\$ - \$ -	\$ 14,800 \$ 12,950	\$ - \$ -
3.1K	IVIISC. STRUCTURES	0	EA	φ 6,4/5	· -	φ 6,4/5	γ -	φ 12,950	· -
3.2	230kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
	Substation A-Frame Structures - Shared Column	0	EA		\$ -	\$ 33,300		\$ 66,600	•
	Switch Stands	0			\$ -	\$ 12,025		\$ 24,050	
	Station Service Transformer Stand	0	EA	\$ 12,025	\$ -	\$ 12,025		\$ 24,050	
	Bus Support 3ph	0	EA	\$ -	\$ -		\$ -		\$ -
3.2f	Bus Support 1 Ph	0	EA	\$ 2,775	\$ -	\$ 2,775		\$ 5,550	
3.2g	Instrument Transformer Stand	0	EA		\$ -		\$ -	\$ 2,590	
3.2h	Arrester Stand	0	EA	\$ 1,295	\$ -	\$ 1,295	\$ -	\$ 2,590	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2j	Wave Trap Stand	0	EA	\$ 5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -	\$ 7,955		\$ 15,910	
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -		\$ -	\$ 15,910	
3.3e	Bus Support 3ph	0	EA	\$ 3,330	\$ -	\$ 3,330		\$ 6,660	
3.3f	Bus Support 1 Ph	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	
3.3g	Instrument Transformer Stand	0	EA	\$ 740	\$ -	\$ 740		\$ 1,480	
3.3h	Arrester Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
TOTAL - SUBST	 FATION STRUCTURES				\$ -		\$ -		\$ -
4. MAJOR EQU					, -		\$ -		, -
4. WAJOR EQU 4.1	345kV								
4.1 4.1a	Circuit Breakers	0	EA	\$ 300,000	\$ -	\$ 80,000	\$ -	\$ 380,000	\$ -
4.1a 4.1b	Capacitor Banks	0	EA	\$ 300,000	\$ -	\$ 80,000	\$ -	\$ 380,000	
4.10 4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	
4.1c 4.1d	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ - \$ -	\$ 750,000	\$ -	\$ 750,000	
4.10	230kV	0	LA	¥ -	* *	7 750,000	· ·	7 750,000	-
4.2a	Circuit Breakers	0	EA	\$ 250,000	\$ -	\$ 80,000	\$ -	\$ 330,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -		\$ -	\$ 80,000	
4.20	Capacitor Burito		EA	,	7	3 00,000	7	3 00,000	7
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 225,000	\$ -	\$ 60,000	\$ -	\$ 285,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	
				7	· T	7 00,000	- T	+	7
TOTAL - MAJO	R EQUIPTMENT				\$ -		\$ -		\$ -
5. SMALL EQU	IPTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 40,000	\$ -	\$ 17,500	\$ -	\$ 57,500	\$ -
5.1c	VT'S	0	EA	\$ -	\$ -		\$ -	\$ 12,000	
5.1d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	
5.1e	CCVT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	
5.1f	Arresters	0	EA	\$ 6,500	\$ -	\$ 1,500	\$ -	\$ 8,000	
5.1g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	
5.1h	Station Service Transformers	0	EA	\$ 200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j									
5.2	230kV		F.*	ć 20.055	ć	ć 45.555	ć	A	<u></u>
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 30,000	\$ -		\$ -	\$ 45,000	
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 35,000	\$ -	\$ 17,500	\$ -	\$ 52,500	
5.2c	VT'S	0	EA	\$ 13,000	\$ -		\$ -	\$ 21,000	
5.2d	CCVT'S	0	EA EA	\$ 13,000	\$ - \$ -	\$ 8,000		\$ 21,000	
5.2e 5.2f	CCVT'S	0	EA EA	\$ 10,000 \$ 5,000	\$ - \$ -	\$ 6,000 \$ 6,000	\$ - \$ -	\$ 16,000 \$ 11,000	
5.2f 5.2g	Arresters Wave Traps	0	EA EA	\$ 5,000	\$ - \$ -	\$ 6,000	\$ - \$ -	\$ 11,000 \$ 21,000	\$ -
5.2g 5.2h	Station Service Transformers	0	EA		•	\$ 8,000			-
5.2n 5.2j	Station Service Halistothiets	1	EA	\$ -	\$ -	-	\$ -	\$ -	\$ -
3.2									
5.3	115kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ 28,000	\$ -	\$ 15,000	\$ -	\$ 43,000	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 33,000		\$ 17,500		\$ 50,500	
	VT'S	0	EA	\$ 13,000		\$ 8,000		\$ 21,000	
5.3d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000		\$ 21,000	
5.3e	CCVT'S	0	EA	\$ 8,000	т	\$ 8,000		\$ 16,000	
5.3f	Arresters	0	EA	\$ 3,420	\$ -			\$ 9,420	
5.3g	Wave Traps	0	EA	\$ -			\$ -		\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -		\$ -	\$ -	
	Fuses	0		\$ -	\$ -		\$ -	\$ -	
رد.د	1. 4505	1 0	LA	. ·	Ÿ	·	¥	· ·	· *

SCONTINUMENT STREET STRE	Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
SCONTINUARION SCONTINUARIO	TOTAL - SMAL	L EQUIPTMENT / MATERIALS					\$ -		\$ -		\$ -
1							,		7		<u>, </u>
A			0	EA	\$	551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -
	6.2	Protection and Telecom Equipment Panels	0	EA	\$	35,000	\$ -	\$ 10,000	\$ -	\$ 45,000	\$ -
6.5 GADA and Communications 0 FA 5 1. 5 . 5	6.3	125VDC Batteries	0	EA	\$	75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.6 No. Wording & Clinical State Present Communication 0 FA 5 50,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 100,000 5 5 5 5 5 5 5 5 5	6.4	Control Cables	0	LS	\$	35,000	\$ -	\$ 12,500	\$ -	\$ 47,500	\$ -
6.7 Constitution System	6.5	SCADA and Communications	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.8 Security 9 FA 5 7,000 5 5 5,000 5 5 1,000 5	6.6	Low Voltage AC Distribution	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
6.3 Fire Airm	6.7	DC Distribution System	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
Both Convertion Convertio	6.8	Security	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
TOTAL_CONTROL HOUSE / PANILES / GENERATOR	6.9	Fire Alarm	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
2,000 called & Calobia Trench System	6.10	Generator	0	EA	\$	100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
2,000 called & Calobia Trench System	TOTAL CONT	DOLLHOUSE / DANIELS / SENIEDATOR					A				•
2.1 Conduit & Color Tench System 0							\$ -		\$ -		\$ -
Page Descripting & Insulations 1 LS S 15,008 40 S 56,000 0 S 56,000 0 S 71,922 S 71,			0	IE	Ċ	185.00	¢ _	\$ 170.00	Ġ _	¢ 255	\$ -
7.3 Strain Bus, Connectors & Insulators 0 IF \$ 13.38 \$. \$ 5 9395 \$. \$ 5 93 \$ 5 \$ 5 9 \$ 5 \$ 5 9 \$ 5 \$ 5 9 \$ 5 \$ 5 9 \$ 5 \$ 5											
7.4 Grounding System 0 UT \$ 6.93 \$. \$ 12.58 \$. \$ 5 00 \$ 7.5 Strain Bus Insulations - 3454V	7.3	Strain Bus, Connectors & Insulators	0	LF	\$	13.38	\$ -	\$ 39.35	\$ -	\$ 53	\$ -
1	7.4		0	LF	\$	6.93	\$ -	\$ 32.58	\$ -	\$ 40	\$ -
2.5 Strain float Insulations - 200AV				FA.							
7.7 Strain flus Insulators - 115W							Ÿ				•
7.8											
7.10 SYT Service					_			•		. ,	•
7.10 Control Carbilles 0 LS \$ 472,500 \$ - \$ 8 472,500 \$ - \$ \$ 945,000 \$									т		
7.11 Control Conduits from Trench to Equipment 0 LS \$ 125,000 \$ - \$ 125,000 \$ - \$ \$ 250,000 \$											
7.12 Misc. Materials (Above and Below Ground)							Ţ		7		•
7.13											•
7.14		IVISC. Materials (Above and Below Ground)	U	LS	3	180,000	, -	\$ 180,000	3 -	\$ 300,000	· -
7.15											
7.15											
7.17											
7.18											
7.19	-										
Total - MISC Tota											
Society Soci	-										
Section Sect		ITEMS					\$ 15,008		\$ 56,904		\$ 71,912
Section Sect	I. Porter	Substation - Install					\$ 15.008		\$ 56,904		\$ 71,912
Contractor Mobilization / Demobilization / Demobilizati							. ,		,		· · · · · ·
8.1 Mob / Demob 1 LS S - S - S 719 S	O. INIOD/ DEIVIC										
Project Management, Material Handling & Amenities	8.1		1	LS	Ś	-	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
8.2 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 1					1		Ť		, , , ,	,	*
Same Section State Section State Section State Section State Section State Section State Section	8.7	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler	1	IS			ς -	\$ 3,100	\$ 3,100	\$ 3,100	\$ 3,100
Site Accommodation, Facilities, Storage	0.2	and Cost Manager, SHEQ Staff, and Admin Staff)	-				*	φ 5,100	3,200	5,200	, ,,,,,,
Engineering	8.3	Utility PM and Project Oversite	1	LS			\$ -				
8.5 Design Engineering	8.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
8.6 LIDAR					1						
8.7 Geotech - Site S - S					_						,
8.8 Surveying/Staking - Site \$ - \$ 503 \$ - \$ 503 \$ - \$ 503 \$ - \$ 503 \$ - \$ 503 \$ - \$ 503 \$ - \$ 503 \$ - \$ 503 \$ - \$ 503 \$ - \$ 503 \$ - \$ 503 \$ - \$ 503 \$ - \$ 100 \$ 100 \$ 100 \$ 100 \$ 100 \$ 100 \$ 100 \$ 100 \$ 100 \$ 100 \$ 100 \$ 100 \$ 100 \$ 100 \$ 100 \$ \$ 100 \$ 100 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$			-		· .						
Testing & Commissioning			-								
8.9 Testing & Commissioning of T-Line and Equipment 1 LS S - S - S 1,798 S 1,7	8.8		-	Site	١ >	-	> -	\$ 503	> -	> 503	\$ -
Permitting and Additional Costs	F			10	ć		ė	ć 1.700	ć 1.700	ć 1.700	\$ 1,798
8.10 Environmental Licensing & Permitting Costs - LS \$ - \$<	6.9		1	LS	13	-	ş -	ş 1,/98	ξ 1,/98	۶ 1,/98	ş 1,/98
8.11 Environmental Mitigation - LS \$ -	8 10			15	Ś		\$ -	\$ -	\$ -	\$ -	\$ -
8.12 Warranties / LOC's											
8.13 Real Estate Costs (New) - LS \$ - \$ - \$ - \$ - \$											
	8.14	Real Estate Costs (New) Real Estate Costs (Incumbent Utility)	-	LS	\$						

Item	Item Description	Estimated Quantity	Unit of Measure	Material:	Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	La	abor & Equipment Cost	Total Unit Rate	TOTAL
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$	-	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$	-	\$ -	\$ -
8.17		-	LS	\$	-	\$ -	\$ -	\$	-	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	1,201	\$ 1,201	\$ -	\$	-	\$ 1,201	\$ 1,201
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS			\$ -	\$ 72	\$	-	\$ 72	\$ -
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,201		\$	13,024		\$ 14,225

Page 36 of 55

J. SS Porter-Install

	ITC - T031 - (Segment	<u>A)</u>				K. Porte	er Substation - R	Removal	
Estimate Revision:	5	Total:	\$ 548,359						
	ITC - T031 - (Segme	ent A)							
		Supply	Installation	Total					
	K. Porter Substation - Removal								
	1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ -	\$ -	\$ -]				
	2. SUBSTATION FOUNDATIONS	\$ -	\$ 126,600						
	3. SUBSTATION STRUCTURES	\$ -	\$ 206,100						
	4. MAJOR EQUIPTMENT	\$ -	\$ 43,500		-				
	5. SMALL EQUIPTMENT / MATERIALS	\$ -	\$ 59,500		-				
	6. CONTROL HOUSE / PANELS 7. MISC ITEMS	\$ - \$ -	\$ - \$ 38,613	7	-				
	8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ -	\$ 74,047		1				
	CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -					
	SUBTOTAL:	\$ -	\$ 548,359	\$ 548,359	1				
	CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -					
	TOTAL:	\$ -	\$ 548,359	\$ 548,359					
Description	of Work:		•		•				
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
K. Porte	r Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0		\$ -	\$ -	\$ 203,000		\$ 203,000	
1.2	Station stone within substation fence.	0		\$ -	\$ -	\$ 75	\$ -	\$ 75	
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15	PREP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
	N FOUNDATIONS				<u>, </u>		, -		, -
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e 2.1f	Switch Stand Foundations Station Service Transformer Stand Foundation	0		\$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ -	\$ -
2.1r 2.1g	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g 2.1h	Bus Support 1 Ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1j	Instrument Transformer Stand Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n 2.1p	Misc. Structure Foundations		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
·									
2.2	230kV	1	FA	ć	ė	ć 7.200	¢ 34.600	¢ 7.000	¢ 31.000
2.2a 2.2b	Circuit Breaker Foundations Capacitor Bank Foundations	3 0		\$ - \$ -	\$ - \$ -	\$ 7,200 \$ 32,000		\$ 7,200 \$ 32,000	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0		\$ -	\$ -	\$ 32,000	\$ -	\$ 32,000	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	5		\$ -	\$ -	\$ 11,000	\$ 55,000		
2.2e	Switch Stand Foundations	5		\$ -	\$ -	\$ 5,200	\$ 26,000		
2 2f	Station Service Transformer Stand Foundation	0	FA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

5

EA

EΑ

- \$ - \$

2.2f

2.2g

Bus Support 3ph Foundations

Station Service Transformer Stand Foundation

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2j	Instrument Transformer Stand Foundations	4	EA	\$ -	\$ -	\$ 2,400	\$ 9,600	\$ 2,400	\$ 9,600
2.2k	Arrester Stand Foundations	6	EA	\$ -	\$ -	\$ 2,400	\$ 14,400	\$ 2,400	\$ 14,400
2.2m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3b	Capacitor Bank Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e	Switch Stand Foundations	0		\$ -	\$ -			\$ 5,200	
2.3f	Fuse Stand Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m	Wave Trap Stand Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0		\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad			4	_	4	_	_	_
2.5a	Control House / Pad	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightwing Most Foundations								
2.6a	Lightning Mast Foundations 70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b	70 Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.00			LA.	,	7	,	,	7	*
TOTAL - SUBST	TATION FOUNDATIONS				\$ -		\$ 126,600		\$ 126,600
3. SUBSTATIO	N STRUCTURES								
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d	Station Service Transformer Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 3ph	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g	Instrument Transformer Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1h	Arrester Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j	Wave Trap Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2	230kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
1 27~		1 0		\$ -	\$ -	\$ 27,000		\$ 27,000	
3.2a 3.2h		Ι		1 7					· · · · · · · · · · · · · · · · · · ·
3.2b	Substation A-Frame Structures - Shared Column	5	EA FA	\$ -					
3.2b 3.2c	Substation A-Frame Structures - Shared Column Switch Stands	6	EA	\$ - \$ -					
3.2b 3.2c 3.2d	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	6	EA EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2b 3.2c 3.2d 3.2e	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	6 0 0	EA EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
3.2b 3.2c 3.2d 3.2e 3.2f	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph	6 0 0	EA EA EA	\$ - \$ - \$	\$ - \$ -	\$ - \$ - \$ 2,250	\$ - \$ - \$ -	\$ - \$ - \$ 2,250	\$ - \$ - \$
3.2b 3.2c 3.2d 3.2e 3.2f 3.2g	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand	6 0 0 0 0	EA EA EA EA	\$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ -	\$ - \$ - \$ 2,250 \$ 1,050	\$ - \$ - \$ - \$ 6,300	\$ - \$ - \$ 2,250 \$ 1,050	\$ - \$ - \$ - \$ 6,300
3.2b 3.2c 3.2d 3.2e 3.2f	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph	6 0 0	EA EA EA EA EA	\$ - \$ - \$	\$ - \$ - \$	\$ - \$ - \$ 2,250 \$ 1,050	\$ - \$ - \$ - \$ 6,300 \$ 6,300	\$ - \$ - \$ 2,250 \$ 1,050	\$ - \$ - \$ - \$ 6,300 \$ 6,300
3.2b 3.2c 3.2d 3.2e 3.2f 3.2g 3.2h	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	6 0 0 0 0 6 6	EA EA EA EA EA EA	\$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 2,250 \$ 1,050 \$ 1,050 \$ 4,500	\$ - \$ - \$ - \$ 6,300 \$ 6,300	\$ - \$ - \$ 2,250 \$ 1,050 \$ 1,050 \$ 4,500	\$ - \$ - \$ - \$ 6,300 \$ 6,300
3.2b 3.2c 3.2d 3.2e 3.2f 3.2g 3.2h 3.2j	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand	6 0 0 0 6 6	EA EA EA EA EA EA	\$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 2,250 \$ 1,050 \$ 1,050 \$ 4,500	\$ - \$ - \$ - \$ 6,300 \$ 6,300 \$ -	\$ - \$ - \$ 2,250 \$ 1,050 \$ 1,050 \$ 4,500	\$ - \$ - \$ - \$ 6,300 \$ 6,300 \$ -

5.3a Line Switches - 3ph w/ motor operator 0 EA \$ - \$	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
1.5.5 Part Blands	3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
Section Continues Contin	3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.5 3 5 5 5 5 5 5 5 5		Switch Stands	0		\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
3 13 15 15 15 15 15 15		Fuse Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1.1 Activate Franchistories (Carelle Production of Part 2 5 5 5 5 5 5 5 5 5		Bus Support 3ph	0			\$ -	\$ -			
2.35 Washing Marcel						_			•	
3.3 Marcontent										·
Description								· .		
TOTAL - SUMPATION STRUCTURES							•			
MADE CONTINUED	3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
MADE CONTINUED										
A 1						\$ -		\$ 206,100		\$ 206,100
A D										
4 10 Copyright Grants 0 LA S - S - S - S - S S - S S					_	_	4		_	_
A 1 1 1 1 1 1 1 1 1					·	<u>'</u>				
4.2 2000V 2 2 2 2 2 2 2 2 2		Capacitor Banks				1				
A2			0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	> -
4.20 Capacide Brandsers 3		220137								
4.1 SISAV 1.1 SISAV 1.2 STATE PROPERTY OF THE PROPERTY OF TH			^	F.*	ć	ć	ć 44.500	ć 42.500	ć 44.500	6 42.500
A 3 SISW						т				
4.4 ab Capacit preakers	4.20	Capacitor Banks	U	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	· -
4.4 ab Capacit preakers	4.2	14Fla/								
A 3			0	ΓA	ċ	ċ	ċ	ċ	ć	ć
Color Colo						'		•		
SMAIL EQUIPMENT / MATERIALS	4.30	Capacitor Banks	U	EA	\$ -	\$ -	\$ -	\$ -	\$ -	· -
SMAIL EQUIPMENT / MATERIALS	TOTAL - MAIO	P FOLIIDTMENT				ċ		¢ 42 E00		¢ 42 E00
Single S						, -		3 43,300		\$ 45,500
Signature Sign										
S.10 Disconnect Switches - 3ph w/ manual operator 0			0	FΔ	¢ .	¢ -	\$ 5,500	¢ .	\$ 5,500	\$.
5.1d CFS						'				
S.12 CS						_			,	
Signature Sign										
S.11 Arresters								· .		
S.18 Wave Traps										
S.11								'		
Solid Soli		·								
5.2 239kV 2 EA \$<			-		*	· ·	·	T	7	*
Signature Sign	,									
Signature Sign	5.2	230kV								
S.2b Disconnect Switches - 3ph w/ manual operator 3 EA 5 - 5 5.500 5 16,500 5 5,500 5 16,500 5 3,000 5		Line Switches - 3ph w/ motor operator	2	EA	\$ -	\$ -	\$ 5,500	\$ 11,000	\$ 5,500	\$ 11,000
S2d CTS	5.2b		3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,500
5.2e CCVT'S 6 EA \$ - \$ 1,500 \$ 9,000 \$ 1,500 \$ 9,000 \$ 1,500 \$ 9,000 \$ 1,500 \$ 9,000 \$ 1,500 \$	5.2c		2	EA	\$ -	\$ -	\$ 1,500	\$ 3,000	\$ 1,500	\$ 3,000
5.2f Arresters 6	5.2d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
S.2g Wave Traps 2 EA \$ - \$ - \$ 2,500 \$ 5,000 \$ 2,500 \$ 5,000 \$ 5,200 \$ 5,000 \$ 5,200 \$ 5	5.2e	CCVT'S	6	EA	\$ -	\$ -	\$ 1,500	\$ 9,000	\$ 1,500	\$ 9,000
S.2h Station Service Transformers 0 EA \$ - \$ - \$ - \$ \$ - \$ \$ - \$ \$	5.2f	Arresters	6	EA	\$ -	\$ -	\$ 2,500	\$ 15,000	\$ 2,500	\$ 15,000
S.2h Station Service Transformers 0 EA \$ - \$ - \$ - \$ 5 - \$ 5 - 5 5 5 5 5 5 5 5	5.2g	Wave Traps	2	EA	\$ -	\$ -	\$ 2,500	\$ 5,000	\$ 2,500	\$ 5,000
Same	5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3a Line Switches - 3ph w/ motor operator 0 EA \$ - \$	5.2j									
5.3a Line Switches - 3ph w/ motor operator 0 EA \$ - \$										
5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ - \$ 5,500 \$ - \$ 5,500 \$ - \$ 5,500 \$ - \$ 5,500 \$ - \$ 5,500 \$ - \$ 5,500 \$ - \$	5.3	115kV								
5.3c VT'S 0 EA \$ - \$		Line Switches - 3ph w/ motor operator	0		'	\$ -		\$ -		
5.3d CTS 0 EA \$ - \$										
5.3e CCVT'S 0 EA \$ -					•	·				
5.3f Arresters 0 EA \$ - \$ 1,500 \$ - \$ 1,500 \$ - \$ 1,500 \$ - \$ 1,500 \$ - \$ <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>										
5.3g Wave Traps 0 EA \$ - \$ 59,500 \$ 59,500 \$ 59,500 \$ 50,000 \$ - \$ - \$ - \$ - \$ - \$ 59,500 \$ \$ 59,500 \$ 59,500 \$ \$ 59,500 \$ \$ 59,500 \$ \$ 59,500 \$ \$ 59,500 \$ \$ 59,500 \$ \$ \$ \$ \$ - \$ \$ - \$ \$ 59,500 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>										
5.3h Station Service Transformers 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 - \$ 5 </td <td></td>										
5.3j Fuses 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$										
COTAL - SMALL EQUIPTMENT / MATERIALS \$ - \$ \$ 59,500 \$ 59,500										
6. CONTROL HOUSE / PANELS / GENERATOR 6.1 CONTROL HOUSE 0 EA \$ - \$ - \$ 150,000 \$ - \$ 150,000 \$ -	5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6. CONTROL HOUSE / PANELS / GENERATOR 6.1 CONTROL HOUSE 0 EA \$ - \$ - \$ 150,000 \$ - \$ 150,000 \$ -										
6.1 CONTROL HOUSE 0 EA \$ - \$ - \$ 150,000 \$ - \$ 150,000 \$ -						Ş -		\$ 59,500		\$ 59,500
					4	A	4 450	4	450.000	
	6.1	CONTROL HOUSE	0	L EA	> -	> -	5 150,000	> -	\$ 150,000	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Protection and Telecom Equipment Panels	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
0.10	deficition		LA	7	7	7	7	7	7
TOTAL - CONTE	OL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS	OE 11003E / FANLES / GENERATOR				, -		, -		3 -
	Countries O. Cohlo Tromph Contains	0	EA		\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
	Conduit & Cable Trench System			\$ -			·		
	Rigid Bus, Fittings & Insulators	1	L.S.	\$ -	\$ -		\$ 18,938	\$ 18,938	
	Strain Bus, Connectors & Insulators	1	L.S.	\$ -	\$ -		\$ 19,675	\$ 19,675	
	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC	TFMS				\$ -		\$ 38,613		\$ 38,613
	Substation - Removal				\$ -		\$ 474,313		\$ 474,313
					7		7 474,515		7 474,313
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
	Mob / Demob	1	LS	\$ -	\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
	Project Management, Material Handling & Amenities								
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS		\$ -	\$ 20,449	\$ 20,449	\$ 20,449	\$ 20,449
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 4,743	\$ 4,743	\$ 4,743	\$ 4,743
	Engineering								
	Design Engineering	1	LS	\$ -	\$ -	\$ 37,945	\$ 37,945	\$ 37,945	\$ 37,945
8.6	Lidar	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -		\$ -
	Surveying/Staking	-	Site	\$ -	\$ -	\$ 3,320	\$ -	\$ 3,320	
	Testing & Commissioning		Site	Ť	· ·	9 3,525	Ÿ	9 3,525	•
	Testing & Commissioning of T-Line and Equipment		LS	\$ -	\$ -	\$ 11,858	\$ -	\$ 11,858	\$ -
	Permitting and Additional Costs	_	LJ	-	, -	7 11,050	7	7 11,050	-
	-	_	1.0		\$ -	\$ -	\$ -	ć	_
	Environmental Licensing & Permitting Costs Environmental Mitigation	-	LS LS	\$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
	-			· ·					
	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 1,423	\$ 1,423	\$ 1,423	\$ 1,423
	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	·	\$ -
	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	\$ 474	\$ -	\$ 474	
	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 74,047		\$ 74,047
	. ,						,0 .,		,

ITC - T031 - (Segment A)

L. Interconnection Edic Station

Estimate Revision: 5 Total: \$ 2,113,230

ITC - T031 - (Se	gment A)				
		Supply	Installation		Total
L. Interconnection Edic Station					
1. CLEARING & ACCESS	\$	-	\$ 367,850	\$	367,850
2. FOUNDATIONS	\$	168,366	\$ 170,169	\$	338,536
3. STRUCTURES	\$	501,469	\$ 321,821	\$	823,289
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$ -	\$	-
5. INSULATORS, FITTINGS, HARDWARE	\$	160,000	\$ 94,400	\$	254,400
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	66,387	\$ 262,769	\$	329,155
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-
SUBTOTAL:	\$	896,222	\$ 1,217,009	\$	2,113,230
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-
TOTAL	\$	896.222	\$ 1.217.009	Ś	2.113.230

	of Wor	

Linkanas			Unit of Measure	Material Supply Ra	ite	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
L. Interconn	nection Edic Station										
1. CLEARING & ACCE	CESS										
1.1 Clear	aring the ROW - Heavy (mowing & clearing)	-	Acre	\$ -		\$ -	\$ 15,000	\$ -	\$ 15,000	\$	-
1.2 Clear	aring the ROW - Light (mowing)	2.0	Acre	\$ -		\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$	10,000
1.3 Acces	ess Road	-	LF	\$ -		\$ -	\$ 45	\$ -	\$ 45	\$	-
	Fence	3,500.0	LF	\$ -			\$ 4			\$	14,000
	tting - Access and ROW	3,500.0	LF				\$ 70				245,000
	tting - To Work Area	300.0	LF				\$ 70				21,000
	w Removal	-	LS	\$ -					\$ 516,800		-
1.8 ROW	W Restoration	0.5	Mile	\$ -	,	\$ -	\$ 10,000			\$	5,000
1.9 Work	rk Pads	20,000.0	SF	\$ -		\$ -	\$ 4			\$	70,400
1.10 Resto	toration for Work Pad areas	4,000.0	SF	\$ -		\$ -	\$ 0.2	\$ 600	\$ 0	\$	600
1.11 Temp	nporary Access Bridge	-	EA	\$ -		\$ -	\$ 20,035	\$ -	\$ 20,035	\$	-
1.12 Air B	Bridge	-	EA	\$ -		\$ -	\$ 14,445	\$ -	\$ 14,445	\$	-
1.13 Stabi	bilized Construction Entrance	-	EA	\$ -		\$ -	\$ 4,580	\$ -	\$ 4,580	\$	-
1.14 Main	intenance and Protection of Traffic on Public Roads	-	EA	\$ -		\$ -	\$ 4,130	\$ -	\$ 4,130	\$	-
1.15 Gate	es	-	EA	\$ 2,0	00 5	\$ -	\$ 2,500	\$ -	\$ 4,500	\$	-
1.16 Culve	verts / Misc. Access	-	EA	\$ 7	50 5	\$ -	\$ 1,250	\$ -	\$ 2,000	\$	-
	ncrete Washout Station	1	EA				\$ 1,850			\$	1,850
1.18						\$ -		\$ -	,	Ś	-
1.19						\$ -		\$ -		\$	-
1.20 Crush	shed Rock	0	CY	\$	27 5	\$ -	\$ 75	\$ -	\$ 102	\$	-
TOTAL - CLEARING 8	& ACCESS				ţ	\$ -		\$ 367,850		\$	367,850
2. FOUNDATIONS											
	ındation – Drilled Pier – 8'X 27'	3	EA		32 5						249,317
2.2 Foun	ındation – Drilled Pier – 8'X 29'	1	EA	\$ 44,3	72 5	\$ 44,372	\$ 44,847	\$ 44,847	\$ 89,219	\$	89,219
2.3 Rock	k Excavation Adder	-	CY	\$ -		\$ -	\$ 2,000	\$ -	\$ 2,000	\$	-
2.4											
2.5											
2.6											
2.7											
2.8											
2.9											
2.10											
2.11											
2.12											

Page 41 of 55

Item	Item Description	Estimated Quantity	Unit of Measure	Material Su	pply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	тот	TAL
2.13											
2.14											
2.15	ATIONS					4 450 355		470.450		4	220 526
TOTAL - FOUN 3. STRUCTURE						\$ 168,366		\$ 170,169		\$	338,536
3. STRUCTURE:	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) – 105'	3	Structure	Ś	98,883	\$ 296,648	\$ 59,330	\$ 177,989	\$ 158,212	ć	474,636
3.2	2-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$	202,797				\$ 324,475		324,475
3.3	Install Grounding and Grounding Accessories	4	Pole	s	506						24,178
3.4				<u> </u>				, , ,			
3.5											
3.6											
3.7											
3.8											
3.9											
3.10 3.11											
3.11											
3.13											
3.14											
3.15											
TOTAL - STRUC						\$ 501,469		\$ 321,821		\$	823,289
	R, SHIELDWIRE, OPGW					•					
4.1	345kV - (2) 954kcmil 54/7 ACSS "Cardinal"	-	LF.	\$		\$ -	\$ 5.00		\$ 8.53		-
4.2	(1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-	LF LF	\$	1.55 0.72	\$ -	\$ 5.00 \$ 5.00		\$ 6.55 \$ 5.72		-
4.5	Remove Existing Cable From Existing Structures	-	Mile	\$		\$ - \$ -	\$ 30,000		\$ 30,000.00		-
4.6	Remove Existing OPGW Cable	-	Mile	Ś		\$ -	\$ 12,000	т	\$ 12,000.00		
4.7	Remove Existing EH7	-	Mile	Ś		\$ -	\$ 12,000		\$ 12,000.00		-
4.8											
4.9											
4.10	Rider Poles - Relocated	-	Set	\$	-	\$ -	\$ 3,500		\$ 3,500.00		-
	Rider Poles		EA	\$	1,750		\$ 3,500		\$ 5,250.00		-
	JCTOR, SHIELDWIRE, OPGW: FITTINGS, HARDWARE					\$ -		\$ -		\$	-
	345kV Tangent (1-Group of 18-Bells Each Assembly)		Assembly	Ś	1,800	\$ -	\$ 720	\$ -	\$ 2,520	Ś	
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)		Assembly	\$		\$ -	\$ 560		\$ 1,460		
	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	60	Assembly	Ś	1,800	\$ 108,000	\$ 720		\$ 2,520	-	151,200
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)		Assembly	\$	900		\$ 560		\$ 1,460		-
5.5	OPGW Assembly - Tangent		Assembly	\$	200	\$ -	\$ 150	\$ -	\$ 350	\$	-
5.6	OPGW Assembly - Angle / DE	8	Assembly	\$	250		\$ 150		\$ 400		3,200
5.7	OHSW Assembly - Angle / DE	-	Assembly	\$	250		\$ 150		\$ 400		-
5.8	OPGW Splice Boxes	-	Set	\$	1,750		\$ 1,746		\$ 3,496		-
5.9 5.10	OPGW Splice & Test	-	EA EA	\$	1,400 50	\$ - \$ -	\$ 2,520 \$ 35		\$ 3,920 \$ 85		-
5.10	Spacer - Conductor Vibration Dampers - Conductor	-	EA EA	\$	35		\$ 35		\$ 85 \$ 70		-
				\$	27				\$ 62		
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	+ -			,	'	·	-	-
5.13	Guys, Anchors, and Accessories	-	EA	\$	720	•	\$ 885		\$ 1,605		-
5.14	Misc. materials (Signs and Markers)	-	Mile	\$	770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$	-
5.15											
5.16 5.17				+							
5.18											
5.19	Interconnection Arrangements	1	EA	\$	50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 100,000	\$	100,000
5.20	-					,	,,,,,,		,,,,,		
	ATOR, FITTINGS, HARDWARE					\$ 160,000		\$ 94,400		\$	254,400
	onnection Edic Station					\$ 829,835		\$ 954,240		\$	1,784,075
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
	Mob / Demob	1	LS	\$	-	\$ -	\$ 17,841	\$ 17,841	\$ 17,841	\$	17,841
1	Project Management, Material Handling & Amenities										

Item	Item Description	Estimated Quantity	Unit of Measure	Material Suppl	y Rate	Materia	l Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS					\$ 76,918	\$ 76,918	\$ 76,918	\$ 76,918
6.3	Utility PM and Project Oversite	1	LS			\$	-	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$	-	\$ 17,841	\$ 17,841	\$ 17,841	\$ 17,841
	Engineering										
6.5	Design Engineering	1	LS	\$	-	\$	-	\$ 89,204	\$ 89,204	\$ 89,204	\$ 89,204
6.6	LiDAR	-	LS	\$	-	\$	-	\$ 5,352	\$ -	\$ 5,352	\$ -
6.7	Geotech	1	Location	\$	-	\$	-	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$	-	\$	-	\$ 12,489	\$ 12,489	\$ 12,489	\$ 12,489
	Testing & Commissioning										
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$	-	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
	Permitting and Additional Costs										
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$	-	\$ 5,352	\$ 5,352	\$ 5,352	\$ 5,352
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 6	6,387	\$	66,387	\$ -	\$ -	\$ 66,387	\$ 66,387
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$	-	\$ 1,784		\$ 1,784	\$ 1,784
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$	66,387		\$ 262,769		\$ 329,155

Page 43 of 55

ITC - T031 - (Segment A) M. Interconnection New Scotland Station

stimate	5		Total:	¢	3,185,368	
Revision:	•		i Otai.	Ą	3,103,300	
	ITC - T031 - (S	egment A)				
			Supply		Installation	Total
	M. Interconnection New Scotland Station					
	1. CLEARING & ACCESS	\$	-	\$	367,850	\$ 367,850
	2. FOUNDATIONS	\$	365,657	\$	473,093	\$ 838,749
	3. STRUCTURES	\$	655,465	\$	445,628	\$ 1,101,092
	4. CONDUCTOR, SHIELDWIRE, OPGW	\$	3,555	\$	26,100	\$ 29,655
	5. INSULATORS, FITTINGS, HARDWARE	\$	205,530	\$	133,595	\$ 339,125
	6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	98,416	\$	410,480	\$ 508,897
	CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$ -
	SUBTOTAL:	\$	1,328,622	\$	1,856,746	\$ 3,185,368
	CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$ -
	TOTAL:	\$	1,328,622	\$	1,856,746	\$ 3,185,368
escription	n of Work:					

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
M. Inter	connection New Scotland Station									
1. CLEARING	& ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$	-	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000
1.3	Access Road	-	LF	\$	-	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	3,500.0	LF	\$	-	\$ -	\$ 4	\$ 14,000	\$ 4	\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$	-	\$ -	\$ 70	\$ 245,000	\$ 70	\$ 245,000
1.6	Matting - To Work Area	300.0	LF	\$	-	\$ -	\$ 70	\$ 21,000	\$ 70	\$ 21,000
1.7	Snow Removal	-	LS	\$	-	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	\$	-	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.9	Work Pads	20,000.0	SF	\$	-	\$ -	\$ 4	\$ 70,400	\$ 4	\$ 70,400
1.10	Restoration for Work Pad areas	4,000.0	SF	\$	-	\$ -	\$ 0.2	\$ 600	\$ 0	\$ 600
1.11	Temporary Access Bridge	-	EA	\$	-	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$	-	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$	-	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$	-	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$	2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$	750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18						\$ -		\$ -		\$ -
1.19						\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$	27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEA	RING & ACCESS					\$ -		\$ 367,850		\$ 367,850
2. FOUNDATI	ONS									
2.1	Foundation – Drilled Pier – 8'X 50'	3	EA	\$	76,500	\$ 229,501	\$ 77,320	\$ 231,959	\$ 153,820	\$ 461,459
2.2	Foundation – Drilled Pier – 8'X 89'	1	EA	\$	136,156	\$ 136,156	\$ 137,614	\$ 137,614	\$ 273,770	\$ 273,770
2.3	Rock Excavation Adder	51.8	СУ	\$	-	\$ -	\$ 2,000	\$ 103,520	\$ 2,000	\$ 103,520
2.4										
2.5										
2.6										
2.7										
2.8										
2.9				1						
2.10				1						
2.11		I	I	1		I	1	I	1	

Estimate

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Sup	pply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.12										
2.13										
2.14										
2.15										
TOTAL - FOUN						\$ 365,657		\$ 473,093		\$ 838,749
3. STRUCTURES		2	Christian	\$	170.026	¢ 524.077	ć 10C 91E	ć 220.446	\$ 284.841	\$ 854,522
	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115' 1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 115'	3	Structure Structure		178,026 116,328	\$ 534,077 \$ 116,328	\$ 106,815 \$ 69,797	\$ 320,446 \$ 69,797		\$ 854,522 \$ 186,125
3.3	Install Grounding and Grounding Accessories	10	Pole	\$	506		\$ 5,539			\$ 60,445
3.4	install drounding and drounding recessories	10	1 010	Ť		\$ -	y 3,333	\$ -	φ 0,013	y 50,1.15
3.5										
3.6						\$ -		\$ -		
3.7						\$ -		\$ -		
3.8						\$ -		\$ -		
3.9						\$ - \$ -		\$ - \$ -		
3.10 3.11				1		\$ - \$ -		\$ -		
3.12						\$ -		\$ -		
3.13						\$ -		\$ -		
3.14						\$ -		\$ -		
						-				
3.15						\$ -		\$ -		
TOTAL - STRUC						\$ 655,465		\$ 445,628		\$ 1,101,092
	R, SHIELDWIRE, OPGW 345kV - (2) 954kcmil 54/7 ACSS "Cardinal"	1.500	15	ć	1.00	ć 2.0F0	ć 5.00	\$ 7,500	\$ 6.90	\$ 10.350
4.1	(1) OPGW 36 Fiber AC-33/38/571	1,500	LF LF	\$	1.90 1.35	\$ 2,850 \$ -	\$ 5.00 \$ 5.00	\$ 7,500	\$ 6.35	\$ 10,350 \$ -
4.3	(1) 3/8" EHS7 Steel	1,500	LF	\$	0.47	7	\$ 5.00	\$ 7,500		\$ 8,205
4.5	Remove Existing 345kV Cable From Existing Structures	0.3	Mile	\$			\$ 30,000	\$ 7,500		\$ 7,500
4.6	Remove Existing OPGW Cable	-	Mile	\$	-	\$ -	\$ 12,000	\$ -	\$ 12,000.00	\$ -
4.7	Remove Existing EH7	0.3	Mile	\$	-	\$ -	\$ 12,000	\$ 3,600	\$ 12,000.00	\$ 3,600
4.8										
4.9				1.						
	Rider Poles - Relocated	-	Set	\$	1,750	\$ -	\$ 3,500 \$ 3,500		\$ 3,500.00 \$ 5,250.00	\$ - \$ -
	Rider Poles JCTOR, SHIELDWIRE, OPGW:	-	EA	3	1,750	\$ - \$ 3,555	\$ 3,500	\$ 26,100	\$ 5,250.00	\$ 29,655
	FITTINGS, HARDWARE					- 5,555		20,200		\$ 25,055
	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$	1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$	900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	60	Assembly	\$	2,540		\$ 1,350	\$ 81,000		\$ 233,400
	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$	1,270	\$ -	7		. ,	\$ -
	OPGW Assembly - Tangent	-	Assembly	\$	200 250	\$ - \$ -	\$ 150 \$ 150	\$ - \$ -	\$ 350 \$ 400	\$ - \$ -
	OPGW Assembly - Angle / DE OHSW Assembly - Angle / DE	4	Assembly Assembly	\$	250	\$ 1,000	\$ 150	\$ 600		\$ 1,600
	OPGW Splice Boxes	-	Set	\$	1,750	\$ -	\$ 1,746		\$ 3,496	\$ -
	OPGW Splice & Test	-	EA	\$	1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	\$ -
5.10	Spacer - Conductor	9	EA	\$		\$ 450	\$ 35	\$ 315	\$ 85	\$ 765
5.11	Vibration Dampers - Conductor	48	EA	\$	35	\$ 1,680	\$ 35	\$ 1,680	\$ 70	\$ 3,360
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$	27	\$ -	\$ 35	\$ -	\$ 62	\$ -
5.13	Guys, Anchors, and Accessories	_	EA	\$	720	\$ -	\$ 885	\$ -	\$ 1,605	\$ -
	Misc. materials (Signs and Markers)	-	Mile	\$	770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$ -
5.15	imacinas (signs and markers)	-	IVIIIC	1	770	\$ -	7 1,000	\$ -	2 1,770	\$ -
5.16	Interconnection Arrangements	1	EA	\$	50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 100,000	\$ 100,000
5.17						\$ -	,	\$ -	,	\$ -
5.18						\$ -		\$ -		\$ -
5.19						\$ -		\$ -		\$ -
5.20						\$ -		\$ -		\$ -
	ATOR, FITTINGS, HARDWARE					\$ 205,530		\$ 133,595		\$ 339,125
	connection New Scotland Station					\$ 1,230,206		\$ 1,446,265		\$ 2,676,471
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization									
	Mob / Demob	1	LS	\$	-	\$ -	\$ 26,765	\$ 26,765	\$ 26,765	\$ 26,765
	Project Management, Material Handling & Amenities	1		1				l	1	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 115,392	\$ 115,392	\$ 115,392	\$ 115,392
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 26,765	\$ 26,765	\$ 26,765	\$ 26,765
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 26,765	\$ 26,765	\$ 26,765	\$ 26,765
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 133,824	\$ 133,824	\$ 133,824	\$ 133,824
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 8,029	\$ 8,029	\$ 8,029	\$ 8,029
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 18,735	\$ 18,735	\$ 18,735	\$ 18,735
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 8,029	\$ 8,029	\$ 8,029	\$ 8,029
	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 98,416	\$ 98,416	· ·	\$ -	\$ 98,416	·
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 2,676	· · · · · · · · · · · · · · · · · · ·	\$ 2,676	
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 98,416		\$ 410,480		\$ 508,897

NAT & NYPA - T026 - (Segment A, Base)

Estimate Revision: 5 Total: \$ 4,581,370

NAT & NYPA - T026 - (Segmen	t A, Bas	se)		
		Supply	Installation	Total
N. Interconnection Rotterdam Station				
1. CLEARING & ACCESS	\$	-	\$ 1,233,050	\$ 1,233,050
2. FOUNDATIONS	\$	192,145	\$ 325,963	\$ 518,108
3. STRUCTURES	\$	546,722	\$ 837,150	\$ 1,383,872
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	65,923	\$ 437,250	\$ 503,173
5. INSULATORS, FITTINGS, HARDWARE	\$	165,730	\$ 118,480	\$ 284,210
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	77,642	\$ 581,316	\$ 658,957
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	1,048,161	\$ 3,533,209	\$ 4,581,370
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	1,048,161	\$ 3,533,209	4,581,370

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
N. Inter	connection Rotterdam Station								
1. CLEARING 8	A ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	7.0	Acre	\$ -	\$ -	\$ 15,000	\$ 105,000	\$ 15,000	\$ 105,000
1.2	Clearing the ROW - Light (mowing)	5.0	Acre	\$ -	\$ -	,	\$ 25,000		
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45		\$ 45	
1.4	Silt Fence	4,800.0	LF	\$ -	\$ -	\$ 4	-,	•	\$ 19,200
1.5	Matting - Access and ROW	4,800.0	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	2,400.0	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800		\$ 516,800	\$ -
1.8	ROW Restoration	1.0	Mile	\$ -	\$ -	,	\$ 10,000		
1.9	Work Pads	160,000.0	SF	\$ -	\$ -		\$ 563,200		\$ 563,200
1.10	Restoration for Work Pad areas	32,000.0	SF	\$ -	\$ -	\$ 0.2			
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035		\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	_	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580	•	\$ 4,580	•
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$ 2,000		\$ 2,500	·	\$ 4,500	
1.16	Culverts / Misc. Access	-	EA	\$ 750		\$ 1,250		\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18					\$ -		\$ -		\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	СҮ	\$ 27	*	\$ 75		\$ 102	
	RING & ACCESS				\$ -		\$ 1,233,050		\$ 1,233,050
2. FOUNDATIO									
2.1	10' ED Rock BF	6	EA	\$ 358			•		
2.2	15' ED Rock BF	18	EA	\$ 536			· · · · · · · · · · · · · · · · · · ·		\$ 106,178
2.3	20' ED Rock BF	4	EA	\$ 715	\$ 2,860	\$ 7,150	\$ 28,600	\$ 7,865	\$ 31,460
2.4	Foundation – Drilled Pier – 8'X 29'	4	EA	\$ 44,372	\$ 177,487	\$ 44,847	\$ 179,388	\$ 89,219	\$ 356,875
2.5	Rock Excavation Adder	-	CY	\$ -	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.6					\$ -		\$ -		\$ -
2.7					\$ -		\$ -		\$ -
2.8					\$ -		\$ -		\$ -
2.9					\$ -		\$ -		\$ -
2.10					\$ -		\$ -		\$ -
2.11					\$ -		\$ -		\$ -

N. Interconnection Rotterdam Station

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -
2.15					\$ -		\$ -		\$ -
TOTAL - FOUN					\$ 192,145		\$ 325,963		\$ 518,108
3. STRUCTURE	,								
3.1	15kV 3-CKT TANGENT DIST WOOD POLE	3	Pole	+ ' ' '	\$ 10,500		\$ 10,800		\$ 21,300
3.2	15Kv 3-CKT MA DIST WOOD POLE	1	Pole	\$ 3,500	\$ 3,500		\$ 3,600		\$ 7,100
3.3	15kV 3-CKT DE - WOOD POLE	2	Pole	\$ 3,500					\$ 14,200
3.4	115kV 1-CKT TANGENT - WOOD POLE	5	Pole	\$ 4,500	\$ 22,500	\$ 4,400	\$ 22,000		\$ 44,500
3.5	115kV 1-CKT MA - WOOD POLE	2	Pole	\$ 4,500	\$ 9,000	\$ 4,400	\$ 8,800		\$ 17,800
3.6	115kV 1-CKT DE - WOOD POLE	11	Pole	\$ 5,500	\$ 60,500	\$ 5,000	\$ 55,000		\$ 115,500
3.7	115kV 2-CKT TANGENT - WOOD POLE	4	Pole	\$ 5,500	\$ 22,000	\$ 5,000	\$ 20,000		\$ 42,000
3.8	115kV 2-CKT DE - STEEL POLE	4	Pole	\$ 98,883					\$ 632,848
3.9	Remove Existing Structure	24	EA		\$ -	\$ 12,300	\$ 295,200	\$ 12,300	\$ 295,200
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12	Install Grounding and Grounding Accessories	32	Pole	\$ 506	\$ 16,192	\$ 5,539	\$ 177,232	\$ 6,045	\$ 193,424
3.13					\$ -		\$ -		\$ -
					*		•		•
3.14					•		\$ - \$ -		т
3.15 TOTAL - STRU	THE CONTRACTOR OF THE CONTRACT				\$ -		<u>'</u>		т
					\$ 546,722		\$ 837,150		\$ 1,383,872
	R, SHIELDWIRE, OPGW	23,400	15	ć 4.00	¢ 44.460	ć 5.00	\$ 117,000	\$ 6.90	ć 161.460
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	23,400	LF	\$ 1.90			\$ 117,000		\$ 161,460
4.2	(1) OPGW 36 Fiber AC-33/38/571	7,000	LF	\$ 1.35		\$ 5.00	\$ -	7	\$ -
4.3	(1) 3/8" EHS7 Steel	7,800	LF Mile	\$ 0.47			\$ 39,000		\$ 42,666 \$ 197,700
4.5	Remove Existing Cable	6.6			\$ - \$ -	9 50,000	\$ 197,700		
4.6	Remove Existing EH7	9,630	Mile			, , , , , , ,	\$ 26,400 \$ 48,150		\$ 26,400 \$ 63,751
4.7	15kV - (1) 477kcmil 26/7 ACSR "Hawk"	1,800	LF LF			\$ 5.00			\$ 11,196
4.8	15kV - (1) 336kcmil 26/7 ACSR "Linnet"	1,800	LF	\$ 1.22	\$ 2,196	\$ 5.00	\$ 9,000	\$ 0.22	\$ 11,196
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.10	Rider Poles	-	EA	\$ 1,750		\$ 3,500	\$ -	\$ 5,250.00	\$ -
	JCTOR, SHIELDWIRE, OPGW:	-	LA	3 1,730	\$ 65,923		\$ 437,250	ÿ 3,230.00	\$ 503,173
	FITTINGS, HARDWARE				ÿ 03,323		3 437,230		3 303,173
5.1	115kV Tangent (1-Group of 9-Bells Each Assembly)	33	Assembly	\$ 1,000	\$ 33,000	\$ 560	\$ 18,480	\$ 1,560	\$ 51,480
5.2	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	66	Assembly		\$ 66,000		\$ 36,960		\$ 102,960
5.3	15kV Tangent	12	Assembly	\$ 100					\$ 2,100
5.4	15kV Dead-end & Angle Insulators	18	Assembly	\$ 100		\$ 75			\$ 3,150
5.5	Neutral, Distribution, Tangent	4	Assembly	\$ 100					\$ 700
5.6	Neutral, Distribution, Tangent Neutral, Distribution, DE/Side	2	Assembly	\$ 100	\$ 200		\$ 150		\$ 350
5.7	Jumper, DE/Angle, 3PH	4	Assembly	\$ 100			\$ 300		\$ 700
5.8	OPGW Assembly - Tangent	2	Assembly	\$ 200	\$ 400	\$ 150	\$ 300		\$ 700
5.9	OSHW Assembly - Tangent	11	Assembly	\$ 250			\$ 1,650		\$ 4,400
									,
5.10	OHSW Assembly - Angle / DE	38	Assembly	<u> </u>	\$ 9,500	\$ 150	\$ 5,700	\$ 400	\$ 15,200
5.11	OPGW Splice Boxes	-	Set	\$ 1,750	\$ -	\$ 1,746	\$ -	\$ 3,496	\$ -
5.12	OPGW Splice & Test	-	EA	\$ 1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	\$ -
5.13	Spacer - Conductor	-	EA	\$ 50			\$ -	\$ 85	\$ -
5.14	Vibration Dampers - Conductor	-	EA			\$ 35	\$ -	\$ 70	\$ -
5.15	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$ 27			\$ -	\$ 62	\$ -
5.16	Guys, Anchors, and Accessories	14.0	EA	\$ 720			\$ 12,390		\$ 22,470
5.17	Misc. materials (Signs and Markers)	-	Mile	\$ 770					
5.18	· - '				\$ -		\$ -	,	\$ -
5.19	Interconnection Arrangements	8	EA	\$ 5,000				\$ 10,000	
5.20					\$ -		\$ -		\$ -
5.21					\$ -		\$ -		\$ -
5.22					\$ -		\$ -		\$ -
5.23					\$ -		\$ -		\$ -
TOTAL - INSUI	ATOR, FITTINGS, HARDWARE				\$ 165,730		\$ 118,480		\$ 284,210
N. Interd	onnection Rotterdam Station				\$ 970,519		\$ 2,951,893		\$ 3,922,412
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				, 3				-,,112
O. IVIOD/ DEIVIO	D, LINGHALLMING, PERIVITITING, TAC, FIVI & INDIRECTS:								Page 48 of 55

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost		Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
	Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	\$ -	\$	-	\$ 39,224	\$ 39,224	\$ 39,224	\$	39,224
	Project Management, Material Handling & Amenities										
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 169,109	\$ 169,109	\$ 169,109	\$	169,109
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 39,224	\$ 39,224	\$ 39,224	\$	39,224
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 39,224	\$ 39,224	\$ 39,224	\$	39,224
	Engineering										
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 196,121	\$ 196,121	\$ 196,121	\$	196,121
6.6	LiDAR	1	LS	\$ -	\$	-	\$ 11,767	\$ 11,767	\$ 11,767	\$	11,767
6.7	Geotech	1	Location	\$ -	\$	-	\$ 3,500	\$ 3,500	\$ 3,500	\$	3,500
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 27,457	\$ 27,457	\$ 27,457	\$	27,457
	Testing & Commissioning										
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ 40,000	\$ 40,000	\$ 40,000	\$	40,000
	Permitting and Additional Costs										
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 11,767	\$ 11,767	\$ 11,767	\$	11,767
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.17		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.18	Sales Tax on Materials	1	LS	\$ 77,642	\$	77,642	\$ -	\$ -	\$ 77,642	\$	77,642
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 3,922	\$ 3,922	\$ 3,922	\$	3,922
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	77,642		\$ 581,316		\$	658,957

Page 49 of 55 N. In. Rotterdam SS

ITC - T031 - (Segment A) Q. Princetown Switchyard - Install

Total: \$ 34,974,270

ITC - T031	- (Segment A)					
		Supply	li	nstallation		Total
Q. Princetown Switchyard - Install						
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	294,850	\$	2,117,725	\$	2,412,575
2. SUBSTATION FOUNDATIONS	\$	2,731,032	\$	2,787,932	\$	5,518,964
3. SUBSTATION STRUCTURES	\$	1,315,350	\$	1,315,350	\$	2,630,700
4. MAJOR EQUIPTMENT	\$	2,400,000	\$	960,000	\$	3,360,000
5. SMALL EQUIPTMENT / MATERIALS	\$	2,922,000	\$	1,410,000	\$	4,332,000
6. CONTROL HOUSE / PANELS	\$	3,361,350	\$	2,023,350	\$	5,384,700
7. MISC ITEMS	\$	1,492,750	\$	2,842,330	\$	4,335,080
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,161,387	\$	5,838,865	\$	7,000,251
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	15,678,719	\$	19,295,552	\$	34,974,270
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL:	Ś	15.678.719	Ś	19.295.552	Ś	34.974.270

)acer	mti	an at	MALON	
Jesci	μu	OH O	Wor	٨.

Estimate Revision:

STEPREY GRADING/ FROM CVII.	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	e Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
1.1 Site Works including clearing, sediment controls, rough grading, and final grading. 8.13 ACRES \$ \$ \$ 203,000 \$ 1,649,375 \$ 203,000 \$ 1,649,375 \$ 1,540,000 \$ 1,649,375 \$ 203,000 \$ 1,649,375 \$	Q. Prince	etown Switchyard - Install								
Station stone within substation fence.	1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.3 Substation Fence	1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	8.13	ACRES	\$ -	\$ -	\$ 203,000	\$ 1,649,375	\$ 203,000	\$ 1,649,375
1.4	1.2	Station stone within substation fence.		CY			\$ 75	\$ 150,000		
1.6 Permanent Access Road - 20'-Wide (Extend Existing)	1.3	Substation Fence	2,300	LF	\$ 10	0 \$ 230,000	\$ 100	\$ 230,000	\$ 200	\$ 460,000
1.6 Permanent Acces Road - 20 - Wilde (Extend Existing) 330 LF \$ 35 \$ 10,850 \$ 285 \$ 88,350 \$ 320 \$ 99,200 1.7 1.8	1.4									
1.7 1.8 1.9 1.10 1.10 1.11 1.11 1.12 1.13 1.14 1.15	1.5									
1.8		Permanent Access Road - 20'-Wide (Extend Existing)	310	LF	\$	5 \$ 10,850	\$ 285	\$ 88,350	\$ 320	\$ 99,200
1.19 1.10 1.11 1.12 1.13 1.14 1.15 1.15 1.17 1.18 1.19 1.19 1.19 1.19 1.19 1.19 1.19										
1.10										
1.11										
112 1.13 1.14 1.15 1.16 1.17 1.1										
1.13										
1.14										
1.15										
S										
2.1 765KV										
2.1 765kV EA. \$ 22,410 \$ \$ - \$ 24,000 \$ - \$ 46,410 \$ - \$ - \$ 21,000 \$ - \$ 46,410 \$ \$ - \$ 2.1b Capacitor Bank Foundations EA. \$ 22,410 \$ \$ - \$ 24,000 \$ - \$ 46,410 \$ \$ - \$ 116,025 \$ - \$ 2.1b Capacitor Bank Foundations (for DE A frame str stand alone) EA. \$ 56,025 \$ - \$ 60,000 \$ - \$ 116,025 \$ - \$ 108,290 \$						\$ 294,850		\$ 2,117,725		\$ 2,412,575
2.1a Circuit Breaker Foundations										
2.1b Capacitor Bank Foundations 0 EA \$ \$56,025 \$ - \$ 60,000 \$ - \$ 116,025 \$ - \$ 2.1										
2.1c Caisson DE Foundations (for DE A frame str stand alone)										
2.1d Caisson DE Foundations (for DE A frame str shared column) EA. \$ 52,290 \$ - \$ 56,000 \$ - \$ 108,290 \$ - \$ 2.18 Switch Stand Foundations EA. \$ 8,964 \$ - \$ 8,964 \$ - \$ 17,928 \$ - \$ 2.1f Station Service Transformer Stand Foundation 2.1f Station Service Transformer Stand Foundation EA. \$ 4,482 \$ - \$ 4,800 \$ - \$ 9,282 \$ - \$ 2.1g Bus Support 1ph Foundations (High Bus) EA. \$ - \$ - \$ - \$ - \$ - \$ - \$ 9,282 \$ - \$ 2.1h Bus Support 1 Ph Foundations (Low Bus) EA. \$ 8,964 \$ - \$ 8,964 \$ - \$ 17,928 \$ - \$ 17,928 \$ - \$ 2.1j Instrument Transformer Stand Foundations EA. \$ 8,964 \$ - \$ 8,964 \$ - \$ 17,928 \$ 17,928 \$ 17,92			0							
2.1e Switch Stand Foundations EA. \$ 8,964 \$ - \$ 8,964 \$ - \$ 17,928 \$ - \$ 2.1f Station Service Transformer Stand Foundation EA. \$ 8,964 \$ - \$ 8,964 \$ - \$ 9,282 \$ - \$ 2.1g Bus Support 1ph Foundations (High Bus) EA. \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$										
2.1f Station Service Transformer Stand Foundation 0 EA \$ 4,482 \$ - \$ 4,800 \$ - \$ 9,282 \$ - \$ 2.1g Bus Support 1ph Foundations (High Bus) EA. \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$,								
2.1g Bus Support 1 ph Foundations (High Bus) EA. \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$										
2.1h Bus Support 1 Ph Foundations (Low Bus) EA. \$ 8,964 \$ - \$ 8,964 \$ - \$ 17,928 \$ - \$ 2.1j Instrument Transformer Stand Foundations EA. \$ 8,964 \$ - \$ 8,964 \$ - \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ 8,964 \$ - \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ 8,964 \$ - \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ 8,964 \$ - \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ 8,964 \$ - \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ \$ 8,964 \$ - \$ \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ \$ 8,964 \$ - \$ \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ \$ 8,964 \$ - \$ \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ \$ 8,964 \$ - \$ \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ \$ 8,964 \$ - \$ \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ \$ 8,964 \$ - \$ \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ \$ 8,964 \$ - \$ \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ \$ 8,964 \$ - \$ \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ \$ 8,964 \$ - \$ \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ \$ 8,964 \$ - \$ \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ \$ 8,964 \$ - \$ \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ \$ 8,964 \$ - \$ \$ 17,928 \$ - \$ 2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ \$ 8,964 \$ - \$ \$ 17,928			0							·
2.1j Instrument Transformer Stand Foundations					7	1 7		7	7	7
2.1k Arrester Stand Foundations EA. \$ 8,964 \$ - \$ 8,964 \$ - \$ 17,928 \$ - \$ 2,1m Wave Trap Stand Foundations EA. \$ 8,964 \$ - \$ 8,964 \$ - \$ 17,928 \$ 17,928 \$										
2.1m Wave Trap Stand Foundations EA. \$ 8,964 \$ - \$ 8,964 \$ - \$ 17,928 \$ - 2.1n Misc. Structure Foundations EA. \$ -										
2.1n Misc. Structure Foundations EA. \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -										
2.1p										
2.2 345kV 2.2a Circuit Breaker Foundations 12 EA. \$ 14,940 \$ 179,280 \$ 14,940 \$ 179,280 \$ 29,880 \$ 358,560		Misc. Structure Foundations		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2a Circuit Breaker Foundations 12 EA. \$ 14,940 \$ 179,280 \$ 14,940 \$ 179,280 \$ 29,880 \$ 358,560	2.1p				-					
2.2a Circuit Breaker Foundations 12 EA. \$ 14,940 \$ 179,280 \$ 14,940 \$ 179,280 \$ 29,880 \$ 358,560		A SELLY								
						0 0 4=====		470	d 20	4 250
2.2b Capacitor Bank Foundations 0 EA \$ 44,820 \$ - \$ 48,000 \$ - \$ 92,820 \$ -										
Page 50 of 55	2.2b	Capacitor Bank Foundations	0	EA EA	5 44,82	0 \$ -	\$ 48,000	-	\$ 92,820	

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	32	EA.	\$ 26,145	\$ 836,640	\$ 26,145	\$ 836,640	\$ 52,290	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA.	\$ 26,145		\$ 26,145	\$ -	\$ 52,290	
2.2e	Switch Stand Foundations	144	EA.	\$ 4,482	. ,	. , .		\$ 8,964	
2.2f	Station Service Transformer Stand Foundation	6	EA.	\$ 4,482	\$ 26,892			\$ 8,964	
2.2g	Bus Support 1ph Foundations (High Bus)	0	EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations (Low Bus)	86	EA.	\$ 4,482	\$ 385,452				\$ 770,904
2.2j 2.2k	Instrument Transformer Stand Foundations Arrester Stand Foundations	78	EA.	\$ 4,482 \$ 4,482	\$ 349,596 \$ 107,568	\$ 4,482 \$ 4,482	\$ 349,596 \$ 107,568	\$ 8,964 \$ 8,964	\$ 699,192 \$ 215,136
2.2M	Wave Trap Stand Foundations	8	EA.	\$ 4,482	\$ 35,856		\$ 35,856		\$ 71,712
2.2m	Misc. Structure Foundations	8	EA.	\$ 4,462	\$ 53,830	\$ 4,462	\$ 55,830	\$ -	\$ 71,712
2.2p	Misc. Structure i ournations		E7 11	<u> </u>	Ť	Ť	Ÿ	Ý	<u> </u>
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -		\$ -	\$ 10,829	
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	•
2.3e 2.3f	Switch Stand Foundations Fuse Stand Foundations	0	EA EA	\$ 2,988 \$ 2,988	\$ - \$ -		\$ - \$ -	\$ 6,188 \$ 6,188	
2.3f 2.3g	Bus Support 3ph Foundations	0	EA EA	\$ 2,988	\$ - \$ -		\$ -	\$ 6,188	
2.3g 2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	. ,	\$ -	\$ 6,188	
2.3k	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	765-345kV Transformer Foundation w/ Oil Containment	0	EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	765-345kV Transformer Fire Wall	0	EA.	\$ 106,074	\$ -	\$ 113,600	\$ -	\$ 219,674	\$ -
2.4c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad / Generator / Station Service Distribution Line	1		Ć 100.045	ć 400.045	¢ 400,000	ć 100.000	ć 200.045	Ć 200.045
2.5a	Control House / Pad - 35' x 95'	1	EA EA	\$ 100,845	\$ 100,845			\$ 208,845	· · · · · · · · · · · · · · · · · · ·
2.5b 2.5c	Generator Foundation Station Service Distribution Line - 3ph.	1	LS	\$ 16,434	\$ 16,434 \$ -		· · · · · · · · · · · · · · · · · · ·	\$ 34,034 \$ 45,240	
2.6	Lightning Mast Foundations	1	LS	\$ -	ş -	\$ 45,240	\$ 45,240	\$ 45,240	\$ 45,240
2.6a	70' Lightning Mast Foundation	9	EA	\$ 5,229	\$ 47,061	\$ 5,600	\$ 50,400	\$ 10,829	\$ 97,461
2.6b	70 Egitting West Gallactor		L/\	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBS	STATION FOUNDATIONS				\$ 2,731,032		\$ 2,787,932		\$ 5,518,964
3. SUBSTATIC	ON STRUCTURES								
3.1	765kV								
3.1a	Substation A-Frame Structures - Stand alone		EA.	\$ 111,000	\$ -		\$ -	\$ 222,000	•
3.1b				\$ 111,000	\$ -	\$ 111,000	\$ -	\$ 222,000	
	Substation A-Frame Structures - Shared Column		EA.			ć 22.222	ć		\$ -
3.1c	Switch Stands		EA.	\$ 22,200	\$ -		\$ -	\$ 44,400	
3.1c 3.1d	Switch Stands Station Service Transformer Stand		EA. EA.	\$ 22,200	\$ - \$ -	\$ -	\$ -	\$ -	\$ -
3.1c 3.1d 3.1e	Switch Stands Station Service Transformer Stand Bus Support 1ph (High Bus)		EA. EA. EA.	\$ 22,200 \$ - \$ 7,400	\$ - \$ - \$ -	\$ - \$ 7,400	\$ - \$ -	\$ - \$ 14,800	\$ - \$ -
3.1c 3.1d 3.1e 3.1f	Switch Stands Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (low Bus)		EA. EA. EA. EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550	\$ - \$ - \$ - \$ -	\$ - \$ 7,400 \$ 5,550	\$ - \$ - \$ -	\$ - \$ 14,800 \$ 11,100	\$ - \$ - \$ -
3.1d 3.1e 3.1f 3.1g	Switch Stands Station Service Transformer Stand Bus Support 1 Ph (low Bus) Bus Support 1 Ph (low Bus) Instrument Transformer Stand		EA. EA. EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700	\$ - \$ - \$ -	\$ - \$ 7,400 \$ 5,550 \$ 3,700	\$ - \$ - \$ -	\$ - \$ 14,800 \$ 11,100 \$ 7,400	\$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f	Switch Stands Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (low Bus)		EA. EA. EA. EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550	\$ - \$ - \$ - \$ - \$ -	\$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700	\$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,800 \$ 11,100 \$ 7,400	\$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h	Switch Stands Station Service Transformer Stand Bus Support 1 Ph (low Bus) Instrument Transformer Stand Arrester Stand		EA. EA. EA. EA. EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700	\$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400	\$ - \$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	Switch Stands Station Service Transformer Stand Bus Support 1 ph (High Bus) Bus Support 1 Ph (Iow Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast		EA. EA. EA. EA. EA. EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500 \$ 18,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2	Switch Stands Station Service Transformer Stand Bus Support 1ph (High Bus) Bus Support 1 Ph (low Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast 345kV Substation A-Frame Structures - Stand alone	8	EA. EA. EA. EA. EA. EA. EA.	\$ 22,200 \$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 9,250 \$ 9,250 \$ 9,250	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500 \$ 18,500 \$ \$ 74,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b	Switch Stands Station Service Transformer Stand Bus Support 1 ph (High Bus) Bus Support 1 Ph (low Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA.	\$ 22,200 \$ \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500 \$ 18,500 \$ 74,000 \$ 74,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c	Switch Stands Station Service Transformer Stand Bus Support 1 ph (High Bus) Bus Support 1 Ph (low Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands	0 24	EA.	\$ 22,200 \$ \$ 7,400 \$ 5,550 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000 \$ 37,000 \$ 37,000 \$ 37,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000 \$ 37,000 \$ 14,800	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500 \$ 18,500 \$ 74,000 \$ 74,000 \$ 29,600	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b	Switch Stands Station Service Transformer Stand Bus Support 1 ph (High Bus) Bus Support 1 Ph (low Bus) Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Mast 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA.	\$ 22,200 \$ \$ 7,400 \$ 5,550 \$ 3,700 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 7,400 \$ 5,550 \$ 3,700 \$ 9,250 \$ 9,250 \$ 37,000 \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 14,800 \$ 11,100 \$ 7,400 \$ 7,400 \$ 18,500 \$ 18,500 \$ 74,000 \$ 74,000 \$ 29,600	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2g	Instrument Transformer Stand	78	EA	\$ 1,850	\$ 144,300	\$ 1,850	\$ 144,300	\$ 3,700	\$ 288,600
3.2h	Arrester Stand	24	EA	\$ 1,850	\$ 44,400	\$ 1,850	\$ 44,400	\$ 3,700	\$ 88,800
3.2i	Wave Trap Stand	8	EA	\$ 7,400	\$ 59,200	\$ 7,400	\$ 59,200	\$ 14,800	\$ 118,400
3.2j	Lightning Mast	9	EA.	\$ 9,250	\$ 83,250	\$ 9,250	\$ 83,250	\$ 18,500	\$ 166,500
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -	, , ,	\$ -	\$ 15,910	
3.3e	Bus Support 3ph	0	EA	\$ 3,330		\$ 3,330	\$ -	\$ 6,660	
3.3f	Bus Support 1 Ph	0	EA	\$ 1,850	\$ -		\$ -	\$ 3,700	
3.3g	Instrument Transformer Stand	0	EA	\$ 740	\$ -		\$ -	\$ 1,480	
3.3h	Arrester Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
	TATION STRUCTURES				\$ 1,315,350		\$ 1,315,350		\$ 2,630,700
4. MAJOR EQU									
4.2	345kV								
4.2a	Circuit Breakers	12	EA	\$ 200,000	\$ 2,400,000		\$ 960,000	\$ 280,000	\$ 3,360,000
4.2b	Capacitor Banks		EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 115,000	\$ -	\$ 60,000	\$ -	\$ 175,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAJO	 PR EQUIPTMENT				\$ 2,400,000		\$ 960,000		\$ 3,360,000
	IPTMENT / MATERIALS				2,400,000		3 300,000		3,300,000
5.2	345kV								
5.2a	Line Switches - 3ph w/ motor operator	8	EA	\$ 40,000	\$ 320,000	\$ 15,000	\$ 120,000	\$ 55,000	\$ 440,000
5.2b	Disconnect Switches - 3ph w/ manual operator	24	EA	\$ 35,000	\$ 840,000		\$ 420,000	\$ 52,500	\$ 1,260,000
5.2c	VT'S	24	EA	\$ 25,000	\$ 600,000		\$ 288,000	\$ 37,000	
5.2d	CT'S	24	EA	\$ 13,000	\$ 312,000	\$ 8,000	\$ 192,000	\$ 21,000	\$ 504,000
5.2e	CCVT'S	30	EA	\$ 13,000	\$ 390,000	\$ 8,000	\$ 240,000	\$ 21,000	\$ 630,000
5.2f	Arresters	24	EA	\$ 6,500	\$ 156,000	\$ 1,500	\$ 36,000	\$ 8,000	\$ 192,000
5.2g	Wave Traps	8	EA	\$ 13,000	\$ 104,000	\$ 8,000	\$ 64,000	\$ 21,000	\$ 168,000
5.2h	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000	\$ 50,000	\$ 50,000	\$ 250,000	\$ 250,000
5.2j									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ 28,000	\$ -	\$ 15,000	\$ -	\$ 43,000	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 33,000	\$ -	\$ 17,500	\$ -	\$ 50,500	\$ -
5.3c	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	
5.3d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	•
5.3e	CCVT'S	0	EA	\$ 8,000	\$ -		\$ -	\$ 16,000	
5.3f	Arresters	0	EA	\$ 3,420	\$ -	\$ 6,000	\$ -	\$ 9,420	\$ -
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h 5.3j	Station Service Transformers Fuses	0	EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
3.3	1 4363	0	EA.		V	Ÿ	Ÿ	<u>, </u>	*
	L EQUIPTMENT / MATERIALS				\$ 2,922,000		\$ 1,410,000		\$ 4,332,000
	OUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	1	EA	\$ 526,500	\$ 526,500	\$ 81,000	\$ 81,000	\$ 607,500	\$ 607,500
6.2	Protection and Telecom Equipment Panels	38	EA	\$ 35,000	\$ 1,330,000	\$ 10,000	\$ 380,000	\$ 45,000	\$ 1,710,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000			\$ 100,000	
6.4	Control Cables	1	LS						
6.5	SCADA and Communications	1	EA	\$ 35,000					
6.6	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000				
6.7	DC Distribution System	2	EA	\$ 50,000					
6.8	Security	1	EA	\$ 7,500					
6.9	Fire Alarm	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$ 15,000

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
6.10	Generator	1	EA	\$	100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$	180,000
TOTAL - CONTRI	OL HOUSE / PANELS / GENERATOR					\$ 3,361,350		\$ 2,023,350		\$	5,384,700
7. MISC ITEMS 7	· · · · · · · · · · · · · · · · · · ·					\$ 3,301,330		\$ 2,023,330		Ş	5,384,700
	Conduit & Cable Trench System		LF	\$	185.00	\$ -	\$ 231.27	\$ -	\$ 416.27	\$	-
	Rigid Bus, Fittings & Insulators		LF	\$	515.95		\$ 237.10	\$ -	\$ 753.05	\$	-
7.3	Strain Bus, Connectors & Insulators		LF	\$	61.50	\$ -	\$ 78.69	\$ -	\$ 140.19	\$	-
7.4	Grounding System		LF	\$	6.93	\$ -	\$ 32.58	\$ -	\$ 39.51	\$	-
7.5	Strain Bus Insulators		EA	\$	4,000	\$ -	\$ 2,100	\$ -	\$ 6,100	\$	-
	Control Cables		LS	\$	546,700		\$ 546,700		\$ 1,093,400		-
7.7	Control Conduits from Trench to Equipment		LS	\$	125,000	\$ -	\$ 125,000	\$ -	\$ 250,000	\$	-
7.8	Misc. Materials (Above and Below Ground)		LS	\$	180,000	\$ -	\$ 180,000	\$ -	\$ 360,000	\$	-
7.9											
7.10											
7.11											
7.12											
7.13											
7.14											
7. MISC ITEMS 3		2.500	15		125.07	ć 242.67E	ć 470.00	ć 435.000	ć 205	<u>,</u>	727.675
7.15	Conduit & Cable Trench System	2,500	LF	\$	125.07	\$ 312,675	\$ 170.00	\$ 425,000	\$ 295	\$	737,675
7.16 F	Rigid Bus, Fittings & Insulators	3,500	LF	\$	125.07	\$ 437,745	\$ 237.10	\$ 829,850	\$ 362	\$	1,267,595
7.17	Strain Bus, Connectors & Insulators	0	LF	\$	61.50	\$ -	\$ 78.69	\$ -	\$ 140	\$	-
	Grounding System	31,000	LF	\$	6.93		\$ 32.58				1,224,810
	Strain Bus Insulators - 345kV	0		\$	2,000		\$ 1,050		\$ 3,050		-
	Low Voltage AC Station Service	1		\$	50,000				\$ 125,000		125,000
	SSVT Service	1	LS	\$	50,000				\$ 125,000	_	125,000
	Control Conduits from Trench to Equipment	1		\$	247,500 180,000		\$ 247,500 \$ 180,000		\$ 495,000 \$ 360,000	\$	495,000 360,000
7.24	Misc. Materials (Above and Below Ground)	1	LS	7	180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 350,000	,	360,000
7.25											
7.26											
7.27											
7.28											
7.29											
TOTAL - MISC IT	TEMS					\$ 1,492,750		\$ 2,842,330		\$	4,335,080
O. Prince	town Switchyard - Install					\$ 14,517,332		\$ 13,456,687		\$	27,974,019
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
	Mob / Demob	1	LS	\$	-	\$ -	\$ 279,740	\$ 279,740	\$ 279,740	Ś	279,740
	Project Management, Material Handling & Amenities			+		T	+ =:=/:::=	7	7 2.0,1.10	-	
82	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 1,206,058	\$ 1,206,058	\$ 1,206,058	\$	1,206,058
	- · · · · · · · · · · · · · · · · · · ·		1.0	+		ć	ć 270.710	6 270 710	6 270 740	,	270 740
	Utility PM and Project Oversite	1	LS	Ś		\$ - \$ -	\$ 279,740 \$ 279,740		\$ 279,740		279,740
	Site Accommodation, Facilities, Storage Engineering	1	LS	1>	-	\$ -	\$ 279,740	\$ 279,740	\$ 279,740	,	279,740
	Design Engineering	1	LS	\$	-	\$ -	\$ 2,237,922	\$ 2,237,922	\$ 2,237,922	Ġ	2,237,922
	LiDAR		LS	\$		\$ -	\$ 2,237,322	\$ 2,237,922	\$ 2,237,322	\$	
	Geotech	4		\$		\$ -	\$ 3,500			_	14,000
	Surveying/Staking	1		\$		\$ -	\$ 195,818				195,818
	Testing & Commissioning			1			,	1.,,,,,	,,==	Ė	
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 699,350	\$ 699,350	\$ 699,350	\$	699,350
	Permitting and Additional Costs										
	Environmental Licensing & Permitting Costs	-	LS	\$		\$ -		\$ -	\$ -	\$	-
	Environmental Mitigation	-	LS	\$		\$ -		\$ -	\$ -	\$	-
	Warranties / LOC's	1		\$		\$ -	\$ 83,922				83,922
	Real Estate Costs (New)		LS	\$		\$ -	\$ -	\$ -	\$ -	\$	-
8.14 F	Real Estate Costs (Incumbent Utility)	1	LS	\$	-	\$ -	\$ 534,600	\$ 534,600	\$ 534,600	\	534,600

Item	item Description	Estimated Quantity	Unit of Measure	Material Su	upply Rate	Material Supply Cost	La	abor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.15	Legal Fees	-	LS	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
8.17			LS	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	1,161,387	\$ 1,161,387	7 \$	-	\$ -	\$ 1,161,387	\$ 1,161,387
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$	27,974	\$ 27,974	\$ 27,974	\$ 27,974
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,161,387	7		\$ 5,838,865		\$ 7,000,251

Page 54 of 55

schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.). We have assumed a typical work week of five-(5) days per week at ten-(10) hours per day (5 x 10 hour days). All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017. We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type. Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not er information to provide a quantified estimate for this item, allowance is included in the contingency monies. Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for fo quotes. Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing. A Contractor Mark-Up (OH&P) of 15% has been included in the Total section. We have assumed that all project details provided are accurate unless noted otherwise. A contractor allowance of 1% for mobilization and demobilization has been included in the total section. A contractor allowance of 3.698% for project management and staffing has been included in the total section. A contractor allowance of 1% for runnental inspector, and SWPP inspector. An allowance of 1% for transmission design and engineering has been included in the total section. An allowance of 5% for transmission design and engineering has been included in the total section. An allowance of 0.7% for substation design and engineering has been included in the total section. An allowance of 0.7% for substation design and engineering has been included in the total section. An allowance of 0.7% for substation testing and commissi		ITC - T031 - (Segment A)
Construction schedule is in accordance with proposed schedule - we have assumed continuous working with no breaks in the schedule. Six months have been added to the construction activities (i.e. permitting activities, material procurement etc.). We have assumed a typical work week of five-(5) days per week at ten-(10) hour per day (5 x 10 hour days). All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017. We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type. Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not en information to provide a quantified estimate for this item, allowance is included in the contingency monies. Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for for quotes. Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing. A Contractor Mark-Up (OH&P) of 15% has been included in the Total section. We have assumed that all project details provided are accurate unless noted otherwise. Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%) A contractor allowance of 1% for mobilization and demobilization has been included in the total section. A contractor allowance of 3.698% for project management and staffing has been included in the total section. A nallowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. A nallowance of 5% for transmission design and engineering has been included in the total section. An allowance of 0.7% for substation design and engineering has been included in the total section. An allowance of 0.7% for substation des		ESTIMATE ASSUMPTIONS & CLARIFICATIONS
schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.). We have assumed a typical work week of five-(5) days per week at ten-(10) hours per day (5 x 10 hour days). All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017. We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type. Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not er information to provide a quantified estimate for this item, allowance is included in the contingency monies. Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for fo quotes. Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing. A Contractor Mark-Up (OH&P) of 15% has been included in the Total section. We have assumed that all project details provided are accurate unless noted otherwise. A contractor allowance of 1% for mobilization and demobilization has been included in the total section. A contractor allowance of 3.698% for project management and staffing has been included in the total section. A contractor allowance of 1% for vilinity PM and Project Oversite staffing has been included in the total section. A contractor allowance of 1% for transmission design and engineering has been included in the total section. A nallowance of 6% for transmission design and engineering has been included in the total section. An allowance of 0.7% for substation design and engineering has been included in the total section. An allowance of 0.7% for substation testing and commissionling has been included in the total section. A	1	Cost Estimate is based on 2017 rates.
schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.). 3 We have assumed a typical work week of five-(6) days per week at ten-(10) hours per day (5 x 10 hour days). 4 All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017. 5 We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type. Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not er information to provide a quantified estimate for this item, allowance is included in the contingency monies. Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for for quotes. 8 Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing. 9 A Contractor Mark-Up (OH&P) of 15% has been included in the Total section. 10 We have assumed that all project details provided are accurate unless noted otherwise. 11 Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%) 12 A contractor allowance of 1% for mobilization and demobilization has been included in the total section. 13 Inspector, compliance inspector, environmental inspector, and SWPP inspector. 14 An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. 15 A contractor allowance of 1% for transmission design and engineering has been included in the total section. 16 An allowance of 0.7% for transmission design and engineering has been included in the total section. 17 An allowance of 0.7% for substation design and engineering has been included in the total section. 18 An allowance of 0.7% f	2	Construction schedule is in accordance with proposed schedule - we have assumed continuous working with no breaks in the schedule. Six months have been added to the construction
All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017. We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type. Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not er information to provide a quantified estimate for this item, allowance is included in the contingency monies. Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for fo quotes. Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing. A Contractor Mark-Up (OH&P) of 15% has been included in the Total section. We have assumed that all project details provided are accurate unless noted otherwise. A contractor allowance of 1% for mobilization and demobilization has been included in the total section. A contractor allowance of 3.698% for project management and staffing has been included in the total section. A contractor allowance of 3.698% for project management and staffing has been included in the total section. An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. An allowance of 5% for transmission design and engineering has been included in the total section. An allowance of 8% for substation design and engineering has been included in the total section. An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. An allowance of 3.75% for substation testing and commissioning has been included in the total section.		
We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type. Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not en information to provide a quantified estimate for this item, allowance is included in the contingency monies. Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for fo quotes. 8 Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing. 9 A Contractor Mark-Up (OH&P) of 15% has been included in the Total section. 10 We have assumed that all project details provided are accurate unless noted otherwise. 11 Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%) A contractor allowance of 1% for mobilization and demobilization has been included in the total section. A contractor allowance of 3.698% for project management and staffing has been included in the total section. A contractor allowance of 1% for project management and staffing has been included in the total section. A n allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. A n allowance of 5% for transmission design and engineering has been included in the total section. An allowance of 6% for substation design and engineering has been included in the total section. An allowance of 0.3% for LIDAR of the transmission line and substation layout has been included in the total section. An allowance of 0.3% for substation testing and commission line has been included in the total section. An allowance of 0.3% for substation testing and commission line has been included in the total section. An allowance of 0.37% for substation testing and commissionling has been includ	3	
Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not er information to provide a quantified estimate for this item, allowance is included in the contingency monies. Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for for quotes. Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing. A Contractor Mark-Up (OH&P) of 15% has been included in the Total section. We have assumed that all project details provided are accurate unless noted otherwise. Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%) A contractor allowance of 1% for mobilization and demobilization has been included in the total section. A contractor allowance of 3.698% for project management and staffing has been included in the total section. A contractor allowance of 1% for vorsite staffing has been included in the total section. A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section. An allowance of 5% for transmission design and engineering has been included in the total section. An allowance of 8% for substation design and engineering has been included in the total section. An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. An allowance of 0.3% for LIDAR of the transmission line and substation layout has been included in the total section. An allowance of 3.75% for substation testing and commissioning has been included in the total section.	4	
information to provide a quantified estimate for this item, allowance is included in the contingency monies. Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for for quotes. Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing. A Contractor Mark-Up (OH&P) of 15% has been included in the Total section. We have assumed that all project details provided are accurate unless noted otherwise. Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%) A contractor allowance of 1% for mobilization and demobilization has been included in the total section. A contractor allowance of 3.698% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safet inspector, compliance inspector, environmental inspector, and SWPP inspector. An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section. An allowance of 5% for transmission design and engineering has been included in the total section. An allowance of 0.7% for substation design and engineering has been included in the total section. An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. An allowance of 3.75% for substation testing and commissioning has been included in the total section.	5	
Information to provide a quantified estimate for this item, allowance is included in the contingency monies. Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for for quotes. Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing. A Contractor Mark-Up (OH&P) of 15% has been included in the Total section. We have assumed that all project details provided are accurate unless noted otherwise. Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%) A contractor allowance of 1% for mobilization and demobilization has been included in the total section. A contractor allowance of 3.698% for project management and staffing has been included in the total section. A contractor compliance inspector, environmental inspector, and SWPP inspector. An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section. An allowance of 8% for substation design and engineering has been included in the total section. An allowance of 0.7% for substation design and engineering has been included in the total section. An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. An allowance of 0.7% for survey and staking of the transmission line has been included in the total section. An allowance of 0.375% for substation testing and commissioning has been included in the total section.	6	
7 quotes. 8 Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing. 9 A Contractor Mark-Up (OH&P) of 15% has been included in the Total section. 10 We have assumed that all project details provided are accurate unless noted otherwise. 11 Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%) 12 A contractor allowance of 1% for mobilization and demobilization has been included in the total section. 13 A contractor allowance of 3.698% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safet inspector, compliance inspector, environmental inspector, and SWPP inspector. 14 An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. 15 A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section. 16 An allowance of 5% for transmission design and engineering has been included in the total section. 17 An allowance of 8% for substation design and engineering has been included in the total section. 18 An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. 19 An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. 20 An allowance of 3.75% for substation testing and commissioning has been included in the total section.	0	
quotes. 8 Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing. 9 A Contractor Mark-Up (OH&P) of 15% has been included in the Total section. 10 We have assumed that all project details provided are accurate unless noted otherwise. 11 Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%) 12 A contractor allowance of 1% for mobilization and demobilization has been included in the total section. 13 A contractor allowance of 3.698% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safet inspector, compliance inspector, environmental inspector, and SWPP inspector. 14 An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. 15 A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section. 16 An allowance of 5% for transmission design and engineering has been included in the total section. 17 An allowance of 8% for substation design and engineering has been included in the total section. 18 An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. 19 An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. 20 An allowance of 3.75% for substation testing and commissioning has been included in the total section.	7	Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for formal
9 A Contractor Mark-Up (OH&P) of 15% has been included in the Total section. 10 We have assumed that all project details provided are accurate unless noted otherwise. 11 Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%) 12 A contractor allowance of 1% for mobilization and demobilization has been included in the total section. 13 A contractor allowance of 3.698% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safet inspector, compliance inspector, environmental inspector, and SWPP inspector. 14 An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. 15 A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section. 16 An allowance of 5% for transmission design and engineering has been included in the total section. 17 An allowance of 8% for substation design and engineering has been included in the total section. 18 An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. 19 An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. 20 An allowance of 3.75% for substation testing and commissioning has been included in the total section.		
We have assumed that all project details provided are accurate unless noted otherwise. Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%) A contractor allowance of 1% for mobilization and demobilization has been included in the total section. A contractor allowance of 3.698% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safet inspector, compliance inspector, environmental inspector, and SWPP inspector. An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section. An allowance of 5% for transmission design and engineering has been included in the total section. An allowance of 8% for substation design and engineering has been included in the total section. An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. An allowance of 3.75% for substation testing and commissioning has been included in the total section.	8	
Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%) A contractor allowance of 1% for mobilization and demobilization has been included in the total section. A contractor allowance of 3.698% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safet inspector, compliance inspector, environmental inspector, and SWPP inspector. An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section. An allowance of 5% for transmission design and engineering has been included in the total section. An allowance of 8% for substation design and engineering has been included in the total section. An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. An allowance of 3.75% for substation testing and commissioning has been included in the total section.	9	
A contractor allowance of 1% for mobilization and demobilization has been included in the total section. A contractor allowance of 3.698% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safet inspector, compliance inspector, environmental inspector, and SWPP inspector. An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section. An allowance of 5% for transmission design and engineering has been included in the total section. An allowance of 8% for substation design and engineering has been included in the total section. An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. An allowance of 3.75% for substation testing and commissioning has been included in the total section.	10	
A contractor allowance of 3.698% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safet inspector, compliance inspector, environmental inspector, and SWPP inspector. An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section. An allowance of 5% for transmission design and engineering has been included in the total section. An allowance of 8% for substation design and engineering has been included in the total section. An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. An allowance of 3.75% for substation testing and commissioning has been included in the total section.	11	Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%)
inspector, compliance inspector, environmental inspector, and SWPP inspector. 14 An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. 15 A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section. 16 An allowance of 5% for transmission design and engineering has been included in the total section. 17 An allowance of 8% for substation design and engineering has been included in the total section. 18 An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. 19 An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. 20 An allowance of 3.75% for substation testing and commissioning has been included in the total section.	12	A contractor allowance of 1% for mobilization and demobilization has been included in the total section.
inspector, compliance inspector, environmental inspector, and SWPP inspector. An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section. A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section. An allowance of 5% for transmission design and engineering has been included in the total section. An allowance of 8% for substation design and engineering has been included in the total section. An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. An allowance of 3.75% for substation testing and commissioning has been included in the total section.	12	A contractor allowance of 3.698% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safety
15 A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section. 16 An allowance of 5% for transmission design and engineering has been included in the total section. 17 An allowance of 8% for substation design and engineering has been included in the total section. 18 An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. 19 An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. 20 An allowance of 3.75% for substation testing and commissioning has been included in the total section.	13	inspector, compliance inspector, environmental inspector, and SWPP inspector.
An allowance of 5% for transmission design and engineering has been included in the total section. An allowance of 8% for substation design and engineering has been included in the total section. An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. An allowance of 3.75% for substation testing and commissioning has been included in the total section.	14	
An allowance of 8% for substation design and engineering has been included in the total section. An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. An allowance of 3.75% for substation testing and commissioning has been included in the total section.	15	
An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section. An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. An allowance of 3.75% for substation testing and commissioning has been included in the total section.	16	An allowance of 5% for transmission design and engineering has been included in the total section.
19 An allowance of 0.3% for LIDAR of the transmission line has been included in the total section. 20 An allowance of 3.75% for substation testing and commissioning has been included in the total section.	17	
20 An allowance of 3.75% for substation testing and commissioning has been included in the total section.	18	An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section.
	19	
21 An allowance of \$20,000.00 per circuit for transmission line testing and commissioning has been included in the total section.	20	
	21	An allowance of \$20,000.00 per circuit for transmission line testing and commissioning has been included in the total section.
New York state sales tax of 8% is included in all material pricing.	22	New York state sales tax of 8% is included in all material pricing.
23 An allowance of 1.5% for insurance is included in the DPS sheet.	23	An allowance of 1.5% for insurance is included in the DPS sheet.



		National Grid and NY Transco (T019)	
		Description	Total Amount (In thousand \$)
	1	Transmission Lines	
	1.1	Clearing & Access	\$34,641
	1.2	Foundations	\$44,405
	1.3	Structures	\$56,279
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$30,070
	1.5	Insulators, Fitting and Hardwares	\$11,200
		Subtotal (1)	\$176,595
ا پر ا	2	Substations	
Direct Cost	2.1	Knickerbocker Substation	\$26,306
rect	2.2	East Greenbush Substation	\$61
Ö	2.3	Schodack Substation	\$2,226
	2.4	Churchtown Substation	\$14,616
	2.5	Pleasant Valley Substation	\$6,939
	2.6	Substation Interconnections	\$5,534
		Subtotal (2)	\$55,682
		Total (1+2)	\$232,277
		Contractors Mark-up (15% of Total 1+2)	\$34,842
		Total Direct Cost (A)	\$267,118
	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$2,323
st	3.2	Project Management, Material Handling & Amenities	\$16,172
t Co	3.3	Engineering	\$15,527
Indirect Cost	3.4	Testing & Commissioning	\$1,324
l no	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$16,982
	3.6	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,428
		Total Indirect Cost (3)	\$59,755
		Subtotal Project Cost (B=A+3) 2017 \$	\$326,874
	4	Network Upgrade Facilities (NUF)	
	4.1	NUF proposed as element of the Project (Fishkill and New Scotland Terminals)	\$1,085
	4.2	NUF identified by System Impact Study (Cricket Valley Line Upgrade)	\$4,417
		Subtotal NUF Cost (C)	\$5,502
		Total Project Cost (B+C) 2017 \$	\$332,376
		Total Project Cost 2018 \$	\$342,347

5/22/2018 Page 1 of 61

Estimate Revision: 5

	NG & NY Transco - T019 - (Segment B)	Total Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 70,736,799
Direct Labor, Material & Equipment Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 101,111,607
Direct Labor, Material & Equipment Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 4,746,361
Direct Labor, Material & Equipment Costs	D. Knickerbocker 345kV Substation - Install	\$ 26,306,261
Direct Labor, Material & Equipment Costs	E. Greenbush Substation - Removal	\$ 61,200
Direct Labor, Material & Equipment Costs	F. Schodack Substation - Install	\$ 2,089,357
Direct Labor, Material & Equipment Costs	G. Schodack Substation - Removal	\$ 136,200
Direct Labor, Material & Equipment Costs	H. Churchtown Substation - Install	\$ 13,652,332
Direct Labor, Material & Equipment Costs	I. Churchtown Substation - Removal	\$ 963,678
Direct Labor, Material & Equipment Costs	J. Pleasant Valley Substation - Install	\$ 6,898,903
Direct Labor, Material & Equipment Costs	K. Pleasant Valley Substation - Removal	\$ 40,500
Direct Labor, Material & Equipment Costs	L. Interconnection Knickerbocker Station	\$ 3,068,229
Direct Labor, Material & Equipment Costs	M. Interconnection Churchtown Station	\$ 1,881,925
Direct Labor, Material & Equipment Costs	N. Interconnection Milan Station	\$ 583,388
Direct Labor, Material & Equipment Costs	O. System Upgrade Facilities (Cricket Valley Line Upgrade)	\$ 3,155,160
Direct Labor, Material & Equipment Costs	P. System Upgrade Facilities (Various Stations Knickerbocker to Pleasant Valley)	\$ 774,000
	SUBTOTAL:	\$ 236,205,900
	CONTRACTOR MARK-UP (OH&P)	\$ 35,430,885
	CONTINGENCY ON ENTIRE PROJECT	\$ -
	TOTAL DIRECT:	\$ 271,636,785

	NG & NY Transco - T019 - (Segment B)	Tota	l Each Segment
Indirect Costs	A. Transmission Line Knickerbocker to Churchtown	\$	15,568,288
Indirect Costs	B. Transmission Line Churchtown to Pleasant Valley	\$	22,500,395
Indirect Costs	C. Blue Stores Junction to Blue Stores Substation	\$	943,735
Indirect Costs	D. Knickerbocker 345kV Substation - Install	\$	6,607,256
Indirect Costs	E. Greenbush Substation - Removal	\$	9,952
Indirect Costs	F. Schodack Substation - Install	\$	490,500
Indirect Costs	G. Schodack Substation - Removal	\$	22,149
Indirect Costs	H. Churchtown Substation - Install	\$	3,282,774
Indirect Costs	I. Churchtown Substation - Removal	\$	156,716
Indirect Costs	J. Pleasant Valley Substation - Install	\$	1,753,769
Indirect Costs	K. Pleasant Valley Substation - Removal	\$	7,477
Indirect Costs	L. Interconnection Knickerbocker Station	\$	559,427
Indirect Costs	M. Interconnection Churchtown Station	\$	319,787
Indirect Costs	N. Interconnection Milan Station	\$	105,632
Indirect Costs	O. System Upgrade Facilities (Cricket Valley Line Upgrade)	\$	788,790
Indirect Costs	P. System Upgrade Facilities (Various Stations Knickerbocker to Pleasant Valley)	\$	195,000
Indirect Costs	Legal and Permitting (Includes Legal, Envir. Lisc. & Permit., and Envir. Mitigation)	\$	7,427,609
	TOTAL INDIRE	ECT: \$	60,739,258

Page 2 of 61
Direct & Indirect Totals

TOTAL ESTMATED COST: \$

A. Transmission Line Knickerbocker to Churchtown

NG & NY Transco - T019 - (Segment B)

Estimate Freuision: Total: \$ 86,305,087

NG & NY Transco - T019 -	(Segmen	t B)		
		Supply	Installation	Total
A. Transmission Line Knickerbocker to Churchtown				
1. CLEARING & ACCESS	\$	11,500	\$ 13,799,703	\$ 13,811,203
2. FOUNDATIONS	\$	9,710,029	\$ 10,978,019	\$ 20,688,047
3. STRUCTURES	\$	9,422,041	\$ 10,929,158	\$ 20,351,199
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	2,367,420	\$ 8,759,465	\$ 11,126,885
5. INSULATORS, FITTINGS, HARDWARE	\$	3,150,161	\$ 1,609,303	\$ 4,759,465
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,972,892	\$ 13,595,396	\$ 15,568,288
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	26,634,043	\$ 59,671,044	\$ 86,305,087
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	26,634,043	\$ 59,671,044	\$ 86,305,087

Item	Item Description	Estimated Quantity	Unit of Measure	Mat	erial Supply Rate	Material Supply Sum	Labor & Equi Supply R		Labor & Equipment Sum	Total Unit Rate		TOTAL
A. Trans	mission Line Knickerbocker to Churchtown											
1. CLEARING 8	& ACCESS											
1.1	Clearing the ROW - Heavy (mowing & clearing)	23.0	Acre	\$	-	\$ -	\$	15,000	\$ 345,000	\$ 15,000	\$	345,000
1.2	Clearing the ROW - Light (mowing)	63.0	Acre			\$ -	\$	5,000	\$ 315,000	\$ 5,000	\$	315,000
1.3	Access Road	23,126	LF	\$	-	\$ -	\$	45.00				1,040,688
1.4	Silt Fence	115,632	LF	\$	-	\$ -	\$	4.00			\$	462,528
1.5	Matting - Access and ROW	92,506	LF	\$	-	\$ -	\$	70.00	\$ 6,475,392			6,475,392
1.6	Matting - To Work Area	16,575	LF	\$	-	\$ -	\$		\$ 1,160,250			1,160,250
1.7	Snow Removal	21.9	Mile	\$	-	\$ -	+	16,000	\$ 350,400		\$	350,400
1.8	ROW Restoration	21.9	Mile	\$	-	\$ -	\$	10,000	\$ 219,000			219,000
1.9	Work Pads	850,000	SF	\$	-	\$ -	\$	3.52			\$	2,992,000
1.10	Restoration for Work Pad areas	170,000	SF	\$	-	\$ -	\$	0.15			_	25,500
1.11	Temporary Access Bridge	9	EA	\$	-	\$ -	\$	20,035	, , , , , , , , , , , , , , , , , , , ,			180,315
1.12	Air Bridge		EA	\$	-	Ÿ	\$	14,445		\$ 14,445	\$	-
1.13	Stabilized Construction Entrance Maintenance and Protection of Traffic on Public Roads	47	EA EA	\$	-	· ·	\$	4,580 4,130	\$ 18,320 \$ 194,110	\$ 4,580 \$ 4,130	\$	18,320 194,110
1.14	Culverts / Misc. Access	10	EA	\$	750	\$ - \$ 7,500		1,250			Ś	20,000
1.15	Gates	2	EA	\$	2,000	\$ 7,500		2,500			è	9,000
1.17	Concrete Washout Station	2	EA	\$	2,000	\$ 4,000	Ś	1,850			Ś	3,700
	RING & ACCESS:		LA	٦	-	\$ 11,500	1 3	1,830	\$ 13,799,703	J 1,030	Ś	13,811,203
2. FOUNDATIO						7 11,500			3 13,733,703		,	13,811,203
		3	F.A.	Ś	422.027	\$ 401,811		125 272	ć 40C 44E	\$ 269.309	Ś	007.026
2.1	Drilled Pier - 115/345kV Double Ckt H- Pole Angle/DE		EA	-	133,937		1 -	135,372		<u> </u>	7	807,926
2.2	Drilled Pier - 115/345kV Double Ckt Single Pole Angle/ DE	21	EA	\$	156,123	\$ 3,278,583	-		\$ 3,313,695	<u> </u>	\$	6,592,278
2.3	Drilled Pier - 115/345kV Double Ckt Single Pole Tangent	133	EA	\$		\$ 4,699,302		35,712			_	9,448,932
2.4	Drilled Pier - 115kV Single Circuit H-Pole Angle/ DE	2	EA	\$	125,720	\$ 251,440		127,067			\$	505,573
2.5	Drilled Pier - 115kV Single Circuit H-Pole Tangent	2	EA	\$	81,348	\$ 162,697			\$ 164,439	\$ 163,568	\$	327,136
2.6	Drilled Pier - 115kV Single Circuit Single Pole Angle/ DE	5	EA	\$	78,062	\$ 390,308	\$	78,898	\$ 394,488	\$ 156,959	\$	784,795
2.7	Drilled Pier - 345kV Single Circuit Single Pole DE	4	EA	\$	131,472	\$ 525,888	\$	132,880	\$ 531,520	\$ 264,352	\$	1,057,408
2.8	Rock Excavation Adder	582	СҮ	\$	-	\$ -	\$	2,000	\$ 1,164,000	\$ 2,000	\$	1,164,000
2.9												
2.10												
2.11												-
2.12												
2.13				†								
2.14				 								-
2.15				1			 					
2.15				+								
2.10												

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate		TOTAL
2.17									<u> </u>	
2.18										
TOTAL - FOUNI	DATIONS:				\$ 9,710,029		\$ 10,978,019		\$	20,688,047
3. STRUCTURES										
3.1	115/345kV Double Ckt H- Pole Angle/DE	3	Structure	\$ 99,985	\$ 299,955	\$ 59,991	\$ 179,973	\$ 159,976	\$	479,928
3.2	115/345kV Double Ckt Single Pole Angle/ DE	21	Structure	\$ 112,378	\$ 2,359,943	\$ 67,427	\$ 1,415,966	\$ 179,805	\$	3,775,909
3.3	115/345kV Double Ckt Single Pole Tangent	133	Structure	\$ 44,517	\$ 5,920,701	\$ 26,710	\$ 3,552,421	\$ 71,226	\$	9,473,122
3.4	115kV Single Circuit H-Pole Angle/ DE	2	Structure	\$ 42,263	\$ 84,527	\$ 25,358	\$ 50,716	\$ 67,621	\$	135,242
3.5	115kV Single Circuit H-Pole Tangent	2	Structure	\$ 39,442	\$ 78,884	\$ 23,665	\$ 47,330	\$ 63,107	\$	126,214
3.6	115kV Single Circuit Single Pole Angle/ DE	5	Structure	\$ 52,041	\$ 260,203	\$ 31,224	\$ 156,122	\$ 83,265	\$	416,324
3.7	345kV Single Circuit Single Pole DE	4	Structure	\$ 82,952	\$ 331,809	\$ 49,771	\$ 199,085	\$ 132,723	\$	530,894
3.8										
3.9										
3.10										
3.11										
3.12	Remove Existing Foundation	688	EA	\$ -	\$ -	\$ 3,250	\$ 2,236,000	\$ 3,250	\$	2,236,000
3.13	Remove Existing Structure and Accessories	172	EA	\$ -	\$ -	\$ 12,500	\$ 2,150,000	\$ 12,500	\$	2,150,000
3.14	Install Grounding and Grounding Accessories	172	Pole	\$ 506	<u> </u>	\$ 5,539	\$ 941,545	\$ 6,045	Ś	1,027,565
3.15	mistali dibunding and dibunding Accessories	170	roie	3 300	\$ 60,020	ý 3,333	ý 341,343	ÿ 0,043	 	1,027,303
TOTAL - STRUC	TURES:				\$ 9,422,041		\$ 10,929,158		\$	20,351,199
	R, SHIELDWIRE, OPGW				3 3,422,041		\$ 10,929,138		3	20,331,199
	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	741,787	LF	\$ 1.90	\$ 1,409,395	\$ 5.00	\$ 3,708,935	\$ 6.90	\$	5,118,330
4.1			LF	\$ 1.35		\$ 5.00	\$ 618,155		_	785,057
4.2	(1) OPGW 36 Fiber AC-33/38/571	123,631	LF	+ '						
4.3	(1) 3/8" EHS7 Steel	121,414				\$ 5.00	\$ 607,070		_	664,135
4.4	Remove Existing Cable From Existing Structures	43.8	Mile	\$ -	·	\$ 30,000	\$ 1,314,000	\$ 30,000.00	\$	1,314,000
4.5	Remove Existing OPGW Cable and Accessories	21.9	Mile	\$ -	-	\$ 12,000	\$ 262,800	\$ 12,000.00	\$	262,800
4.6	Remove Existing OHSW and Accessories	21.9	Mile	\$ -		\$ 12,000	\$ 262,800	\$ 12,000.00	\$	262,800
4.7	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	364,241	LF	\$ 1.90		\$ 5.00	\$ 1,821,205	\$ 6.90	_	2,513,263
4.8	Rider Poles (47 Locations)	24	Set	\$ 1,750		\$ 3,500	\$ 84,000	\$ 5,250.00	\$	126,000
4.9	Rider Poles - Relocated	23	Set	\$ -	\$ -	\$ 3,500	\$ 80,500	\$ 3,500.00	\$	80,500
4.10									Ь—	
4.11									Ь—	
4.12										
4.13									<u> </u>	
4.14									└	
4.15									L	
4.16										
4.17										
TOTAL: CONDU	ICTOR, SHIELDWIRE, OPGW:				\$ 2,367,420		\$ 8,759,465		\$	11,126,885
5. INSULATOR,	FITTINGS, HARDWARE									
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	665	Assembly	\$ 1,800		\$ 720	\$ 478,800	\$ 2,520	\$	1,675,800
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	671	Assembly	\$ 900	\$ 603,900	\$ 560	\$ 375,760	\$ 1,460	\$	979,660
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	420	Assembly	\$ 1,800	\$ 756,000	\$ 720	\$ 302,400	\$ 2,520	\$	1,058,400
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	217	Assembly	\$ 900	\$ 195,300	\$ 560	\$ 121,520	\$ 1,460	\$	316,820
5.5			Assembly		\$ -		\$ -	\$ -	\$	-
5.6	OPGW Assembly - Tangent	135	Assembly	\$ 200	\$ 27,000	\$ 150	\$ 20,250	\$ 350	\$	47,250
5.7	OPGW Assembly - Angle / DE	62	Assembly	\$ 250	\$ 15,500	\$ 150	\$ 9,300	\$ 400	\$	24,800
5.8	OHSW Assembly - Tangent	135	Assembly	\$ 200	\$ 27,000		\$ 20,250	\$ 350	\$	47,250
5.9	OHSW Assembly - Angle / DE	56	Assembly	\$ 250	\$ 14,000	\$ 150	\$ 8,400	\$ 400	\$	22,400
5.10	OPGW Splice Boxes	8	Set	\$ 1,746		\$ 2,274			\$	32,161
5.11	OPGW Splice & Test	8	EA	\$ 2,520	\$ 20,160	\$ 2,520	\$ 20,160	\$ 5,040	\$	40,320
	Spacer - Conductor	3,651	EA		\$ 182,550					310,335
	Vibration Dampers - Conductor	1,971	EA		\$ 68,985				\$	137,970
	Shield wire / OPGW Dampers, Misc. Fittings	442	EA		\$ 11,934				\$	27,404
5.17		442		1, 2,	7 11,554	- 33	- 13,470	1 - 02		

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Ma	laterial Supply Sum	Labor & Equipm Supply Rate	ent	Labor & Equipment Sum	Total Unit Rate	TOTAL
5.15	Guys, Anchors, and Accessories	-	EA	\$	720	\$	-	\$	885	\$ -	\$ 1,605	\$ -
5.16	Misc. materials (Signs and Markers)	22	Mile	\$	770	\$	16,863	\$ 1	006	\$ 22,031	\$ 1,776	\$ 38,894
5.17		-		\$	-	\$	-	\$	-	\$ -	\$ -	\$ -
TOTAL - INSUL	ATORS, FITTINGS, HARDWARE:					\$	3,150,161			\$ 1,609,303		\$ 4,759,465
A. Trans	mission Line Knickerbocker to Churchtown					\$	24,661,151			\$ 46,075,648		\$ 70,736,799
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:											
	Contractor Mobilization / Demobilization											
6.1	Mob / Demob	1	LS	\$	-	\$	-	\$ 707	368	\$ 707,368	\$ 707,368	\$ 707,368
	Project Management, Material Handling & Amenities											
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS					\$ 3,510	137	\$ 3,510,137	\$ 3,510,137	\$ 3,510,137
6.3	Utility PM and Project Oversite	1	LS			\$	-	\$ 707	368	\$ 707,368	\$ 707,368	\$ 707,368
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$	-	\$ 707	368	\$ 707,368	\$ 707,368	\$ 707,368
	Engineering											
6.5	Design Engineering	1	LS	\$	-	\$	-	\$ 3,536	840	\$ 3,536,840	\$ 3,536,840	\$ 3,536,840
6.6	LiDAR	1	LS	\$	-	\$	-	\$ 212	210	\$ 212,210	\$ 212,210	\$ 212,210
6.7	Geotech	22	Location	\$	-	\$	-	\$ 3	500	\$ 77,000	\$ 3,500	\$ 77,000
6.8	Surveying/Staking	1	LS	\$	-	\$	-	\$ 495	158	\$ 495,158	\$ 495,158	\$ 495,158
	Testing & Commissioning											
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$	-	\$ 40	000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs											
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$	-	\$	-	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$	-	\$	-	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$	-	\$ 212	210	\$ 212,210	\$ 212,210	\$ 212,210
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$	-	\$	-	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$	-	\$ 3,319	000	\$ 3,319,000	\$ 3,319,000	\$ 3,319,000
6.15	Legal Fees	-	LS	\$	-	\$	-	\$	-	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$	-	\$	-	\$ -	\$ -	\$ -
6.17		-	LS	\$		\$	-	\$	-	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$	1,972,892	\$	1,972,892	\$	-	\$ -	\$ 1,972,892	\$ 1,972,892
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$	-	\$ 70	737	\$ 70,737	\$ 70,737	\$ 70,737
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$	1,972,892			\$ 13,595,396		\$ 15,568,288

B. Transmission Line Churchtown to Pleasant Valley

Estimate Revision: 5 Total: \$ 123,612,003

NG & NY Transco - T019 - (Segme	ent B)		
		Supply	Installation	Total
B. Transmission Line Churchtown to Pleasant Valley				
1. CLEARING & ACCESS	\$	14,000	\$ 19,410,966	\$ 19,424,966
2. FOUNDATIONS	\$	5,416,314	\$ 17,138,320	\$ 22,554,633
3. STRUCTURES	\$	12,430,954	\$ 21,953,334	\$ 34,384,288
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	3,505,234	\$ 14,965,685	\$ 18,470,919
5. INSULATORS, FITTINGS, HARDWARE	\$	4,145,919	\$ 2,130,882	\$ 6,276,801
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	2,040,994	\$ 20,459,402	\$ 22,500,395
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	27,553,414	\$ 96,058,589	\$ 123,612,003
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	27,553,414	\$ 96,058,589	\$ 123,612,003

Item	Item Description	Estimated Quantity	Unit of Measure	Material S	upply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
B. Trans	mission Line Churchtown to Pleasant Valley										
1. CLEARING	& ACCESS										
1.1	Clearing the ROW - Heavy (mowing & clearing)	17.0	Acre	\$	-	\$ -	\$ 15,000	\$ 255,000	\$ 15,000	\$	255,000
1.2	Clearing the ROW - Light (mowing)	116.0	Acre	\$	-	\$ -	\$ 5,000	\$ 580,000	\$ 5,000	\$	580,000
1.3	Access Road	34,109	LF	\$	-		\$ 45				1,534,896
1.4	Silt Fence	170,544.0	LF	\$			\$ 4			\$	682,176
1.5	Matting - Access and ROW	136,435	LF	\$			\$ 70				9,550,464
1.6	Matting - To Work Area	16,275.0	LF	\$	-		\$ 70				1,139,250
1.7	Snow Removal	32.3	Mile	\$	-	\$ -	\$ 16,000	\$ 516,800	\$ 16,000		516,800
1.8	ROW Restoration	32.3	Mile	\$	-	\$ -	\$ 10,000	\$ 323,000			323,000
1.9	Work Pads	1,155,000.0	SF	\$		·	\$ 4	, , , , , , , , , , , , , , , , , , , ,		\$	4,065,600
1.10	Restoration for Work Pad areas	231,000.0	SF	\$		'		\$ 34,650		\$	34,650
1.11	Temporary Access Bridge	14	EA	\$			\$ 20,035	\$ 280,490			280,490
1.12	Air Bridge	-	EA	\$		\$ -	\$ 14,445	\$ -	\$ 14,445		-
1.13	Stabilized Construction Entrance	12	EA	\$		\$ -	\$ 4,580		\$ 4,580		54,960
1.14	Maintenance and Protection of Traffic on Public Roads	86	EA	\$		\$ -	\$ 4,130				355,180
1.15	Gates	4	EA	\$	2,000						18,000
1.16	Culverts / Misc. Access	8	EA	\$	750		\$ 1,250				16,000
1.17	Concrete Washout Station	10	EA	\$	-	_	\$ 1,850		\$ 1,850		18,500
	RING & ACCESS:					\$ 14,000		\$ 19,410,966		\$	19,424,966
2. FOUNDATI											
2.1	Drilled Pier - 115/345kV Double Ckt Single Pole Angle/ DE	25	EA	\$	52,589	\$ 1,314,720	\$ 53,152	\$ 1,328,800	\$ 105,741	\$	2,643,520
2.2	Drilled Pier - 115/345kV Double Ckt Single Pole Tangent	202	EA	\$	19,349	\$ 3,908,494	\$ 19,556	\$ 3,950,352	\$ 38,905	\$	7,858,846
2.3	Drilled Pier - 115kV Single Circuit Single Pole Angle/ DE	3	EA	\$	46,837	\$ 140,511	\$ 47,339	\$ 142,016	\$ 94,175	\$	282,526
2.4	Drilled Pier - 345kV Single Circuit Single Pole DE	1	EA	\$	52,589	\$ 52,589	\$ 53,152	\$ 53,152	\$ 105,741	\$	105,741
2.5	Rock Excavation Adder	5,832.0	СУ	\$	-	\$ -	\$ 2,000	\$ 11,664,000	\$ 2,000	\$	11,664,000
2.6											
2.7											
2.8											
2.9											
2.10											
2.11											
2.12											
TOTAL - FOUR	IDATIONS:					\$ 5,416,314		\$ 17,138,320		Ś	22,554,633
3. STRUCTUR						- 5,12,514		1,100,020			
3.1	115/345kV Double Ckt Single Pole Angle/ DE	25	Structure	\$	115,090	\$ 2,877,259	\$ 69,054	\$ 1,726,355	\$ 184,145	\$	4,603,614
3.2	115/345kV Double Ckt Single Pole Tangent	202	Structure	\$	45,131	\$ 9,116,367	\$ 27,078	\$ 5,469,820	\$ 72,209	\$	14,586,187

24 Mary Part Control Strate Price Control Strat	Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
1.5	3.3	115kV Single Circuit Single Pole Angle/ DE	3	Structure	\$ 79,163	\$ 237,490	\$ 47,498	\$ 142,494	\$ 126,661	\$ 379,984
1	3.4	345kV Single Circuit Single Pole DE	1	Structure	\$ 82,952	\$ 82,952	\$ 49,771	\$ 49,771	\$ 132,723	\$ 132,723
3 / 3 / 3 / 3 / 3 / 3 / 3 / 3 / 3 / 3 /	3.5									
3.0										
2 3 3 3 3 3 3 3 3 3										
2.30										
3.10										
311	-									
2,004 FA 5										
Bernove Existing Structure and Accessories	3.11									
3.18	3.12	Remove Existing Foundation	2,084	EA	\$ -	\$ -	\$ 3,250	\$ 6,773,000	\$ 3,250	\$ 6,773,000
3.18	3 13	Remove Existing Structure and Accessories	521	FΔ	¢ .	¢ .	\$ 12 500	\$ 6512500	\$ 12,500	\$ 6,512,500
3.16 1.296		Temore Existing structure and Accessories	321	LA	7	7	ÿ 12,300	ÿ 0,512,500	7 12,500	ÿ 0,312,300
3.15		Install Grounding and Grounding Accessories	231	Pole	\$ 506	\$ 116.886	\$ 5,539	\$ 1,279,394	\$ 6.045	\$ 1,396,280
1.17 TOTAL STRUCTURES PRINCTOWN TO NEW SCOTLAND:						7 ===,	7 2,000	,=,	7 3,515	7 -,555,255
TOTAL-STRUCTURES PRINCE TOWN TO NEW SCOTLAND:										
A		CTURES PRINCTOWN TO NEW SCOTLAND:				\$ 12,430,954		\$ 21,953,334		\$ 34,384,288
4.2 (1) OPGW 36 Piber AC 33/38/571 181,289 UF S 1.35 S 246,740 S 5.00 S 906,445 S 6.35 S 1,151,1 4.3 (1) 3/8" (FST Steel 181,289 UF S 0.47 S 8.70 S 5.00 S 906,445 S 5.47 S 951,4 4.5 Remove Existing (FWC Cable From Existing Structures 130.4 Male S - S - S 3,000 S 3,312,000 S 3,000 S 3,912,000 S 3,912,000 4.6 Remove Existing (FWC Cable and Accessories 3.2.6 Male S - S - S 1,1700 S 350,000 S 1,000 D S 390,000 4.7 Remove Existing (FWC Cable and Accessories 3.2.6 Male S - S - S 1,1700 S 350,000 S 1,000 D S 390,000 4.8 1354V - (1) STANLON AND ACCESSORIES S 1.2.6 Male S - S - S 1,1700 S 350,000 S 1,000 D S 390,000 4.9 Index Poles - Relocated 4.3 Seet S - S - S 1,000 S 2,179,340 S - 6.00 S 3,752,1 4.10 Index Poles (18 Total) Male S - S - S - S 3,000 S 1,000 D S 3,000 D S 2,000 D S 2,	4. CONDUCTO	r, SHIELDWIRE, OPGW								
4.3 (1) 3/8" D157 Steel 4.5 Remove Esting 156V Cable From Esixting Structures 130.4 Mile 5 . 5 . 5 . 5 . 30,000 \$ 3,912,000 \$ 3,000,000 \$ 1,921,000 \$ 3,912,000 \$	4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	1,087,733	LF	\$ 1.90	\$ 2,066,693	\$ 5.00	\$ 5,438,665	\$ 6.90	\$ 7,505,358
4.3 (1) 3/6" DETS Steel 181,286 LF \$ 0.4 \$ 85,006 \$ 5,00 \$ 906,445 \$ 5.4 \$ 992,4 4.5 Remove Existing DESW Cable and Accessories 130.4 Mile \$.	4.2	(1) OPGW 36 Fiber AC-33/38/571	181,289	LF	\$ 1.35	\$ 244,740	\$ 5.00	\$ 906,445	\$ 6.35	\$ 1,151,185
4.5 Remove Existing \$1.58Y Cable From Existing \$tructures 130.4 Mile 5 5 5 30,000 \$ 3,912,000 \$ 30,000.00 \$ 3,912,000 \$ 30,000.00 \$ 39,000 \$ 3,912,000 \$ 30,000.00 \$ 39,000 \$ 3,912,000 \$ 30,000.00 \$ 30,000.00 \$ 30,000 \$ 30,000.				15		·	•			
4.6 Remove Desting DPGW Caleba and Accessories 32.6 Mile 5 5 5 12,000 \$ 330,000 \$ 12,000 0 \$ 391,000										
4.7 Remove Existing OHSW and Accessories 32.6 Mile 5 5 5 1,000 5 391,200 5 12,000,00 5 391,40						'				,. ,
48		-			·	· ·	, , , , , , , , , , , , , , , , , , , ,			
4.9 Refer Poles Relocated 43 Set \$ - \$ - \$ 3,500 \$ 150,500 \$ 3,500.00 \$ 150,141 Refer Poles (Ref Poles Relocated 43) Set \$ 1,750 \$ 75,250 \$ 3,500 \$ 150,500 \$ 3,500.00 \$ 150,141 Refer Poles (Ref Poles Relocated 43) Set \$ 1,750 \$ 75,250 \$ 3,500 \$ 150,500 \$ 3,500.00 \$ 128,710 \$ 170 Refer Poles (Ref Poles Reformation Poles Refer Poles Refer Poles (Ref Poles Reformation Poles Refer Poles Refer Poles (Ref Poles Reformation Poles Refer Poles Refer Poles Refer Poles Reformation Poles Refor					1.		, , , , , , , , , , , , , , , , , , , ,			
4.10		115KV - (1) 954Kcmii 54/7 ACSS Cardinai	543,866	LF	\$ 1.90	\$ 1,033,345	\$ 5.00	\$ 2,719,330	\$ 6.90	\$ 3,752,675
A 11 Rider Poles (Se Total)		Diday Dalas Dalasatad	42	Cat	ć	ć	ć 2.500	ć 150.500	¢ 3.500.00	ć 150 500
State Stat						'	, ,,,,,,			
S.HOLLATOR, FITTINGS, HARDWARE			45	LA	3 1,730		3,300		3 3,230.00	
Solid SadsWTangent (1-Group of 18-Bells Each Assembly) 1,010 Assembly S 1,800 S 1,818,000 S 720 S 2,220 S 2,250 S 2,520 S 2,52						3,303,234		3 14,505,085		3 10,470,515
S.2			1,010	Assembly	\$ 1,800	\$ 1,818,000	\$ 720	\$ 727,200	\$ 2,520	\$ 2,545,200
Same	5.2		1,010	Assembly		\$ 909,000	\$ 560	\$ 565,600		
Assembly S	5.3		390	Assembly	\$ 1,800	\$ 702,000	\$ 720	\$ 280,800	\$ 2,520	\$ 982,800
5.6 OPGW Assembly - Tangent 202 Assembly \$ 200 \$ 40,400 \$ 150 \$ 30,300 \$ 350 \$ 70,7	5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	196	Assembly	\$ 900	\$ 176,400	\$ 560	\$ 109,760	\$ 1,460	\$ 286,160
5.7 OPGW Assembly - Angle / DE	5.5			Assembly		\$ -		\$ -	\$ -	\$ -
S.8 OHSW Assembly - Tangent 202 Assembly \$ 200 \$ 40,400 \$ 150 \$ 30,300 \$ 350 \$ 70,70 \$ 5.9 OHSW Assembly - Angle / DE 56 Assembly \$ 250 \$ 14,000 \$ 150 \$ 8,400 \$ 400 \$ 22,50 \$ 5.00 \$ 5.	5.6	OPGW Assembly - Tangent	202	Assembly	\$ 200	\$ 40,400	\$ 150	\$ 30,300	\$ 350	\$ 70,700
5.9 OHSW Assembly - Angle / DE	5.7	OPGW Assembly - Angle / DE	52	Assembly	\$ 250	\$ 13,000	\$ 150	\$ 7,800	\$ 400	\$ 20,800
5.10 OPGW Splice Boxes	5.8	OHSW Assembly - Tangent	202	Assembly	\$ 200	\$ 40,400	\$ 150	\$ 30,300	\$ 350	\$ 70,700
S.11 OPGW Splice & Test 12 EA \$ 2,520 \$ 30,240 \$ 5,040 \$ 5,040 \$ 60,45 \$ 5,125 \$	5.9	OHSW Assembly - Angle / DE	56	Assembly	\$ 250	\$ 14,000	\$ 150	\$ 8,400	\$ 400	\$ 22,400
5.12 Spacer - Conductor 5,414 EA \$ 5.0 \$ 270,700 \$ 35 \$ 189,490 \$ 85 \$ 460,1 5.13 Vibration Dampers - Conductor 1,949 EA \$ 35 \$ 68,215 \$ 70 \$ 136,4 5.14 Shieldwire / OPGW Dampers, Misc. Fittings 657 EA \$ 27 \$ 17,739 \$ 35 \$ 62,2995 \$ 62 \$ 40,7 5.15 Guys, Anchors, and Accessories - EA \$ 720 \$ - \$ 885 \$ - \$ 1,605 \$ 5.16 Misc. materials (Signs and Markers) 32.3 Mile \$ 770 \$ 24,871 \$ 1,006 \$ 32,494 \$ 1,776 \$ 57,5 TOTAL - INSULATORS, FITTINGS, HARDWARE: \$ \$ 4,145,919 \$ 2,130,882 \$ \$ 6,276,8 B. Transmission Line Churchtown to Pleasant Valley \$ 25,512,421 \$ 7	5.10	OPGW Splice Boxes		Set	\$ 1,746	\$ 20,954	\$ 2,274	\$ 27,288	\$ 4,020	
5.13 Vibration Dampers - Conductor 1,949 EA \$ 35 \$ 68,215 \$ 35 \$ 68,215 \$ 70 \$ 136,4 5.14 Shieldwire / OPGW Dampers, Misc. Fittings 657 EA \$ 27 \$ 17,739 \$ 35 \$ 22,995 \$ 62 \$ 40,7 5.15 Guys, Anchors, and Accessories - EA \$ 720 \$ - \$ 885 \$ - \$ 1,605 \$ 5.16 Misc. materials (Signs and Markers) 32.3 Mile \$ 770 \$ 24,871 \$ 1,006 \$ 32,494 \$ 1,776 \$ 57,3 TOTAL - INSULATORS, FITTINGS, HARDWARE: \$ 4,145,919 \$ \$ 2,130,882 \$ \$ 6,276,8 B. Transmission Line Churchtown to Pleasant Valley \$ 75,599,187 \$ 101,111,6 Contractor Mobilization / Demobilization	5.11	OPGW Splice & Test		EA		\$ 30,240			\$ 5,040	\$ 60,480
5.14 Shieldwire / OPGW Dampers, Misc. Fittings 657 EA \$ 27 \$ 17,739 \$ 35 \$ 22,995 \$ 62 \$ 40,75 \$ 15,15 Guys, Anchors, and Accessories - EA \$ 720 \$ - \$ 885 \$ - \$ 1,605									-	
5.15 Guys, Anchors, and Accessories - EA \$ 720 \$ - \$ 885 \$ - \$ 1,605 \$ 5 5.16 Misc. materials (Signs and Markers) 32.3 Mile \$ 770 \$ 24,871 \$ 1,006 \$ 32,494 \$ 1,776 \$ 57,507 \$ 1,405 \$ 57,507 \$ 1,405 \$ 1,005					·			· ·		
5.16 Misc. materials (Signs and Markers) 5.16 Misc. materials (Signs and Markers) 32.3 Mile \$ 770 \$ 24,871 \$ 1,006 \$ 32,494 \$ 1,776 \$ 57,570 \$ 1,000 \$ 32,494 \$ 1,776 \$ 57,500 \$ 1,0					-					
TOTAL - INSULATORS, FITTINGS, HARDWARE: \$ 4,145,919 \$ 2,130,882 \$ 6,276,6						,		7	, , , , , , , , , , , , , , , , , , , ,	·
B. Transmission Line Churchtown to Pleasant Valley 6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS Contractor Mobilization / Demobilization			32.3	Mile	\$ 770		\$ 1,006		\$ 1,776	
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS Contractor Mobilization / Demobilization										* •,=:•,===
Contractor Mobilization / Demobilization / Demobilization LS \$ - \$ - \$ 1,011,116 \$ 1,0	B. Trans	mission Line Churchtown to Pleasant Valley				\$ 25,512,421		\$ 75,599,187		\$ 101,111,607
6.1 Mob / Demob	6. MOB/DEMO									
Project Management, Material Handling & Amenities 6.2 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler 1. IS S.										
Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler	6.1		1	LS	\$ -	\$ -	\$ 1,011,116	\$ 1,011,116	\$ 1,011,116	\$ 1,011,116
I I I I I I I I I I I I I I I I I I I	6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 5,017,411	\$ 5,017,411	\$ 5,017,411	\$ 5,017,411
	6.3		1	LS		\$ -	\$ 1,011,116	\$ 1,011,116	\$ 1,011,116	\$ 1,011,116

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,011,116	\$ 1,011,116	\$ 1,011,116	\$ 1,011,116
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 5,055,580	\$ 5,055,580	\$ 5,055,580	\$ 5,055,580
6.6	Lidar	1	LS	\$ -	\$ -	\$ 303,335	\$ 303,335	\$ 303,335	\$ 303,335
6.7	Geotech	33.0	Location	\$ -	\$ -	\$ 3,500	\$ 115,500	\$ 3,500	\$ 115,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 707,781	\$ 707,781	\$ 707,781	\$ 707,781
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 303,335	\$ 303,335	\$ 303,335	\$ 303,335
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 5,782,000	\$ 5,782,000	\$ 5,782,000	\$ 5,782,000
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 2,040,994	\$ 2,040,994	\$ -	\$ -	\$ 2,040,994	\$ 2,040,994
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 101,112	\$ 101,112	\$ 101,112	\$ 101,112
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 2,040,994		\$ 20,459,402		\$ 22,500,395

Page 8 of 61

C. Blue Stores Junction to Blue Stores Substation

Estimate Revision: 5 Total: \$ 5,690,096

NG & NY Transco - TO)19 - (Segment B)					
		Supply		Installation		Total
C. Blue Stores Junction to Blue Stores Substation						
1. CLEARING & ACCESS	\$	-	\$	1,404,512	\$	1,404,512
2. FOUNDATIONS	\$	236,848	\$	925,954	\$	1,162,802
3. STRUCTURES	\$	596,484	\$	946,665	\$	1,543,149
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	84,763	\$	387,095	\$	471,858
5. INSULATORS, FITTINGS, HARDWARE	\$	107,544	\$	56,496	\$	164,040
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	82,051	\$	861,684	\$	943,735
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	1,107,690	\$	4,582,406	\$	5,690,096
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL:	Ś	1.107.690	Ś	4.582.406	Ś	5,690,096

0.0%

1.2 Clearing the ROW - Light (mowing)	Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
1.1 Clearing the ROW - Heavy (moving & clearing) . Acree \$.	C. Blue S	tores Junction to Blue Stores Substation								
12 Clearing the ROW - Light (mowing)	1. CLEARING 8	ACCESS								
1.3 Access Road 1.1088.0 1.5 5 5 5 5 5 5 5 5 5	1.1	Clearing the ROW - Heavy (mowing & clearing)	÷	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.4 Silf Fence	1.2	Clearing the ROW - Light (mowing)	4.0	Acre	\$ -	\$ -	\$ 5,000	\$ 20,000	\$ 5,000	\$ 20,000
1.5 Matting - Access and ROW		Access Road			\$ -	'				
1.6 Matting - To Work Area 1.800.0 F S S TO \$ 125,000 S 70 \$ 125,000 S 33,600 S 34,000 S				LF	\$ -	\$ -				
1.7 Snow Removal 2.1 Mile 5	1.5	Matting - Access and ROW	8,870	LF	\$ -	\$ -				\$ 620,928
1.8 ROW Restoration	1.6	Matting - To Work Area	1,800.0	LF	\$ -	\$ -	\$ 70	\$ 126,000	\$ 70	\$ 126,000
19	1.7	Snow Removal	2.1	Mile	\$ -	\$ -	\$ 16,000	\$ 33,600	\$ 16,000	\$ 33,600
1.10 Restoration for Work Pad areas 24,000 SF S S S D.2 S 3,600 S 3,6	1.8	ROW Restoration	2.1	Mile	\$ -	\$ -	\$ 10,000	\$ 21,000	\$ 10,000	\$ 21,000
1.11 Temporary Access Bridge	1.9	Work Pads	120,000.0	SF	\$ -	\$ -	\$ 4	\$ 422,400	\$ 4	\$ 422,400
1.12 Air Bridge	1.10	Restoration for Work Pad areas	24,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 3,600	\$ 0	\$ 3,600
1 EA S S S 4,580 S 5,580	1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.14 Maintenance and Protection of Traffic on Public Roads 2 EA S S S S A130 S 8,260 S A130 S 8,261 S A130	1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.15 Gates - EA \$ 2,000 \$ - \$ 2,500 \$ - \$ 4,500 \$ - \$ 1.15 \$ 1.16 \$	1.13	Stabilized Construction Entrance	1	EA	\$ -	\$ -	\$ 4,580	\$ 4,580	\$ 4,580	\$ 4,580
1.16 Culverts / Misc. Access - EA \$ 750 \$ - \$ 1,250 \$ - \$ 2,000 \$ - 1,17 Concrete Washout Station - EA \$ 750 \$ - \$ 1,850 \$ - \$	1.14	Maintenance and Protection of Traffic on Public Roads	2	EA	\$ -	\$ -	\$ 4,130	\$ 8,260	\$ 4,130	\$ 8,260
1.17 Concrete Washout Station - EA \$ - \$ - \$ 1,850 \$ - \$ 1,850 \$ - \$ 1,800 \$ 5 - \$ 1,800 \$ 5 - \$ 1,800 \$ 5 - \$ 1,004,512 \$ 1,0	1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
TOTAL - CLEARING & ACCESS:	1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
2.1 Drilled Pier - 115kV Single Circuit H- Pole Angle/ DE 2.2 Direct Embed - 115kV Single Circuit H- Pole Tangent 18 EA \$ 31,225 \$ 187,348 \$ 31,559 \$ 189,354 \$ 62,784 \$ 376,70 \$ 386,10 \$ 21,450 \$ 386,10 \$ 21,450 \$ 386,10 \$ 21,450 \$ 386,10 \$ 21,450 \$ 386,10 \$ 21,450 \$ 386,10 \$ 21,450 \$ 386,10 \$ 21,450 \$ 386,10 \$ 21,450 \$ 386,10 \$ 21,450 \$ 21,	1.17	Concrete Washout Station	-	EA	\$ -	\$ -	\$ 1,850	\$ -	\$ 1,850	\$ -
2.1 Drilled Pier - 115kV Single Circuit H- Pole Angle/ DE 6 EA \$ 31,225 \$ 187,348 \$ 31,559 \$ 189,354 \$ 62,784 \$ 376,77 \$ 2.2 Direct Embed - 115kV Single Circuit H- Pole Tangent 18 EA \$ 2,750 \$ 49,500 \$ 18,700 \$ 336,600 \$ 21,450 \$ 386,10 \$ 2.3 Rock Excavation Adder 200.0 CY \$ - \$ - \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2.5 \$ 2.5 \$ 2.6 \$ 2.7 \$ 2.8 \$ 2.9	TOTAL - CLEA	RING & ACCESS:				\$ -		\$ 1,404,512		\$ 1,404,512
2.2 Direct Embed - 115kV Single Circuit H- Pole Tangent 18 EA \$ 2,750 \$ 49,500 \$ 18,700 \$ 336,600 \$ 21,450 \$ 386,11 2.3 Rock Excavation Adder 200.0 CY \$ - \$ - \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,00 2.4 2.5 2.6 2.7 2.7 2.8 2.9 2.9 2.10	2. FOUNDATION	DNS								
2.3 Rock Excavation Adder 200.0 CY \$ - \$ - \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$ 400,000 \$ 2,000 \$	2.1	Drilled Pier - 115kV Single Circuit H- Pole Angle/ DE	6	EA	\$ 31,225	\$ 187,348	\$ 31,559	\$ 189,354	\$ 62,784	\$ 376,702
2.4 2.5 2.6 2.7 2.8 2.9 2.10	2.2	Direct Embed - 115kV Single Circuit H- Pole Tangent	18	EA	\$ 2,750	\$ 49,500	\$ 18,700	\$ 336,600	\$ 21,450	\$ 386,100
2.5 2.6 2.7 2.8 2.9 2.10	2.3	Rock Excavation Adder	200.0	СУ	\$ -	\$ -	\$ 2,000	\$ 400,000	\$ 2,000	\$ 400,000
2.6 2.7 2.8 2.9 2.10										
2.7 2.8 2.9 2.10										
2.8 2.9 2.10										
2.9 2.10										
2.10										
	2.11									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.12									
2.13									
2.14									
TOTAL - FOUN	IDATIONS:				\$ 236,848		\$ 925,954		\$ 1,162,802
3. STRUCTURE	S								
3.1	115kV Single Circuit H- Pole Angle/ DE	6		\$ 39,822		,	\$ 143,358		
3.2	115kV Single Circuit H- Pole Tangent	18	Structure	\$ 18,515		\$ 11,109	\$ 199,960	\$ 29,624	
3.3	Remove Existing Foundation	-	EA	\$ -	\$ -	\$ 7,500	\$ -	\$ 7,500	\$ -
3.4	Remove Existing Structure and Accessories	27	EA	\$ -	\$ -	\$ 12,500	\$ 337,500	\$ 12,500	\$ 337,500
3.5		-		4 505	4 34300	Å 5.500	A 255.040	4 6045	4 200 405
3.6	Install Grounding and Grounding Accessories	48	Pole	\$ 506	\$ 24,288	\$ 5,539	\$ 265,848	\$ 6,045	\$ 290,136
3.8									
3.9									
3.10									
3.11									
3.12 3.13									
3.14									
3.15									
TOTAL - STRU					\$ 596,484		\$ 946,665		\$ 1,543,149
	R, SHIELDWIRE, OPGW						_		
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ -	\$ -	\$ 5.00	\$ -	\$ 5.00	\$ -
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$ -	\$ -	\$ 5.00		\$ 5.00	\$ -
4.3	(1) 3/8" EHS7 Steel	-	LF	\$ -	\$ -	\$ 5.00			
4.4	115kV - (1) 795kcmil 26/7 ACSR "Drake"	34,927.0	LF	\$ 1.72	\$ 60,074	\$ 5.00	\$ 174,635	\$ 6.72	\$ 234,709
4.5	(1) OPGW 36 Fiber AC-33/38/571	11,642.0	LF	\$ 1.35	\$ 15,717	\$ 5.00	\$ 58,210	\$ 6.35	\$ 73,927
4.6	(1) 3/8" EHS7 Steel	11,642.0	LF	\$ 0.47	\$ 5,472	\$ 5.00	\$ 58,210	\$ 5.47	\$ 63,682
4.7	Remove Existing Cable	2.1	Mile	\$ -	\$ -	\$ 30,000	\$ 63,600	\$ 30,000.00	\$ 63,600
4.8	Remove Existing OPGW Cable and Accessories	-	Mile	\$ -	\$ -	\$ 12,000	\$ -	\$ 12,000.00	\$ -
4.9	Remove Existing OHSW and Accessories	2.1	Mile	\$ -	\$ -	\$ 12,000	\$ 25,440	\$ 12,000.00	\$ 25,440
4.10		-							
4.11		-							
4.12	Rider Poles (Locations)	2.0	EA	\$ 1,750	\$ 3,500	\$ 3,500	\$ 7,000	\$ 5,250.00	\$ 10,500
4.13									
	DUCTOR, SHIELDWIRE, OPGW:				\$ 84,763		\$ 387,095		\$ 471,858
5. INSULATOR 5.1	, FITTINGS, HARDWARE 345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	54	Assembly	\$ 900	\$ 48,600		\$ 19,440	\$ 1,260	
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -		\$ -	\$ 2,520	\$ -
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	36		\$ 900		\$ 360			
5.5	ORCH Assembly Transmit	10	Assembly	ć 200	\$ -	ć 150	\$ -	\$ -	\$ -
5.6 5.7	OPGW Assembly - Tangent OPGW Assembly - Angle / DE	18	Assembly Assembly	\$ 200 \$ 250		\$ 150 \$ 150	\$ 2,700 \$ 1,800	\$ 350 \$ 400	\$ 6,300 \$ 4,800
5.8	OHSW Assembly - Tangent	18	Assembly	\$ 250			\$ 2,700		\$ 4,800
5.9	OHSW Assembly - Angle / DE	12	Assembly	\$ 250	\$ 3,000	\$ 150	\$ 1,800	\$ 400	\$ 4,800
5.10	OPGW Splice Boxes	2		\$ 1,746		\$ 2,274			
5.11	OPGW Splice & Test	2		\$ 2,520					
5.12	Spacer - Conductor Vibration Dampers - Conductor	72	EA	\$ 50 \$ 35		\$ 35 \$ 35			
5.13 5.14	Shieldwire / OPGW Dampers, Misc. Fittings	25		\$ 35 \$ 27					
5.15	Guys, Anchors, and Accessories		EA	\$ 720		\$ 885			
5.16	Misc. materials (Signs and Markers)	2.1	Mile	\$ 770					
5.17									
	ATORS, FITTINGS, HARDWARE:				\$ 107,544		\$ 56,496		\$ 164,040
	Stores Junction to Blue Stores Substation				\$ 1,025,639		\$ 3,720,722		\$ 4,746,361
6. MOB/DEM	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								D 10 -6 (1

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464
	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 235,526	\$ 235,526	\$ 235,526	\$ 235,526
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 237,318	\$ 237,318	\$ 237,318	\$ 237,318
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 14,239	\$ 14,239	\$ 14,239	\$ 14,239
6.7	Geotech	2	Location	\$ -	\$ -	\$ 3,500	\$ 7,000	\$ 3,500	\$ 7,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 33,225	\$ 33,225	\$ 33,225	\$ 33,225
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 14,239	\$ 14,239	\$ 14,239	\$ 14,239
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 153,000	\$ 153,000	\$ 153,000	\$ 153,000
6.15	Legal Fees	-	LS	\$ -	\$ -		\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 82,051	\$ 82,051	\$ -	\$ -	\$ 82,051	\$ 82,051
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 4,746	\$ 4,746	\$ 4,746	\$ 4,746
TOTAL - MOE	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 82,051		\$ 861,684		\$ 943,735

Page 11 of 61

D. Knickerbocker 345kV Substation - Install

Estimate Revision: 5 Total: \$ 32,913,517

NG & NY Transco - T019	- (Segme	nt B)		
		Supply	Installation	Total
D. Knickerbocker 345kV Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	339,050	\$ 4,006,475	\$ 4,345,525
2. SUBSTATION FOUNDATIONS	\$	1,920,103	\$ 2,065,950	\$ 3,986,053
3. SUBSTATION STRUCTURES	\$	912,975	\$ 912,975	\$ 1,825,950
4. MAJOR EQUIPTMENT	\$	7,100,000	\$ 940,000	\$ 8,040,000
5. SMALL EQUIPTMENT / MATERIALS	\$	1,206,500	\$ 534,500	\$ 1,741,000
6. CONTROL HOUSE / PANELS	\$	2,098,800	\$ 1,355,800	\$ 3,454,600
7. MISC ITEMS	\$	1,012,063	\$ 1,901,070	\$ 2,913,133
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,167,159	\$ 5,440,097	\$ 6,607,256
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ •	\$ -
SUBTOTAL:	\$	15,756,650	\$ 17,156,867	\$ 32,913,517
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	15,756,650	\$ 17,156,867	\$ 32,913,517

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rat	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
D. Knicke	erbocker 345kV Substation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	9.125	ACRES	\$ -	\$ -	\$ 355,000	\$ 3,239,375	\$ 355,000	\$ 3,239,375
1.2	Station stone within substation fence.	3,900	CY	\$ 2	7 \$ 105,300	\$ 75	\$ 292,500	\$ 102	\$ 397,800
1.3	Substation Fence	2,100	LF	\$ 10	\$ 210,000	\$ 100	\$ 210,000	\$ 200	\$ 420,000
1.4									
1.5									
1.6	Permanent Access Road - 20'-Wide	600	LF	\$ 3	\$ 21,000	\$ 285	\$ 171,000	\$ 320	\$ 192,000
1.7	Pavement	1,600	SY	\$ -	\$ -	\$ 55	\$ 88,000	\$ 55	\$ 88,000
1.8	Gates	1	EA	\$ 2,00	2,000	\$ 2,500	\$ 2,500	\$ 4,500	\$ 4,500
1.9	Culverts / Misc. Access	1	EA	\$ 75	5 5 750	\$ 1,250	\$ 1,250	\$ 2,000	\$ 2,000
1.10	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ 339,050		\$ 4,006,475		\$ 4,345,525
2. SUBSTATION	FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	3	EA	\$ 14,94	\$ 44,820	\$ 16,000	\$ 48,000	\$ 30,940	\$ 92,820
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,02	1 1	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$ 26,14	\$ 104,580	\$ 28,000	\$ 112,000	\$ 54,145	\$ 216,580
2.1d	Caisson DE Foundations (for DE A frame str shared column)	18	EA	\$ 26,14	\$ 470,610	\$ 28,000	\$ 504,000	\$ 54,145	\$ 974,610
2.1e	Switch Stand Foundations	90	EA	\$ 4,48	2 \$ 403,380	\$ 4,800	\$ 432,000	\$ 9,282	\$ 835,380
2.1f	Station Service Transformer Stand Foundation	4	EA	\$ 4,48	2 \$ 17,928	\$ 4,800	\$ 19,200	\$ 9,282	\$ 37,128
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	72	EA	\$ 4,48	2 \$ 322,704	\$ 4,800	\$ 345,600	\$ 9,282	\$ 668,304
2.1j	Instrument Transformer Stand Foundations	27	EA	\$ 4,48	2 \$ 121,014	\$ 4,800	\$ 129,600	\$ 9,282	\$ 250,614
2.1k	Arrester Stand Foundations	9	EA	\$ 4,48		\$ 4,800	\$ 43,200	\$ 9,282	\$ 83,538
2.1m	Wave Trap Stand Foundations	3	EA	\$ 4,48		\$ 4,800	\$ 14,400	\$ 9,282	\$ 27,846
2.1n	Reactor Foundations	0	EA	\$ 7,47) \$ -	\$ 8,000	\$ -	\$ 15,470	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.1p	Series Compensation System	1	EA	\$ 112,050	\$ 112,050	\$ 120,000	\$ 120,000	\$ 232,050	\$ 232,050
2.1q									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	8	EA	\$ 16,434	\$ 131,472	\$ 17,600	\$ 140,800	\$ 34,034	\$ 272,272
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3h	Bus Support 1 Ph Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3j	Instrument Transformer Stand Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3k	Arrester Stand Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ 41,832	\$ 41,832	\$ 44,800	\$ 44,800	\$ 86,632	\$ 86,632
2.5b	Generator Foundation	1	EA	\$ 16,000	\$ 16,000	\$ 17,000	\$ 17,000	\$ 33,000	\$ 33,000
2.5c	Station Service Distribution Line - 3ph.	1	LS	\$ -	\$ -	\$ 9,750	\$ 9,750	\$ 9,750	\$ 9,750
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	5	EA	\$ 5,229	\$ 26,145	\$ 5,600	\$ 28,000	\$ 10,829	\$ 54,145
2.6b				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SURS	TATION FOUNDATIONS				\$ 1,920,103		\$ 2,065,950		\$ 3,986,053
	IN STRUCTURES				7 1,520,103		2,003,950		9 3,300,053
3.1	345kV								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.1a	Substation A-Frame Structures - Stand alone	1	EA	\$ 37,000	\$ 37,000	\$ 37,000	\$ 37,000	\$ 74,000	\$ 74,000
3.1b	Substation A-Frame Structures - Shared Column	6	EA	\$ 37,000	\$ 222,000	\$ 37,000	\$ 222,000	\$ 74,000	\$ 444,000
3.1c	Switch Stands	15	EA	\$ 14,800	\$ 222,000	\$ 14,800	\$ 222,000	\$ 29,600	\$ 444,000
3.1d	Station Service Transformer Stand	3	EA	\$ 14,800	\$ 44,400	\$ 14,800	\$ 44,400	\$ 29,600	\$ 88,800
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	72	EA	\$ 3,700	\$ 266,400	\$ 3,700	\$ 266,400	\$ 7,400	\$ 532,800
3.1g	Instrument Transformer Stand	27	EA	\$ 1,850	\$ 49,950	\$ 1,850	\$ 49,950	\$ 3,700	\$ 99,900
3.1h	Arrester Stand	9	EA	\$ 1,850	\$ 16,650	\$ 1,850	\$ 16,650	\$ 3,700	\$ 33,300
3.1j	Wave Trap Stand	3	EA	\$ 7,400	\$ 22,200	\$ 7,400	\$ 22,200	\$ 14,800	\$ 44,400
3.1k	Lightning Mast - 70'	5	EA	\$ 6,475	\$ 32,375	\$ 6,475	\$ 32,375	\$ 12,950	\$ 64,750
					·				
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2c	Switch Stands	0	EA	\$ 12,025	\$ -	\$ 12,025	\$ -	\$ 24,050	\$ -
3.2d	Station Service Transformer Stand	0	EA	\$ 12,025	\$ -	\$ 12,025	\$ -	\$ 24,050	\$ -
3.2e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2f	Bus Support 1 Ph	0	EA	\$ 2,775	\$ -	\$ 2,775		\$ 5,550	\$ -
3.2g	Instrument Transformer Stand	0	EA	\$ 1,295	\$ -	\$ 1,295	\$ -	\$ 2,590	\$ -
3.2h	Arrester Stand	0	EA	\$ 1,295	\$ -	\$ 1,295	\$ -	\$ 2,590	\$ -
3.2j	Wave Trap Stand	0	EA	\$ 5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
5.2.0	- Innocessaria		271	ψ 0,173	Ť	φ 0,173	¥	Ų 12,550	<u> </u>
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -	\$ 7,955		\$ 15,910	
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -	\$ 7,955		\$ 15,910	
3.3e	Bus Support 3ph	0	EA	\$ 3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.38	IMISC. Structures	-	LA.	3 0,473	,	3 0,473	, -	3 12,930	
TOTAL - SUBS	TATION STRUCTURES				\$ 912,975		\$ 912.975		\$ 1.825.950
4. MAJOR EQI					\$ 912,975		\$ 912,975		\$ 1,825,950
4.1 WAJOK EQ	345kV								
4.1a	Circuit Breakers	3	EA	\$ 200,000	\$ 600,000	\$ 80,000	\$ 240,000	\$ 280,000	\$ 840,000
		0	EA						
4.1b	Capacitor Banks with Reactors	U	EA	Ş -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	Series Compensation System	1	EA	\$ 6,500,000	\$ 6,500,000	\$ 700,000	\$ 700,000	\$ 7,200,000	\$ 7,200,000
4.1d									
4.1e									
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ 115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000		\$ 80,000	\$ -
	TOPPE TO THE TOPPE			<u>'</u>		. 23,000		. 23,000	·
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	\$ -
	<u> </u>			1	1.	1 22,300		,	Page 14 of 61

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAJO	R EQUIPTMENT				\$ 7,100,000		\$ 940,000		\$ 8,040,000
5. SMALL EQU	IPTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	6	EA	\$ 40,000	\$ 240,000	\$ 15,000	\$ 90,000	\$ 55,000	\$ 330,000
5.1b	Disconnect Switches - 3ph w/ manual operator	6	EA	\$ 35,000	\$ 210,000	\$ 17,500	\$ 105,000	\$ 52,500	\$ 315,000
5.1c	VT'S	9	EA	\$ 25,000	\$ 225,000	\$ 12,000	\$ 108,000	\$ 37,000	\$ 333,000
5.1d	CT'S	9	EA	\$ 13,000	\$ 117,000	\$ 8,000	\$ 72,000	\$ 21,000	\$ 189,000
5.1e	CCVT'S	9	EA	\$ 13,000	\$ 117,000	\$ 8,000	\$ 72,000	\$ 21,000	\$ 189,000
5.1f	Arresters	9	EA	\$ 6,500	\$ 58,500	\$ 1,500	\$ 13,500	\$ 8,000	\$ 72,000
5.1g	Wave Traps	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1h	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000	\$ 50,000	\$ 50,000	\$ 250,000	\$ 250,000
			<u> </u>						
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,000	\$ -	\$ 17,500	\$ -	\$ 47,500	\$ -
5.2c	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -	\$ 6,000	\$ -	\$ 16,000	\$ -
5.2f	Arresters	0	EA	\$ 5,000	\$ -	\$ 6,000	\$ -	\$ 11,000	\$ -
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ 33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000	\$ -	\$ 17,500	\$ -	\$ 45,500	\$ -
5.3c	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.3d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.3e	CCVT'S	0	EA	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 16,000	\$ -
5.3f	Arresters	0	EA	\$ 3,420	\$ -	\$ 6,000	\$ -	\$ 9,420	\$ -
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				\$ 1,206,500		\$ 534,500		\$ 1,741,000
6. CONTROL H	OUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	1	EA	\$ 468,000	\$ 468,000	\$ 95,000	\$ 95,000	\$ 563,000	\$ 563,000
6.2	Protection and Telecom Equipment Panels	20	EA	\$ 35,000	\$ 700,000	\$ 10,000	\$ 200,000	\$ 45,000	\$ 900,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,000
6.4	Control Cables	1	LS	\$ 415,800	\$ 415,800	\$ 415,800			
6.5	SCADA and Communications	1	EA	\$ 50,000	\$ 50,000	\$ 100,000			
6.6	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000		\$ 300,000
6.7	DC Distribution System	2	EA	\$ 50,000	\$ 100,000				\$ 300,000
6.8	Security	1	EA	\$ 7,500	,		· ·		
6.9	Fire Alarm	1	EA	\$ 7,500					
	I .			,,,,,	,,,,,	,,,,,,	,,,,,,	-,	-,

Item	Item Description	Estimated Quantity	Unit of Measure	Materi	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.10	Generator	1	EA	Ś	100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$ 180,000
0.10	Generator	1	LA	7	100,000	3 100,000	3 80,000	\$ 80,000	3 180,000	3 180,000
TOTAL - CONTI	ROL HOUSE / PANELS / GENERATOR					\$ 2,098,800		\$ 1,355,800		\$ 3,454,600
7. MISC ITEMS						, ,,,,,,,,		, ,,,,,,,,		, ,,,,,,
7.1	Conduit & Cable Trench System	1,050.0	LF	\$	185.00	\$ 194,250	\$ 170.00	\$ 178,500	\$ 355	\$ 372,75
7.2	Rigid Bus, Fittings & Insulators	1,900.0	LF	\$	125.07	\$ 237,633	\$ 237.10	\$ 450,490	\$ 362	\$ 688,12
7.3	Strain Bus, Connectors & Insulators	0.0	LF	\$	39.30	\$ -	\$ 53.35	\$ -	\$ 93	\$ -
7.4	Grounding System	26,000.0	LF	\$	6.93	\$ 180,180	\$ 32.58	\$ 847,080	\$ 40	\$ 1,027,26
7.5	Strain Bus Insulators - 345kV	0	EA	\$	2,000	\$ -	\$ 1,050	\$ -	\$ 3,050	\$ -
7.6	Strain Bus Insulators - 230kV	0	EA	\$	1,400	\$ -	\$ 750	\$ -	\$ 2,150	\$ -
7.7	Strain Bus Insulators - 115kV	0	EA	\$	1,000	\$ -	\$ 550	\$ -	\$ 1,550	\$ -
7.8	Low Voltage AC Station Service	1	LS	\$	50,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$ 125,000
7.9	SSVT Service	1	LS	\$	45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 90,000	\$ 90,000
7.10	Control Conduits from Trench to Equipment	1	LS	\$	125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$ 250,000
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$	180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$ 360,000
7.12										
7.13										
7.14										
7.15										
7.16										
7.17										
7.18										
7.19										
7.20										
7.21										
7.22										
7.23										
7.24										
7.25										
TOTAL - MISC	ITEMS					\$ 1,012,063		\$ 1,901,070		\$ 2,913,13
D. Knicke	erbocker 345kV Substation - Install					\$ 14,589,491		\$ 11,716,770		\$ 26,306,26
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					, ,,,,,		, , ,		,,.
	Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 263,063	\$ 263,063	\$ 263,063	\$ 263,06
	Project Management, Material Handling & Amenities			<u> </u>			,			
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 1,305,382	\$ 1,305,382	\$ 1,305,382	\$ 1,305,38
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 263,063	\$ 263,063	\$ 263,063	\$ 263,06
	Site Accommodation, Facilities, Storage	1	LS	Ś	-	\$ -	\$ 263,063	\$ 263,063	\$ 263,063	\$ 263,06
	Engineering	-		+		· ·	- 203,003	- 203,003	- 203,003	- 203,000
	Design Engineering	1	LS	\$	-	\$ -	\$ 2,104,501	\$ 2,104,501	\$ 2,104,501	\$ 2,104,50
-	LiDAR	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
	Geotech	4	EA	\$		\$ -	\$ 3,500			
	Surveying/Staking	1	Site	\$		\$ -	\$ 184,144	\$ 184,144		
	Testing & Commissioning			† ·						
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 657,657	\$ 657,657	\$ 657,657	\$ 657,65
3.3	Permitting and Additional Costs	-		1		·	- 057,057	+ 057,057	557,057	- 057,05
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
0.10				1 *		· ·	· ·	T	T	D 16 -64

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Co	st	Labor & Equipment Supply Rate Cost				Total Unit Rate	TOTAL
8.11	Environmental Mitigation		LS	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -		
8.12	Warranties / LOC's	1	LS	\$ -	\$ -		\$ 78,919	\$ 78,919	\$ 78,919	\$ 78,919		
8.13	Real Estate Costs (New)	1	LS	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -		
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -		\$ 280,000	\$ 280,000	\$ 280,000	\$ 280,000		
8.15	Legal Fees		LS	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -		
8.16	Allowance for Funds Used During Construction (AFUDC)	•	LS	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -		
8.17			LS	\$ -	\$ -		\$ -	\$ -	\$ -	\$ -		
8.18	Sales Tax on Materials	1	LS	\$ 1,167,159	\$ 1,167,1	59 5	\$ -	\$ -	\$ 1,167,159	\$ 1,167,159		
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	,	\$ 26,306	\$ 26,306	\$ 26,306	\$ 26,306		
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 1,167,1	59		\$ 5,440,097		\$ 6,607,256		

Page 17 of 61

D. SS Knickerbocker - Install

NG & NY Transco - T019 - (Segment B) E. Greenbush Substation - Removal Total: \$

71,152

NG & NY Transco - T019	- (Segment B)				
	Supp	ly	1	Installation	Total
E. Greenbush Substation - Removal					
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$ -
2. SUBSTATION FOUNDATIONS	\$	-	\$	12,000	\$ 12,000
3. SUBSTATION STRUCTURES	\$	-	\$	-	\$ -
4. MAJOR EQUIPTMENT	\$	-	\$	7,000	\$ 7,000
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	35,000	\$ 35,000
6. CONTROL HOUSE / PANELS	\$	-	\$	7,200	\$ 7,200
7. MISC ITEMS	\$	-	\$	-	\$ -
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$	9,952	\$ 9,952
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$ -
SUBTOTAL:	\$	-	\$	71,152	\$ 71,152
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$ -
TOTAL:	\$	-	\$	71,152	\$ 71,152

escr	ipti	ion	of	W	orl	k:
------	------	-----	----	---	-----	----

Estimate Revision:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
E. Green	bush Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.		ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.		CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence		LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
2. SUBSTATION	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 14,200	\$ -	\$ 14,200	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Reactor Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200		\$ 7,200	
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -			\$ 32,000	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000		\$ 22,000	
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ 11,000		\$ 11,000	
2.2e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

2.22 Mo. Coppert ph. Tonderforces 0 FA 5 5 5 5 5 5 5 5 5	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2-21	2.2g	Bus Support 3ph Foundations			<u> </u>	\$ -				\$ -
2.72 Amorbiot Stand Foundations (C. 10. A. 10. C. 10.						\$ -		\$ -		
2.72 Wave Trap Stand Foundations		Instrument Transformer Stand Foundations				\$ -			, ,	
2.72 Miss. Structure Foundations									, , , , ,	
2.29						·				\$ -
1180 1180		Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2-3b	2.2p									
2-30 Capacitic Park Foundations D FA S S S S S S S S S										
2.36 Calsson DE Foundations (for DE A Tarine str stand alone)	2.3a	Circuit Breaker Foundations			\$ -	\$ -	\$ 7,200	\$ 7,200		\$ 7,200
2-36 Casson De Foundations (fir DR A from et x1 - shared column)						·				\$ -
2-26 South Stand Foundations						'				\$ -
2.38 Ruse pland Foundations										\$ -
2-38 Bus Support 1 Ph Foundations						<u> </u>		-		\$ -
2.39 Bus Support 1P Foundations						·	<u>'</u>		·	\$ -
2.3.1 Instrument Transformer Sand Foundations						т		-		\$ -
2.38 Arrester Stanf Proundations 0 EA \$						Т				\$ -
2.3m						·				
2-3p						·				\$ -
2.49 Misc. Structure Foundations		·								\$ -
2.4 Transformer Foundations						H:				\$ -
2.48 345-230AV Transformer Foundation w/ Oil Containment	2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b 349-115NV Transformer Foundation w/ Oil Containment	2.4	Transformer Foundations								
2.4c	2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5d	2.4b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5 Control House Foundations / Pad	2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
2.5a Control House / Pad	2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -				\$ -
2.5a Control House / Pad										
2.5b Generator Foundation		Control House Foundations / Pad								
2.6 Lightning Mast Foundations					'					\$ -
2.6a 70 Lightning Mast Foundation 0 EA \$ - \$ 5 - \$ \$ \$ \$ \$ \$ \$ \$ \$	2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6a 70 Lightning Mast Foundation 0 EA S - S - S - S S S S S	2.6	Lightning Mast Foundations								
2.6b			0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS S - S - S - S - S S S S S		ů ů	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.10 345kV						\$ -	\$ -	\$ -	\$ -	\$ -
3.10 3.15 3.15 3.16 3.16 3.16 3.17 3.17 3.18 3.18 3.19 3.19 3.19 3.19 3.19 3.19 3.19 3.19 3.19 3.19 3.19 3.19 3.19 3.19 3.10										
3.1a Substation A-Frame Structures - Stand alone 0 EA \$ - \$ \$ - \$ \$ \$ \$ \$ \$						\$ -		\$ 12,000		\$ 12,000
3.1a Substation A-Frame Structures - Stand alone 0 EA S - S - S - S S S S										
3.1b Substation A-Frame Structures - Shared Column 0 EA \$ - \$ - \$ 5 - \$ \$ \$ \$ \$ \$ \$ \$ \$					_	4		4	4	4
3.1c Switch Stands 0 EA \$ - \$ - \$ \$ - \$ \$ \$ \$					-	·				\$ -
3.1d Station Service Transformer Stand 0 EA \$ -						т		-		\$ -
3.1e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ 5 - \$ \$ \$ \$ \$ \$ \$ \$ \$						·				\$ - \$ -
3.1f Bus Support 1 Ph										\$ -
3.1g Instrument Transformer Stand 0 EA \$ -						7				
3.1h Arrester Stand 0 EA \$ -						'				\$ -
3.1j Wave Trap Stand 0 EA \$ -					<u> </u>	7	<u>'</u>			\$ -
3.1k Misc. Structures 0 EA \$ -					<u> </u>	·				\$ -
3.2 230kV 3.2a Substation A-Frame Structures - Stand alone 0 EA \$ - \$ 27,000 \$ - \$ 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ - \$ 27,000 \$ - \$ 3.2c Switch Stands 0 EA \$ - \$ 9,750 \$ - \$ 3.2d Station Service Transformer Stand 0 EA \$ - \$ - \$ - \$ 3.2e Bus Support 3ph 0 EA \$ -					·	т			•	\$ -
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ - \$ 27,000 \$ - \$ 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ - \$ 27,000 \$ - \$ 3.2c Switch Stands 0 EA \$ - \$ 9,750 \$ - \$ 3.2d Station Service Transformer Stand 0 EA \$ - \$ - \$ - \$ 3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ 3.2f Bus Support 1Ph 0 EA \$ - \$ - \$ - \$ - \$ 3.2g Instrument Transformer Stand 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -<								i i		
3.2b Substation A-Frame Structures - Shared Column 0 EA \$ - \$ 27,000 \$ - \$ 3.2c Switch Stands 0 EA \$ - \$ 9,750 \$ - \$ 3.2d Station Service Transformer Stand 0 EA \$ - \$ - \$ - \$ 3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ 3.2f Bus Support 1 Ph 0 EA \$ - \$ - \$ - \$ 3.2g Instrument Transformer Stand 0 EA \$ - \$ - \$ - \$										
3.2c Switch Stands 0 EA \$ - \$ 9,750 \$ - \$ 3.2d Station Service Transformer Stand 0 EA \$ -										
3.2d Station Service Transformer Stand 0 EA \$ - \$										
3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ 3.2f Bus Support 1 Ph 0 EA \$ - \$ - \$ 2,250 \$ - \$ 3.2g Instrument Transformer Stand 0 EA \$ - \$ - \$ 1,050 \$ - \$										
3.2f Bus Support 1 Ph 0 EA \$ - \$ 2,250 \$ - \$ 3.2g Instrument Transformer Stand 0 EA \$ - \$ - \$ 1,050 \$ - \$										
3.2g Instrument Transformer Stand 0 EA \$ - \$ - \$ 1,050 \$ - \$										
3.2h Arrester Stand 0 EA \$ - \$ - \$ 1,050 \$ - \$										
3.2j Wave Trap Stand 0 EA \$ - \$ - \$ 4,500 \$ - \$										
3.2k Misc. Structures 0 EA \$ - \$ - \$ - \$	3.2k	Misc. Structures	0	EA	> -	> -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	115kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000		\$ 15,000	
	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
	Switch Stands	0	EA	\$ -	\$ -		\$ -	\$ 6,450	
	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -		\$ - \$ -
	Arrester Stand Wave Trap Stand	0	EA EA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -		\$ -
	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.31	IMISC. Structures	0	LA	, -	· -	· -	· -	3 -	-
TOTAL - SUBST	TATION STRUCTURES				\$ -		\$ -		\$ -
4. MAJOR EQU					Ţ		,		,
	345kV								
	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
4.1c	Property of the Control of the Contr	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
	230kV								
	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -		
4.3	115kV								
4.3a	Circuit Breakers	1	EA	\$ -	\$ -	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJO	R EQUIPTMENT				\$ -		\$ 7,000		\$ 7,000
5. SMALL EQUI	IPTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	VT'S	0	EA	\$ -	•	\$ -	\$ -		\$ -
	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
	CCVT'S	0	EA	\$ -	\$ -		\$ -	\$ 2,500	
	Arresters	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	
	Wave Traps	0	EA	\$ -	\$ -		\$ -	\$ 2,500	
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
								ļ	
	230kV		F.	ć	<u>^</u>	ć	6	A	•
5.2a	Line Switches - 3ph w/ motor operator	0	EA FA	\$ -	\$ -	\$ 5,500		\$ 5,500	
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -		\$ -	\$ 5,500	
	VT'S CT'S	0	EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -		\$ - \$ -
	CCVT'S	0	EA EA	\$ -	\$ -	\$ - \$ 1,500	\$ -	\$ 1,500	
	Arresters	0	EA EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	
5.2g	Wave Traps	0	EA EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2g 5.2h	Station Service Transformers	0	EA EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
J.211	Station Service Transformers	1	LA	-	-	-	-	-	
								 	
5.3	115kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500		\$ 5,500	
	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
	CT'S	0	EA	\$ -	\$ -		\$ -		\$ -
	CCVT'S	2		\$ -	\$ -		\$ 35,000		
	Arresters	0		\$ -	\$ -			\$ 1,500	
	Wave Traps	0	EA	\$ -		\$ -	\$ -		\$ -
	Station Service Transformers	0	EA	\$ -			\$ -		\$ -
								1	
	<u> </u>	1		l e					
								1 1	Į.
TOTAL - SMALI	 L EQUIPTMENT / MATERIALS				\$ -		\$ 35,000		\$ 35,000

item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
6.2	Protection and Telecom Equipment Panels	2	EA	\$ -	\$ -	\$ 3,600	\$ 7,200	\$ 3,600	\$ 7,200
	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cable	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.8	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ 7,200		\$ 7,200
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
	Rigid Bus, Fittings & Insulators	0	EA	\$ -	\$ -	\$ 126.25	\$ -	\$ 126	\$ -
7.3	Strain Bus, Connectors & Insulators	0	LS	\$ -	\$ -	\$ 21,000.00		\$ 21,000	\$ -
7.4	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC	ITEMS				\$ -		\$ -		\$ -
F Cross	bush Substation - Removal				i.				
					\$ -		\$ 61,200		\$ 61,200
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
	Mob / Demob	1	LS	\$ -	\$ -	\$ 612	\$ 612	\$ 612	\$ 612
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 3,037	\$ 3,037	\$ 3,037	\$ 3,037
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 612	\$ 612	\$ 612	\$ 612
	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 612	\$ 612	\$ 612	
	Engineering								
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 4,896	\$ 4,896	\$ 4,896	\$ 4,896
8.6	LIDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Surveying/Staking	-	Site	\$ -	\$ -	\$ 428		\$ 428	\$ -
	Testing & Commissioning								
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 1,530	\$ -	\$ 1,530	\$ -
	Permitting and Additional Costs		-					. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 184	\$ 184	•	\$ 184
	Real Estate Costs (New)	1		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17	A MONTANCE TO THE GOOD DUTING CONSTRUCTION (ALODO)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	•	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits		LS		\$ -	\$ 61		\$ 61	
	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	-			\$ -	, OI	\$ 9,952	y 01	\$ 9,952
I O I AL - IVIUD/	DEITIOD, ETTORITEMENT, FERIVITITING, TOC, PIVI & HYDIRECTS.				-		7 3,332		7,732

Page 21 of 61

NG & NY Transco - T019 - (Segment B) F. Schodack Substation - Install

Revision:	5	Total:	\$ 2,579,857
	NO 0 1117 TO10 15	. 51	

NG & NY Transco - T019	- (Segm	ent B)		
		Supply	Installation	Total
F. Schodack Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	4,050	\$ 11,250	\$ 15,300
2. SUBSTATION FOUNDATIONS	\$	201,690	\$ 216,000	\$ 417,690
3. SUBSTATION STRUCTURES	\$	60,680	\$ 60,680	\$ 121,360
4. MAJOR EQUIPTMENT	\$	104,000	\$ 120,000	\$ 224,000
5. SMALL EQUIPTMENT / MATERIALS	\$	316,520	\$ 226,000	\$ 542,520
6. CONTROL HOUSE / PANELS	\$	192,815	\$ 147,815	\$ 340,630
7. MISC ITEMS	\$	168,552	\$ 259,305	\$ 427,857
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	83,865	\$ 406,636	\$ 490,500
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	1,132,172	\$ 1,447,686	\$ 2,579,857
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	1,132,172	\$ 1,447,686	\$ 2,579,857

)es	crip	tion	of '	W	or	k:
-----	------	------	------	---	----	----

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	1	TOTAL
F. Schod	ack Substation - Install										
1. SITE PREP/	GRADING/ FENCING / CIVIL										
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$	-	\$ -	\$ 203,000	\$ -	\$ 203,000	\$	-
1.2	Station stone within substation fence.	150	CY	\$	27	\$ 4,050	\$ 75	\$ 11,250	\$ 102		15,300
1.3	Substation Fence	0	LF	\$	100	\$ -	\$ 100	\$ -	\$ 200	\$	-
1.4	Permanent Access Road - 20'-Wide	0	LF	\$	35	\$ -	\$ 285	\$ -	\$ 320	\$	-
1.5											
1.6											
1.7											
1.8											
1.9											
1.10											
1.11											
1.12											
1.13											
1.14											
1.15											
	REP/ GRADING/ FENCING / CIVIL					\$ 4,050		\$ 11,250		\$	15,300
	NFOUNDATIONS										
2.1	345kV										
2.1a	Circuit Breaker Foundations	0	EA	\$	14,940	\$ -	\$ 16,000		\$ 30,940		-
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000		\$ 116,025		-
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	26,145	\$ -	\$ 28,000	<u> </u>	\$ 54,145	-	-
	Caisson DE Foundations (for DE A frame str shared column)	0		\$,		\$ 28,000		\$ 54,145		-
2.1e	Switch Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800		\$ 9,282		-
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	-	-
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.1h	Bus Support 1 Ph Foundations	0	EA	\$	4,482	\$ -	\$ 4,800		\$ 9,282		-
2.1j	Instrument Transformer Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800		\$ 9,282		-
2.1k	Arrester Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282		-
2.1m	Wave Trap Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	<u> </u>	\$ 9,282		-
2.1n	Reactor Foundations	0	EA	\$	7,470	\$ -	\$ 8,000	\$ -	\$ 15,470	\$	-
2.1p											
				\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.2	230kV										
2.2a	Circuit Breaker Foundations	0	EA	\$	11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	-	-
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820	\$ -	\$ 48,000		\$ 92,820		-
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	22,410	\$ -	\$ 24,000	·	\$ 46,410	-	-
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	22,410	\$ -	\$ 24,000		\$ 46,410		-
2.2e	Switch Stand Foundations	0	EA	\$	3,735	\$ -	\$ 4,000		\$ 7,735		-
2.2f	Station Service Transformer Stand Foundation	0	EA	\$	3,735	\$ -	\$ 4,000		\$ 7,735		-
	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -		\$	-
2.2h	Bus Support 1 Ph Foundations	0	EA	\$	3,735	\$ -	\$ 4,000		\$ 7,735		-
2.2j	Instrument Transformer Stand Foundations	0	EA	\$	3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$	-

2.2m	Arrester Stand Foundations	0							
2.2n I		0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3	115kV								
2.3a (Circuit Breaker Foundations	2	EA	\$ 5,229	\$ 10,458	\$ 5,600	\$ 11,200	\$ 10,829	\$ 21,658
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	8	EA	\$ 16,434	\$ 131,472	\$ 17,600	\$ 140,800	\$ 34,034	\$ 272,272
2.3d (Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
	Switch Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	\$ -
	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
	Bus Support 3ph Foundations	4	EA	\$ 2,988	\$ 11,952		\$ 12,800	\$ 6,188	\$ 24,752
	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
	Instrument Transformer Stand Foundations	6	EA	\$ 2,988	\$ 17,928			\$ 6,188	\$ 37,128
	Arrester Stand Foundations	6	EA	\$ 2,988	\$ 17,928			\$ 6,188	· · · · · · · · · · · · · · · · · · ·
	Wave Trap Stand Foundations	4	EA	\$ 2,988	\$ 11,952			\$ 6,188	
	Station Service Foundations	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -			\$ 154,700	
	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	š -
	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Control House Foundations / Pad				-	4			•
	Control House / Pad	0	EA	\$ 76,194	\$ -		\$ -	\$ 157,794	
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b (60' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c !	50' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OTAL - SUBST	ATION FOUNDATIONS				\$ 201,690		\$ 216,000		\$ 417,690
B. SUBSTATION					201,030		\$ 210,000		7 417,050
	345kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -			\$ 74,000	
	Switch Stands	0	EA	\$ 14,800	\$ -			\$ 29,600	
3.1d S	Station Service Transformer Stand	0	EA	\$ 14,800	\$ -	\$ 14,800		\$ 29,600	
	Bus Support 3ph	0	EA	\$ -	\$ -		\$ -		\$ -
	Bus Support 1 Ph	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.1g	Instrument Transformer Stand	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
3.1h	Arrester Stand	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
	Wave Trap Stand	0	EA	\$ 7,400	\$ -	\$ 7,400	\$ -	\$ 14,800	\$ -
3.1k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.2	230kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA	\$ 33,300	\$ -			\$ 66,600	\$ -
	Switch Stands	0	EA	\$ 12,025	\$ -		\$ -	\$ 24,050	<u> </u>
	Station Service Transformer Stand	0	EA	\$ 12,025	\$ -		\$ -	\$ 24,050	
	Bus Support 3ph	0		, , , , ,	\$ -	, , , , ,		, , , , , , , , , , , , , , , , , , , ,	
	Bus Support 1 Ph	0	EA	\$ 2,775		\$ 2,775		\$ 5,550	
	Instrument Transformer Stand	0		\$ 1,295				\$ 2,590	
	Arrester Stand	0		\$ 1,295				\$ 2,590	
3.2h	Wave Trap Stand	0	EA	\$ 5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
				\$ 6,475	\$ -	\$ 6,475		\$ 12,950	\$ -
3.2j	Misc. Structures	0	EA	3 0,473	7	9 0,473	7	7 12,550	7
3.2j N 3.2k I		0	EA	\$ 0,473	<u> </u>	\$ 0,473	Ţ.	7 12,550	<u> </u>
3.2j 3.2k I	Misc. Structures 115kV Substation A-Frame Structures - Stand alone	2		\$ 18,500	\$ 37,000				

Item	Item Description	Estimated Quantity	Unit of Measure	Mater	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3c	Switch Stands	0	EA	\$	7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3d	Fuse Stand	0	EA	\$	7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3e	Bus Support 3ph	0	EA	\$	3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$ -
3.3f	Bus Support 1 Ph	4	EA	\$	1,850	\$ 7,400	\$ 1,850	\$ 7,400	\$ 3,700	\$ 14,800
3.3g	Instrument Transformer Stand	6	EA	\$	740	\$ 4,440	\$ 740	\$ 4,440	\$ 1,480	\$ 8,880
3.3h	Arrester Stand	6	EA	\$	740	\$ 4,440	\$ 740	\$ 4,440	\$ 1,480	\$ 8,880
3.3j	Wave Trap Stand	2	EA	\$	3,700	\$ 7,400	\$ 3,700	\$ 7,400	\$ 7,400	\$ 14,800
3.3k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
	TATION STRUCTURES					\$ 60,680		\$ 60,680		\$ 121,360
4. MAJOR EQU										
4.1	345kV									
4.1a	Circuit Breakers	0	EA	\$	300,000	\$ -	\$ 80,000	\$ -	\$ 380,000	\$ -
4.1b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$	-	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$	-	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	230kV									
4.2a	Circuit Breakers	0	EA	\$	250,000	\$ -	\$ 80,000	\$ -	\$ 330,000	\$ -
4.2b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 80,000	\$ -		\$ -
				T .		•	. 22,200			
4.3	115kV									
4.3a	Circuit Breakers	2	EA	\$	52,000	\$ 104,000	\$ 60,000	\$ 120,000	\$ 112,000	\$ 224,000
4.3b	Capacitor Banks	0	EA	\$	-		\$ 60,000	\$ -		\$ -
4.50	Capacitor Banks	-	LA	7	_	, -	ý 00,000	· -	3 00,000	-
TOTAL - MAIC	DR EQUIPTMENT					\$ 104,000		\$ 120,000		\$ 224,000
	IIPTMENT / MATERIALS					\$ 104,000		\$ 120,000		\$ 224,000
5.1	345kV	2	EA.	ć	40.000	ć	ć 45.000	ć.	ć 55.000	^
5.1a	Line Switches - 3ph w/ motor operator	0		\$	40,000		\$ 15,000			\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$,	т	\$ 17,500	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -
5.1c	VT'S	0	EA	\$	25,000		\$ 12,000	\$ -		\$ -
5.1d	CT'S	0	EA	\$	13,000		\$ 8,000		\$ 21,000	•
5.1e	CCVT'S	0	EA	\$		т	\$ 8,000	\$ -		\$ -
5.1f	Arresters	0	EA	\$	-,		\$ 1,500	\$ -		\$ -
5.1g	Wave Traps	0	EA	\$	13,000		\$ 8,000	\$ -	\$ 21,000	\$ -
5.1h	Station Service Transformers	0	EA	\$	200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.2	230kV									
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$	35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$	30,000	\$ -	\$ 17,500	\$ -	\$ 47,500	\$ -
5.2c	VT'S	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2d	CT'S	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2e	CCVT'S	0	EA	\$	10,000	\$ -	\$ 6,000	\$ -	\$ 16,000	\$ -
5.2f	Arresters	0	EA	\$	5,000	\$ -	\$ 6,000	\$ -	\$ 11,000	\$ -
5.2g	Wave Traps	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2h	Station Service Transformers	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
				T .						
5.3	115kV									
5.3a	Line Switches - 3ph w/ motor operator	2	EA	\$	33,000	\$ 66,000	\$ 15,000	\$ 30,000	\$ 48,000	\$ 96,000
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$	28,000		\$ 17,500	\$ -	,	\$ -
5.3c	VT'S	6	EA	\$	13,000		\$ 8,000	\$ 48,000		\$ 126,000
5.3d	CT'S	6	EA	\$	13,000	. ,	\$ 8,000	\$ 48,000	,	\$ 126,000
	CCVT'S	6	EA		8,000			. ,		
5 20				\$						
5.3e		6		\$	3,420					
5.3f	Arresters	2		\$	13,000		\$ 8,000	\$ 16,000	\$ 21,000	\$ 42,000
5.3f 5.3g	Wave Traps	2				,	ć	,	ć	ć
5.3f 5.3g 5.3h	Wave Traps Station Service Transformers	0	EA	\$			·			\$ -
5.3f 5.3g	Wave Traps		EA				\$ - \$ -			\$ - \$ -
5.3f 5.3g 5.3h 5.3j	Wave Traps Station Service Transformers Fuses	0	EA	\$		\$ -		\$ -	\$ -	\$ -
5.3f 5.3g 5.3h 5.3j	Wave Traps Station Service Transformers Fuses L EQUIPTMENT / MATERIALS	0	EA	\$					\$ -	
5.3f 5.3g 5.3h 5.3j	Wave Traps Station Service Transformers Fuses	0	EA	\$		\$ -		\$ -	\$ -	\$ -
5.3f 5.3g 5.3h 5.3j	Wave Traps Station Service Transformers Fuses L EQUIPTMENT / MATERIALS	0	EA	\$		\$ -		\$ -	\$ -	\$ - \$ 542,520

5.00 SOUR AND Communications 0 10 10 10 10 10 10 10	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
Description of Communication Description Description	6.3	125VDC Batteries	0	EA	\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6 Lev Ostope Collection		Control Cables	1	LS	\$ 122,815	\$ 122,815	\$ 122,815	\$ 122,815	\$ 245,630	\$ 245,630
6.7 C Desidurion System 9	6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
B Secure	6.6	Low Voltage AC Distribution	0	EA	\$ 50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
G.S. Fire Airmin		-				\$ -			· · · · · · · · · · · · · · · · · · ·	
Control Control Conduction Process (as a control system) Control Conduction Process (as a control system									· · · · · · · · · · · · · · · · · · ·	·
Total Control House / Parkets / Generation										•
FAMOR TRANS	6.10	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
7.4 Control & Carbon February System	TOTAL CONT	POLICIES / DANIELS / GENERATOR				ć 102.91F		ć 147.01F		\$ 340,630
7.1 Combact & Cabel French System \$10 \$1 \$1 \$10 \$1 \$1 \$1		NOL HOUSE / PAINELS / GENERATOR				\$ 192,815		\$ 147,815		\$ 340,030
Page Bage flaw Tittoning & Francisco 0 E 5 5 5 5 5 5 5 5 5		Conduit & Cable Transh System	E20	10	¢ 195.00	¢ 00.0E0	¢ 170.00	¢ 00.100	ć occ	\$ 188,150
73 Serian Bus, Connection & Institutions 74 1,100 5 1,										
24 Grounding System					+'	т		-		
27 Strain Rus Insulations - 3494V										
2.5 Strain Bus Insolations - 2200V 0 EA 1.400 5 . 5 . 750 5 . 5 . 1,100 5 .									•	•
24						T				
7.9 SVF service 0 1.5 \$ 5,000 \$ \$ \$ 5,000 \$ \$ \$ 5,000 \$ \$ \$ \$ \$ \$ \$ \$ \$. ,	
7.9 SSYT Service								-,		
7.10 Control Conduction From Trench to Equipment 1 15 5 14,000 5 70,000 5 70,000 5 84,000 5 70,000 70,00										
7.12 Mic. Materials (Above and Below Ground) 1 15 5 20,712 5 70,000 5 90,712 5 70,000 5 90,712 5 70,000 5 90,712 5 70,000 5 90,712 5 70,000 7 70,000						\$ 14,000				
7.12			1	LS	\$ 20,712	\$ 20,712		\$ 70,000		
7.14		,			,	,	,		· · · · · · · · · · · · · · · · · · ·	,
7.15	7.13									
7.16										
7.17	7.15									
7.18	7.16									
T719	7.17									
T7.00	7.18									
S 168,552 S 259,305 S 259,005 S 2,084 S 2,084	7.19									
S. 1,048,307 S. 1,041,050 S. 2,08										
Semble S	TOTAL - MISC	ITEMS				\$ 168,552		\$ 259,305		\$ 427,857
S. MOB/DEMOS, ENCINEERING, FERMITING, TRC., PM. & INDIRECTS:	F. Schoda	ack Substation - Install				\$ 1,048,307		\$ 1,041,050		\$ 2,089,357
Contractor Mobilization Demobilization Demobilizati										
8.1 Mob / Demob										
Project Management, Material Handling & Amenities			1	IS	\$ -	\$ -	\$ 20.894	\$ 20.894	\$ 20.894	\$ 20,894
8.2 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 1			-	20	<u> </u>	, , , , , , , , , , , , , , , , , , ,	20,031	20,03 .	20,031	20,05
Site Accommodation, Facilities, Storage	8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler	1	LS			\$ 103,679	\$ 103,679	\$ 103,679	\$ 103,679
Site Accommodation, Facilities, Storage	8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 20,894	\$ 20,894	\$ 20,894	\$ 20,894
8.5 Design Engineering			1	LS	\$ -	\$ -	\$ 20,894	\$ 20,894	\$ 20,894	\$ 20,894
8.6 LIDAR		Engineering								
Site	8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 167,149	\$ 167,149	\$ 167,149	\$ 167,149
Site	8.6	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Resting & Commissioning of T-Line and Equipment						т			<u> </u>	•
Second			1	Site	\$ -	\$ -	\$ 14,625	\$ 14,625	\$ 14,625	\$ 14,625
No. Permitting and Additional Costs Section Sect										
8.10 Environmental Licensing & Permitting Costs - LS \$ - \$<			1	LS	\$ -	\$ -	\$ 52,234	\$ 52,234	\$ 52,234	\$ 52,234
8.11 Environmental Mitigation - LS \$ -					1.					
8.12 Warranties / LOC's 1 LS \$ - \$ 6,268			-							
8.13 Real Estate Costs (New) 1 LS \$ - \$										
8.14 Real Estate Costs (Incumbent Utility) 1 LS \$ - \$										
8.15 Legal Fees - LS \$ -										
8.16 Allowance for Funds Used During Construction (AFUDC) - LS \$ -										
8.17 - LS \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 83,865 \$ - \$ - \$ 83,865 \$ - \$ - \$ 83,865 \$ - \$ - \$ 83,865 \$ - \$ <td></td>										
8.18 Sales Tax on Materials 1 LS \$ 83,865 \$ - \$ - \$ 83,865 \$		Allowance for Funds Used During Construction (AFUDC)								
		Salas Tay on Materials			<u> </u>					
8.19 Fees for permits, including roadway, railroad, building or other local permits LS \$ - \$ - \$ - \$		Fees for permits, including roadway, railroad, building or other local permits	-	LS	63,665 ب					

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	то	DTAL
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 83,865		\$ 406,636		\$	490,500

Page 26 of 61

F. SS Schodack-Install

NG & NY Transco - T019 - (Segment B) G. Schodack Substation - Removal

Total: \$ 158,349

NG & NY Transco -	T019 - (Segment B)				
	Sup	ply	1.	nstallation	Total
G. Schodack Substation - Removal					
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$ -
2. SUBSTATION FOUNDATIONS	\$	-	\$	62,400	\$ 62,400
3. SUBSTATION STRUCTURES	\$	-	\$	73,800	\$ 73,800
4. MAJOR EQUIPTMENT	\$	-	\$	-	\$ -
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	-	\$ -
6. CONTROL HOUSE / PANELS	\$	-	\$	-	\$ -
7. MISC ITEMS	\$	-	\$	-	\$ -
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 22,149
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$ -
SUBTOTAL:	\$	-	\$	136,200	\$ 158,349
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$ -
TOTAL:	\$		\$	136,200	\$ 158,349

)acer	mti	an at	MALON	
Jesci	μu	OH O	Wor	٨.

Estimate Revision:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
G. School	ack Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
2. SUBSTATIO	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 14,200	\$ -	\$ 14,200	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Reactor Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p				<u> </u>				•	
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200	\$ -	\$ 7,200	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000		\$ 32,000	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000		\$ 22,000	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ 11,000		\$ 11,000	
				· ·	1.	, ,,,,,,,		, ,,,,,,	Page 27 of 61

						Supply Rate	Cost		TOTAL
2.2f Sta	witch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
	tation Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	us Support 3ph Foundations	0	EA	\$ -	\$ -				\$ -
	us Support 1 Ph Foundations	0	EA	\$ -	\$ -			\$ 2,400	
2.2j Ins	nstrument Transformer Stand Foundations	0	EA	\$ -	\$ -		•	\$ 2,400	
	rrester Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400		\$ 2,400	
	Vave Trap Stand Foundations	0	EA	\$ -	\$ -				\$ -
	Nisc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3 11	15kV								
	ircuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	apacitor Bank Foundations	0	EA	\$ -	\$ -		·		\$ -
	aisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -			•	\$ -
	aisson DE Foundations (for DE A frame str shared column)	0		\$ -	\$ -	\$ -			\$ -
	witch Stand Foundations	0	EA	\$ -	\$ -			•	\$ -
	use Stand Foundations	0	EA	\$ -	\$ -	\$ -			\$ -
2.3g Bu	us Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	us Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j Ins	nstrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3k Ar	rrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m W	Vave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3n Sta	tation Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p Ste	teele Transmission Pole Dead Ends (1ph.) Foundations	6	EA	\$ -	\$ -	\$ 10,400	\$ 62,400	\$ 10,400	\$ 62,400
	ransformer Foundations			4				1	4
	45-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -		•	\$ -
	45-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -			\$ -
	30kV-115kV Transformer Foundation w/ Oil Containment	0	EA EA	\$ -	\$ -				\$ -
2.40	15kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5 Co	ontrol House Foundations / Pad								
2.5a Co	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b Ge	enerator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ightning Mast Foundations								
	0' Lightning Mast Foundation	0		\$ -	\$ -				\$ -
2.6b		0	EA	\$ -	\$ -	\$ -		•	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTAT	TION FOUNDATIONS				\$ -		\$ 62,400		\$ 62,400
3. SUBSTATION ST					Ť		\$ 02,400		ŷ 02,400
	45kV								
	ubstation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ubstation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -			\$ -
	witch Stands	0	EA	\$ -	\$ -	•	-		\$ -
3.1d Sta	tation Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e Bu	us Support 3ph	0	EA	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	\$ -
3.1f Bu	us Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	nstrument Transformer Stand	0	EA	\$ -	\$ -				\$ -
	rrester Stand	0	EA	\$ -	\$ -	\$ -	'		\$ -
	Vave Trap Stand	0	EA	\$ -	\$ -	\$ -			\$ -
3.1k Mi	Aisc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
22 2	2014								
	30kV	^	Ε^	ć	ċ	¢ 27,000	ė	¢ 37,000	ė
	ubstation A-Frame Structures - Stand alone ubstation A-Frame Structures - Shared Column	0		\$ - \$ -		\$ 27,000 \$ 27,000		\$ 27,000 \$ 27,000	
	witch Stands	0		\$ -		\$ 27,000 \$ 9,750		\$ 27,000	
	tation Service Transformer Stand	0		\$ -					\$ -
	us Support 3ph	0		\$ -	\$ -				\$ -
J.20 DU	us Support 1 Ph	0		\$ -	\$ -	\$ 2,250		\$ 2,250	
3.2f Ru		U	L	7	Ψ -	2,230	Υ	2,230	¥ -
		n	FA	Ś -	\$ -	\$ 1.050	s - I	\$ 1.050	ا ۔ ا
3.2g Ins	nstrument Transformer Stand rrester Stand	0		\$ - \$ -	\$ - \$ -	\$ 1,050 \$ 1,050		\$ 1,050 \$ 1,050	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Switch Stands	0	EA	\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	6	EA	\$ -	\$ -	\$ 12,300	\$ 73,800	\$ 12,300	\$ 73,800
TOTAL - SUBSTA	ATION STRUCTURES				\$ -		\$ 73,800		\$ 73,800
4. MAJOR EQUI	PTMENT						, ,,,,,,,		, ,,,,,,
	345kV								
	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR					\$ -		\$ -		\$ -
	PTMENT / MATERIALS								
	345kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -			\$ 5,500	
	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CT'S	0		\$ -		\$ -	\$ -		\$ -
	CCVT'S	0	EA	\$ -	\$ -		\$ -	\$ 2,500	
	Arresters	0		\$ -	\$ - \$ -	\$ 1,500	\$ -	\$ 1,500 \$ 2,500	
	Wave Traps Station Service Transformers	0	EA EA	\$ -	\$ - \$ -	\$ 2,500	\$ - \$ -	\$ 2,500 \$ -	\$ - \$ -
3.111	Station Service Hansionners	0	EA	, -	-	, -	· -	· -	-
5.2	230kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -		\$ -	\$ 5,500	
	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	CCVT'S	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.2f	Arresters	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV								
	Line Switches - 3ph w/ motor operator	0		\$ -	\$ -		\$ -	\$ -	
	Disconnect Switches - 3ph w/ manual operator	0		\$ -		\$ 5,500		\$ 5,500	
		0		\$ -	\$ -		\$ -	\$ -	
5.3c	VT'S			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3c 5.3d	CT'S	0							
5.3c 5.3d 5.3e	CT'S CCVT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3c 5.3d 5.3e 5.3f	CT'S CCVT'S Arresters	0 0 0	EA EA	\$ - \$ -	\$ -	\$ - \$ 1,500	\$ - \$ -	\$ 1,500	\$ - \$ -
5.3c 5.3d 5.3e 5.3f 5.3g	CT'S CCVT'S Arresters Wave Traps	0 0 0	EA EA EA	\$ - \$ - \$	\$ - \$ - \$ -	\$ - \$ 1,500 \$ -	\$ - \$ - \$	\$ 1,500 \$ -	\$ - \$ - \$
5.3c 5.3d 5.3e 5.3f 5.3g 5.3h	CT'S CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0 0 0	EA EA EA	\$ - \$ - \$ - \$	\$ - \$ - \$ - \$ -	\$ - \$ 1,500 \$ - \$ -	\$ - \$ - \$ - \$ -	\$ 1,500 \$ - \$ -	\$ - \$ - \$ - \$ -
5.3c 5.3d 5.3e 5.3f 5.3g 5.3h	CT'S CCVT'S Arresters Wave Traps	0 0 0	EA EA EA	\$ - \$ - \$	\$ - \$ - \$ -	\$ - \$ 1,500 \$ - \$ -	\$ - \$ - \$ - \$ -	\$ 1,500 \$ - \$ -	\$ - \$ - \$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supp	oly Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	LL EQUIPTMENT / MATERIALS					\$ -		\$ -		\$ -
	HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$	-	\$ -	\$ 150,000	\$ -		\$ -
6.2	Protection and Telecom Equipment Panels	0	EA	\$	-	\$ -	\$ -	\$ -		\$ -
6.3	125VDC Batteries	0	EA	\$	-			\$ -		\$ -
6.4	Control Cables	0	EA	\$	-	т	\$ -	\$ -		\$ -
6.5	SCADA and Communications	0	EA	\$	-	\$ -	\$ -	\$ -	•	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$	-	т		\$ -		\$ -
6.7	DC Distribution System	0	EA	\$	-			\$ -		\$ -
6.8	Security	0	EA	\$	-	т	\$ -	\$ -		\$ -
6.9	Fire Alarm	0	EA	\$	-	\$ -	\$ -	\$ -		\$ -
6.10	Generator	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONT	TROL HOUSE / PANELS / GENERATOR					\$ -		\$ -		\$ -
7. MISC ITEM						· -		, -		-
7.1	Conduit & Cable Trench System	0	EA	\$	-	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.2	Rigid Bus, Fittings & Insulators	0	LS	\$	-		\$ 10,500.00	\$ -		\$ -
7.2	Strain Bus, Connectors & Insulators	0	EA	\$			\$ 39.35	\$ -		\$ -
7.4	Grounding System	0	EA	\$	-	\$ -	\$ 42,000.00	\$ -		\$ -
7.5	Grounding System	•	EA.	1		7	7 42,000.00	7	7 42,000	-
7.6										
7.7										
7.8										
7.9										
7.10										
7.11										
7.12										
7.13										
7.14										
7.15										
TOTAL - MISC	CITEMS					\$ -		\$ -		\$ -
G School	dack Substation - Removal					\$ -		\$ 136,200		\$ 136,200
						· -		7 130,200		3 130,200
8. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization		1.0				4 252	4 252	4 252	4 4 252
8.1	Mob / Demob	1.0	LS	\$	-	\$ -	\$ 1,362	\$ 1,362	\$ 1,362	\$ 1,362
	Project Management, Material Handling & Amenities									
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 6,759	\$ 6,759	\$ 6,759	\$ 6,759
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 1,362	\$ 1,362	\$ 1,362	\$ 1,362
8.4	Site Accommodation, Facilities, Storage	1.0	LS	\$	-		\$ 1,362	\$ 1,362		\$ 1,362
	Engineering		-	T .			,	,	,	,- ,-
8.5	Design Engineering	1.0	LS	\$	-	\$ -	\$ 10,896	\$ 10,896	\$ 10,896	\$ 10,896
8.6	LiDAR	-	Mile	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
			Site	\$	-		\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-					\$ 953	\$ -	\$ 953	\$ -
8.7 8.8	Geotech Surveying/Staking	-	Site	\$	-	\$ -	ý 322 l			
					-	\$ -	\$ 955	Ť		
	Surveying/Staking				-	\$ - \$ -	\$ 3,405	\$ -	\$ 3,405	\$ -
8.8	Surveying/Staking Testing & Commissioning Testing & Commissioning of T-Line and Equipment	-	Site	\$		\$ -				\$ - \$ -
8.8	Surveying/Staking Testing & Commissioning Testing & Commissioning of T-Line and Equipment Permitting and Additional Costs	-	Site LS	\$	-	\$ -	\$ 3,405	\$ -	\$ 3,405	
8.8 8.9 8.10	Surveying/Staking Testing & Commissioning Testing & Commissioning of T-Line and Equipment Permitting and Additional Costs Environmental Licensing & Permitting Costs	-	Site LS LS	\$ \$	-	\$ -	\$ 3,405 \$ - \$ -	\$ -	\$ 3,405 \$ - \$ -	\$ -
8.8 8.9 8.10 8.11	Surveying/Staking Testing & Commissioning Testing & Commissioning of T-Line and Equipment Permitting and Additional Costs Environmental Licensing & Permitting Costs Environmental Mitigation Warranties / LOC's		LS LS LS	\$ \$ \$ \$ \$	- -	\$ - \$ - \$ - \$ -	\$ 3,405 \$ - \$ -	\$ - \$	\$ 3,405 \$ - \$ - \$ 409	\$ - \$ -
8.8 8.9 8.10 8.11 8.12	Surveying/Staking Testing & Commissioning Testing & Commissioning of T-Line and Equipment Permitting and Additional Costs Environmental Licensing & Permitting Costs Environmental Mitigation	- - 1	LS LS LS LS LS	\$ \$ \$ \$ \$ \$ \$	-	\$ - \$ - \$ - \$ - \$ -	\$ 3,405 \$ - \$ - \$ 409	\$ - \$ - \$ - \$ 409	\$ 3,405 \$ - \$ - \$ 409 \$ -	\$ - \$ - \$ 409
8.9 8.10 8.11 8.12 8.13	Surveying/Staking Testing & Commissioning Testing & Commissioning Testing & Commissioning of T-Line and Equipment Permitting and Additional Costs Environmental Licensing & Permitting Costs Environmental Mitigation Warranties / LOC's Real Estate Costs (New) Real Estate Costs (Incumbent Utility)	- - - 1	LS LS LS LS LS LS LS	\$ \$ \$ \$ \$ \$		\$ - \$ - \$ - \$ - \$ -	\$ 3,405 \$ - \$ - \$ 409 \$ -	\$ - \$ - \$ - \$ 409 \$ -	\$ 3,405 \$ - \$ - \$ 409 \$ - \$ -	\$ - \$ - \$ 409 \$ -
8.9 8.10 8.11 8.12 8.13 8.14	Surveying/Staking Testing & Commissioning Testing & Commissioning of T-Line and Equipment Permitting and Additional Costs Environmental Licensing & Permitting Costs Environmental Mitigation Warranties / LOC's Real Estate Costs (New) Real Estate Costs (Incumbent Utility) Legal Fees	- - - - 1	LS LS LS LS LS LS LS LS	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		\$ - \$ - \$ - \$ - \$ 5 5 - \$ 5 5 -	\$ 3,405 \$ - \$ - \$ 409 \$ - \$ -	\$ - \$ - \$ - \$ 409 \$ - \$ -	\$ 3,405 \$ - \$ - \$ 409 \$ - \$ - \$ 5	\$ - \$ - \$ 409 \$ - \$ -
8.8 8.9 8.10 8.11 8.12 8.13 8.14 8.15	Surveying/Staking Testing & Commissioning Testing & Commissioning Testing & Commissioning of T-Line and Equipment Permitting and Additional Costs Environmental Licensing & Permitting Costs Environmental Mitigation Warranties / LOC's Real Estate Costs (New) Real Estate Costs (Incumbent Utility)		LS	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		\$ - \$ - \$ - \$ - \$ - \$ 5 5 - \$ 5 5 - \$ 5	\$ 3,405 \$ - \$ - \$ 409 \$ - \$ - \$ 5	\$ - \$ - \$ - \$ 409 \$ - \$ 5 \$ -	\$ 3,405 \$ - \$ - \$ 409 \$ - \$ - \$ - \$ -	\$ - \$ - \$ 409 \$ - \$ 5
8.8 8.9 8.10 8.11 8.12 8.13 8.14 8.15 8.16	Surveying/Staking Testing & Commissioning Testing & Commissioning of T-Line and Equipment Permitting and Additional Costs Environmental Licensing & Permitting Costs Environmental Mitigation Warranties / LOC's Real Estate Costs (New) Real Estate Costs (Incumbent Utility) Legal Fees		LS	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	- - - - - -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 3,405 \$ - \$ - \$ 409 \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ 409 \$ - \$ - \$ - \$ 5	\$ 3,405 \$ - \$ - \$ 409 \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 409 \$ - \$ - \$ 5 5 -
8.8 8.9 8.10 8.11 8.12 8.13 8.14 8.15 8.16 8.17	Surveying/Staking Testing & Commissioning Testing & Commissioning of T-Line and Equipment Permitting and Additional Costs Environmental Licensing & Permitting Costs Environmental Mitigation Warranties / LOC's Real Estate Costs (New) Real Estate Costs (Incumbent Utility) Legal Fees Allowance for Funds Used During Construction (AFUDC)		LS	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 3,405 \$ - \$ - \$ 409 \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ 409 \$ - \$ - \$ 5 5 - \$ - \$ 5	\$ 3,405 \$ - \$ - \$ 409 \$ - \$ - \$ 5 5 - \$ 5 5 - \$ 5 5 -	\$ - \$ 5 - \$ 409 \$ - \$ 5 - \$ 5 - \$ 5 - \$ 5 -

NG & NY Transco - T019 - (Segment B) H. Churchtown Substation - Install

Total: \$ 16,935,106

NG & NY Transco -	T019 - (Segme	ent B)			
		Supply	Installation		Total
H. Churchtown Substation - Install					
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	162,650	\$ 1,693,950	\$	1,856,600
2. SUBSTATION FOUNDATIONS	\$	943,027	\$ 1,009,800	\$	1,952,827
3. SUBSTATION STRUCTURES	\$	416,000	\$ 458,060	\$	916,120
4. MAJOR EQUIPTMENT	\$	416,000	\$ 480,000	\$	896,000
5. SMALL EQUIPTMENT / MATERIALS	\$	1,384,800	\$ 938,800	\$	2,323,600
6. CONTROL HOUSE / PANELS	\$	2,115,975	\$ 1,453,475	\$	3,569,450
7. MISC ITEMS	\$	855,378	\$ 1,282,357	\$	2,137,735
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	506,871	\$ 2,775,903	\$	3,282,774
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-
SUBTOTAL:	\$	6,800,701	\$ 10,092,345	\$	16,935,106
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-
TOTAL:	Ś	6.800.701	\$ 10.092.345	Ś	16.935.106

)acer	mti	an at	MALON	
Jesci	μu	OH O	Wor	٨.

Estimate Revision:

5

Item	ltem Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
H. Churc	htown Substation - Install										
1. SITE PREP/	GRADING/ FENCING / CIVIL										
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	2.1	ACRES	\$	-	\$ -	\$ 660,000	\$ 1,386,000	\$ 660,000	\$ 1,386,	,000
1.2	Station stone within substation fence.	1,100	CY	\$	27	\$ 29,700	\$ 75	\$ 82,500	\$ 102	\$ 112	,200
1.3	Substation Fence	1,200	LF	\$	100	\$ 120,000	\$ 100	\$ 120,000	\$ 200	\$ 240,	,000
1.4	Permanent Access Road - 20'-Wide	370	LF	\$	35	\$ 12,950	\$ 285	\$ 105,450	\$ 320	\$ 118	,400
1.5											
1.6											
1.7											
1.8											
1.9											
1.10											
1.11											
1.12											
1.13											
1.14											
1.15											
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 162,650		\$ 1,693,950		\$ 1,856	,600
2. SUBSTATIO	N FOUNDATIONS										
2.1	345kV										
2.1a	Circuit Breaker Foundations	0	EA	\$	14,940	\$ -	\$ 16,000	\$ -	\$ 30,940	\$	-
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$	-
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$	-
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$	-
2.1e	Switch Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$	-
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$	-
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.1h	Bus Support 1 Ph Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$	-
2.1j	Instrument Transformer Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$	-
2.1k	Arrester Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$	-
2.1m	Wave Trap Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$	-
2.1n	Reactor Foundations	0	EA	\$	7,470	\$ -	\$ 8,000	\$ -	\$ 15,470	\$	-
2.1p											
2.2	230kV										
2.2a	Circuit Breaker Foundations	0	EA	\$	11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$	-
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$	-
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$	-
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$	-
				-						Page 31 of	f 61

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
						** *			
2.2e 2.2f	Switch Stand Foundations	0	EA EA	\$ 3,735 \$ 3,735	\$ - \$ -	\$ 4,000 \$ 4.000		\$ 7,735 \$ 7,735	
2.2f 2.2g	Station Service Transformer Stand Foundation Bus Support 3ph Foundations	0	EA EA	\$ 3,735	\$ -	\$ 4,000			\$ -
2.2g 2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -			\$ 7,735	
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000		\$ 7,735	
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -			\$ 7,735	
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000		\$ 7,735	
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	8	EA	\$ 5,229	\$ 41,832	\$ 5,600	\$ 44,800	\$ 10,829	\$ 86,632
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	22	EA	\$ 16,434	\$ 361,548			\$ 34,034	· /
2.3e	Switch Stand Foundations	34	EA	\$ 2,988	\$ 101,592			\$ 6,188	
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
2.3g	Bus Support 3ph Foundations	20	EA	\$ 2,988	\$ 59,760		. ,		\$ 123,760
2.3h	Bus Support 1 Ph Foundations	36	EA	\$ 2,988	\$ 107,568				\$ 222,768
2.3j	Instrument Transformer Stand Foundations	51	EA	\$ 2,988	\$ 152,388			\$ 6,188	
2.3k	Arrester Stand Foundations	15	EA	\$ 2,988	\$ 44,820			\$ 6,188	
2.3m	Wave Trap Stand Foundations	5	EA	\$ 2,988	\$ 14,940		. , ,	\$ 6,188	
2.3n	Station Service Foundations	1		\$ 3,735	\$ 3,735			\$ 7,735	
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000		\$ 201,110	
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000		\$ 154,700	
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad			A 22.545	A 22.545	A 25,000	4 25.000	A	4 60.645
2.5a	Control House / Pad	1	EA	\$ 33,615	\$ 33,615				\$ 69,615
2.5b	Generator Foundation	1		\$ 16,000	\$ 16,000	\$ 17,000			\$ 33,000
2.5c 2.6	Station Service Distribution Line - 1ph.	0	LS	\$ -	\$ -	\$ 6,500	\$ -	\$ 6,500	\$ -
2.6a	Lightning Mast Foundations	1	EA	\$ 5,229	\$ 5,229	\$ 5,600	\$ 5,600	\$ 10,829	\$ 10,829
2.6b	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ 5,229	\$ 5,600	. , ,	\$ 10,829	\$ 10,829
2.6c		0	EA	\$ -	\$ -				\$ -
TOTAL - SURS	TATION FOUNDATIONS				\$ 943,027		\$ 1,009,800		\$ 1,952,827
	N STRUCTURES				3 943,027		3 1,005,800		3 1,532,827
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0		\$ 37,000	\$ -			\$ 74,000	
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -			\$ 74,000	
3.1c	Switch Stands	0	EA	\$ 14,800	\$ -			\$ 29,600	
3.1d	Station Service Transformer Stand	0	EA	\$ 14,800	\$ -			\$ 29,600	
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -		_		\$ -
3.1f	Bus Support 1 Ph	0	EA	\$ 3,700	\$ -	\$ 3,700		\$ 7,400	
3.1g	Instrument Transformer Stand	0	EA EA	\$ 1,850	\$ -		7	\$ 3,700	
3.1h 3.1j	Arrester Stand Wave Trap Stand	0	EA EA	\$ 1,850 \$ 7,400	\$ - \$ -	\$ 1,850 \$ 7,400			\$ - \$ -
3.1j 3.1k	Lightning Masts - 70'	0	EA EA	\$ 7,400	\$ -	\$ 7,400		\$ 14,800 \$ 12,950	
- 22	22014								
3.2 3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0				\$ 33,300		\$ 66,600	•
3.2c	Switch Stands	0			\$ -	\$ 12,025		\$ 24,050	
3.2d	Station Service Transformer Stand	0		\$ 12,025		\$ 12,025		\$ 24,050	
3.2e	Bus Support 3ph	0		\$ -	\$ -			\$ -	
3.2f	Bus Support 1 Ph	0	EA	\$ 2,775	\$ -	\$ 2,775		\$ 5,550	
3.2g	Instrument Transformer Stand	0		\$ 1,295	\$ -			\$ 2,590	
3.2h	Arrester Stand	0	EA	\$ 1,295	\$ -	\$ 1,295		\$ 2,590	
J.211	7 Trester Staria		EA	\$ 5,550		\$ 5,550		\$ 11,100	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	8	EA	\$ 18,500	\$ 148,000		•	\$ 37,000	
3.3c	Switch Stands	17	EA	\$ 7,955	\$ 135,235			\$ 15,910	
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -	\$ 7,955		\$ 15,910	•
3.3e 3.3f	Bus Support 3ph Bus Support 1 Ph	10 36	EA EA	\$ 3,330 \$ 1,850	\$ 33,300 \$ 66,600			\$ 6,660 \$ 3,700	
3.3g	Instrument Transformer Stand	51	EA	\$ 1,850	\$ 37,740			\$ 1,480	
3.3h	Arrester Stand	15	EA	\$ 740	\$ 11,100			\$ 1,480	\$ 22,200
3.3j	Wave Trap Stand	5	EA	\$ 3,700	\$ 18,500	\$ 3,700		\$ 7,400	\$ 37,000
3.3k	Lightning Mast	1	EA	\$ 6,475	\$ 6,475			\$ 12,950	
3.31	Station Service Transformer Support Stand	1	EA	\$ 1,110	\$ 1,110	\$ 1,110	, , ,	\$ 2,220	
	TATION STRUCTURES				\$ 458,060		\$ 458,060		\$ 916,120
4. MAJOR EQ 4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ 300,000	\$ -	\$ 80,000	\$ -	\$ 380,000	\$ -
4.1b	Capacitor Banks	0	EA	\$ -		\$ 80,000	•	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -			\$ 750,000	
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	230kV			4 250 000	<u> </u>	.		A 222 222	•
4.2a 4.2b	Circuit Breakers Capacitor Banks	0	EA EA	\$ 250,000	\$ - \$ -	\$ 80,000 \$ 80,000	<u>'</u>	\$ 330,000 \$ 80,000	
4.20	Capacitor Bariks	0	EA	, -	· -	\$ 80,000	, -	\$ 80,000	-
4.3	115kV								
4.3a	Circuit Breakers	8	EA	\$ 52,000	\$ 416,000	\$ 60,000	\$ 480,000	\$ 112,000	\$ 896,000
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL BARIA	DD FOUIDTMENT				.		† 400.000		Å 005 000
	DR EQUIPTMENT IIPTMENT / MATERIALS				\$ 416,000		\$ 480,000		\$ 896,000
5. SIVIALL EQU	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ 40,000	\$ -	\$ 15,000	\$ -	\$ 55,000	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 35,000	\$ -	\$ 17,500	\$ -	\$ 52,500	
5.1c	VT'S	0	EA	\$ 25,000	\$ -			\$ 37,000	
5.1d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	
5.1e 5.1f	CCVT'S	0							
5.1g			EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
	Arresters Wave Trans	0	EA	\$ 13,000 \$ 6,500	\$ - \$ -	\$ 8,000 \$ 1,500	\$ - \$ -	\$ 21,000 \$ 8,000	\$ -
	Wave Traps	0	EA EA	\$ 13,000 \$ 6,500 \$ 13,000	\$ -	\$ 8,000 \$ 1,500 \$ 8,000	\$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000	\$ - \$ -
5.1h		0	EA	\$ 13,000 \$ 6,500	\$ - \$ - \$ -	\$ 8,000 \$ 1,500	\$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000	\$ - \$ -
	Wave Traps	0	EA EA	\$ 13,000 \$ 6,500 \$ 13,000	\$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000	\$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000	\$ - \$ -
5.1h	Wave Traps Station Service Transformers 230kV	0 0 0	EA EA EA	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000	\$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000	\$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000	\$ - \$ - \$ -
5.1h 5.2 5.2a	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator	0 0 0	EA EA EA	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ \$	\$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ \$	\$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 50,000	\$ - \$ - \$ -
5.1h 5.2 5.2a 5.2b	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	0 0 0	EA EA EA	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ \$ 35,000 \$ 30,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 47,500	\$ - \$ - \$ - \$ - \$ -
5.1h 5.2 5.2a 5.2b 5.2c	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S	0 0 0 0	EA EA EA EA EA EA EA EA	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 15,000 \$ 51,000 \$ 17,500 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ -
5.1h 5.2 5.2a 5.2b	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	0 0 0	EA EA EA	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ \$ 35,000 \$ 30,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 47,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1h 5.2 5.2a 5.2b 5.2c 5.2d	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S	0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2h 5.2a 5.2b 5.2c 5.2c 5.2d 5.2e 5.2f 5.2g	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0 0 0 0 0 0 0	EA E	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1h 5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters	0 0 0 0 0 0 0 0 0 0	EA	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2h 5.2a 5.2b 5.2c 5.2c 5.2d 5.2e 5.2f 5.2g	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0 0 0 0 0 0 0	EA E	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2h 5.2a 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0 0 0 0 0 0 0 0 0	EA E	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2h 5.2a 5.2b 5.2c 5.2c 5.2d 5.2e 5.2f 5.2g	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0 0 0 0 0 0 0	EA E	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ 7,000 \$ 17,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2h 5.2a 5.2b 5.2c 5.2d 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCV'S Arresters Wave Traps Station Service Transformers	0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 5,000 \$ 5,000 \$ 33,000 \$ 33,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 8,000 \$ 7,500 \$ 17,500 \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 5,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$ 12,000 \$ 3,000 \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2h 5.2a 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.3a 5.3a 5.3a 5.3a	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ 13,000 \$ 6,500 \$ 200,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ - \$ 13,000 \$ 5,000 \$ 5,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ 15,000 \$ 15,000 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$ - \$ 21,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2h 5.2a 5.2b 5.2c 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.3a 5.3a 5.3a 5.3a 5.3a 5.3c 5.3d	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCV'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CT'S CT'S CT'S CT'S CT'S CT'S C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 20,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 17,500 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 11,000 \$ 11,000 \$ 21,000 \$ 12,000 \$ 21,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1h 5.2 5.2a 5.2b 5.2c 5.2c 5.2c 5.2f 5.2g 5.2h 5.3a 5.3a 5.3a 5.3c 5.3c 5.3c 5.3d 5.3e	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 30,000 \$ 30,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 6,000 \$ 8,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 17,500 \$ 17,500 \$ 17,500 \$ 17,500 \$ 17,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 11,000 \$ 11,000 \$ - \$ 21,000 \$ 3 21,000 \$ 3 3,000 \$ 3 45,500 \$ 21,000 \$ 21,000 \$ 3 45,500 \$ 21,000 \$ 3 45,500 \$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2h 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.3a 5.3a 5.3b 5.3c 5.3d 5.3c 5.3d 5.3d 5.3d 5.3d 5.3d 5.3d 5.3d	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCT'S CCYT'S Arresters	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 18,000 \$ 17,500 \$ 17,500 \$ 17,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 11,000 \$ 21,000 \$ - \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 9,400 \$ 9,420	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1h 5.2 5.2a 5.2b 5.2c 5.2c 5.2c 5.2c 5.2f 5.2g 5.2h 5.3a 5.3a 5.3a 5.3a 5.3c 5.3d 5.3e 5.3f 5.3g	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 30,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 33,000 \$ 33,000 \$ 33,000 \$ 34,000 \$ 34,000 \$ 34,000 \$ 34,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 17,500 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 11,000 \$ 11,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 3,000 \$ 3,000 \$ 3,000 \$ 3,000 \$ 3,000 \$ 45,500 \$ 21,000 \$ 3,000 \$ 3	\$
5.1h 5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.3a 5.3a 5.3b 5.3c 5.3d 5.3d 5.3d 5.3d	Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCT'S CCYT'S Arresters	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA E	\$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 30,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 33,000 \$ 34,000 \$ 34,00	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 17,500 \$ 17,500 \$ 17,500 \$ 17,500 \$ 17,500 \$ 17,500 \$ 17,500 \$ 17,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 11,000 \$ 21,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

SCONTEND MODE 1	Item	Item Description	Estimated Quantity	Unit of Measure	Mater	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
SCONTEND MODE 1	TOTAL - SMALL	FOLIIPTMENT / MATERIALS					\$ 1 384 800		\$ 938 800		\$	2,323,600
Commonwealth Comm							3 1,364,600		3 338,800		y .	2,323,000
6.2 Protection and Telecom Regisprosed Passons 2			1	FA	Ś	292 500	\$ 292 500	\$ 85,000	\$ 85,000	\$ 377 500	Ś	377,500
12-001 Entering	0.12	001111021100032	•	1	+	232,300	Ų 232,300	ψ 03,000	ψ 05,000	\$ 377,500	-	377,500
Control Cables	6.2	Protection and Telecom Equipment Panels	26	EA	\$	35,000	\$ 910,000	\$ 12,500	\$ 325,000	\$ 47,500	\$	1,235,000
S. SADA and Communications	6.3	125VDC Batteries	2	EA	\$	75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$	200,000
6.6	6.4	Control Cables	1	LS	\$	398,475	\$ 398,475	\$ 398,475	\$ 398,475	\$ 796,950	\$	796,950
Contribution options	6.5	SCADA and Communications	1	EA	\$	50,000	\$ 50,000	\$ 100,000	\$ 100,000	\$ 150,000	\$	150,000
B. Scurly	6.6	Low Voltage AC Distribution	2	EA	\$	50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$	300,000
B	6.7	DC Distribution System	2	EA	\$	50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$	300,000
S. Concentration S. S. S. S. S. S. S. S	6.8	Security	1	EA	\$	7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$	15,000
TOTAL-CONFIOURDIST PANELS / GENERATOR	6.9	Fire Alarm	1	EA	\$	7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$	15,000
Auto-Circums Auto	6.10	Generator	1	EA	\$	100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$	180,000
Auto-Circums Auto												
2.7.2 Condet & Cable Fracting System 460.0 IF 5 1850.0 5 74,000 5 200.0 5 300.	TOTAL - CONTR	OL HOUSE / PANELS / GENERATOR					\$ 2,115,975		\$ 1,453,475		\$	3,569,450
Page Bus, Firtings & Involutors	7. MISC ITEMS											
7.3 Strain Busic Connections & Insulations 2,025.0 IF \$ 383.0 \$ 78,543 \$ 5.33.5 \$ 100,014 \$ 5.99 \$ 186 7.4 Grounding System 10,600.0 IF \$ 6.99 \$ 73,448 \$ 22.58 \$ 345,348 \$ 40 \$ 411 7.5 Strain Busic Connections & Insulations - 1550 V	7.1	Conduit & Cable Trench System	400.0	LF	\$	185.00	\$ 74,000	\$ 170.00	\$ 68,000	\$ 355	\$	142,000
7.4 Grounding System 10,600 UF S 6.93 \$ 73,458 \$ 32.58 \$ 345,388 \$ 40 \$ 41 7.5 Strain Bus Instultators - 3458V 0 EA \$ 2,000 \$. \$ 1,000 \$. \$ 3,050 \$ 7.6 Strain Bus Instultators - 1154V 7.2 EA \$ 1,000 \$ 7,200 \$ 5.00 \$ 3,600 \$ 1,150 \$ 5 7.7 Strain Bus Instultators - 1154V 7.2 EA \$ 1,000 \$ 7,200 \$ 5.00 \$ 3,600 \$ 1,150 \$ 5 7.8 Strain Bus Instultators - 1154V 7.2 EA \$ 1,000 \$ 7,200 \$ 5.00 \$ 3,600 \$ 5 7.8 Strain Bus Instultators - 1154V 7.2 EA \$ 1,000 \$ 7,200 \$ 5.00 \$ 3,600 \$ 5 7.8 Strain Bus Instultators - 1154V 7.2 EA \$ 1,000 \$ 7,200 \$ 5.00 \$ 3,600 \$ 5 7.8 Strain Bus Instultators - 1154V 7.2 EA \$ 1,000 \$ 5.00 \$ 5	7.2	Rigid Bus, Fittings & Insulators	1,250.0	LF	\$	125.07	\$ 156,338	\$ 237.10	\$ 296,375	\$ 362	\$	452,713
To Strain Commission To Strain Commiss	7.3	Strain Bus, Connectors & Insulators	2,025.0	LF	\$	39.30	\$ 79,583	\$ 53.35	\$ 108,034	\$ 93	\$	187,616
Fig. Strain Rus Insulations : 230W		Grounding System	10,600.0		\$		\$ 73,458	-	\$ 345,348			418,806
7.7 Strain Rus Insulations - 1154V 72 EA S 1,000 S 72,000 S 50 S 39,600 S 1,550 S 13,78 7.8 Story Online Strain Substance 1 IS S 50,000 S 50,000 S 75,000 S 125,000 S	7.5	Strain Bus Insulators - 345kV	0	EA	\$	2,000	\$ -	\$ 1,050	\$ -	\$ 3,050	\$	-
7.9 Style="blook of the property of the pr		Strain Bus Insulators - 230kV			-		т		т		_	-
7.9 SSVT Service	7.7	Strain Bus Insulators - 115kV	72	EA				\$ 550	\$ 39,600	\$ 1,550	\$	111,600
7.10 Control Conduits from Trench to Equipment		Low Voltage AC Station Service	1									125,000
7.11 Misc. Materials (Above and Below Ground)			1						·		\$	90,000
7.12 7.13 7.14 7.15 7.16 7.17 7.18 7.18 7.19 7.20 7.20 7.21 7.21 7.22 7.23 7.24 7.23 7.24 7.25 7.25 7.26 7.27 7.28 7.29 7.29 7.20 7.20 7.21 7.22 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.29 7.29 7.20 7.20 7.21 7.22 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.29 7.29 7.20 7.20 7.20 7.21 7.22 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.29 7.29 7.20 7.20 7.20 7.21 7.22 7.22 7.23 7.24 7.25 7.26 7.26 7.27 7.27 7.27 7.28 7.29 7.29 7.20 7.20 7.20 7.20 7.21 7.22 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.29 7.29 7.20 7.20 7.20 7.20 7.21 7.22 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.27 7.28 7.29 7.29 7.20 7.20 7.20 7.20 7.20 7.21 7.22 7.22 7.23 7.24 7.25 7.26 7.26 7.27 7.27 7.27 7.28 7.29 7.29 7.20 7.20 7.20 7.21 7.22 7.22 7.23 7.24 7.25 7.26 7.26 7.26 7.26 7.26 7.26 7.26 7.26												250,000
7.13 7.14 7.15 7.16 7.17 7.18 7.19 7.19 7.20 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.28 7.29 7.29 7.29 7.20 7.21 7.21 7.28 7.38 7.49 7.59 7.70 7.20 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.29 7.29 7.29 7.20 7.20 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.29 7.29 7.29 7.20 7.20 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.29 7.29 7.20 7.20 7.21 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.29 7.29 7.20 7.20 7.21 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.28 7.29 7.29 7.20 7.20 7.21 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.29 7.20 7.20 7.21 7.22 7.23 7.24 7.25 7.26 7.27 7.27 7.28 7.28 7.29 7.29 7.20 7.20 7.20 7.20 7.21 7.22 7.23 7.24 7.25 7.26 7.26 7.27 7.27 7.28 7.28 7.28 7.29 7.29 7.20 7.20 7.20 7.20 7.20 7.20 7.20 7.20		Misc. Materials (Above and Below Ground)	1	LS	\$	180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$	360,000
7.14												
7.15					_							
7.15												
7.17 7.18 7.19 7.20 7.21 7.22 7.23 7.24 7.25 7.27 7.28 7.29 7.29 7.29 7.29 7.20 7.20 7.21 7.22 7.23 7.24 7.25 7.25 7.26 7.27 7.29 7.29 7.29 7.29 7.29 7.29 7.29												
7.18					-							
7.19					-							
7.20					-							
7.21 7.22 7.23 7.24 7.25 7.27 7.27 7.28 7.29 7.29 7.29 7.29 7.29 7.29 7.29 7.29					1							
7.22												
7.23 7.24 7.25 7.27 7.27 7.28 7.29 7.29 7.29 7.29 7.29 7.29 7.29 7.29					+							
7.24					+							
TOTAL - MISC ITEMS					1							
TOTAL - MISCITEMS \$ 855,378 \$ 1,282,357 \$ 2,135 H. Churchtown Substation - Install \$ 6,335,890 \$ 7,316,442 \$ 13,652 B. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					1							
H. Churchtown Substation - Install		TEMS					\$ 855.378		\$ 1.282.357		\$	2,137,735
Contractor Mobilization / Demobilization / Demobilizati												13,652,332
8.1 Mob / Demob												
Project Management, Material Handling & Amenities												
8.2 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 8.3 Utility PM and Project Oversite 8.4 Site Accommodation, Facilities, Storage 1 LS \$ - \$ 136,523 \$ 136,52			1	LS	\$	-	\$ -	\$ 136,523	\$ 136,523	\$ 136,523	\$	136,523
8.4 Site Accommodation, Facilities, Storage 1 LS \$ - \$ - \$ 136,523 \$ 1,092,187 \$ 1,092	8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler	1	LS				\$ 677,463	\$ 677,463	\$ 677,463	\$	677,463
8.4 Site Accommodation, Facilities, Storage 1 LS \$ - \$ - \$ 136,523 \$ 1,092,187 \$ 1,092	8 3	Litility PM and Project Oversite	1	IS	1		¢ _	\$ 126.522	\$ 126 522	\$ 126 522	Ġ	136,523
Engineering 1 LS \$ - \$ 1,092,187 <td></td> <td></td> <td></td> <td></td> <td>4</td> <td>_</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>136,523</td>					4	_						136,523
8.5 Design Engineering 1 LS \$ - \$ 1,092,187 \$ </td <td></td> <td></td> <td>1</td> <td>L)</td> <td>+</td> <td>-</td> <td>· -</td> <td>y 130,323</td> <td>y 130,323</td> <td>7 130,323</td> <td>Y</td> <td>130,323</td>			1	L)	+	-	· -	y 130,323	y 130,323	7 130,323	Y	130,323
8.6 LiDAR - Mile \$ -		ů ů	1	IS	Ś		\$ -	\$ 1,092,187	\$ 1,092,187	\$ 1,092,187	Ś	1,092,187
8.7 Geotech 4 Site \$ - \$ - \$ 3,500 \$ 14,000 \$ 3,500 \$ 12 8.8 Surveying/Staking 1 Site \$ - \$ - \$ 95,566					+							
8.8 Surveying/Staking 1 Site \$ - \$ - \$ 95,566 \$ 95,566 \$ 95,566 \$ 95												14,000
												95,566
1 LESUNE & COMMISSIONINE		Testing & Commissioning			+*			. 23,300	. 23,500		r	

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 341,308	\$ 341,308	\$ 341,308	\$ 341,308	
	Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 40,957	\$ 40,957	\$ 40,957	\$ 40,957	
8.13	Real Estate Costs (New)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -	\$ 91,200	\$ 91,200	\$ 91,200	\$ 91,200	
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
8.16	Allowance for Funds Used During Construction (AFUDC)		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
8.18	Sales Tax on Materials	1	LS	\$ 506,871	\$ 506,871	\$ -	\$ -	\$ 506,871	\$ 506,871	
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 13,652	\$ 13,652	\$ 13,652	\$ 13,652	
TOTAL - MOB,	TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 506,871		\$ 2,775,903		\$ 3,282,774	

Page 35 of 61

I. Churchtown Substation - Removal

Estimate Revision: 5 Total: \$ 1,120,394

NG & NY Transco - T019 - (Segment B)									
		Supply		Installation		Total			
I. Churchtown Substation - Removal]		
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	111,000	\$	111,000]		
2. SUBSTATION FOUNDATIONS	\$	-	\$	340,400	\$	340,400	1		
3. SUBSTATION STRUCTURES	\$	-	\$	252,600	\$	252,600	1		
4. MAJOR EQUIPTMENT	\$	-	\$	24,600	\$	24,600	1		
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	60,000	\$	60,000	1		
6. CONTROL HOUSE / PANELS	\$	-	\$	150,000	\$	150,000	1		
7. MISC ITEMS	\$	-	\$	25,078	\$	25,078	1		
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$	156,716	\$	156,716	1		
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-	0.09		
SUBTOTAL:	\$	-	\$	1,120,394	\$	1,120,394	1		
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-	0.0		
TOTAL:	\$	-	\$	1,120,394	\$	1,120,394	1		

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
I. Church	town Substation - Removal									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.		ACRES	\$ -	\$ -	\$ 250,000	\$ -	\$ 250,000	\$ -	
1.2	Station stone within substation fence.		СУ	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -	
1.3	Substation Fence	740	LF	\$ -	\$ -	\$ 150	\$ 111,000	\$ 150	\$ 111,000	
1.4										
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE P	TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL				\$ -		\$ 111,000		\$ 111,000	
	FOUNDATIONS									
	345kV									
2.1a	Circuit Breaker Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1b	Capacitor Bank Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1c	Caisson DE Foundations (for DE A frame str stand alone)		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1d	Caisson DE Foundations (for DE A frame str shared column)		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1e	Switch Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1f	Station Service Transformer Stand Foundation		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1g	Bus Support 3ph Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1h	Bus Support 1 Ph Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1j	Instrument Transformer Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1k	Arrester Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1m	Wave Trap Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.1n	Reactor Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.1p									
2.2	230kV								
2.2a	Circuit Breaker Foundations		EA	\$ -	\$ -	\$ 7,200	\$ -	\$ 7,200	\$ -
2.2b	Capacitor Bank Foundations		EA	\$ -	\$ -	\$ 32,000	\$ -	\$ 32,000	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)		EA	\$ -	\$ -	\$ 22,000	\$ -	\$ 22,000	*
2.2d	Caisson DE Foundations (for DE A frame str shared column)		EA	\$ -	\$ -	\$ 11,000	\$ -	\$ 11,000	\$ -
2.2e	Switch Stand Foundations		EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
2.2f	Station Service Transformer Stand Foundation		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2g	Bus Support 3ph Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2g 2.2h	Bus Support 1 Ph Foundations		EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2j	Instrument Transformer Stand Foundations		EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2j 2.2k			EA		\$ -		'	,	\$ -
	Arrester Stand Foundations	+		1	<u>'</u>			, , , , , ,	•
2.2m	Wave Trap Stand Foundations Mice Structure Foundations	0	EA EA	<u> </u>	\$ - \$ -		\$ - \$ -	\$ -	\$ - \$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	· -	\$ -	÷ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	2	EA	\$ -	\$ -	\$ 15,000	\$ 30,000	\$ 15,000	\$ 30,000
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e	Switch Stand Foundations	18	EA	\$ -	\$ -	\$ 5,200	\$ 93,600	\$ 5,200	\$ 93,600
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	6	EA	\$ -	\$ -	\$ 5,200	\$ 31,200	\$ 5,200	\$ 31,200
2.3j	Instrument Transformer Stand Foundations	3	EA	\$ -	\$ -	\$ 5,200	\$ 15,600	\$ 5,200	\$ 15,600
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Steel Transmission Pole Deadend Fnds (1Ph)	9	EA	\$ -	\$ -	\$ 15,000	\$ 135,000	\$ 15,000	\$ 135,000
2.50	Section and Sectio		2.	Ţ	·	ψ 13,000	ψ 155,000	ψ 15,000	Ţ 135,600
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment		EA	\$ -	\$ -	\$ 67,500	\$ -	\$ 67,500	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ -	\$ -	\$ 14,200	\$ 14,200	\$ 14,200	\$ 14,200
2.5b	Generator Foundation		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightning Mast Foundations								
	70' Lightning Mast Foundation	4	EA	\$ -	\$ -				
2.6b				\$ -	\$ -		\$ -		\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	FATION FOUNDATIONS				\$ -		\$ 340,400		\$ 340,400
	N STRUCTURES								
3.1	345kV		F.	c		4	<u>^</u>		A
3.1a	Substation A-Frame Structures - Stand alone		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.1b	Substation A-Frame Structures - Shared Column		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1c	Switch Stands		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d	Station Service Transformer Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 3ph		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g	Instrument Transformer Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1h	Arrester Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j	Wave Trap Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone		EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Shared Column		EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2c	Switch Stands		EA	\$ -	\$ -	\$ 9,750	\$ -	\$ 9,750	
3.2d	Station Service Transformer Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2e	Bus Support 3ph		EA	\$ -	\$ -	\$ 2,250	· .	\$ 2,250	*
3.2f	Bus Support 1 Ph		EA	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	
3.2g	Instrument Transformer Stand		EA	\$ -	\$ -	\$ 1,050	\$ -	\$ 1,050	
3.2h	Arrester Stand		EA	\$ -	\$ -	\$ 1,050		\$ 1,050	
3.2j	Wave Trap Stand		EA	\$ -	\$ -	\$ 4,500		\$ 4,500	
3.2k	Misc. Structures		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-									<u> </u>
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	9	EA	\$ -	\$ -	\$ 6,450	\$ 58,050	\$ 6,450	*
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	6		\$ -	\$ -	\$ 6,450	•	\$ 6,450	*
3.3g	Instrument Transformer Stand	3		\$ -	\$ -	\$ 6,450	\$ 19,350	\$ 6,450	
3.3h	Arrester Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Steel Transmission Pole Deadend (1Ph)	9	EA	\$ -	\$ -	\$ 12,300	\$ 110,700	\$ 12,300	
3.41	Lightning Mast	4	EA	\$ -	\$ -	\$ 6,450		\$ 6,450	-
	ATION STRUCTURES		E, t	,	\$ -	ψ 0,130	\$ 252,600	φ 0,130	\$ 252,600
4. MAJOR EQU					,		232,000		3 232,000
4.1	345kV								
4.1a	Circuit Breakers		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c	The control of the co		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d				· .					<u> </u>
4.2	230kV								
4.2a	Circuit Breakers		EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
4.2b	Capacitor Banks		EA	\$ -	1.	\$ 42,000	·	\$ 42,000	
				İ.	İ .	,500		,555	† ·
4.3	115kV								
4.3a	Circuit Breakers	2	EA	\$ -	\$ -	\$ 12,300	\$ 24,600	\$ 12,300	\$ 24,600
4.3b	Capacitor Banks	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
									1
TOTAL - MAIO	R EQUIPTMENT				\$ -		\$ 24,600		\$ 24,600
	PTMENT / MATERIALS				· .		24,000		24,000

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator		EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator		EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1c	VT'S		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S		EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Arresters		EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.1g	Wave Traps		EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator		EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator		EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2c	VT'S		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d	CT'S		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S		EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.2f	Arresters		EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2g	Wave Traps		EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2h	Station Service Transformers		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,500
5.3b	Disconnect Switches - 3ph w/ manual operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,500
5.3c	VT'S	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
5.3d	CT'S	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
5.3e	CCVT'S	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
5.3f	Arresters	9	EA	\$ -	\$ -	\$ 1,500	\$ 13,500	\$ 1,500	\$ 13,500
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMAL	 L EQUIPTMENT / MATERIALS				\$ -		\$ 60,000		\$ 60,000
6. CONTROL H	OUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	1	EA	\$ -	\$ -	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000
6.2	Protection and Telecom Equipment Panels		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.8	Security		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.9	Fire Alarm		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ 150,000		\$ 150,000
7. MISC ITEMS									
7.1	Conduit & Cable Trench System		LS	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.2	Rigid Bus, Fittings & Insulators	535.0	LF	\$ -	\$ -	\$ 46.88	\$ 25,078	\$ 47	\$ 25,078

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
7.3	Strain Bus, Connectors & Insulators		LF	\$ -	\$ -	\$ 39.35	\$ -	\$ 39	\$ -
7.4	Grounding System		LS	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC	ITEMS				\$ -		\$ 25,078		\$ 25,078
I. Church	town Substation - Removal				\$ -		\$ 963,678		\$ 963,678
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 9,637	\$ 9,637	\$ 9,637	\$ 9,637
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 47,820	\$ 47,820	\$ 47,820	\$ 47,820
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 9,637	\$ 9,637	\$ 9,637	\$ 9,637
8.4	Site Accommodation, Facilities, Storage	1.0	LS	\$ -	\$ -	\$ 9,637	\$ 9,637	\$ 9,637	\$ 9,637
	Engineering								
8.5	Design Engineering	1.0	LS	\$ -	\$ -	\$ 77,094	\$ 77,094	\$ 77,094	\$ 77,094
8.6	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 6,746	\$ -	\$ 6,746	\$ -
	Testing & Commissioning								
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 24,092	\$ -	\$ 24,092	\$ -
	Permitting and Additional Costs								
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 2,891	\$ 2,891	\$ 2,891	\$ 2,891
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1.0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	\$ 964	\$ -	\$ 964	\$ -
	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 156,716		\$ 156,716

NG & NY Transco - T019 - (Segment B) J. Pleasant Valley Substation - Install

Total: \$ 8,652,672

NG & NY Transco - 1	NG & NY Transco - T019 - (Segment B)											
		Supply	Installation		Total							
J. Pleasant Valley Substation - Install												
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	92,400	\$ 380,000	\$	472,400							
2. SUBSTATION FOUNDATIONS	\$	414,410	\$ 442,500	\$	856,910							
3. SUBSTATION STRUCTURES	\$	188,700	\$ 188,700	\$	377,400							
4. MAJOR EQUIPTMENT	\$	1,380,000	\$ 400,000	\$	1,780,000							
5. SMALL EQUIPTMENT / MATERIALS	\$	369,500	\$ 173,000	\$	542,500							
6. CONTROL HOUSE / PANELS	\$	746,400	\$ 393,900	\$	1,140,300							
7. MISC ITEMS	\$	740,939	\$ 988,454	\$	1,729,393							
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	314,588	\$ 1,439,181	\$	1,753,769							
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-							
SUBTOTAL:	\$	4,246,937	\$ 4,405,735	\$	8,652,672							
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-							
TOTAL:	\$	4,246,937	\$ 4,405,735	\$	8,652,672							

Descr	iptic	on of	Wo	rk:

Estimate Revision:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material S	Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
J. Pleasa	nt Valley Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	1.00	ACRES	\$	-	\$ -	\$ 230,000	\$ 230,000	\$ 230,000	\$ 230,000
1.2	Station stone within substation fence.	1,200	CY	\$	27	\$ 32,400	\$ 75	\$ 90,000	\$ 102	\$ 122,400
1.3	Substation Fence	600	LF	\$	100	\$ 60,000	\$ 100	\$ 60,000	\$ 200	\$ 120,000
1.4	Permanent Access Road - 20'-Wide	0	LF				\$ 285	\$ -	\$ 285	\$ -
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
	PREP/ GRADING/ FENCING / CIVIL					\$ 92,400		\$ 380,000		\$ 472,400
2. SUBSTATIO	N FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	3	EA	\$	14,940			\$ 48,000	\$ 30,940	
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025		\$ 60,000		\$ 116,025	
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	26,145		\$ 28,000	\$ -	\$ 54,145	
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145		\$ 28,000	\$ -	\$ 54,145	
2.1e	Switch Stand Foundations	18	EA	\$	4,482			\$ 86,400	\$ 9,282	
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482		\$ 4,800	\$ -	\$ 9,282	
2.1g	Bus Support 3ph Foundations	0	EA	\$		\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	25	EA	\$	4,482		\$ 4,800		\$ 9,282	
2.1j	Instrument Transformer Stand Foundations	18	EA	\$	4,482				\$ 9,282	
2.1k	Arrester Stand Foundations	9	EA	\$	4,482				\$ 9,282	
2.1m	Wave Trap Stand Foundations	1	EA	\$	4,482			\$ 4,800	\$ 9,282	
2.1n	Reactor Foundations	0	EA	\$	7,470	\$ -	\$ 8,000	\$ -	\$ 15,470	\$ -
2.1p				ļ						
				\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	230kV									
2.2a	Circuit Breaker Foundations	0	EA	\$	11,952		\$ 12,800		\$ 24,752	
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -		\$ -	\$ 46,410	
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
	115kV								
2.3a	Circuit Breaker Foundations	0	EA	7 -/	\$ -		\$ -	\$ 10,829	
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -		\$ -	\$ 69,615	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600		\$ 34,034	
	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	
	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -		\$ -	\$ 154,700	
	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House Addition Foundation (20-ft x 50-ft)	1	EA	,	\$ 51,368		\$ 53,700	\$ 105,068	\$ 105,068
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6	Lightning Mast Foundations				·				
2.6a	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -		\$ -	\$ 10,829	
2.6b		0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ATION FOUNDATIONS				\$ 414,410		\$ 442,500		\$ 856,910
3. SUBSTATION									
	345kV		F.	d 27.055	ć	ć 27.055	ć	ć 7.055	^
	Substation A-Frame Structures - Stand alone	0	EA	,	\$ -	\$ 37,000		\$ 74,000	
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -		\$ -	\$ 74,000	
	Switch Stands	3	EA	\$ 14,800	\$ 44,400		\$ 44,400	\$ 29,600	
	Station Service Transformer Stand	0	EA	7,,	\$ -	\$ 14,800		\$ 29,600	
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph	25	EA	\$ 3,700	\$ 92,500		\$ 92,500	\$ 7,400	
	Instrument Transformer Stand	15	EA	\$ 1,850					
	Arrester Stand	9		\$ 1,850					
	Wave Trap Stand	1		\$ 7,400					
3.1k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
1									
	20011/								
	230kV		F :		•			A	
3.2a	Substation A-Frame Structures - Stand alone	0		\$ 33,300				\$ 66,600	
3.2a 3.2b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2a 3.2b 3.2c	Substation A-Frame Structures - Stand alone		EA EA		\$ - \$ -	\$ 33,300 \$ 12,025	\$ - \$ -		\$ - \$ -

Item	·	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2e	Bus Support 3ph	0		\$ -			\$ -		\$ -
3.2f	Bus Support 1 Ph	0	EA	\$ 2,775	\$ -		\$ -		\$ -
3.2g	Instrument Transformer Stand	0	EA	\$ 1,295	\$ -		\$ -		\$ -
3.2h	Arrester Stand	0	EA	\$ 1,295	\$ -	\$ 1,295	\$ -		\$ -
3.2j	Wave Trap Stand	0	EA	\$ 5,550	\$ -			\$ 11,100	<u> </u>
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
2.2	115kV								
3.3 3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA EA	\$ 18,500	\$ -	\$ 18,500 \$ 18,500		\$ 37,000 \$ 37,000	
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -			\$ 15,910	
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -			\$ 15,910	
3.3e	Bus Support 3ph	0	EA	\$ 3,330	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 6,660	
3.3f	Bus Support 1 Ph	0	EA		\$ -			\$ 3,700	
3.3g	Instrument Transformer Stand	0	EA	\$ 740	\$ -	\$ 740		\$ 1,480	
3.3h	Arrester Stand	0	EA	\$ 740	·			\$ 1,480	
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -		\$ -	\$ 7,400	
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -		\$ -	\$ 12,950	
								,	
TOTAL - SUBS	STATION STRUCTURES				\$ 188,700		\$ 188,700		\$ 377,400
4. MAJOR EQ	UIPTMENT								
4.1	345kV								
4.1a	Circuit Breakers	1	EA	\$ 200,000	\$ 200,000	\$ 80,000	\$ 80,000	\$ 280,000	\$ 280,000
4.1b	Capacitor Banks - W/ Center Tap VT and Reactors	2	EA	\$ 370,000	\$ 740,000	\$ 80,000		\$ 450,000	\$ 900,000
4.1c	Circuit Breakers - Cap Switching	2	EA	\$ 220,000	\$ 440,000	\$ 80,000	\$ 160,000	\$ 300,000	\$ 600,000
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ 250,000	\$ -	\$ 80,000	\$ -		\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 225,000	\$ -	\$ 60,000	\$ -	\$ 285,000	
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL MALO	OR EQUIPTMENT				\$ 1.380.000		\$ 400,000		\$ 1.780.000
	JIPTMENT / MATERIALS				\$ 1,380,000		\$ 400,000		\$ 1,780,000
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator				\$ 40,000				
5.1b	Line Switches - Spri W/ motor operator	1		I \$ 40 000 I		\$ 15,000	\$ 15 nnn l	\$ 55,000	\$ 55,000
J.10	Disconnect Switches - 3nh w/ manual operator	1	EA EA	\$ 40,000		\$ 15,000 \$ 17,500	-,	\$ 55,000 \$ 52,500	
	Disconnect Switches - 3ph w/ manual operator VT'S	3	EA	\$ 35,000	\$ 105,000	\$ 17,500	\$ 52,500	\$ 52,500	\$ 157,500
5.1c	VT'S	3	EA EA	\$ 35,000 \$ 25,000	\$ 105,000 \$ 75,000	\$ 17,500 \$ 12,000	\$ 52,500 \$ 36,000	\$ 52,500 \$ 37,000	\$ 157,500 \$ 111,000
5.1c 5.1d	VT'S CT'S	3 3 3	EA EA EA	\$ 35,000 \$ 25,000 \$ 13,000	\$ 105,000 \$ 75,000 \$ 39,000	\$ 17,500 \$ 12,000 \$ 8,000	\$ 52,500 \$ 36,000 \$ 24,000	\$ 52,500 \$ 37,000 \$ 21,000	\$ 157,500 \$ 111,000 \$ 63,000
5.1c 5.1d 5.1e	VT'S CT'S CCVT'S	3 3 3 3	EA EA EA	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000
5.1c 5.1d	VT'S CT'S	3 3 3	EA EA EA	\$ 35,000 \$ 25,000 \$ 13,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000
5.1c 5.1d 5.1e 5.1f	VT'S CT'S CCVT'S Arresters	3 3 3 3 9	EA EA EA EA	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 21,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000
5.1c 5.1d 5.1e 5.1f 5.1g	VT'S	3 3 3 3 9	EA EA EA EA EA	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 13,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 8,000	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$ 8,000	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 21,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000
5.1c 5.1d 5.1e 5.1f 5.1g	VT'S	3 3 3 3 9	EA EA EA EA EA	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 13,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 8,000	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$ 8,000	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 21,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000
5.1c 5.1d 5.1e 5.1f 5.1g	VT'S	3 3 3 3 9	EA EA EA EA EA	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 13,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 8,000	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$ 8,000	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 21,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000
5.1c 5.1d 5.1e 5.1f 5.1g 5.1h	VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers	3 3 3 3 9	EA EA EA EA EA	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 13,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 8,000	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$ 8,000	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 21,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000 \$ -
5.1c 5.1d 5.1e 5.1f 5.1g 5.1h	VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers	3 3 3 3 9 1 0	EA EA EA EA EA EA	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000 \$ -	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 50,000	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$ 8,000 \$ -	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000 \$ -
5.1c 5.1d 5.1e 5.1f 5.1g 5.1h 5.2 5.2a 5.2b 5.2c	VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S	3 3 3 3 9 1 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 35,000 \$ 35,000 \$ 31,000 \$ 33,000 \$ 13,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000 \$ -	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 50,000 \$ 51,500 \$ 51,500 \$ 51,500 \$ 8,000	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$ 8,000 \$ -	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000 \$ - \$ - \$ - \$ - \$ -
5.1c 5.1d 5.1e 5.1f 5.1g 5.1h 5.2 5.2a 5.2b 5.2c 5.2d	VT'S CT'S CCT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S	3 3 3 3 9 1 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000 \$ - \$ -	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000 \$ 15,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1c 5.1d 5.1e 5.1f 5.1g 5.1h 5.2 5.2a 5.2b 5.2c 5.2c 5.2d 5.2e	VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S	3 3 3 3 9 1 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 30,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000 \$ - - - - - - - - - - - - - - - - - - -	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 8,000 \$ 15,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 6,000	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 250,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000 \$ - - - - - - - - - - - - - - - - - - -
5.1c 5.1d 5.1e 5.1f 5.1g 5.1h 5.2d 5.2d 5.2d 5.2d 5.2e 5.2f	VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters	3 3 3 3 9 1 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 5 5,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000 \$ - - - - - - - - - - - - - - - - - - -	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 50,000 \$ 50,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1c 5.1d 5.1e 5.1e 5.1f 5.1g 5.1h 5.2c 5.2a 5.2b 5.2c	VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kv Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	3 3 3 3 9 1 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000 \$ - - - - - - - - - - - - - - - - - - -	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 5,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$ 8,000 \$ -	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1c 5.1d 5.1e 5.1f 5.1g 5.1h 5.2d 5.2d 5.2d 5.2d 5.2e 5.2f	VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters	3 3 3 3 9 1 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 200,000 \$ 35,000 \$ 31,000 \$ 13,000 \$ 10,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000 \$ - - - - - - - - - - - - - - - - - - -	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 5,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$ 8,000 \$ -	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 72,000 \$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 -
5.1c 5.1d 5.1e 5.1e 5.1f 5.1g 5.1h 5.2c 5.2a 5.2b 5.2c	VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers	3 3 3 3 9 1 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 35,000 \$ 25,000 \$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 30,000 \$ 31,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 13,000 \$ 10,000 \$ 13,000 \$ 10,000 \$ 13,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000 \$ - \$ - \$ - \$ - \$ 5 \$ - \$ 5 \$ - \$ 5 \$ - \$ 5 \$ -	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 5,000 \$ 50,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 1,500	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$ 8,000 \$ - \$ - \$ - \$ - \$ 5 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1c 5.1d 5.1e 5.1f 5.1g 5.1h 5.2c 5.2a 5.2b 5.2c 5.2c 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h	VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CC'S CCVT'S Arresters Wave Traps Station Service Transformers	3 3 3 3 9 1 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 30,000 \$ 30,00	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000 \$ - \$ - \$ - \$ - \$ 5 \$ - \$ 5 \$ - \$ 5 \$ - \$ 5 \$ -	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 50,000 \$ 15,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 7	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$.	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 32,000 \$ 32,	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000 \$
5.1c 5.1d 5.1d 5.1e 5.1f 5.1g 5.1h 5.2 5.2a 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2e 5.2f 5.2g 5.2h	VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers	3 3 3 3 9 1 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 35,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 30,000 \$ 30,00	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 \$ - \$ 5 \$ - \$ 5 \$ - \$ 5 \$ -	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$.	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 11,000 \$ 11,000 \$ 12,000 \$ 12,000 \$ 12,000 \$ 12,000 \$ 12,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000 \$
5.1c 5.1d 5.1d 5.1e 5.1e 5.1f 5.1g 5.1h 5.2 5.2a 5.2a 5.2b 5.2c 5.2d 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.3a 5.3a 5.3a 5.3a 5.3a	VT'S CT'S CT'S Arresters Wave Traps Station Service Transformers Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CC'Y'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S Disconnect Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S UT'S	3 3 3 3 9 1 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 200,000 \$ 13,000 \$ 13	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000 \$ - - - - - - - - - - - - - - - - - - -	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 50,000 \$ 50,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 8,000	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 250,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 3,000 \$ 3,	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000 \$
5.1c 5.1d 5.1e 5.1f 5.1g 5.1h 5.2 5.2a 5.2b 5.2c 5.2c 5.2c 5.2c 5.2c 5.2c 5.2c 5.2d 5.2e 5.2f 5.2s 5.3e	VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers	3 3 3 3 9 1 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 35,000 \$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 30,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 20,000 \$ 20,000 \$ 20,000	\$ 105,000 \$ 75,000 \$ 39,000 \$ 39,000 \$ 58,500 \$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 50,000 \$ 50,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 15,000 \$ 17,500	\$ 52,500 \$ 36,000 \$ 24,000 \$ 24,000 \$ 13,500 \$ 8,000 \$ -	\$ 52,500 \$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 47,500 \$ 47,500 \$ 47,500 \$ 47,500 \$ 47,500 \$ 47,500 \$ 47,500 \$ 47,500 \$ 48,000 \$ 48,000	\$ 157,500 \$ 111,000 \$ 63,000 \$ 63,000 \$ 72,000 \$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.3f	Arresters	0	EA	\$ 3,420	\$ -	\$ 6,000	\$ -	\$ 9,420	\$ -
	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	EQUIPTMENT / MATERIALS				\$ 369,500		\$ 173,000		\$ 542,500
	DUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE Addition (25-ft x 50-ft)	1	EA	\$ 325,000	\$ 325,000	\$ 85,000	\$ 85,000	\$ 410,000	\$ 410,000
6.2	Protection and Telecom Equipment Panels	5	EA	\$ 35,000	\$ 175,000	\$ 12,500	\$ 62,500	\$ 47,500	\$ 237,500
6.3	125VDC Batteries	0	EA	\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	Control Cables	1	LS	\$ 246,400	\$ 246,400	\$ 246,400	\$ 246,400	\$ 492,800	\$ 492,800
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ 50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
6.7	DC Distribution System	0	EA	\$ 50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	
6.8	Security	0	EA	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.9	Fire Alarm	0	EA	\$ 7,500	\$ -		\$ -	\$ 15,000	\$ -
6.10	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
	ROL HOUSE / PANELS / GENERATOR				\$ 746,400		\$ 393,900		\$ 1,140,300
7. MISC ITEMS							·		
7.1	Conduit & Cable Trench System	1,200	LF	\$ 185.00	\$ 222,000		\$ 204,000	\$ 355	
7.2	Rigid Bus, Fittings & Insulators	1,500	LF	\$ 125.07	\$ 187,605	\$ 237.10	\$ 355,650	\$ 362	\$ 543,255
7.3	Strain Bus, Connectors & Insulators	0	LF	\$ 13.38	\$ -	\$ 39.35		\$ 53	
7.4	Grounding System	3,800	LF	\$ 6.93	\$ 26,334	\$ 32.58	\$ 123,804	\$ 40	\$ 150,138
7.5	Strain Bus Insulators - 345kV	0	EA	\$ 2,000	\$ -	\$ 1,050	\$ -	\$ 3,050	\$ -
7.6	Strain Bus Insulators - 230kV	0	EA	\$ 1,400	\$ -	\$ 750	\$ -	\$ 2,150	\$ -
7.7	Strain Bus Insulators - 115kV	0	EA	\$ 1,000	\$ -	\$ 550	'	\$ 1,550	·
7.8	Low Voltage AC Station Service	0	LS	\$ 50,000	\$ -	\$ 75,000	\$ -	\$ 125,000	
	SSVT Service	0	LS	\$ 45,000	\$ -	\$ 45,000	\$ -	\$ 90,000	
7.10	Control Conduits from Trench to Equipment	1	LS	\$ 125,000	\$ 125,000	,	\$ 125,000	\$ 250,000	
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	
7.12	,		-				,	,,	
7.13									
7.14									
7.15									
7.16									
7.17									
7.18									
7.19									
7.20									
7.21									
7.22									
7.23									
7.24									
7.25									
TOTAL - MISC	TEMS				\$ 740,939		\$ 988,454		\$ 1,729,393
	nt Valley Substation - Install				\$ 3,932,349		\$ 2,966,554		\$ 6,898,903
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization								
	·	4	10	ė	ė	\$ 68,989	\$ 68,989	\$ 68,989	¢ 60.000
	Mob / Demob Project Management, Material Handling & Amenities	1	LS	\$ -	\$ -	\$ 68,989	و98,989 د	و889,800 د	\$ 68,989
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 342,341	\$ 342,341	\$ 342,341	\$ 342,341
	,								
	Utility PM and Project Oversite	1	LS			\$ 68,989			
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 68,989	\$ 68,989	\$ 68,989	\$ 68,989
	Engineering								
	Design Engineering	1	LS	\$ -	\$ -				
8.6	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
·									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	то	OTAL
8.7	Geotech	2	EA	\$	-	\$ -	\$ 3,500	\$ 7,000	\$ 3,500	\$	7,000
8.8	Surveying/Staking	1	Site	\$	-	\$ -	\$ 48,292	\$ 48,292	\$ 48,292	\$	48,292
	Testing & Commissioning										
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 172,473	\$ 172,473	\$ 172,473	\$	172,473
	Permitting and Additional Costs										
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.11	Environmental Mitigation		LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 20,697	\$ 20,697	\$ 20,697	\$	20,697
8.13	Real Estate Costs (New)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$	-	\$ -	\$ 82,600	\$ 82,600	\$ 82,600	\$	82,600
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.18	Sales Tax on Materials	1	LS	\$ 314	1,588	\$ 314,588	\$ -	\$ -	\$ 314,588	\$	314,588
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 6,899	\$ 6,899	\$ 6,899	\$	6,899
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 314,588		\$ 1,439,181		\$	1,753,769

Page 45 of 61

J. SS Pleasant Valley-Install

NG & NY Transco - T019 - (Segment B) K. Pleasant Valley Substation - Removal

Total: \$

47,977

NG & NY Transco - T019 -	NG & NY Transco - T019 - (Segment B)										
	Supply			Installation		Total					
K. Pleasant Valley Substation - Removal											
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	40,500	\$	40,500					
2. SUBSTATION FOUNDATIONS	\$	-	\$	-	\$	-					
3. SUBSTATION STRUCTURES	\$	-	\$	-	\$	-					
4. MAJOR EQUIPTMENT	\$	-	\$	-	\$	-					
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	-	\$	-					
6. CONTROL HOUSE / PANELS	\$	-	\$	-	\$	-					
7. MISC ITEMS	\$	-	\$	-	\$						
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$	-	\$	7,477					
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-					
SUBTOTAL:	\$	-	\$	40,500	\$	47,977					
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-					
TOTAL:	\$	-	\$	40,500	\$	47,977					

Description	of Work:								
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
K. Pleas	ant Valley Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	
1.3	Substation Fence	270	LF	\$ -	\$ -	\$ 150	\$ 40,500	\$ 150	\$ 40,500
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
	PREP/ GRADING/ FENCING / CIVIL				\$ -		\$ 40,500		\$ 40,500
	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA EA	\$ - \$ -	1 7		7	\$ - \$ -	*
2.1n	Reactor Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p				1					
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200	\$ -	\$ 7,200	\$ -
2.2a 2.2b	Capacitor Bank Foundations Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 7,200		\$ 7,200	
2.20 2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 32,000		\$ 32,000	
2.2d	Caisson DE Foundations (for DE A frame str stand alone) Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ 22,000		\$ 22,000	
2.2d 2.2e	Switch Stand Foundations Switch Stand Foundations	0	EA	\$ -	\$ - \$ -	\$ 11,000		\$ 11,000	
2.2e 2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2g 2.2h	Bus Support 1 Ph Foundations	0	EA	\$ - \$ -	\$ -	\$ 2,400		\$ 2,400	
Z.ZN	pus support 1 Pil Foundations	1 0	ŁΑ			ş 2,400	, -	2,400	S -

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV	-							
2.3a	Circuit Breaker Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c 2.3d	Caisson DE Foundations (for DE A frame str stand alone)	0	EA EA	\$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.3u 2.3e	Caisson DE Foundations (for DE A frame str shared column) Switch Stand Foundations	0		\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	
2.3e 2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3n	Station Service Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
· ·									
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CURC	TATION FOLINDATIONS				¢.		ć		ć
	ATION FOUNDATIONS N STRUCTURES				\$ -		\$ -		\$ -
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1b	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 3ph	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g	Instrument Transformer Stand	0		\$ -	\$ -	•	\$ -	\$ 1,050	
3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ 1,050	\$ -	\$ 1,050	
3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	
3.2c	Switch Stands	0	EA	\$ -	\$ -	\$ 9,750		\$ 9,750	
	Station Service Transformer Stand	0		\$ -	\$ -		\$ -	\$ -	
	Bus Support 3ph	0		\$ -			\$ -		\$ -
	Bus Support 1 Ph	0		\$ -	\$ -			\$ 2,250	
3.2g	Instrument Transformer Stand	0		\$ -		\$ 1,050		\$ 1,050	
3.2h	Arrester Stand	0		\$ -		\$ 1,050		\$ 1,050	
3.2j	Wave Trap Stand	0		\$ -	\$ -			\$ 4,500	
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	14Flav								
	115kV	^	ΓA	\$ -	ć	ć 1F.000	ć	ć 1F.000	\$ -
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	D 47 -£(1

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Switch Stands	0		\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
	Fuse Stand	0					\$ -	\$ -	\$ -
	Bus Support 3ph	0	EA				\$ -	\$ -	\$ -
	Bus Support 1 Ph	0					\$ -	\$ -	\$ -
	Instrument Transformer Stand	0		<u> </u>			\$ -	\$ -	\$ -
	Arrester Stand	0					\$ -	\$ -	\$ -
	Wave Trap Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ATION CTRUCTURES				4		4		_
	ATION STRUCTURES				\$ -		\$ -		\$ -
4. MAJOR EQUI									
	345kV			4			4	4	
	Circuit Breakers	0		<u> </u>	\$ -	\$ -	\$ -	\$ -	\$ -
	Capacitor Banks	0		\$ -			\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d	22014/								
	230kV		EA.	ć	6	ć 44.500	<u>^</u>	ć 44.500	^
	Circuit Breakers	0		\$ -	\$ -	\$ 14,500	\$ -	\$ 14,500	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
4.2	AAFIN/								
	115kV Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		0		\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ -	\$ - \$ -
4.3b	Capacitor Banks	U	EA	, -	Ş -	, -	ş -	\$ -	-
TOTAL - MAJOR	PECHIDIMENT				\$ -		\$ -		\$ -
	PTMENT / MATERIALS				\$ -		\$ -		\$ -
	345kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
		0		\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	Disconnect Switches - 3ph w/ manual operator			t .			7		\$ -
	VT'S CT'S	0	EA		\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ -
	CCVT'S	0		\$ -	\$ -	\$ 2,500	\$ - \$ -	\$ 2,500	\$ -
		0				\$ 2,500	\$ -	\$ 2,500	\$ -
	Arresters	0					\$ -	\$ 1,500	•
	Wave Traps	0		·					•
5.1h	Station Service Transformers	U	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2	230kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
	VT'S	0					\$ -	\$ 1,500	\$ -
	CT'S	0	EA				\$ -	\$ 1,300	\$ -
	CCVT'S	0				\$ 1,500		\$ 1,500	\$ -
	Arresters	0		\$ -			\$ -	\$ 2,500	\$ -
	Wave Traps	0		\$ -			\$ -	\$ 2,500	\$ -
	Station Service Transformers	0			\$ -	\$ 2,300	\$ -	\$ 2,300	\$ -
3.211	Station Service Humanorimers	0		1	· ·	¥	* -	<u> </u>	· ·
				1					
5.3	115kV								
	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Disconnect Switches - 3ph w/ manual operator	0			\$ -	\$ 5,500	•	\$ 5,500	
	VT'S	0				\$ -	\$ -	\$ -	\$ -
	CT'S	0					\$ -	\$ -	\$ -
	CCVT'S	0					\$ -		\$ -
	Arresters	0				\$ 1,500		\$ 1,500	
	Wave Traps	0					\$ -	\$ -	\$ -
	Station Service Transformers	0					\$ -		\$ -
	Fuses	0					\$ -		\$ -
, ,		<u> </u>		1					
TOTAL - SMALL	EQUIPTMENT / MATERIALS				\$ -		\$ -		\$ -
	DUSE / PANELS / GENERATOR								
6. CONTROL HC	JOSE / FARLES / GENERATOR								
	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.8	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				*	*	*	T	_ T	7
TOTAL - CONTE	OL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS					*		Ţ		*
	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
	Rigid Bus, Fittings & Insulators	0	L.S.	\$ -	\$ -		\$ -	\$ 18,938	
	Strain Bus, Connectors & Insulators	0	L.S.			\$ 19,675.00		\$ 19,675	
					\$ - \$ -	.,			
	Grounding System	0	EA	\$ -	٠ -	\$ 42,000.00	\$ -	\$ 42,000	· -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC	TEMS				\$ -		\$ -		\$ -
	ant Valley Substation - Removal				\$ -		\$ 40,500		\$ 40,500
8. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 1,013	\$ 1,013	\$ 1,013	\$ 1,013
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 2,010	\$ 2,010	\$ 2,010	\$ 2,010
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 405	\$ 405	\$ 405	\$ 405
	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 405	\$ 405	\$ 405	•
	Engineering	_		*	*	, , , ,	7		7
	Design Engineering	1	LS	\$ -	\$ -	\$ 3,240	\$ 3,240	\$ 3,240	\$ 3,240
	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Geotech		Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Surveying/Staking	1	Site	\$ -	\$ -	\$ 284	\$ 284	\$ 284	\$ 284
		1	Site	, -	, -	Ş 204	Ş 204	3 204	3 204
	Testing & Commissioning		10	ć	\$ -	ć 1010	ć	ć 1010	
	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	ş -	\$ 1,013	\$ -	\$ 1,013	\$ -
	Permitting and Additional Costs			_	_	_	_	_	
	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 122	\$ 122	\$ 122	\$ 122
	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	•	\$ -	\$ 41	
	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -	, T	\$ 7,477	, 71	\$ 7,477
	, , , , , , , , , , , , , , , , , , , ,						.,		,

Interconnection Knickerbocker Station

Estimate Revision: 5 Total: \$ 3,627,657

NG & NY Transco -	T019 - (Segment I	В)				
		Supply		Installation		Total
L. Interconnection Knickerbocker Station						
1. CLEARING & ACCESS	\$	-	\$	436,850	\$	436,850
2. FOUNDATIONS	\$	756,457	\$	764,558	\$	1,521,015
3. STRUCTURES	\$	556,300	\$	370,424	\$	926,724
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$	-
5. INSULATORS, FITTINGS, HARDWARE	\$	128,000	\$	55,640	\$	183,640
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	115,261	\$	444,167	\$	559,427
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	1,556,017	\$	2,071,639	\$	3,627,657
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL	¢	1 556 017	¢	2 071 639	¢	3 627 657

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
L. Interc	onnection Knickerbocker Station										
1. CLEARING 8	ACCESS										
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$ -	\$ 15,000	\$ -	\$ 15,000	\$	-
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$	-	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$	10,000
1.3	Access Road	-	LF	\$	-	\$ -	\$ 45		\$ 45	\$	-
1.4	Silt Fence	3,500.0	LF	\$	-	\$ -	\$ 4	\$ 14,000	\$ 4	\$	14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$	-	\$ -	\$ 70	\$ 245,000	\$ 70	\$	245,000
1.6	Matting - To Work Area	525.0	LF	\$	-	\$ -	\$ 70	\$ 36,750	\$ 70	\$	36,750
1.7	Snow Removal	-	LS	\$	-	\$ -	\$ 516,800	\$ -	\$ 516,800	\$	-
1.8	ROW Restoration	0.5	Mile	\$	-	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$	5,000
1.9	Work Pads	35,000.0	SF	\$	-	\$ -	\$ 4	\$ 123,200	\$ 4	\$	123,200
1.10	Restoration for Work Pad areas	7,000.0	SF	\$	-	\$ -	\$ 0.2	\$ 1,050	\$ 0	\$	1,050
1.11	Temporary Access Bridge	-	EA	\$	-	\$ -	\$ 20,035	\$ -	\$ 20,035	\$	-
1.12	Air Bridge	-	EA	\$	-	\$ -	\$ 14,445	\$ -	\$ 14,445	\$	-
1.13	Stabilized Construction Entrance	-	EA	\$	-	\$ -	\$ 4,580	\$ -	\$ 4,580	\$	-
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$	-	\$ -	\$ 4,130	\$ -	\$ 4,130	\$	-
1.15	Gates	-	EA	\$	2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$	-
1.16	Culverts / Misc. Access	-	EA	\$	750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$	-
1.17	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$	1,850
1.18						\$ -		\$ -		\$	-
1.19						\$ -		\$ -		\$	-
1.20	Crushed Rock	0	CY	\$	27	\$ -	\$ 75	\$ -	\$ 102	\$	-
TOTAL - CLEAR	RING & ACCESS					\$ -		\$ 436,850		\$	436,850
2. FOUNDATION	DNS										
2.1	Drilled Pier - 115kV Single Circuit H- Pole Tangent	2	EA	\$	64,635	\$ 129,270	\$ 65,327	\$ 130,654	\$ 129,962	\$	259,924
2.2	Drilled Pier - 115kV Single Circuit Single Pole Angle/DE	1	EA	\$	76,484	\$ 76,484	\$ 77,303	\$ 77,303	\$ 153,787	\$	153,787
2.3	Drilled Pier - 345kV Single Circuit H-Pole Angle /DE	4	EA	\$	137,676	\$ 550,703	\$ 139,150	\$ 556,601	\$ 276,826	\$	1,107,304
2.4										Ļ—	
2.5	Rock Excavation Adder	-	CY	\$	-	\$ -	\$ 2,000	\$ -	\$ 2,000	\$	-
2.6						\$ -		\$ -		\$	-
2.7						\$ -		\$ -		\$	-
2.8				-		\$ -		\$ -		\$	-
2.9				1		\$ -		\$ -		\$	-

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	l Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.10						\$ -		\$ -		\$ -
2.11						\$ -		\$ -		\$ -
2.12						\$ -		\$ -		\$ -
2.13 2.14						\$ - \$ -		\$ - \$ -		\$ - \$ -
2.14						\$ -		\$ -		, - \$ -
TOTAL - FOUN	DATIONS					\$ 756,457		\$ 764,558		•
3. STRUCTURE						730,437		704,550		, 1,321,013
3.1	115kV Single Circuit Single Pole Angle/DE	1	Structure	Ś	55,315	\$ 55,315	\$ 33,189	\$ 33,189	\$ 88,504	\$ 88,504
3.2	115kV Single Circuit Single Pole Tangent	2	Structure	\$	39,261	\$ 78,521	\$ 23,556	\$ 47,113		\$ 125,634
3.3	345kV Single Circuit Single Pole Angle /DE	4	Structure	\$	104,730	\$ 418,921	\$ 62,838	\$ 251,353	\$ 167,569	\$ 670,274
3.4						\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	7	Pole	\$	506	\$ 3,542	\$ 5,539	\$ 38,770		\$ 42,312
3.6						\$ -		\$ -		\$ -
3.7						\$ - \$ -		\$ - \$ -		\$ - \$ -
3.8				+		\$ - \$ -		\$ - \$ -		\$ - \$ -
3.10						\$ -		\$ -		\$ -
3.11						\$ -		\$ -		\$ -
3.12						\$ -		\$ -		\$ -
3.13						\$ -		\$ -		\$ -
3.14						\$ -		\$ -		\$ <u>-</u>
3.15						\$ -		\$ -		\$ -
TOTAL - STRU						\$ 556,300		\$ 370,424	:	926,724
	R, SHIELDWIRE, OPGW									
4.1	345kV - (2) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$	1.90	\$ -	\$ 5.00			\$ -
4.2	(1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-	LF LF	\$	1.35 0.47	\$ -	\$ 5.00 \$ 5.00	\$ - \$ -	\$ 6.35 \$ 5.47	\$ - \$ -
4.5	Remove Existing 115kV Cable From Existing Structures	-	Mile	\$	- 0.47	\$ - \$ -	\$ 5.00 \$ 30,000	\$ - \$ -		, - \$ -
4.6	Remove Existing OPGW Cable	-	Mile	\$	-	\$ -	\$ 12,000	\$ -	,	\$ -
4.7	Remove Existing EH7	-	Mile	\$	-	\$ -	\$ 12,000	\$ -	\$ 12,000.00	•
4.8	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$	1.90	\$ -	\$ 5.00	\$ -	\$ 6.90	
4.9		-								
4.10	Rider Poles - Relocated	-	Set	\$	-	\$ -	\$ 3,500	\$ -	,	\$ -
4.11	Rider Poles	-	EA	\$	1,750	\$ -	\$ 3,500	\$ - \$ -	\$ 5,250.00	•
	UCTOR, SHIELDWIRE, OPGW: , FITTINGS, HARDWARE					\$ -		\$ -		\$ -
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$	1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	12	Assembly	\$	900	\$ 10,800	\$ 560	\$ 6,720		\$ 17,520
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	60	Assembly	\$	1,800	\$ 108,000	\$ 720	\$ 43,200		\$ 151,200
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	7	Assembly	\$	900	\$ 6,300	\$ 560	\$ 3,920		\$ 10,220
5.5				1.		\$ -		\$ -		\$ -
5.6	OPGW Assembly - Tangent	2	Assembly	\$	200	\$ 400	\$ 150	\$ 300		\$ 700
5.7 5.8	OPGW Assembly - Angle / DE OHSW Assembly - Tangent	10	Assembly Assembly	\$	250 200	\$ 2,500 \$ -	\$ 150 \$ 150	\$ 1,500 \$ -		\$ 4,000 \$ -
5.9	OHSW Assembly - rangent OHSW Assembly - Angle / DE	-	Assembly	\$	250	\$ -	\$ 150	\$ -		\$ -
5.10	OPGW Splice Boxes	-	Set	\$	1,750	\$ -	\$ 1,746	\$ -		y \$ -
5.11	OPGW Splice & Test	-	EA	\$	1,400	\$ -	\$ 2,520	\$ -	-,	\$ -
5.12	Spacer - Conductor	-	EA	\$	50	\$ -	\$ 35		\$ 85	
5.13	Vibration Dampers - Conductor	-	EA	\$	35	\$ -	\$ 35			\$ -
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA FA	\$	27	\$ -	\$ 35 \$ 885	\$ -	\$ 62 \$ 1.605	•
5.15 5.16	Guys, Anchors, and Accessories Misc. materials (Signs and Markers)	-	EA Mile	\$	720 770	\$ - \$ -	\$ 885 \$ 1,006	\$ -	\$ 1,605 \$ 1,776	\$ - \$ -
5.17	imae. materiais (signs and infances)	-	IVIIIC	,	770	-	÷ 1,006	· -	7 1,770	· -
5.18										
5.19										
5.20										
TOTAL - INSUL	ATOR, FITTINGS, HARDWARE					\$ 128,000		\$ 55,640		\$ 183,640
I. Interc	onnection Knickerbocker Station					\$ 1,440,757		\$ 1,627,472		3,068,229
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									-,:::,=25
J. WIOB/ DEIVIC	Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 30,682	\$ 30,682	\$ 30,682	\$ 30,682
		!		•						

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supp	ply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Project Management, Material Handling & Amenities									
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 152,253	\$ 152,253	\$ 152,253	\$ 152,253
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 30,682	\$ 30,682	\$ 30,682	\$ 30,682
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 30,682	\$ 30,682	\$ 30,682	\$ 30,682
	Engineering									
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 153,411	\$ 153,411	\$ 153,411	\$ 153,411
6.6	Lidar	1	LS	\$	-	\$ -	\$ 9,205	\$ 9,205	\$ 9,205	\$ 9,205
6.7	Geotech	1	Location	\$	-	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 21,478	\$ 21,478	\$ 21,478	\$ 21,478
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 9,205	\$ 9,205	\$ 9,205	\$ 9,205
6.13	Real Estate Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.16		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.17	Sales Tax on Materials	1	LS	\$ 1	115,261	\$ 115,261	\$ -	\$ -	\$ 115,261	\$ 115,261
6.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 3,068	\$ 3,068	\$ 3,068	\$ 3,068
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 115,261		\$ 444,167		\$ 559,427

Page 52 of 61

NG & NY Transco - T019 - (Segment B) M. Interconnection Churchtown Station

Total: \$ 2,201,713

NG & NY Transco - T019 - (S	egment B	3)		
		Supply	Installation	Total
M. Interconnection Churchtown Station				
1. CLEARING & ACCESS	\$	-	\$ 436,850	\$ 436,850
2. FOUNDATIONS	\$	212,820	\$ 615,100	\$ 827,920
3. STRUCTURES	\$	318,188	\$ 227,557	\$ 545,745
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$ -	\$ -
5. INSULATORS, FITTINGS, HARDWARE	\$	44,000	\$ 27,410	\$ 71,410
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	46,001	\$ 273,787	\$ 319,787
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	621,009	\$ 1,580,703	\$ 2,201,713
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	621,009	\$ 1,580,703	\$ 2,201,713
on of Work:				

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	ite I	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
M. Inter	connection Churchtown Station									
1. CLEARING	& ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$	-	\$ 15,000	\$ -	\$ 15,000	\$
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$ -	\$	-	\$ 5,000	\$ 10,000	\$ 5,000	\$ 10,0
1.3	Access Road	-	LF	\$ -	\$	-	\$ 45	\$ -	\$ 45	\$
1.4	Silt Fence	3,500.0	LF	\$ -	\$	-	\$ 4	\$ 14,000	\$ 4	\$ 14,0
1.5	Matting - Access and ROW	3,500.0	LF	\$ -	\$	-	\$ 70	\$ 245,000	\$ 70	\$ 245,0
1.6	Matting - To Work Area	525.0	LF	\$ -	\$	-	\$ 70	\$ 36,750	\$ 70	\$ 36,7
1.7	Snow Removal	-	LS	\$ -	\$	-	\$ 516,800	\$ -	\$ 516,800	\$
1.8	ROW Restoration	0.5	Mile	\$ -	\$	-	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,0
1.9	Work Pads	35,000.0	SF	\$ -	\$	-	\$ 4	\$ 123,200	\$ 4	\$ 123,2
1.10	Restoration for Work Pad areas	7,000.0	SF	\$ -	\$	-	\$ 0.2	\$ 1,050	\$ 0	\$ 1,0
1.11	Temporary Access Bridge	-	EA	\$ -	\$	-	\$ 20,035	\$ -	\$ 20,035	\$
1.12	Air Bridge	-	EA	\$ -	\$	-	\$ 14,445	\$ -	\$ 14,445	\$
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$	-	\$ 4,580	\$ -	\$ 4,580	\$
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$	-	\$ 4,130	\$ -	\$ 4,130	\$
1.15	Gates	-	EA	\$ 2,0			\$ 2,500	\$ -	\$ 4,500	\$
1.16	Culverts / Misc. Access	-	EA		50 \$	-	\$ 1,250	\$ -	\$ 2,000	\$
1.17	Concrete Washout Station	1	EA	\$ -	\$	-	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,8
1.18					\$	-		\$ -		\$
1.19					\$			\$ -		\$
1.20	Crushed Rock	0	CY	\$	27 \$	-	\$ 75	\$ -	\$ 102	\$
TOTAL - CLEA	RING & ACCESS				\$	-		\$ 436,850		\$ 436,8
2. FOUNDATI	ONS									
2.1	Drilled Pier - 115kV Single Circuit H- Pole Angle/ DE	2	EA		03 \$			· , , , , , , , , , , , , , , , , , , ,		\$ 122,2
2.2	Drilled Pier - 115kV Single Circuit H- Pole Tangent	3	EA		03 \$		\$ 30,729	\$ 92,186	\$ 61,131	\$ 183,3
2.3	Drilled Pier - 115kV Single Circuit Single Pole Angle/ DE	2	EA	\$ 30,4	03 \$	60,806	\$ 30,729	\$ 61,457	\$ 61,131	\$ 122,2
2.4										
2.5	Rock Excavation Adder	200	СУ	\$ -	\$	-	\$ 2,000	\$ 400,000	\$ 2,000	\$ 400,0
2.6					\$	-		\$ -		\$
2.7					\$	-		\$ -		s
2.8					\$			\$ -		\$
2.9					\$			\$ -		\$
2.10					\$	-		\$ -		\$

Estimate

Revision:

5

2.17	**************************************
2.13	\$ - \$ - \$ -
2.13	\$ - \$ -
2.15	\$ -
2.15 S	·
STRUCTURES	
STRUCTURES	
3.1 115W Single Circuit Single Pole Angel OE	827,92
3.2 134W Single Circuit Single Pole Tangent	\$ 314,98
3.3	\$ 188,45
3.4	200).5
3.6	\$ -
3.7	\$ 42,31
3.8	\$ -
3.9	\$ -
3.10	\$ -
3.11	\$ -
3.12	\$ -
3.13	\$ -
3.14	\$ -
Sample	\$ -
TOTAL - STRUCTURES	\$ -
## CONDUCTOR, SHIELDWIRE, OPGW ## 1. 345kV - (1) 954kcmil 5477 ACSS "Cardinal"	\$ -
A. CONDUCTOR, SHIELDWIRE, OPGW	5 545,74
4.1 345kV-(1)954kcml 54/7 ACSS "Cardinal"	
4.2	\$ -
4.3	\$ -
4.5 Remove Existing 115kV Cable From Existing Structures	; \$ -
4.6 Remove Existing OPGW Cable - Mile S - S 12,000 S - S 12,000,00	\$ -
A.8	\$ -
4.9	\$ -
A.10 Rider Poles - Relocated - Set \$ - \$ - \$ 3,500 \$ - \$ 3,500.00	\$ -
A.11 Rider Poles	
S. INSULATOR, FITTINGS, HARDWARE S. INSULATOR,	
S. INSULATOR, FITTINGS, HARDWARE S.1 345kV Tangent (1-Group of 18-Bells Each Assembly) S. 1,800 S. S. S. S. S. S. S.	•
5.1 345kV Tangent (1-Group of 18-Bells Each Assembly) - Assembly \$ 1,800 \$ - \$ 720 \$ - \$ 2,520 5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) 18 Assembly \$ 900 \$ 16,200 \$ 560 \$ 10,000 \$ 1,460 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) Assembly \$ 1,800 \$ - \$ 720 \$ - \$ 2,520 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 28 Assembly \$ 900 \$ 25,200 \$ 50 \$ 1,560 \$ 1,560 \$ 1,560 \$ 1,560 \$ 1,560 \$ 1,460 \$ 1,460 \$ 1,460 \$ 1,560 \$ 1,560 \$ 1,560 \$ 1,560 \$ 1,560 \$ 1,560 \$ 1,560 \$ 1,560 \$ 1,560 \$ 1,560 \$ 1,560 \$ 1,560 \$	\$ -
5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) 18 Assembly \$ 900 \$ 16,200 \$ 560 \$ 10,080 \$ 1,460 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) Assembly \$ 1,800 \$ - \$ 720 \$ - \$ 2,520 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 28 Assembly \$ 900 \$ 25,200 \$ 560 \$ 15,600 \$ 1,460 5.5 S </td <td>\$ -</td>	\$ -
5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) Assembly \$ 1,800 \$ - \$ 720 \$ - \$ 2,520 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 28 Assembly \$ 900 \$ 25,200 \$ 560 \$ 15,680 \$ 1,460 5.5 \$ -<	
5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 28 Assembly \$ 900 \$ 25,200 \$ 560 \$ 15,680 \$ 1,460 5.5 \$	\$ -
5.5 \$ \$ - \$	\$ 40,88
5.6 OPGW Assembly - Tangent 3 Assembly \$ 200 \$ 600 \$ 150 \$ 450 \$ 350 5.7 OPGW Assembly - Angle / DE 8 Assembly \$ 250 \$ 2,000 \$ 150 \$ 1,200 \$ 400 5.8 OHSW Assembly - Tangent - Assembly \$ 20 \$ - \$ 150 \$ - \$ 300 5.9 OHSW Assembly - Angle / DE - Assembly \$ 250 \$ - \$ 150 \$ - \$ 300 5.10 OPGW Splice Boxes - Set \$ 1,750 \$ - \$ 3,496	\$ -
5.7 OPGW Assembly - Angle / DE 8 Assembly \$ 250 \$ 2,000 \$ 150 \$ 1,200 \$ 400 5.8 OHSW Assembly - Tangent - Assembly \$ 200 \$ - \$ 150 \$ - \$ 350 5.9 OHSW Assembly - Angle / DE - Assembly \$ 250 \$ - \$ 150 \$ - \$ 400 5.10 OPGW Splice Boxes - Set \$ 1,750 \$ - \$ 1,746 \$ - \$ 3,496	\$ 1,05
5.8 OHSW Assembly - Tangent - Assembly \$ 200 \$ - \$ 150 \$ - \$ 350 5.9 OHSW Assembly - Angle / DE - Assembly \$ 250 \$ - \$ 150 \$ - \$ 400 5.10 OPGW Splice Boxes - Set \$ 1,750 \$ - \$ 1,746 \$ - \$ 3,496	\$ 3,20
5.10 OPGW Splice Boxes - Set \$ 1,750 \$ - \$ 1,746 \$ - \$ 3,496	\$ -
	\$ -
1 FAA TORCHUCHIST B.T+	\$ -
5.11 OPGW Splice & Test - EA \$ 1,400 \$ - \$ 2,520 \$ - \$ 3,920	
	\$ -
5.13 Vibration Dampers - Conductor - EA \$ 35 \$ - \$ 35 \$ - \$ 70	
5.14 Shieldwire / OPGW Dampers, Misc. Fittings - EA \$ 27 \$ - \$ 35 \$ - \$ 62 5.15 Guys, Anchors, and Accessories - EA \$ 720 \$ - \$ 885 \$ - \$ 1,605	•
	\$ - \$ -
5.16 Misc. materials (Signs and Markers) - Mile \$ 770 \$ - \$ 1,006 \$ - \$ 1,776 \$ 5.17	-
5.18 5.19	
5.20	
	71,41
With the Confidence of Charles to Williams	1,881,92
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	
Contractor Mobilization / Demobilization	
6.1 Mob/Demob 1 LS \$ - \$ 18,819 \$ 18,819 \$ 18,819	\$ 18,81
Project Management, Material Handling & Amenities	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supp	ly Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 93,386	\$ 93,386	\$ 93,386	\$ 93,386
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 18,819	\$ 18,819	\$ 18,819	\$ 18,819
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 18,819	\$ 18,819	\$ 18,819	\$ 18,819
	Engineering									
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 94,096	\$ 94,096	\$ 94,096	\$ 94,096
6.6	LiDAR	1	LS	\$ -	\$	-	\$ 5,646	\$ 5,646	\$ 5,646	\$ 5,646
6.7	Geotech	1	Location	\$ -	\$	-	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 13,173	\$ 13,173	\$ 13,173	\$ 13,173
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 5,646	\$ 5,646	\$ 5,646	\$ 5,646
6.13	Real Estate Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.14	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.15	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.16		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.17	Sales Tax on Materials	1	LS	\$ 46,001	\$	46,001	\$ -	\$ -	\$ 46,001	\$ 46,001
6.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 1,882		\$ 1,882	\$ 1,882
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	46,001		\$ 273,787		\$ 319,787

Page 55 of 61 M. In. Churchtown SS

Estimate	5	Total:	¢	689,020
Revision:	,	Total.	Ą	003,020

		Supply		Installation		Total
N. Internation Miller Chatles		Зирріу		mstunation		TOTAL
N. Interconnection Milan Station						
1. CLEARING & ACCESS	\$	-	\$	121,100	\$	12:
2. FOUNDATIONS	\$	84,375	\$	135,279	\$	21
3. STRUCTURES	\$	130,328	\$	88,667	\$	21
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$	
5. INSULATORS, FITTINGS, HARDWARE	\$	14,600	\$	9,040	\$	2
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	18,344	\$	87,288	\$	10
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	
SUBTOTAL:	\$	247,647	\$	441,373	\$	68
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	
TOTAL:	Ś	247,647	Ś	441,373	Ś	68

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
N. Inter	connection Milan Station								
1. CLEARING	& ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	1.0	Acre	\$ -	\$ -	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	500.0	LF	\$ -	\$ -	\$ 4	\$ 2,000	\$ 4	\$ 2,000
1.5	Matting - Access and ROW	500.0	LF	\$ -	\$ -	\$ 70	\$ 35,000	\$ 70	\$ 35,000
1.6	Matting - To Work Area	525.0	LF	\$ -	\$ -	\$ 70	\$ 36,750	\$ 70	\$ 36,750
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	\$ -	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.9	Work Pads	10,000.0	SF	\$ -	\$ -	\$ 4	\$ 35,200	\$ 4	\$ 35,200
1.10	Restoration for Work Pad areas	2,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 300	\$ 0	\$ 300
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18					\$ -		\$ -		\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEA	RING & ACCESS				\$ -		\$ 121,100		\$ 121,100
2. FOUNDATI	DNS								

EA

42,187 \$

\$

\$

84,375 \$

42,639

2,000 \$

\$

85,279 \$

50,000 \$

Page 56 of 61

169,654

50,000

84,827 \$

2,000 \$

N. Interconnection Milan Station

2.1

2.2 2.3 2.4 2.5

2.6 2.7 2.8

2.9

2.10

Drilled Pier - 115kV Single Circuit Single Pole Angle/DE

Rock Excavation Adder

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -
2.15					\$ -		\$ -		\$ -
TOTAL - FOUND					\$ 84,375		\$ 135,279		\$ 219,654
3. STRUCTURES									
	115kV Single Circuit Single Pole Angle/DE	2	Structure	\$ 64,658	\$ 129,316	\$ 38,795	\$ 77,590	\$ 103,453	\$ 206,905
3.2									
3.3							4		-
3.4	In the II Construction and Construction Accessed	2	D-I-	\$ 506	\$ - \$ 1.012	\$ 5,539	\$ - \$ 11.077	ć C045	\$ - \$ 12,089
	Install Grounding and Grounding Accessories	2	Pole	\$ 506	· · · · · · · · · · · · · · · · · · ·	\$ 5,539	, , , , , , , , , , , , , , , , , , , ,	\$ 6,045	
3.6					\$ -		\$ - \$ -		\$ - \$ -
3.8					\$ -		·		\$ - \$ -
3.9					\$ -		\$ - \$ -		\$ -
3.10					\$ -		\$ -		-
3.10					\$ -		\$ -	+	\$ - \$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -	 	\$ -
3.14					\$ -		\$ -	 	\$ - \$ -
									1.
3.15					\$ -		\$ -		\$ -
TOTAL - STRUC	TURES				\$ 130,328		\$ 88,667		\$ 218,994
4 CONDUCTOR	s, SHIELDWIRE, OPGW				,				· ·
	345kV - (2) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90	\$ -	\$ 5.00	\$ -	\$ 6.90	\$ -
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$ 1.35		\$ 5.00	\$ -	\$ 6.35	
4.3	(1) 3/8" EHS7 Steel	-	LF	\$ 0.47		\$ 5.00	'	\$ 5.47	
	Remove Existing 115kV Cable From Existing Structures	-	Mile	\$ -		\$ 30,000	\$ -	\$ 30,000.00	
4.6	Remove Existing OPGW Cable	-	Mile	\$ -	+	\$ 12,000	\$ -	\$ 12,000.00	
4.7	Remove Existing EH7	-	Mile	\$ -	\$ -	\$ 12,000	\$ -	\$ 12,000.00	
	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90	· ·	\$ 5.00	'	\$ 6.90	
4.9	(-) (-)	-	- -		*	7	*	,	*
	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500		\$ 5,250.00	\$ -
TOTAL: CONDU	CTOR, SHIELDWIRE, OPGW:				\$ -	,	\$ -		\$ -
5. INSULATOR,	FITTINGS, HARDWARE								
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	14	Assembly	\$ 900	\$ 12,600	\$ 560	\$ 7,840	\$ 1,460	
5.5		-			\$ -		\$ -	\$ -	\$ -
	OPGW Assembly - Tangent	-	Assembly	\$ 200		\$ 150		\$ 350	
	OPGW Assembly - Angle / DE	4	Assembly	\$ 250		\$ 150	\$ 600		
	OHSW Assembly - Tangent	-	Assembly	\$ 200	+ '	\$ 150	\$ -	\$ 350	
	OHSW Assembly - Angle / DE	4	Assembly	\$ 250					
	OPGW Splice Boxes	-	Set	\$ 1,750		\$ 1,746	\$ -	\$ 3,496	
	OPGW Splice & Test	-	EA	\$ 1,400		\$ 2,520		\$ 3,920	
	Spacer - Conductor	-	EA		\$ -	\$ 35	\$ -	\$ 85	
	Vibration Dampers - Conductor	-	EA		\$ -	\$ 35			\$ -
	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA		\$ -				\$ -
	Guys, Anchors, and Accessories	-	EA	\$ 720	· ·	\$ 885	\$ -	\$ 1,605	
	Misc. materials (Signs and Markers)	-	Mile	\$ 770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$ -
5.17								1	
5.18									
5.19									
5.20									<u> </u>
TOTAL - INSULA	ATOR, FITTINGS, HARDWARE				\$ 14,600		\$ 9,040		\$ 23,640
N. Interc	onnection Milan Station				\$ 229,303		\$ 354,085		\$ 583,388
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
	Mob / Demob	1	LS	\$ -	\$ -	\$ 5,834	\$ 5,834	\$ 5,834	\$ 5,834
	Project Management, Material Handling & Amenities	1	L3		-	5,034	5,034	5,034	5,034
	roject management, material nationing & Americas			I	1			1	1

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Materia	al Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 28,949	\$ 28,949	\$ 28,949	\$ 28,949
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 5,834	\$ 5,834	\$ 5,834	\$ 5,834
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 5,834	\$ 5,834	\$ 5,834	\$ 5,834
	Engineering									
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 29,169	\$ 29,169	\$ 29,169	\$ 29,169
6.6	Lidar	1	LS	\$ -	\$	-	\$ 1,750	\$ 1,750	\$ 1,750	\$ 1,750
6.7	Geotech	1	Location	\$ -	\$	-	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 4,084	\$ 4,084	\$ 4,084	\$ 4,084
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 1,750	\$ 1,750	\$ 1,750	\$ 1,750
6.13	Real Estate Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.14	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.15	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.16		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.17	Sales Tax on Materials	1	LS	\$ 18,344	\$	18,344	\$ -	\$ -	\$ 18,344	18,344
6.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 583		\$ 583	\$ 583
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	18,344		\$ 87,288		\$ 105,632

Page 58 of 61

O. System Upgrade Facilities (Cricket Valley to Long Mt. Line)

Estimate 4 Revision:

Total: \$ 3,155,160

SYSTEM UPGI	YSTEM UPGRADE FACILITIES		Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
SUF 1	Transmission Line Upgrade Cricket Valley - Connecticut Border to Long Mountain (3.3 + 6.0 = 9.3 Miles)								
1.1	345kV - (1) 954kcmil 45/7 ACSS "Rail" Conductor (Cricket Vly to Conn Border)	109,771.20	LF	\$ 2.50	\$ 274,428	\$ 5.00	\$ 548,856	\$ 8	\$ 823,284
1.2	345kV - (1) 2312kcmil 76/19 ACSS "Thrasher" Conductor (Conn Border to Long Mtn.)	99,792.00	LF	\$ 8.00	\$ 798,336	\$ 5.00	\$ 498,960	\$ 13	\$ 1,297,296
1.3	Remove Existing 795 ACSS Conductor and Accessories (Cricket VIy to Conn Border)	3.30	Mile	\$ -	\$ -	\$ 30,000.00	\$ 99,000	\$ 30,000	\$ 99,000
1.4	Remove Existing 2156kmil ACSS Conductor and Accessories (Conn Border to Long Mtn.)	6.00	Mile	\$ -	\$ -	\$ 30,000.00	\$ 180,000	\$ 30,000	\$ 180,000
1.5	Rider Poles	10.00	Sets	\$ 1,750.00	\$ 17,500	\$ 3,500.00	\$ 35,000	\$ 5,250	\$ 52,500
1.6	345kV Vertical Tangent Insulator Assembly	147.00	Assembly	\$ 1,800.00	\$ 264,600	\$ 720.00	\$ 105,840	\$ 2,520	\$ 370,440
1.7	345kV Deadend Insulator Assembly	132.00	Assembly	\$ 1,800.00	\$ 237,600	\$ 720.00	\$ 95,040	\$ 2,520	\$ 332,640
	Subtotal SUG 1 Direct Cost		-		\$ 1,592,464		\$ 1,562,696		\$ 3,155,160
2	Indirect Cost (25% of Direct Cost)				\$ 398,116		\$ 390,674		\$ 788,790
	TOTAL:				\$ 1,990,580		\$ 1,953,370		\$ 3,943,950

System Upgrade Facilities (Various Stations for Knickerbocker to Pleasant Valley

Estimate Revision: 4 Total: \$ 774,000

SYSTEM UPGR	ADE FACILITIES	Estimated Quantity	Unit of Measure	Materia	Supply Rate	Materi	ial Supply Sum	k Equipment ply Rate	Labor & Equipo Sum	ment	Total Unit Rate	TOTAL
SUF SS1	Replace Disconnect Switch and Wavetrap on Roseton to East Fishkill #305 345kV Line	1	LS	\$	-	\$	-	\$ -	\$	-	\$ 222,449	\$ 223,00
SUF SS1	Removals	1	LS	\$	-	\$	-	\$ -	\$	-	\$ 33,480	\$ 34,000
SUF SS1	Engineering, T&C, PM, Indirects (25%)		LS %									\$ 65,00
SUF SS1	SUF SS1 - TOTAL:					\$	-		\$	-		\$ 322,000
SUF SS2	Replace Line Trap, 3" Bus Tue, Switches 277 & 288, and 3.5" bus Tube at New Scotland	1	LS	\$	-	\$	-	\$ -	\$	-	\$ 451,817	\$ 452,000
SUF SS2	Removals	1	LS	\$	-	\$	-	\$ -	\$	-	\$ 64,200	\$ 65,000
SUF SS2	Engineering, T&C, PM, Indirects (15%)		LS %									\$ 130,000
SUF SS2	SUFSS 2 - TOTAL:					\$	-		\$	-		\$ 647,000
SUF SS3		1	LS								\$ -	\$ -
SUF SS3	Removals	1	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
SUF SS3	Engineering, T&C, PM, Indirects (15%)		LS %									\$ -
SUF SS3	SUF SS3 - TOTAL:					\$	-		\$	-		\$ -
SUF SS4		-	LS	\$	-	\$	-	\$ -	\$	-		\$ -
SUF SS4	Removals	1	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
SUF SS4	Engineering, T&C, PM, Indirects (15%)		LS %									\$ -
SUF SS4	SUF SS4 - TOTAL:					\$	-		\$	-		\$ -
SUF SS5		-	LS	\$	-	\$	-	\$ -	\$	-		\$ -
SUF SS5	Removals	1	LS	\$	-	\$	-	\$ -	\$	-	\$ -	\$ -
SUF SS5	Engineering, T&C, PM, Indirects (15%)		LS %									\$ -
SUF SS5	SUF SS5 - TOTAL:					\$	-		\$	-		\$ -
	STATIONS SUF DIRECT TOTAL:											\$ 774,000
	STATIONS SUF INDIRECT TOTAL:											\$ 195,000
	STATIONS SUF TOTAL											\$ 969,000

ESTIMATE ASSUMPTIONS & CLARIFICATIONS

- 1 Cost Estimate is based on 2017 rates.
- Construction schedule is in accordance with proposed schedule we have assumed continuous working with no breaks in the schedule. Six months have been added to the construction schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.).
- 3 We have assumed a typical work week of five-(5) days per week at ten-(10) hours per day (5 x 10 hour days).
- 4 All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017.
- We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type. 20% of the total length of the line is assumed to use Type 1 Gravel road and 80% of the line length access to be used wood matting. In addition 75 feet of wood matting is included from the access matting to the work pad area matting. The estimate also include 5,000 square feet of wood matting for each structure work area within the ROW. For the ground restoration (seed, straw and woven mat), 20% of the work pad area included.
- Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not enough information to provide a quantified estimate for this item, allowance is included in the contingency monies.
- Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for formal quotes.
- 8 Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing.
- 9 A Contractor Mark-Up (OH&P) of 15% has been included in the Total section.
- 10 We have assumed that all project details provided are accurate unless noted otherwise.
- 11 Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%)
- 12 A contractor allowance of 1% for mobilization and demobilization has been included in the total section.
- A contractor allowance of 4.315% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safety inspector, compliance inspector, environmental inspector, and SWPP inspector.
- An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section.
- 15 A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section.
- 16 An allowance of 5% for transmission design and engineering has been included in the total section.
- 17 An allowance of 8% for substation design and engineering has been included in the total section.
- 18 An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section.
- 19 An allowance of 0.3% for LIDAR of the transmission line has been included in the total section.
- 20 An allowance of 3.75% for substation testing and commissioning has been included in the total section.
- An allowance of \$20,000.00 per circuit for transmission line testing and commissioning has been included in the total section.
- New York state sales tax of 8% is included in all material pricing.
- 23 An allowance of 1.5% for insurance is included in the DPS sheet.
- 24 Knickerbocker to Churchtown substation; 0.4 miles of 345kV conductor from the junction have been added.
- 25 An additional Quantity of 5% have been added to conductors, OPGW, & OHSW for sag and jumpers.
- Rock excavation depth in Foundation data provided in the proposal.
 - Cricket Valley to Long Mountain line upgrade: The length of the re-conductor between Cricket Valley and the NY/CT border is 3.3 miles and will remove the existing (to be installed on CV project) 2 bundle 795 ACSS conductor and install new 2 bundle Rail 954 ACSS conductor.
 - -The length of the re-conductor between the NY/CT border and Long Mountain is 6 miles and will remove the existing single 2156 ACSS conductor and install new single Thrasher 2312
- 27 ACSS conductor.
 - -The Insulators and associated conductor hardware will be replaced.
 - -The existing structures are assumed to have adequate strength to support the new conductors.
 - -The estimate is a rough order of magnitude estimate as no engineering was performed and SECo did not have access to record drawings.
- 28 The SUF estimates for the stations are rough order of magnitude estimates. No engineering was performed and SECo did not have access to record drawings.



		NextEra Energy (T022)							
		Description	Total Amount (In thousand \$)						
	1	Transmission Lines							
	1.1	Clearing & Access	\$33,783						
	1.2	Foundations	\$17,271						
	1.3	Structures	\$49,013						
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$25,925						
	1.5	Insulators, Fitting and Hardwares	\$9,609						
		Subtotal (1)	\$135,602						
st	2	Substations							
Direct Cost	2.1	Knickerbocker Substation	\$15,110						
ireci	2.2	East Greenbush Substation	\$61						
Ω	2.3	Schodack Substation	\$0						
	2.4	Churchtown Substation	\$14,897						
	2.5	Pleasant Valley Substation	\$2,798						
	2.6	Substation Interconnections	\$6,769						
	Subtotal (2)								
		Total (1+2)	\$175,237						
		Contractors Mark-up (15% of Total 1+2)	\$26,286						
		Total Direct Cost (A)	\$201,523						
	3	Technical Services Costs							
	3.1	Contractor Mobilization / Demobilization	\$1,752						
ost	3.2	Project Management, Material Handling & Amenities	\$14,399						
Ŭ t	3.3	Engineering	\$11,654						
Indirect Cost	3.4	Testing & Commissioning	\$920						
드	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$10,365						
	3.6	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,628						
		Total Indirect Cost (3)	\$46,718						
		Subtotal Project Cost (B=A+3) 2017 \$	\$248,241						
	4	Network Upgrade Facilities (NUF)							
	4.1	NUF proposed as element of the Project	\$0						
	4.2	NUF identified by System Impact Study (Cricket Valley Line Upgrade)	\$4,417						
		Subtotal NUF Cost (C)	\$4,417						
		Total Project Cost (B+C) 2017 \$	\$252,658						
		Total Project Cost 2018 \$	\$260,238						

5/22/2018 Page 1 of 42

NextEra T022 (Segment B)

Estimate Revision: 6

	NextEra T022 (Segment B) - Direct Costs	Total Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 59,622,815
Direct Labor, Material & Equipment Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 71,233,183
Direct Labor, Material & Equipment Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 4,746,361
Direct Labor, Material & Equipment Costs	D. Knickerbocker 345kV Substation - Install	\$ 15,109,913
Direct Labor, Material & Equipment Costs	E.Greenbush Substation Removal	\$ 61,200
Direct Labor, Material & Equipment Costs	F.	\$ -
Direct Labor, Material & Equipment Costs	G.	\$ •
Direct Labor, Material & Equipment Costs	H. North Churchtown Substation - Install	\$ 14,897,294
Direct Labor, Material & Equipment Costs	l.	\$ •
Direct Labor, Material & Equipment Costs	J. Pleasant Valley Substation - Install	\$ 2,797,952
Direct Labor, Material & Equipment Costs	K.	\$ •
Direct Labor, Material & Equipment Costs	L. Interconnection Knickerbocker Station	\$ 1,534,845
Direct Labor, Material & Equipment Costs	M. Interconnection Churchtown Station	\$ 4,610,341
Direct Labor, Material & Equipment Costs	N. Interconnection Milan Station	\$ 623,428
Direct Labor, Material & Equipment Costs	O. System Upgrade Facilities (Cricket Valley Line Upgrade)	\$ 3,155,160
Direct Labor, Material & Equipment Costs	P. System Upgrade Facilities (Various Stations Knickerbocker to Pleasant Valley)	\$ -
	SUBTOTAL:	\$ 178,392,493
	CONTRACTOR MARK-UP (OH&P)	\$ 26,758,874
	CONTINGENCY ON ENTIRE PROJECT	\$
	TOTAL DIRECT:	\$ 205,151,366

	NextEra T022 (Segment B) - Indirect Costs	Tota	I Each Segment
Indirect Costs	A. Transmission Line Knickerbocker to Churchtown	\$	13,205,227
Indirect Costs	B. Transmission Line Churchtown to Pleasant Valley	\$	15,145,370
Indirect Costs	C. Blue Stores Junction to Blue Stores Substation	\$	1,003,285
Indirect Costs	D. Knickerbocker 345kV Substation - Install	\$	4,008,194
Indirect Costs	E.Greenbush Substation Removal	\$	11,210
Indirect Costs	F.	\$	-
Indirect Costs	G.	\$	-
Indirect Costs	H. North Churchtown Substation - Install	\$	3,698,349
Indirect Costs	l.	\$	-
Indirect Costs	J. Pleasant Valley Substation - Install	\$	728,283
Indirect Costs	K. Pleasant Valley Substation - Removal	\$	-
Indirect Costs	L. Interconnection Knickerbocker Station	\$	292,045
Indirect Costs	M. Interconnection Churchtown Station	\$	876,545
Indirect Costs	N. Interconnection Milan Station	\$	121,652
Indirect Costs	O. System Upgrade Facilities (Cricket Valley Line Upgrade)	\$	788,790
Indirect Costs	P. System Upgrade Facilities (Various Stations Knickerbocker to Pleasant Valley)	\$	-
Indirect Costs	Legal, Permitting, and Environmental Fees	\$	7,627,609
	TOTAL INDI	RECT: \$	47,506,560

Page 2 of 42
Direct & Indirect Totals

TOTAL ESTIMATED COST: \$

252,657,926

A. Transmission Line Knickerbocker to Churchtown

NextEra T022 (Segment B)

Estimate Revision:

Total: \$ 72,828,042 6

NextEra T022 (Segm	ent B)				
		Supply	Installation		Total
A. Transmission Line Knickerbocker to Churchtown					
1. CLEARING & ACCESS	\$	11,500	\$ 13,043,953	\$	13,055,453
2. FOUNDATIONS	\$	1,519,868	\$ 4,432,528	\$	5,952,396
3. STRUCTURES	\$	4,990,679	\$ 19,604,107	\$	24,594,786
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	2,943,787	\$ 8,681,855	\$	11,625,642
5. INSULATORS, FITTINGS, HARDWARE	\$	2,896,560	\$ 1,497,978	\$	4,394,539
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	988,992	\$ 12,216,235	\$	13,205,227
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-
SUBTOTAL:	\$	13,351,386	\$ 59,476,656	\$	72,828,042
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-
TOTAL:	Ś	13.351.386	\$ 59,476,656	Ś	72.828.042

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Mat	erial Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate		TOTAL
A. Transı	mission Line Knickerbocker to Churchtown										
1. CLEARING &	ACCESS										
1.1	Clearing the ROW - Heavy (mowing & clearing)	10.0	Acre	\$	-	\$ -	\$ 15,000	\$ 150,000	\$ 15,000	\$	150,000
1.2	Clearing the ROW - Light (mowing)	55.0	Acre			\$ -	\$ 5,000	\$ 275,000	\$ 5,000	\$	275,000
1.3	Permanent Access Road	23,126	LF	\$	-	\$ -	\$ 45.00			\$	1,040,688
	Silt Fence	115,632	LF	\$	-	\$ -	\$ 4.00			\$	462,528
	Matting - Access and ROW	92,506	LF	\$	-	\$ -	\$ 70.00				6,475,392
1.6	Matting - To Work Area	11,925	LF	\$	-	\$ -	\$ 70.00				834,750
1.7	Snow Removal	21.9	Mile	\$	-	\$ -	\$ 16,000				350,400
	ROW Restoration	21.9	Mile	\$	-	\$ -	\$ 10,000				219,000
1.9	Work Pads	795,000	SF	\$	-	\$ -	\$ 3.52			\$	2,798,400
1.10	Restoration for Work Pad areas	159,000	SF	\$	-	\$ -	\$ 0.15			\$	23,850
1.11	Temporary Access Bridge	9	EA	\$	-	\$ -	\$ 20,035	\$ 180,315			180,315
	Air Bridge	-	EA	\$	-	\$ -	\$ 14,445	\$ -	\$ 14,445		-
1.13	Stabilized Construction Entrance	4	EA	\$		\$ -	\$ 4,580	\$ 18,320	\$ 4,580	\$	18,320
1.14	Maintenance and Protection of Traffic on Public Roads	47	EA	\$	-	\$ -	\$ 4,130	\$ 194,110	\$ 4,130	\$	194,110
1.15	Culverts / Misc. Access	10	EA	\$	750	\$ 7,500	\$ 1,250	\$ 12,500	\$ 2,000	\$	20,000
1.16	Gates	2	EA	\$	2,000	\$ 4,000	\$ 2,500	\$ 5,000	\$ 4,500	\$	9,000
1.17	Concrete Washout Station	2	EA	\$	-	\$ -	\$ 1,850	\$ 3,700	\$ 1,850	\$	3,700
TOTAL - CLEAR	ING & ACCESS:					\$ 11,500		\$ 13,043,953		\$	13,055,453
2. FOUNDATIO	NS										, ,
2.1	Drilled Pier - 115/345KV D/C DEADEND, STEEL	13	EA	\$	86,969	\$ 1,130,593	\$ 87,900	\$ 1,142,702	\$ 174,869	\$	2,273,295
2.2	Drilled Pier - 345KV S/C DEADEND, STEEL	1	EA	\$	39,770	\$ 39,770	\$ 40,196	\$ 40,196	\$ 79,966	\$	79,966
2.3	Direct Embed - 115/345KV D/C TANGENT, CONCRETE	145	EA	\$	2,410	\$ 349,504	\$ 16,391	\$ 2,376,630	\$ 18,801	\$	2,726,134
2.4	Rock Excavation Adder	436.5	СУ	\$	-	\$ -	\$ 2,000	\$ 873,000	\$ 2,000	\$	873,000
2.5											
2.6											
2.7											
2.8											
2.9										_	
2.10				+						\vdash	
				+						├ ──	
2.11				+						↓	
2.12										Ь	

Item	Item Description	Estimated Quantity	Unit of Measure	Material S	Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TC	OTAL
2.13											
2.14											
2.15											
2.16											
2.17											
2.18											
TOTAL - FOUN	DATIONS:					\$ 1,519,868		\$ 4,432,528		\$	5,952,396
3. STRUCTURE	is s					, ,, ,,,,,,		, , , , , ,			.,,
	115/345KV D/C DEADEND, STEEL	13	Structure	\$	131,581	\$ 1,710,556	\$ 78,949	\$ 1,026,334	\$ 210,530	Ś	2,736,890
3.2	345KV S/C DEADEND, STEEL	1	Structure	\$	51,800		\$ 31,080	\$ 31,080		\$	82,880
3.3	115/345KV D/C TANGENT, CONCRETE	145	Structure	\$	21,709						16,427,940
				7		7 5,2 11,000	+ 0-,00	+	7		
3.4	Remove Existing Concrete Foundation	688	EA	\$		\$ -	\$ 3,250	\$ 2,236,000		\$	2,236,000
3.5	Remove Existing Structure and Accessories	172	EA	\$	-	\$ -	\$ 12,500	\$ 2,150,000	\$ 12,500	\$	2,150,000
3.6	Install Grounding and Grounding Accessories	159	Pole	\$	506	\$ 80,454	\$ 5,539	\$ 880,622	\$ 6,045	\$	961,076
3.7											
3.8											
3.9											
3.10											
3.11											
3.12											
3.13											
3.14					$\overline{}$						
3.15 TOTAL - STRUG	CTUDEC.					\$ 4,990,679		\$ 19,604,107		\$	24,594,786
	IR, SHIELDWIRE, OPGW					\$ 4,990,679		\$ 19,604,107		Ş	24,594,780
4.1	345kV - (1) 1,033kcmil 54/7 ACSS "Curlew"	728,482	LF	\$	2.82	\$ 2,054,319	\$ 5.00	\$ 3,642,410	\$ 7.82	\$	5,696,729
4.1	(1) OPGW 36 Fiber AC-33/38/571	121,414	LF	\$	1.35		\$ 5.00			\$	770,979
4.3	(1) 0 FGW 30 FIDER AC-33/38/371 (1) 3/8" EHS7 Steel		LF	\$	0.47		\$ 5.00	\$ 607,070		\$	664,135
4.4		121,414	Mile	\$						\$	1,314,000
	Remove Existing Cable From Existing Structures	43.8 21.9	Mile	Ś			\$ 30,000	\$ 1,314,000		\$	262,800
4.5	Remove Existing OPGW Cable and Accessories			\$		•	\$ 12,000	\$ 262,800			
4.6	Remove Existing OHSW and Accessories	21.9	Mile	+'		\$ -	\$ 12,000	\$ 262,800		\$	262,800
4.7	115kV - (1) 795kcmil 26/7 ACSS "Drake"	364,241	LF	\$	1.72		\$ 5.00	\$ 1,821,205		\$	2,447,700
4.8	Rider Poles (47 Locations)	24	Set	\$	1,750		\$ 3,500		\$ 5,250.00	\$	126,000
4.9	Rider Poles - Relocated	23	Set	\$	-	\$ -	\$ 3,500	\$ 80,500	\$ 3,500.00	\$	80,500
4.10											
4.11											
4.12											
4.13											
4.14				1							
4.15											
4.16				-							
4.17	LICTOR CHIFTONIER ORGAN					A 2042		4 0.04			44 600 6:-
	UCTOR, SHIELDWIRE, OPGW:					\$ 2,943,787		\$ 8,681,855		\$	11,625,642
	, FITTINGS, HARDWARE	2-		4			A		A	4	4 00=
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	725	Assembly	\$		\$ 1,305,000		\$ 522,000			1,827,000
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	870	Assembly	\$	900		·				1,270,200
	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	210	Assembly	\$	1,800						529,200
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	91	Assembly	\$	900		\$ 560				132,860
5.5				<u> </u>		\$ -		\$ -			-
5.6	Angle - V-String (1-Group of 18-Bells Each Assembly)		Assembly	\$	1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$	-
5.7	H-Frame - Tangent Insulators (4-Assemblies Each Structure (2-Groups of 18-Bells Each Assembly))		Assembly	\$	3,600	\$ -	\$ 1,440	\$ -	\$ 5,040	\$	-
5.8	OPGW Assembly - Tangent	145	Assembly	\$	200	\$ 29,000	\$ 150	\$ 21,750	\$ 350	\$	50,750

ltem	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
5.10	OHSW Assembly - Tangent	145	Assembly	\$ 200	\$ 29,000	\$ 150	\$ 21,750	\$ 350	\$ 50,750
5.11	OHSW Assembly - Angle / DE	28	Assembly	\$ 250	\$ 7,000	\$ 150	\$ 4,200	\$ 400	\$ 11,200
5.12	OPGW Splice Boxes	8	Set	\$ 1,746	\$ 13,969	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161
5.13	OPGW Splice & Test	8	EA	\$ 2,520	\$ 20,160	\$ 2,520	\$ 20,160	\$ 5,040	\$ 40,320
5.14	Spacer - Conductor	3,659	EA	\$ 50					
5.15	Vibration Dampers - Conductor	878	EA	\$ 35	\$ 30,730	\$ 35	\$ 30,730	\$ 70	\$ 61,460
5.16	Shield wire / OPGW Dampers, Misc. Fittings	444	EA	\$ 27	\$ 11,988	\$ 35	\$ 15,540	\$ 62	\$ 27,528
5.17									
5.18									
5.19									
5.20									
5.21	Guys, Anchors, and Accessories	-	EA	\$ 720	\$ -	\$ 885	\$ -	\$ 1,605	\$ -
5.22	Misc. materials (Signs and Markers)	21.9	Mile	\$ 770	\$ 16,863	\$ 1,006	\$ 22,031	\$ 1,776	\$ 38,894
5.23				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - INSUL	ATORS, FITTINGS, HARDWARE:				\$ 2,896,560		\$ 1,497,978		\$ 4,394,539
A. Trans	mission Line Knickerbocker to Churchtown				\$ 12,362,395		\$ 47,260,421		\$ 59,622,815
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
o. Wob, Delvic	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	s -	\$ -	\$ 596,228	\$ 596,228	\$ 596,228	\$ 596,228
0.1	Project Management, Material Handling & Amenities			,	,	330,220	330,220	330,220	330,220
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 3,706,691	\$ 3,706,691	\$ 3,706,691	\$ 3,706,691
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 596,228	\$ 596,228	\$ 596,228	\$ 596,228
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 596,228	\$ 596,228	\$ 596,228	\$ 596,228
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,981,141	\$ 2,981,141	\$ 2,981,141	\$ 2,981,141
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 178,868	\$ 178,868	\$ 178,868	\$ 178,868
6.7	Geotech	22	Location	\$ -	\$ -	\$ 3,500	\$ 77,000		\$ 77,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 417,360	\$ 417,360	\$ 417,360	\$ 417,360
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 178,868	\$ 178,868	\$ 178,868	\$ 178,868
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 2,788,000		\$ 2,788,000	\$ 2,788,000
6.15	Legal Fees	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 988,992	\$ 988,992	\$ -	\$ -	\$ 988,992	\$ 988,992
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 59,623	\$ 59,623	\$ 59,623	\$ 59,623
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 988,992		\$ 12,216,235		\$ 13,205,227

NextEra T022 (Segment B) B. Transmission Line Churchtown to Pleasant Valley

Estimate Revision: 6 Total: \$ 86,378,553

NextEra T022 (Segment B)			
	Supply	Installation	Total
B. Transmission Line Churchtown to Pleasant Valley			
1. CLEARING & ACCESS	\$ 14,000	\$ 19,309,466	\$ 19,323,466
2. FOUNDATIONS	\$ 1,106,161	\$ 9,049,991	\$ 10,156,152
3. STRUCTURES	\$ 3,541,211	\$ 19,333,959	\$ 22,875,169
4. CONDUCTOR, SHIELDWIRE, OPGW	\$ 3,493,383	\$ 10,334,110	\$ 13,827,493
5. INSULATORS, FITTINGS, HARDWARE	\$ 3,450,934	\$ 1,599,968	\$ 5,050,903
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 928,455	\$ 14,216,915	\$ 15,145,370
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 12,534,144	\$ 73,844,409	\$ 86,378,553
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 12,534,144	\$ 73,844,409	\$ 86,378,553

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	te Mat	aterial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
B. Trans	mission Line Churchtown to Pleasant Valley									
1. CLEARING	& ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$	-	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	63.0	Acre	\$ -	\$	-	\$ 5,000	•		\$ 315,000
1.3	Permanent Access Road	34,108.8	LF	\$ -	- 7		\$ 45			
1.4	Silt Fence	170,544.0	LF	\$ -	Ψ.		\$ 4			, .
1.5	Matting - Access and ROW	136,435.2	LF	\$ -			\$ 70			
1.6	Matting - To Work Area	18,450.0	LF	\$ -	- 7		\$ 70			
1.7	Snow Removal	32.3	Mile	\$ -	- 7		\$ 16,000			
1.8	ROW Restoration	32.3 1,230,000.0	Mile SF	\$ - \$ -	- 7	-	\$ 10,000 \$ 4			\$ 323,000
1.9 1.10	Work Pads Restoration for Work Pad areas	246,000.0	SF SF	·		-	\$ 4 \$ 0.2			
1.10	Temporary Access Bridge	246,000.0	EA	\$ - \$ -	- 7	-	\$ 0.2			\$ 280,490
1.11	Air Bridge	- 14	EA	\$ -	- 7		\$ 20,035		\$ 20,035	
1.13	Stabilized Construction Entrance	12	EA	\$ -	- :		\$ 4,580			
1.14	Maintenance and Protection of Traffic on Public Roads	86	EA	\$ -			\$ 4,130			
1.15	Gates	4	EA		00 \$	8,000	\$ 2,500			
1.16	Culverts / Misc. Access	8	EA		50 \$		\$ 1,250			
1.17	Concrete Washout Station	10	EA	\$ -	_		\$ 1,850			\$ 18,500
	RING & ACCESS:				\$	14,000	, , , , , , , , , , , , , , , , , , , ,	\$ 19,309,466	,,,,,,	\$ 19,323,466
2. FOUNDATI	ONS									
2.1	Drilled Pier - 345KV S/C DEADEND, STEEL	17	EA	\$ 43,75	31 \$	743,425	\$ 44,199	\$ 751,387	\$ 87,930	\$ 1,494,811
2.2	Direct Embed - 345KV S/C TANGENT, CONCRETE	229	EA	\$ 1,58	34 \$	362,736	\$ 10,771	\$ 2,466,605	\$ 12,355	\$ 2,829,341
2.3										
2.4										
2.5	Rock Excavation Adder	2,916.0	СҮ	\$ -	\$	-	\$ 2,000	\$ 5,832,000	\$ 2,000	\$ 5,832,000
2.6										
2.7										
2.8										
2.9										
2.10										
2.11					+					
2.11					+					
TOTAL - FOU	UDATIONS:				Ś	1 100 101		\$ 9,049,991		\$ 10.156.152
TOTAL - FOU	VDATIONS.				\$	1,106,161		\$ 9,049,991		\$ 10,156,152

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3. STRUCTURE	S									
3.1	345KV S/C DEADEND, STEEL	17	Structure	\$	49,950	\$ 849,150	\$ 29,970	\$ 509,490	\$ 79,920	\$ 1,358,640
3.2	345KV S/C TANGENT, CONCRETE	229	Structure	\$	11,212	\$ 2,567,585	\$ 47,301	\$ 10,831,998	\$ 58,513	\$ 13,399,582
3.3										
3.4										
3.5										
3.6										
3.7										
3.8										
3.9										
3.10										
3.11										
3.12	Remove Existing Foundation	1,040	EA	\$	-	\$ -	\$ 3,250	\$ 3,380,000	\$ 3,250	\$ 3,380,000
3.13	Remove Existing Structure and Accessories	260	EA	\$	-	\$ -	\$ 12,500	\$ 3,250,000	\$ 12,500	\$ 3,250,000
3.14	Install Grounding and Grounding Accessories	246	Structure	\$	506	\$ 124,476	\$ 5,539	\$ 1,362,471	\$ 6,045	\$ 1,486,947
3.15										
3.16										
3.17										
	TURES PRINCTOWN TO NEW SCOTLAND:					\$ 3,541,211		\$ 19,333,959		\$ 22,875,169
	R, SHIELDWIRE, OPGW	4.004.206			2.02	ć 2,000 400	A 5.00	Ć 5.474.020	ć 7.02	ć 0.550.000
4.1	345kV - (1) 1,033kcmil 54/7 ACSS "Curlew" (1) OPGW 36 Fiber AC-33/38/571	1,094,386 182,398	LF LF	\$	2.82 1.35		\$ 5.00 \$ 5.00	\$ 5,471,930 \$ 911,990		\$ 8,558,099 \$ 1,158,227
4.3	(1) 3/8" EHS7 Steel	182,398	LF	Ś	0.47					\$ 997,717
4.5	Remove Existing 115kV Cable From Existing Structures	65.2	Mile	Ś	-	\$ -		\$ 1,956,000		\$ 1,956,000
4.6	Remove Existing OPGW Cable and Accessories	32.6	Mile	Ś	_	\$ -		\$ 390,600	\$ 12,000.00	\$ 390,600
4.7	Remove Existing OHSW and Accessories	32.6	Mile	Ś	-	\$ -		\$ 390,600	\$ 12,000.00	\$ 390,600
4.8	115kV - (1) 795kcmil 26/7 ACSS "Drake"	-	LF	Ś	1.72		\$ 5.00		\$ 6.72	\$ -
4.9										
4.10	Rider Poles - Relocated	43	Set	\$	-	\$ -	\$ 3,500	\$ 150,500	\$ 3,500.00	\$ 150,500
4.11	Rider Poles (86 Total)	43	EA	\$	1,750	\$ 75,250		\$ 150,500	\$ 5,250.00	\$ 225,750
TOTAL: CONDU	JCTOR, SHIELDWIRE, OPGW:					\$ 3,493,383		\$ 10,334,110		\$ 13,827,493
	FITTINGS, HARDWARE									
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	1,374	Assembly	\$	1,800	\$ 2,473,200		\$ 989,280		\$ 3,462,480
	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$	900	\$ -	7	\$ -	\$ 1,460	\$ -
	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	255	Assembly	\$	1,800	\$ 459,000	·	\$ 183,600	\$ 2,520	\$ 642,600
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$	900	\$ -		\$ -	\$ 1,460	\$ -
5.5	OPGW Assembly - Tangent	229	Assembly	\$	200		\$ 150			\$ 80,150
	OPGW Assembly - Angle / DE	34	Assembly	\$	250	\$ 8,500		\$ 5,100		\$ 13,600
5.7	OHSW Assembly - Tangent	229	Assembly	\$	200					\$ 80,150
5.8	OHSW Assembly - Angle / DE OPGW Splice Boxes	34	Assembly	\$	250	\$ 8,500	7	\$ 5,100	\$ 400	\$ 13,600 \$ 48,242
5.9	•	12	Set	Ś	1,746				\$ 4,020	
5.10 5.11	OPGW Splice & Test Spacer - Conductor	12 5,414	EA EA	\$	2,520 50	\$ 30,240 \$ 270,700	, ,	\$ 30,240 \$ 189,490	\$ 5,040 \$ 85	\$ 60,480 \$ 460,190
5.11	Spacer - Conductor Vibration Dampers - Conductor	1,299	EA EA	\$	35	\$ 270,700		\$ 189,490	\$ 85	\$ 460,190
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	656	EA	Ś	27	\$ 45,465		\$ 22,960	\$ 62	\$ 40,672
5.14	Guys, Anchors, and Accessories	- 050	EA	\$	720	\$ 17,712		\$ 22,960	\$ 1,605	\$ 40,672
5.15	Misc. materials (Signs and Markers)	32.6	Mile	\$	770			\$ 32,745	\$ 1,776	
	ATORS, FITTINGS, HARDWARE:	32.0	14IIC	Y	770	\$ 3,450,934		\$ 1,599,968	7 1,770	\$ 5,050,903
	mission Line Churchtown to Pleasant Valley					\$ 11,605,689		\$ 59,627,494		\$ 71,233,183
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
	Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 712,332	\$ 712,332	\$ 712,332	\$ 712,332
	Project Management, Material Handling & Amenities			1						
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 4,428,496	\$ 4,428,496	\$ 4,428,496	\$ 4,428,496

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 712,332	\$ 712,332	\$ 712,332	\$ 712,332
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 712,332	\$ 712,332	\$ 712,332	\$ 712,332
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,561,659	\$ 3,561,659	\$ 3,561,659	\$ 3,561,659
6.6	Lidar	1	LS	\$ -	\$ -	\$ 213,700	\$ 213,700	\$ 213,700	\$ 213,700
6.7	Geotech	33	Location	\$ -	\$ -	\$ 3,500	\$ 115,500	\$ 3,500	\$ 115,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 498,632	\$ 498,632	\$ 498,632	\$ 498,632
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 213,700	\$ 213,700	\$ 213,700	\$ 213,700
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 2,937,000	\$ 2,937,000	\$ 2,937,000	\$ 2,937,000
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 928,455	\$ 928,455	\$ -	\$ -	\$ 928,455	\$ 928,455
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 71,233	\$ 71,233	\$ 71,233	\$ 71,233
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 928,455		\$ 14,216,915		\$ 15,145,370

NextEra T022 (Segment B)

C. Blue Stores Junction to Blue Stores Substation

Estimate 6 Total: \$ 5,749,646 Revision:

NextEra T022 (Segm	nent B)					
		Supply		Installation		Total
C. Blue Stores Junction to Blue Stores Substation						
1. CLEARING & ACCESS	\$	-	\$	1,404,512	\$	1,404,512
2. FOUNDATIONS	\$	236,848	\$	925,954	\$	1,162,802
3. STRUCTURES	\$	596,484	\$	946,665	\$	1,543,149
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	84,763	\$	387,095	\$	471,858
5. INSULATORS, FITTINGS, HARDWARE	\$	107,544	\$	56,496	\$	164,040
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	82,051	\$	921,234	\$	1,003,285
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	
SUBTOTAL:	\$	1,107,690	\$	4,641,956	\$	5,749,646
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL:	Ś	1.107.690	Ś	4.641.956	Ś	5.749.646

0.0%

0.0%

Description	of Work:								
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
C. Blue S	Stores Junction to Blue Stores Substation								
1. CLEARING									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	4.0	Acre	\$ -	\$ -	\$ 5,000		,	\$ 20,000
1.3	Permanent Access Road	2,217.6	LF	\$ -	\$ -	\$ 45		\$ 45	
1.4	Silt Fence	11,088.0	LF	\$ -	\$ -		\$ 44,352		\$ 44,352
1.5	Matting - Access and ROW	8,870.4	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	1,800.0	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	2.1	Mile	\$ -	\$ -	\$ 16,000			
1.8	ROW Restoration	2.1	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	120,000.0	SF	\$ -	\$ -		\$ 422,400		\$ 422,400
1.10	Restoration for Work Pad areas	24,000.0	SF	\$ -	\$ -	\$ 0.2			\$ 3,600
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035 \$ 14,445		\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	\$ - \$ -	21,113		\$ 14,445	
1.13	Stabilized Construction Entrance Maintenance and Protection of Traffic on Public Roads	1	EA EA	\$ - \$ -	\$ - \$ -	\$ 4,580 \$ 4,130			
1.14	Gates	2	EA EA	\$ 2,000	· -	\$ 4,130			
1.15	Culverts / Misc. Access	-	EA EA	\$ 2,000		\$ 2,500			
1.17	Concrete Washout Station	-	EA	\$ 750	\$ -	\$ 1,250		\$ 2,000	
	RING & ACCESS:		LA	, -	\$ -	3 1,630	\$ 1.404.512	3 1,630	\$ 1,404,512
2. FOUNDATI					7		ÿ 1,404,312		ÿ 1,404,512
2.1	Drilled Pier - 115kV Single Circuit H- Pole Angle/ DE	6	EA	\$ 31,225	\$ 187,348	\$ 31,559	\$ 189,354	\$ 62,784	\$ 376,702
2.2	Direct Embed - 115kV Single Circuit H- Pole Tangent	18	EA	\$ 2,750	\$ 49,500	\$ 18,700	\$ 336,600	\$ 21,450	\$ 386,100
2.3	Rock Excavation Adder	200.0	СУ	\$ -	\$ -	\$ 2,000	\$ 400,000	\$ 2,000	\$ 400,000
2.4									
2.5									
2.6									
2.7									
2.8									
2.9									
2.10									
2.11									
2.12									
2.13	1								(

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.14									
2.15	IDATIONS.				4 225.040		A 025.054		4 450 000
TOTAL - FOUN 3. STRUCTURE					\$ 236,848		\$ 925,954		\$ 1,162,802
3.1	115kV Single Circuit H- Pole Angle/ DE	6	Structure	\$ 39,822	\$ 238,929	\$ 23,893	\$ 143,358	\$ 63,714	\$ 382,287
3.2	115kV Single Circuit H- Pole Tangent	18		\$ 18,515		\$ 11,109	\$ 199,960		
3.3	Remove Existing Structure and Accessories	-	EA	\$ -	\$ -	\$ 7,500	\$ -	\$ 7,500	\$ -
3.4 3.5	Install Grounding and Grounding Accessories	27	EA	\$ -	\$ -	\$ 12,500	\$ 337,500	\$ 12,500	\$ 337,500
3.6	Install Grounding and Grounding Accessories	48	Structure	\$ 506	\$ 24,288	\$ 5,539	\$ 265,848	\$ 6,045	\$ 290,136
3.7								,	
3.8									
3.9									
3.10									
3.11 3.12									
3.13									
3.14									
3.15									
TOTAL - STRU					\$ 596,484		\$ 946,665		\$ 1,543,149
	PR, SHIELDWIRE, OPGW						•		•
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 3.53	\$ -	\$ 5.00	\$ -	\$ 8.53	\$ -
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$ 1.55		\$ 5.00	\$ -	\$ 6.55	\$ -
4.3	(1) 3/8" EHS7 Steel	-	LF	\$ 0.72		-	\$ -	\$ 5.72	
4.4	115kV - (1) 795kcmil 26/7 ACSR "Drake"	34,927.0	LF	\$ 1.72	\$ 60,074	\$ 5.00	\$ 174,635	\$ 6.72	\$ 234,709
4.5	(1) OPGW 36 Fiber AC-33/38/571	11,642.0	LF	\$ 1.35	\$ 15,717	\$ 5.00	\$ 58,210	\$ 6.35	\$ 73,927
4.6	(1) 3/8" EHS7 Steel	11,642.0	LF	\$ 0.47	\$ 5,472	\$ 5.00	\$ 58,210	\$ 5.47	\$ 63,682
4.7	Remove Existing Cable	2.1	Mile	\$ -	\$ -	\$ 30,000	\$ 63,600	\$ 30,000.00	\$ 63,600
4.8	Remove Existing OPGW Cable	-	Mile	\$ -	\$ -	\$ 12,000	\$ -	\$ 12,000.00	\$ -
4.9	Remove Existing EH7	2.1	Mile	\$ -	\$ -	\$ 12,000	\$ 25,440	\$ 12,000.00	\$ 25,440
4.10		-							
4.11		-							
4.12	Rider Poles (Locations)	2.0	EA	\$ 1,750	\$ 3,500	\$ 3,500	\$ 7,000	\$ 5,250.00	\$ 10,500
4.13									
	DUCTOR, SHIELDWIRE, OPGW:				\$ 84,763		\$ 387,095		\$ 471,858
	R, FITTINGS, HARDWARE		Assambly	ć 4.000	c	ć 720	c	ć 2.520	
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly) 115kV Tangent (1-Group of 9-Bells Each Assembly)	- 54	Assembly Assembly	\$ 1,800 \$ 900		\$ 720 \$ 360		\$ 2,520 \$ 1,260	\$ 68,040
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	- 54	Assembly	\$ 1,800			\$ 19,440	\$ 1,260	\$ 68,040
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	36	Assembly	\$ 900			\$ 12,960		\$ 45,360
5.5					\$ -		\$ -	\$ -	\$ -
5.6	OPGW Assembly - Tangent	18	Assembly	\$ 200		\$ 150			\$ 6,300
5.7	OPGW Assembly - Angle / DE	12	Assembly	\$ 250		\$ 150			\$ 4,800
5.8 5.9	OHSW Assembly - Tangent OHSW Assembly - Angle / DE	18 12	Assembly Assembly	\$ 200 \$ 250		\$ 150 \$ 150	\$ 2,700 \$ 1,800		\$ 6,300 \$ 4,800
5.10	OPGW Splice Boxes	2	Set	\$ 1,746		\$ 2,274		\$ 4,020	\$ 8,040
5.11	OPGW Splice & Test	2	EA	\$ 2,520		\$ 2,520			\$ 10,080
5.12	Spacer - Conductor	-	EA	\$ 50		\$ 35		\$ 85	\$ -
5.13	Vibration Dampers - Conductor	72	EA		\$ 2,520	\$ 35	\$ 2,520	\$ 70	\$ 5,040
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	25	EA		\$ 675				
5.15	Guys, Anchors, and Accessories	-	EA	\$ 720		\$ 885		\$ 1,605	
5.16	Misc. materials (Signs and Markers)	2.1	Mile	\$ 770	\$ 1,617	\$ 1,006	\$ 2,113	\$ 1,776	\$ 3,730
5.17									
5.18									
5.19 5.20									
	LATORS, FITTINGS, HARDWARE:				\$ 107,544		\$ 56,496		\$ 164,040
	,,				107,544		55,450		20 7,040

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply	y Rate	Material Supply Cos	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
C. Blue S	tores Junction to Blue Stores Substation					\$ 1,025,63)	\$ 3,720,722		\$ 4,746,361
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464
	Project Management, Material Handling & Amenities									
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 295,076	\$ 295,076	\$ 295,076	\$ 295,076
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464
	Engineering									
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 237,318	\$ 237,318	\$ 237,318	\$ 237,318
6.6	Lidar	1	LS	\$	-	\$ -	\$ 14,239	\$ 14,239	\$ 14,239	\$ 14,239
6.7	Geotech	2	Location	\$	-	\$ -	\$ 3,500	\$ 7,000	\$ 3,500	\$ 7,000
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 33,225	\$ 33,225	\$ 33,225	\$ 33,225
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 14,239	\$ 14,239	\$ 14,239	\$ 14,239
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$ 153,000	\$ 153,000	\$ 153,000	\$ 153,000
6.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.17	·	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 8	32,051	\$ 82,05	. \$ -	\$ -	\$ 82,051	\$ 82,051
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 4,746	\$ 4,746	\$ 4,746	\$ 4,746
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 82,05	L	\$ 921,234		\$ 1,003,285

Page 11 of 42
C. TL BS Junc.-Blue Stores SS

NextEra T022 (Segment B) D. Knickerbocker 345kV Substation - Install

Total: \$ 19,118,107

Revision: NextEra T022 (Segment B) Supply Installation Total D. Knickerbocker 345kV Substation - Install 1. SITE PREP/ GRADING/ FENCING / CIVIL 223,675 \$ 1,936,115 \$ 2,159,790 2. SUBSTATION FOUNDATIONS 1,572,935 1,694,150 \$ 3,267,085 3. SUBSTATION STRUCTURES 727,975 \$ 727,975 \$ 1,455,950 4. MAJOR EQUIPTMENT 600,000 \$ 240,000 \$ 840,000

5. SMALL EQUIPTMENT / MATERIALS 1,086,500 \$ 489,500 \$ 1,576,000 6. CONTROL HOUSE / PANELS 1,837,125 1,227,625 \$ 3,064,750 7. MISC ITEMS 1,061,528 \$ 1,684,810 \$ 2,746,338 8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Ś 568,779 \$ 3,439,415 \$ 4,008,194 CONTRACTOR MARK-UP (OH&P) SUBTOTAL: 11,439,590 \$ 19,118,107 7,678,517 \$ CONTINGENCY ON ENTIRE PROJECT

Description of Work:

Estimate

Item	Item Description	Estimated Quantity	Unit of Measure	Mat	terial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
D. Knicke	erbocker 345kV Substation - Install									
1. SITE PREP/ (GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	3.875	ACRES	\$	-	\$ -	\$ 355,000	\$ 1,375,625	\$ 355,000	\$ 1,375,625
1.2	Station stone within substation fence.	1,650	СУ	\$	27	\$ 44,550	\$ 75	\$ 123,750	\$ 102	\$ 168,300
1.3	Substation Fence	1,660	LF	\$	100	\$ 166,000	\$ 100	\$ 166,000	\$ 200	\$ 332,000
1.4										
1.5										
1.6	Permanent Access Road - 20'-Wide	275	LF	\$	35	\$ 9,625	\$ 285	\$ 78,375	\$ 320	\$ 88,000
1.7	Pavement	3,373	SY	\$	-	\$ -	\$ 55	\$ 185,515	\$ 55	\$ 185,515
1.8	Gates	1	EA	\$	2,000	\$ 2,000	\$ 2,500	\$ 2,500	\$ 4,500	\$ 4,500
1.9	Culverts / Misc. Access	2	EA	\$	750	\$ 1,500	\$ 1,250	\$ 2,500	\$ 2,000	\$ 4,000
1.10	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 223,675		\$ 1,936,115		\$ 2,159,790
2. SUBSTATION	FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	3	EA	\$	14,940	\$ 44,820	\$ 16,000	\$ 48,000	\$ 30,940	\$ 92,820
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	16	EA	\$	26,145	\$ 418,320	\$ 28,000	\$ 448,000	\$ 54,145	\$ 866,320
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	72	EA	\$	4,482	\$ 322,704	\$ 4,800	\$ 345,600	\$ 9,282	\$ 668,304
2.1f	Station Service Transformer Stand Foundation	4	EA	\$	4,482	\$ 17,928	\$ 4,800	\$ 19,200	\$ 9,282	\$ 37,128
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	72	EA	\$	4,482	\$ 322,704	\$ 4,800	\$ 345,600	\$ 9,282	\$ 668,304
2.1j	Instrument Transformer Stand Foundations	27	EA	\$	4,482	\$ 121,014	\$ 4,800	\$ 129,600	\$ 9,282	\$ 250,614
2.1k	Arrester Stand Foundations	9	EA	\$	4,482	\$ 40,338	\$ 4,800	\$ 43,200	\$ 9,282	\$ 83,538
2.1m	Wave Trap Stand Foundations	3	EA	\$	4,482	\$ 13,446	\$ 4,800	\$ 14,400	\$ 9,282	\$ 27,846
2.1n	Reactor Foundations	0	EA	\$	7,470	\$ -	\$ 8,000	\$ -	\$ 15,470	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.1p	Misc. Structure Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1q									
2.2	230kV								
2.2a	Circuit Breaker Foundations		EA	\$ 11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations		EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)		EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)		EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations		EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2f	Station Service Transformer Stand Foundation		EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2g	Bus Support 3ph Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations		EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations		EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations		EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2m	Wave Trap Stand Foundations		EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2n	Misc. Structure Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	8	EA	\$ 16,434	\$ 131,472	\$ 17,600	\$ 140,800	\$ 34,034	\$ 272,272
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3h	Bus Support 1 Ph Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3j	Instrument Transformer Stand Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3k	Arrester Stand Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ 44,260	\$ 44,260	\$ 47,400	\$ 47,400	\$ 91,660	\$ 91,660
2.5b	Generator Foundation	1	EA	\$ 16,000	\$ 16,000	\$ 17,000	\$ 17,000	\$ 33,000	\$ 33,000
2.5c	Station Service Distribution Line - 3ph.	1	LS	\$ -	\$ -	\$ 9,750	\$ 9,750	\$ 9,750	\$ 9,750
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	5	EA	\$ 5,229	\$ 26,145	\$ 5,600	\$ 28,000	\$ 10,829	
2.6b				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL SUBS	TATION FOUNDATIONS				\$ 1.572.935		\$ 1.694.150		\$ 3,267,085
	N STRUCTURES				\$ 1,572,935		\$ 1,694,150		\$ 3,267,085
3.1	345kV								

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
3.1a	Substation A-Frame Structures - Stand alone	4	EA	\$	37,000	\$ 148,000	\$ 37,000	\$ 148,000	\$ 74,000	\$	296,000
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$	37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$	-
3.1c	Switch Stands	12	EA	\$	14,800	\$ 177,600	\$ 14,800	\$ 177,600	\$ 29,600	\$	355,200
3.1d	Station Service Transformer Stand	1	EA	\$	14,800	\$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600	\$	29,600
3.1e	Bus Support 3ph	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
3.1f	Bus Support 1 Ph	72	EA	\$	3,700	\$ 266,400	\$ 3,700	\$ 266,400	\$ 7,400	\$	532,800
3.1g	Instrument Transformer Stand	27	EA	\$	1,850	\$ 49,950	\$ 1,850	\$ 49,950	\$ 3,700	\$	99,900
3.1h	Arrester Stand	9	EA	\$	1,850	\$ 16,650	\$ 1,850	\$ 16,650	\$ 3,700	\$	33,300
3.1j	Wave Trap Stand	3	EA	\$	7,400	\$ 22,200	\$ 7,400	\$ 22,200	\$ 14,800	\$	44,400
3.1k	Lightning Mast - 70'	5	EA	\$	6,475	\$ 32,375	\$ 6,475	\$ 32,375	\$ 12,950	\$	64,750
3.2	230kV										
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$	33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$	-
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$	33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$	-
3.2c	Switch Stands	0	EA	\$	12,025	\$ -	\$ 12,025	\$ -	\$ 24,050	\$	-
3.2d	Station Service Transformer Stand	0	EA	\$	12,025	\$ -	\$ 12,025	\$ -	\$ 24,050	\$	-
3.2e	Bus Support 3ph	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
3.2f	Bus Support 1 Ph	0	EA	\$	2,775	\$ -	\$ 2,775	\$ -	\$ 5,550	\$	-
3.2g	Instrument Transformer Stand	0	EA	\$	1,295	\$ -	\$ 1,295	\$ -	\$ 2,590	\$	-
3.2h	Arrester Stand	0	EA	\$	1,295	\$ -	\$ 1,295	\$ -	\$ 2,590	\$	-
3.2j	Wave Trap Stand	0	EA	\$	5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$	-
3.2k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
3.3	115kV										
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$	-
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$	-
3.3c	Switch Stands	0	EA	\$	7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$	-
3.3d	Fuse Stand	0	EA	\$	7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$	-
3.3e	Bus Support 3ph	0	EA	\$	3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$	-
3.3f	Bus Support 1 Ph	0	EA	\$	1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$	-
3.3g	Instrument Transformer Stand	0	EA	\$	740	\$ -	\$ 740	\$ -	\$ 1,480	\$	-
3.3h	Arrester Stand	0	EA	\$	740	\$ -	\$ 740	\$ -	\$ 1,480	\$	-
3.3j	Wave Trap Stand	0	EA	\$	3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$	-
3.3k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
TOTAL - SUBS	TATION STRUCTURES					\$ 727,975		\$ 727,975		\$	1,455,950
4. MAJOR EQ	JIPTMENT					,					
4.1	345kV										
4.1a	Circuit Breakers	3	EA	\$	200,000	\$ 600,000	\$ 80,000	\$ 240,000	\$ 280,000	\$	840,000
4.1b	Capacitor Banks with Reactors	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	\$	-
4.1c											
4.1d											
4.1e											
4.2	230kV										
4.2a	Circuit Breakers	0	EA	\$	115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	Ś	-
4.2b	Capacitor Banks	0	EA	\$			\$ 80,000		\$ 80,000		-
				+ -		7	- 55,500	Ŧ	- 50,000	Ť	
4.3	115kV										
4.3a	Circuit Breakers	0	EA	\$	52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	5	
4.3b	Capacitor Banks	0	EA	\$		\$ -	\$ 60,000		\$ 60,000		-
				+-		7	- 55,000	т	- 00,000		
										Щ_	

						Labor & Equipment	Labor & Equipment			
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Supply Rate	Cost	Total Unit Rate		TOTAL
TOTAL - MAJO	R EQUIPTMENT				\$ 600,000		\$ 240,000		\$	840,000
5. SMALL EQU	PTMENT / MATERIALS									
5.1	345kV									
5.1a	Line Switches - 3ph w/ motor operator	3	EA	\$ 40,000	\$ 120,000	\$ 15,000	\$ 45,000	\$ 55,000	\$	165,000
5.1b	Disconnect Switches - 3ph w/ manual operator	6	EA	\$ 35,000	\$ 210,000	\$ 17,500	\$ 105,000	\$ 52,500	\$	315,000
5.1c	VT'S	9	EA	\$ 25,000	\$ 225,000	\$ 12,000	\$ 108,000	\$ 37,000	\$	333,000
5.1d	CT'S	9	EA	\$ 13,000	\$ 117,000	\$ 8,000	\$ 72,000	\$ 21,000	\$	189,000
5.1e	CCVT'S	9	EA	\$ 13,000	\$ 117,000	\$ 8,000	\$ 72,000	\$ 21,000	\$	189,000
5.1f	Arresters	9	EA	\$ 6,500	\$ 58,500	\$ 1,500	\$ 13,500	\$ 8,000	\$	72,000
5.1g	Wave Traps	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$	63,000
5.1h	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000	\$ 50,000	\$ 50,000	\$ 250,000	\$	250,000
5.2	230kV									
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$	-
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,000	\$ -	\$ 17,500	\$ -	\$ 47,500	\$	-
5.2c	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	-
5.2d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	-
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -	\$ 6,000	\$ -	\$ 16,000	\$	-
5.2f	Arresters	0	EA	\$ 5,000	\$ -	\$ 6,000	\$ -	\$ 11,000	\$	-
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	-
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.3	115kV									
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ 33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$	-
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000	\$ -	\$ 17,500	\$ -	\$ 45,500	\$	-
5.3c	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	-
5.3d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	-
5.3e	CCVT'S	0	EA	\$ 8,000	\$ -	\$ 8,000	\$ -	\$ 16,000	\$	-
5.3f	Arresters	0	EA	\$ 3,420	\$ -	\$ 6,000	\$ -	\$ 9,420	\$	-
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				\$ 1,086,500		\$ 489,500		\$	1,576,000
6. CONTROL H	OUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	1	EA	\$ 409,500	\$ 409,500	\$ 95,000	\$ 95,000	\$ 504,500	\$	504,500
							,	,	·	,
6.2	Protection and Telecom Equipment Panels	17	EA	\$ 35,000	\$ 595,000	\$ 10,000	\$ 170,000	\$ 45,000	Ś	765,000
5.2	- roteston and recessin Equipment raneis	1	2.	33,000	333,000	10,000	170,000	, ,,,,,,	,	, 00,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	s	200,000
6.4	Control Cables	1	LS	\$ 317,625						635,250
6.5	SCADA and Communications	1	EA EA	\$ 50,000	\$ 50,000			\$ 150,000		150,000
6.6	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000			\$ 150,000		300,000
	DC Distribution System	2		\$ 50,000	\$ 100,000	· · ·		\$ 150,000		300,000
6.8	Security	1	EA	\$ 7,500	\$ 7,500			\$ 15,000		15,000
6.9	Fire Alarm	1	EA	\$ 7,500	\$ 7,500		\$ 7,500	\$ 15,000		15,000
6.10	Generator	1	EA	\$ 100,000	\$ 100,000			\$ 180,000	-	180,000
0.10	SCHOOL SC	1	LA	7 100,000	7 100,000	9 80,000	9 80,000	7 100,000	,	100,000
		I								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	e Mate	erial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
OTAL - CONTR	ROL HOUSE / PANELS / GENERATOR				\$	1,837,125		\$ 1,227,625		\$	3,064,750
. MISC ITEMS											
7.1	Conduit & Cable Trench System	1,050	LF	\$ 185.0	0 \$	194,250	\$ 170.00	\$ 178,500	\$ 355	\$	372,750
7.2	Rigid Bus, Fittings & Insulators	1,900	LF	\$ 125.0	7 \$	237,633	\$ 237.10	\$ 450,490	\$ 362	\$	688,123
7.3	Strain Bus, Connectors & Insulators	1,000	LF	\$ 39.3	0 \$	39,300	\$ 53.35	\$ 53,350	\$ 93	\$	92,650
7.4	Grounding System	16,500	LF	\$ 6.9	3 \$	114,345	\$ 32.58	\$ 537,570	\$ 40	\$	651,915
7.5	Strain Bus Insulators - 345kV	38	EA	\$ 2,00	0 \$	76,000	\$ 1,050	\$ 39,900	\$ 3,050	\$	115,900
7.6	Strain Bus Insulators - 230kV	0	EA	\$ 1,40	0 \$	-	\$ 750	\$ -	\$ 2,150	\$	-
7.7	Strain Bus Insulators - 115kV	0	EA	\$ 1,00	0 \$	-	\$ 550	\$ -	\$ 1,550	\$	-
7.8	Low Voltage AC Station Service	1	LS	\$ 50,00	0 \$	50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$	125,000
7.9	SSVT Service	1	LS	\$ 45,00	0 \$	45,000	\$ 45,000	\$ 45,000	\$ 90,000	\$	90,000
7.10	Control Conduits from Trench to Equipment	1	LS	\$ 125,00	0 \$	125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$	250,000
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$ 180,00	0 \$	180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$	360,000
7.12							<u> </u>	-			
7.13											
7.14											
7.15											
7.16											-
7.17											
7.18											
7.19											-
7.20											
7.21					+						
7.22											
7.23					+						
7.24					+						
7.25											
OTAL - MISC I	ITEMS				Ś	1,061,528		\$ 1,684,810		\$	2,746,338
) Knicke	erbocker 345kV Substation - Install				Ś	7,109,738		\$ 8,000,175		Ś	15,109,913
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				Ť	7,103,730		ψ 0,000,173		Ť	10,100,510
	Contractor Mobilization / Demobilization										
	Mob / Demob	1.0	LS	\$ -	Ś	_	\$ 151,099	\$ 151,099	\$ 151,099	Ś	151,099
	Project Management, Material Handling & Amenities			· ·	Ť			7 202,000	+ ===,===	-	
8.7	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 939,368	\$ 939,368	\$ 939,368	\$	939,368
8.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 151,099	\$ 151,099	\$ 151,099	\$	151,099
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 151,099	\$ 151,099	\$ 151,099	\$	151,099
	Engineering										
8.5	Design Engineering	1	LS	\$ -	\$	-	\$ 1,208,793	\$ 1,208,793	\$ 1,208,793	\$	1,208,793
	Lidar	-	LS	\$ -	\$	-	\$ -	\$ -		\$	-
8.7	Geotech	4	EA	\$ -	\$	-	\$ 3,500	\$ 14,000	\$ 3,500	\$	14,000
	Surveying/Staking	1	Site	\$ -	\$	-	\$ 105,769				105,769
	Testing & Commissioning						·	,	,		
	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ 377,748	\$ 377,748	\$ 377,748	\$	377,748
	Permitting and Additional Costs						, -	, -			
	Environmental Licensing & Permitting Costs	_	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	e Materia	al Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 45,330	\$ 45,330	\$ 45,330	\$ 45,330
8.13	Real Estate Costs (New)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$	-	\$ 280,000	\$ 280,000	\$ 280,000	\$ 280,000
8.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 568,7	79 \$	568,779	\$ -	\$ -	\$ 568,779	\$ 568,779
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 15,110	\$ 15,110	\$ 15,110	\$ 15,110
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	568,779		\$ 3,439,415		\$ 4,008,194

Page 17 of 42

D. SS Knickerbocker - Install

	NextEra T022 (Segment B)			E. Greenbush Substation - Removal
Estimate Revision:	6	Total: \$	72,410	

NextEra T022 (Segm	ent B)			
	Supply		Installation	Total
E. Greenbush Substation - Removal				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ -	\$ -
2. SUBSTATION FOUNDATIONS	\$	-	\$ 12,000	\$ 12,000
3. SUBSTATION STRUCTURES	\$	-	\$ -	\$ -
4. MAJOR EQUIPTMENT	\$	-	\$ 7,000	\$ 7,000
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ 35,000	\$ 35,000
6. CONTROL HOUSE / PANELS	\$	-	\$ 7,200	\$ 7,200
7. MISC ITEMS	\$	-	\$ -	\$ -
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$ 11,210	\$ 11,210
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$
SUBTOTAL:	\$	-	\$ 72,410	\$ 72,410
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	-	\$ 72,410	\$ 72,410

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
E. Green	bush Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000		\$ 203,000	
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75		\$ 75	
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.10									
1.10									
1.12									
1.13									
1.14									
1.15									
	PREP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 14,200	\$ -	\$ 14,200	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200	\$ -	\$ 7,200	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000	\$ -	\$ 32,000	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000	\$ -	\$ 22,000	\$ -
				-	-				

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -		\$ -	\$ 11,000	\$ -
2.2e	Switch Stand Foundations	0		\$ -	\$ -	\$ 5,200		\$ 5,200	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.2g	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2j 2.2k	Instrument Transformer Stand Foundations	0	EA EA	\$ -	\$ - \$ -	\$ 2,400 \$ 2,400	\$ - \$ -	\$ 2,400 \$ 2,400	
2.2K 2.2m	Arrester Stand Foundations Wave Trap Stand Foundations	0		\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ - \$ -
2.2m	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	-	-	-	· -	· -	-
2.3	115kV								
2.3a	Circuit Breaker Foundations	1	EA	\$ -	\$ -	\$ 7,200		\$ 7,200	
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ - \$ -
2.3h	Bus Support 1 Ph Foundations	0	EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ 2,400	\$ - \$ 4,800	\$ - \$ 2,400	\$ - \$ 4,800
2.3j 2.3k	Instrument Transformer Stand Foundations Arrester Stand Foundations	0		\$ -	\$ -	\$ 2,400	\$ 4,800	\$ 2,400	\$ 4,800
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	Š -	\$ -	\$ -	\$ -
		-		T	7	,	7		*
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b	70 Egitting Hest Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
									·
	FATION FOUNDATIONS				\$ -		\$ 12,000		\$ 12,000
	N STRUCTURES								
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1c	Switch Stands	0	EA	\$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ -	\$ -
3.1d 3.1e	Station Service Transformer Stand	0	EA EA	\$ -	7	\$ -	1	\$ - \$ -	\$ - \$ -
3.1e 3.1f	Bus Support 3ph Bus Support 1 Ph	0	EA	\$ -	\$ - \$ -	\$ 2,250	\$ - \$ -	\$ - \$ 2,250	\$ -
3.1g	Instrument Transformer Stand	0		\$ -	\$ -	\$ 2,230	\$ -	\$ 2,250	\$ -
3.1g 3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0		\$ -	\$ -	\$ 27,000		\$ 27,000	
3.2b	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -			\$ 27,000	
3.2c	Switch Stands	0		\$ -		\$ 9,750		\$ 9,750	
3.2d	Station Service Transformer Stand	0		\$ -	\$ -		\$ -	\$ -	
3.2e	Bus Support 3ph	0		\$ -	\$ -		\$ -	\$ -	
3.2f	Bus Support 1 Ph	0		\$ - \$ -		\$ 2,250		\$ 2,250	
3.2g 3.2h	Instrument Transformer Stand Arrester Stand	0		\$ -	\$ -	\$ 1,050 \$ 1,050		\$ 1,050 \$ 1,050	
3.211	rarester stand	ı	L EM	1 ~	I * -	1,030	-	1,050	D 10 -£ 42

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ 4,500	\$ -	\$ 4,500	\$ -
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	0		\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
3.3d	Fuse Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0		\$ -	\$ -	•	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0		\$ -	\$ -		\$ -	\$ -	\$ -
		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand Arrester Stand						•		
3.3h		0		\$ -	\$ -	\$ -	\$ -	\$ -	•
3.3j	Wave Trap Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ATION STRUCTURES				\$ -		\$ -		\$ -
4. MAJOR EQU									
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
4.2b	Capacitor Banks	0		\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	
	Capacitor Burno	•	2,1	Ť	Ÿ	ÿ .2,000	<u> </u>	12,000	*
4.3	115kV								
4.3a	Circuit Breakers	1	EA	\$ -	\$ -	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
4.3b	Capacitor Banks	0		\$ -	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000
4.50	Capacitor Banks	U	EA	, -	, -	, -	· -	, -	•
TOTAL MAIO	R EQUIPTMENT				\$ -		\$ 7,000		\$ 7,000
	PTMENT / MATERIALS				\$ -		\$ 7,000		\$ 7,000
5.1	345kV				4			4	
5.1a	Line Switches - 3ph w/ motor operator	0		\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1c	VT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S	0		\$ -	\$ -	\$ 2,500		\$ 2,500	\$ -
5.1f	Arresters	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -	\$ 5,500	š -	\$ 5,500	\$ -
5.2c	VT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d	CT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2u 5.2e	CCVT'S	0		\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.2e 5.2f		0				\$ 1,500	\$ - \$ -	\$ 1,500	
	Arresters Mayor Trans							, , , , , , , , , , , , , , , , , , , ,	
5.2g	Wave Traps	0			\$ -	\$ 2,500	\$ -	\$ 2,500	
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.3c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3d	CT'S	0	EA		\$ -	\$ -	\$ -	\$ -	\$ -
5.3e	CCVT'S	2			\$ -	\$ 17,500		\$ 17,500	
5.3f	Arresters	0		\$ -	\$ -	\$ 1,500		\$ 1,500	
5.3g	Wave Traps	0			\$ -		\$ -		\$ -
5.3h	Station Service Transformers	0			\$ -		\$ -	\$ -	\$ -
5.3j	Fuses	0			\$ -		\$ -	\$ -	\$ -
<u>J.J</u>	1. 4565	0		1 ~	Υ	Ψ -	-	· -	D20-£42

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				\$ -		\$ 35,000	!	\$ 35,000
	IOUSE / PANELS / GENERATOR								<u> </u>
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
6.2	Protection and Telecom Equipment Panels	2	EA	\$ -	\$ -	\$ 3,600	\$ 7,200	\$ 3,600	\$ 7,200
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	
6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0		\$ -	\$ -	\$ -	\$ -	\$ -	•
6.6	Low Voltage AC Distribution	0		\$ -	\$ -	\$ -	\$ -		, \$ -
6.7	DC Distribution System	0		\$ -	\$ -	\$ -	\$ -		, \$ -
6.8	Security	0		\$ -	\$ -	\$ -	\$ -		\$ -
6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	Š -		\$ -
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -		y \$ -
0.10	Cherator		LA.	7	,	7	,	,	-
TOTAL - CONT	TROL HOUSE / PANELS / GENERATOR				\$ -		\$ 7,200		\$ 7,200
7. MISC ITEMS					7		7 7,200		7,200
7.1	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.1	Rigid Bus, Fittings & Insulators	0		\$ -	\$ -	\$ 42,000.00	\$ -	\$ 126	
7.2	Strain Bus, Connectors & Insulators	0	LS	\$ -	\$ -	\$ 21,000.00	\$ -	\$ 21,000	•
7.3	Grounding System	0		\$ - \$ -	\$ -	\$ 21,000.00	\$ -	\$ 21,000	•
7.5	Grounding System	0	LA	7	, -	\$ 42,000.00	,	\$ 42,000	-
7.6									
7.7									
7.7									
7.8									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15 TOTAL - MISC	DIFFORC				\$ -		\$ -		÷ -
TOTAL - IVISC	TIEWS				T		7		
E. Green	nbush Substation - Removal				\$ -		\$ 61,200		\$ 61,200
8. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1	LS	Š -	\$ -	\$ 612	\$ 612	\$ 612	\$ 612
0.1	Project Management, Material Handling & Amenities			<u> </u>	*	y 012	V 012	ÿ 012	y 022
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler	1	LS			\$ 3,805	\$ 3,805	\$ 3,805	\$ 3,805
0.2	and Cost Manager, SHEQ Staff, and Admin Staff)	1	L3			3,003	3,603	3,803	3,003
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 612	\$ 612	\$ 612	\$ 612
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 612	\$ 612		\$ 612
0.4	Engineering			7	7	y 012	9 012	y 012	7 012
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 4,896	\$ 4,896	\$ 4,896	\$ 4,896
8.6	LiDAR		LS	\$ -	\$ -	\$ 4,650	\$ 4,630		\$ -
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500	•
8.8	Surveying/Staking	1	Site	\$ - \$ -	\$ -	\$ 3,500	\$ 428		5 - 428
0.0		1	Site	3 -	ş -	\$ 428	\$ 428	\$ 428	3 428
- 0.0	Testing & Commissioning		1.0	ć	<i>c</i>	\$ -	\$ -	ć	*
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	> -	\$ -	\$ -	\$ -
0.10	Permitting and Additional Costs		1.0	ć	ć	ć	ć	ė.	<u> </u>
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
8.11	Environmental Mitigation		LS	\$ -	\$ -	Ÿ	\$ -		\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 184	\$ 184	\$ 184	
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	•
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ 280,000	\$ -	\$ 280,000	
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	т
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
		_	LS	-	\$ -	\$ -	s -	\$ -	\$ -
8.17	Carrying Charges						'		•
8.17 8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17 8.18 8.19						\$ - \$ 61	\$ - \$ 61 \$ 11,210		\$ 61

NextEra T022 (Segment B) H. North Churchtown Substation - Install

6		Total:	\$ 18,595,643	
NextEra T022 (Segm	ent B)			
		Supply	Installation	Total
H. North Churchtown Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	941,645	\$ 2,992,813	\$ 3,934,458
2. SUBSTATION FOUNDATIONS	\$	1,001,293	\$ 1,078,700	\$ 2,079,993
3. SUBSTATION STRUCTURES	\$	260,000	\$ 432,345	\$ 864,690
4. MAJOR EQUIPTMENT	\$	260,000	\$ 300,000	\$ 560,000
5. SMALL EQUIPTMENT / MATERIALS	\$	1,168,800	\$ 785,800	\$ 1,954,600
6. CONTROL HOUSE / PANELS	\$	1,962,850	\$ 1,310,350	\$ 3,273,200
7. MISC ITEMS	\$	972,988	\$ 1,257,365	\$ 2,230,353
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	539,194	\$ 3,159,155	\$ 3,698,349
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	7,106,770	\$ 11,316,528	\$ 18,595,643
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	7,106,770	\$ 11,316,528	\$ 18,595,643

escr)	ipti	ion	of	W	or	k:
-------	------	-----	----	---	----	----

Estimate Revision:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
H. North	Churchtown Substation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	2.125	ACRES	\$ -	\$ -	\$ 660,000	\$ 1,402,500	\$ 660,000	\$ 1,402,500
1.2	Station stone within substation fence.	1,000	CY	\$ 27					
1.3	Substation Fence	1,100	LF	\$ 100				\$ 200	
1.4	Permanent Access Road - 20'-Wide	740	LF	\$ 35				\$ 320	
1.5	Retaining Wall (1035' x Avg. of 7.15')	1	LS	\$ 313,823				\$ 799,036	
1.6	Compacted Fill (Sand)	27,143	CY	\$ 17	\$ 461,423	\$ 20	\$ 542,850	\$ 37	\$ 1,004,273
1.7									
1.8	Pavement	2,900	SY	\$ -	<u> </u>	\$ 55			,
1.9	Gates	1	EA	\$ 2,000	\$ 2,000			\$ 4,500	
1.10	Culverts / Misc. Access	2	EA	\$ 750	\$ 1,500			\$ 2,000	
1.11	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE F	REP/ GRADING/ FENCING / CIVIL				\$ 941,645		\$ 2,992,813		\$ 3,934,458
2. SUBSTATIO	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ 14,940	\$ -	\$ 16,000		\$ 30,940	
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,025	\$ -	\$ 60,000		\$ 116,025	
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 26,145		\$ 28,000		\$ 54,145	
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,145	\$ -	\$ 28,000		\$ 54,145	
2.1e	Switch Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800		\$ 9,282	
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ 4,482	\$ -	\$ 4,800	'	\$ 9,282	
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ 4,482	\$ -	, , , , , , , , , , , , , , , , , , , ,		\$ 9,282	
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ 4,482	\$ -	,		\$ 9,282	
2.1k	Arrester Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800		\$ 9,282	
2.1m	Wave Trap Stand Foundations	0	EA	\$ 4,482	\$ -	, , , , , , , , , , , , , , , , , , , ,		\$ 9,282	
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
									Page 22 of 42

Item	Item Description	Estimated Quantity	Unit of Measure	Matarial Cumply Bata	Material Supply Cost	Labor & Equipment	Labor & Equipment	Total Unit Rate	TOTAL
item	item Description	Estimated Quantity	Onit of Measure	Material Supply Rate	Material Supply Cost	Supply Rate	Cost	Total Onit Rate	TOTAL
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000		\$ 7,735	
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -			\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000		\$ 7,735	
2.2j 2.2k	Instrument Transformer Stand Foundations Arrester Stand Foundations	0	EA EA	\$ 3,735 \$ 3,735	\$ - \$ -	\$ 4,000 \$ 4,000		\$ 7,735 \$ 7,735	
2.2K 2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ - \$ -	\$ 4,000		\$ 7,735	
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -		. ,	\$ -
2.2p				7	*	T	•	,	*
2.3	115kV								
2.3a	Circuit Breaker Foundations	5	EA	\$ 5,229	\$ 26,145	\$ 5,600	\$ 28,000	\$ 10,829	\$ 54,145
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	8	EA	\$ 16,434	\$ 131,472		. , ,	\$ 34,034	·
2.3d	Caisson DE Foundations (for DE A frame str shared column)	24	EA	\$ 16,434	\$ 394,416			\$ 34,034	· · · · · · · · · · · · · · · · · · ·
2.3e	Switch Stand Foundations	28	EA	\$ 2,988	\$ 83,664			\$ 6,188	
2.3f	Fuse Stand Foundations	2	EA	\$ 2,988 \$ 2.988	\$ 5,976			\$ 6,188	
2.3g 2.3h	Bus Support 3ph Foundations Bus Support 1 Ph Foundations	14 15	EA EA	\$ 2,988 \$ 2,988	\$ 41,832 \$ 44,820		,		\$ 86,632 \$ 92,820
2.3ii 2.3j	Instrument Transformer Stand Foundations	45	EA	\$ 2,988	\$ 134,460			\$ 6,188	
2.3k	Arrester Stand Foundations	15	EA	\$ 2,988	\$ 44,820			\$ 6,188	
2.3m	Wave Trap Stand Foundations	10	EA	\$ 2,988	\$ 29,880			\$ 6,188	
2.3n	Station Service Foundations	1	EA	\$ 3,735	\$ 3,735		\$ 4,000	\$ 7,735	
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -			\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ 33,615	\$ 33,615				\$ 69,615
2.5b	Generator Foundation	1		\$ 16,000 \$ -	\$ 16,000	\$ 17,000	, , , , , , , , , , , , , , , , , , , ,		\$ 33,000
2.5c 2.6	Station Service Distribution Line - 1ph. Lightning Mast Foundations	1	LS	\$ -	\$ -	\$ 6,500	\$ 6,500	\$ 6,500	\$ 6,500
2.6a	70' Lightning Mast Foundation	2	EA	\$ 5,229	\$ 10,458	\$ 5,600	\$ 11,200	\$ 10,829	\$ 21,658
2.6b	70 Lightning Wast Foundation	0	EA	\$ -	\$ -	\$ -	. , ,		\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
TOTAL - SUBS	TATION FOUNDATIONS				\$ 1,001,293		\$ 1,078,700		\$ 2,079,993
3. SUBSTATIO	N STRUCTURES				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, , , , , ,		, , , , , , , , , , , , , , , , , , , ,
3.1	345kV				•				
3.1a	Substation A Frame Structures - Stand alone	0		\$ 37,000	\$ -			\$ 74,000	
3.1b 3.1c	Substation A-Frame Structures - Shared Column Switch Stands	0	EA EA	\$ 37,000 \$ 14,800	\$ - \$ -	\$ 37,000 \$ 14,800		\$ 74,000 \$ 29,600	
3.1d	Station Service Transformer Stand	0	EA	\$ 14,800	\$ -			\$ 29,600	
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -		,	\$ -
3.1f	Bus Support 1 Ph	0	EA	\$ 3,700	\$ -	\$ 3,700		\$ 7,400	
3.1g	Instrument Transformer Stand	0	EA	\$ 1,850	\$ -	\$ 1,850		\$ 3,700	
3.1h	Arrester Stand	0	EA	\$ 1,850	\$ -	\$ 1,850			\$ -
3.1j	Wave Trap Stand	0	EA	\$ 7,400	\$ -	\$ 7,400			\$ -
3.1k	Lightning Masts - 70'	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0		\$ 33,300		\$ 33,300		\$ 66,600	•
3.2b	Substation A-Frame Structures - Shared Column	0				\$ 33,300		\$ 66,600	
3.2c 3.2d	Switch Stands Station Service Transformer Stand	0		\$ 12,025 \$ 12,025	\$ - \$ -	\$ 12,025 \$ 12,025		\$ 24,050 \$ 24,050	
3.2e	Bus Support 3ph	0		\$ 12,025	\$ -			\$ 1,078,700	
3.2f	Bus Support 1 Ph	0	EA	\$ 2,775	\$ -	\$ 2,775		\$ 5,550	
3.2g	Instrument Transformer Stand	0		\$ 1,295	\$ -			\$ 2,590	
3.2h 3.2j	Arrester Stand Wave Trap Stand	0		\$ 1,295 \$ 5,550		\$ 1,295 \$ 5,550		\$ 2,590 \$ 11,100	

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	2	EA	\$ 18,500	\$ 37,000	\$ 18,500	\$ 37,000	\$ 37,000	\$ 74,000
3.3b	Substation A-Frame Structures - Shared Column	8	EA	\$ 18,500	\$ 148,000		. ,	. ,	\$ 296,000
			EA						
3.3c	Switch Stands	14		. ,	\$ 111,370			\$ 15,910	
3.3d	Fuse Stand	1		\$ 7,955	\$ 7,955			\$ 15,910	\$ 15,910
3.3e 3.3f	Bus Support 3ph Bus Support 1 Ph	7 15	EA EA	\$ 3,330 \$ 1,850	\$ 23,310 \$ 27,750			\$ 6,660 \$ 3,700	\$ 46,620 \$ 55,500
3.3g	Instrument Transformer Stand	45	EA	\$ 1,830	\$ 27,750			\$ 3,700	\$ 66,600
3.3h	Arrester Stand	15	EA	\$ 740	\$ 11,100			\$ 1,480	\$ 22,200
3.3j	Wave Trap Stand	5	EA	\$ 3,700	\$ 18,500				
3.3k	Lightning Mast	2	EA	\$ 6,475	\$ 12,950	\$ 6,475	\$ 12,950	\$ 12,950	\$ 25,900
3.31	Station Service Transformer Support Stand	1	EA	\$ 1,110	\$ 1,110	\$ 1,110	, .	\$ 2,220	
	TATION STRUCTURES				\$ 432,345		\$ 432,345		\$ 864,690
4. MAJOR EQU									
4.1 4.1a	345kV Circuit Breakers	0	EA	\$ 200,000	Ċ	\$ 80,000	\$ -	\$ 280,000	ć
4.1a 4.1b	Capacitor Banks	0	EA EA	\$ 200,000	\$ - \$ -	\$ 80,000		\$ 280,000	\$ - \$ -
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000		\$ 750,000	
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -			\$ 750,000	
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ 115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV	-	EA.	ć 53,000	¢ 250,000	ć 50,000	ć 200.000	ć 443.000	ć 500.000
4.3a 4.3b	Circuit Breakers Capacitor Banks	5 0	EA EA	\$ 52,000 \$ -	\$ 260,000 \$ -	\$ 60,000 \$ 60,000	,	\$ 112,000 \$ 60,000	\$ 560,000 \$ -
4.30	Capacitor Banks	0	LA	,	-	3 00,000	,	ý 00,000	*
TOTAL - MAJO	DR EQUIPTMENT				\$ 260,000		\$ 300,000		\$ 560,000
5. SMALL EQU	IIPTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ 40,000	\$ -	\$ 15,000			\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 35,000	\$ -	\$ 17,500		\$ 52,500	
5.1c 5.1d	VT'S CT'S	0	EA EA	\$ 25,000 \$ 13,000	\$ -	\$ 12,000 \$ 8,000		\$ 37,000 \$ 21,000	
5.1u 5.1e	CCVT'S	0	EA	\$ 13,000	\$ - \$ -	\$ 8,000 \$ 8,000		\$ 21,000	
5.1f	Arresters	0	EA	\$ 6,500	\$ -	\$ 1,500		\$ 8,000	
5.1g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000		\$ 21,000	
5.1h	Station Service Transformers	0	EA	\$ 200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.2	230kV		F.A.	¢ 25.000	<u>^</u>	¢ 45.000	ć	ć 50.000	^
5.2a 5.2b	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	0	EA EA	\$ 35,000 \$ 30,000	\$ -	\$ 15,000 \$ 17,500		\$ 50,000 \$ 47,500	\$ - \$ -
5.20 5.2c	VT'S	0	EA	\$ 30,000	\$ -			\$ 47,500	
5.2d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000		\$ 21,000	
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -			\$ 16,000	
5.2f	Arresters	0	EA	\$ 5,000	\$ -	\$ 6,000		\$ 11,000	
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000		\$ 21,000	\$ -
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV								
		5	EA	\$ 33,000	\$ 165,000			\$ 48,000	
5.3a	Line Switches - 3ph w/ motor operator			\$ 28,000	\$ 280,000	\$ 17,500	\$ 175,000	\$ 45,500	\$ 455,000
5.3b	Disconnect Switches - 3ph w/ manual operator	10			ć 105.555	ć	ė	A	A
5.3b 5.3c	Disconnect Switches - 3ph w/ manual operator VT'S	15	EA	\$ 13,000					
5.3b 5.3c 5.3d	Disconnect Switches - 3ph w/ manual operator VT'S CT'S	15 15	EA EA	\$ 13,000 \$ 13,000	\$ 195,000	\$ 8,000	\$ 120,000	\$ 21,000	\$ 315,000
5.3b 5.3c 5.3d 5.3e	Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S	15 15 15	EA EA EA	\$ 13,000 \$ 13,000 \$ 8,000	\$ 195,000 \$ 120,000	\$ 8,000 \$ 8,000	\$ 120,000 \$ 120,000	\$ 21,000 \$ 16,000	\$ 315,000 \$ 240,000
5.3b 5.3c 5.3d	Disconnect Switches - 3ph w/ manual operator VT'S CT'S	15 15	EA EA EA	\$ 13,000 \$ 13,000	\$ 195,000	\$ 8,000 \$ 8,000 \$ 6,000	\$ 120,000 \$ 120,000 \$ 90,000	\$ 21,000 \$ 16,000 \$ 9,420	\$ 315,000 \$ 240,000 \$ 141,300

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.3j	Fuses	3	EA	\$ 7,500	\$ 22,500	\$ 3,600	\$ 10,800	\$ 11,100	\$ 33,300
							4		
	LEQUIPTMENT / MATERIALS				\$ 1,168,800		\$ 785,800		\$ 1,954,600
	OUSE / PANELS / GENERATOR	1		ć 202 F00	ć 202.500	¢ 05,000	ć 05.000	ć 277.F00	ć 277 F00
6.1	CONTROL HOUSE	1	EA	\$ 292,500	\$ 292,500	\$ 85,000	\$ 85,000	\$ 377,500	\$ 377,500
6.2	Protection and Telecom Equipment Panels	23	EA	\$ 35,000	\$ 805,000	\$ 10,000	\$ 230,000	\$ 45,000	\$ 1,035,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,000
6.4	Control Cables	1	LS	\$ 350,350	\$ 350,350		\$ 350,350	\$ 700,700	\$ 700,700
6.5	SCADA and Communications	1		\$ 50,000	\$ 50,000			\$ 150,000	
6.6	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000			\$ 150,000	
	DC Distribution System	2		\$ 50,000	\$ 100,000		\$ 200,000	\$ 150,000	
	Security	1	EA	\$ 7,500				\$ 15,000	
	Fire Alarm	1	EA	\$ 7,500	\$ 7,500		\$ 7,500	\$ 15,000	\$ 15,000
6.10	Generator	1	EA	\$ 100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$ 180,000
	DOLLAR ADAMS A CONTRACTOR				4				
	ROL HOUSE / PANELS / GENERATOR				\$ 1,962,850		\$ 1,310,350		\$ 3,273,200
7. MISC ITEMS			, <u>.</u>						
7.1	Conduit & Cable Trench System	1,500.0	LF	\$ 185.00	\$ 277,500	\$ 170.00	\$ 255,000	\$ 355	\$ 532,500
7.2	Rigid Bus, Fittings & Insulators	900.0	LF	\$ 125.07	\$ 112,563	\$ 237.10	\$ 213,390	\$ 362	\$ 325,953
7.3	Strain Bus, Connectors & Insulators	1,500.0	LF	\$ 39.30	\$ 58,950	\$ 53.35	\$ 80,025	\$ 93	\$ 138,975
7.4	Grounding System	7,500.0	LF	\$ 6.93	\$ 51,975		· ·	\$ 40	,
7.5	Strain Bus Insulators - 345kV	0		\$ 2,000	\$ -		\$ -	\$ 3,050	
7.6	Strain Bus Insulators - 230kV	0	EA	\$ 1,400	\$ -		\$ -	\$ 2,150	
7.7	Strain Bus Insulators - 115kV	72	EA	\$ 1,000	\$ 72,000			\$ 1,550	
7.8	Low Voltage AC Station Service	1	LS	\$ 50,000	\$ 50,000		\$ 75,000	\$ 125,000	
	SSVT Service	1		\$ 45,000	\$ 45,000		\$ 45,000	\$ 90,000	
7.10	Control Conduits from Trench to Equipment	1	LS	\$ 125,000	\$ 125,000		\$ 125,000	\$ 250,000	
	Misc. Materials (Above and Below Ground)	1	LS	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$ 360,000
7.12									
7.13			 						
7.14 7.15						 			
7.15									
7.10						+			
7.17				+		-			
7.19				+		+			
7.20				 					
7.21									
7.22				 		 			
7.23				 		 			
7.24				 					
7.25			ĺ			1			
TOTAL - MISC	ITEMS				\$ 972,988		\$ 1,257,365		\$ 2,230,353
H North	Churchtown Substation - Install				\$ 6,739,921		\$ 8,157,373		\$ 14,897,294
					0,755,521		0,137,373		7 14,037,294
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
8.1	Contractor Mobilization / Demobilization Mob / Demob	1.0	LS	\$ -	\$ -	\$ 148,973	\$ 148,973	\$ 148,973	\$ 148,973
0.1	Project Management, Material Handling & Amenities	1.0	LS	\$ -		٦ 146,973	<i>ξ</i> 146,973	۶ 148,973	3 148,973
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 926,150	\$ 926,150	\$ 926,150	\$ 926,150
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 148,973	\$ 148,973	\$ 148,973	\$ 148,973
	Site Accommodation, Facilities, Storage	1		\$ -	\$ -	\$ 148,973			
	Engineering					, ,	, 1	, , ,	
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,191,784	\$ 1,191,784	\$ 1,191,784	\$ 1,191,784
			LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Lidar			- '	1.7	ا	Y	- ب	-
8.6	Geotech	4		\$ -	\$ -				

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply	Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ 372,432	\$ 372,432	\$ 372,432	\$ 372,432
	Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation		LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 44,692	\$ 44,692	\$ 44,692	\$ 44,692
8.13	Real Estate Costs (New)		LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$	-	\$ 44,000	\$ 44,000	\$ 44,000	\$ 44,000
8.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.17	Carrying Charges	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 539,194	\$ 539	,194	\$ -	\$ -	\$ 539,194	\$ 539,194
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 14,897	\$ 14,897	\$ 14,897	\$ 14,897
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 539	,194		\$ 3,159,155		\$ 3,698,349

Page 26 of 42
H. SS North Churchtown-Install

NextEra T022 (Segment B) J. Pleasant Valley Substation - Install Total: \$ 3,526,235

NextEra TO2	2 (Segment B)					
		Supply		Installation		Total
J. Pleasant Valley Substation - Install						
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	11,025	\$	14,625	\$	25,650
2. SUBSTATION FOUNDATIONS	\$	161,177	\$	171,300	\$	332,477
3. SUBSTATION STRUCTURES	\$	44,400	\$	44,400	\$	88,800
4. MAJOR EQUIPTMENT	\$	200,000	\$	80,000	\$	280,000
5. SMALL EQUIPTMENT / MATERIALS	\$	260,500	\$	129,000	\$	389,500
6. CONTROL HOUSE / PANELS	\$	560,900	\$	253,400	\$	814,300
7. MISC ITEMS	\$	409,950	\$	457,275	\$	867,225
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	131,836	\$	596,447	\$	728,283
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	1,779,788	\$	1,746,447	\$	3,526,235
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL	ć	1 770 700	4	1 746 447	ć	2 526 225

			ork:

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
J. Pleasa	nt Valley Substation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 230,000	\$ -	\$ 230,000	\$ -
1.2	Station stone within substation fence.	75	CY		\$ 2,025			\$ 102	
1.3	Substation Fence	90	LF	\$ 100				\$ 200	
1.4	Permanent Access Road - 20'-Wide	0	LF	\$ 35	\$ -	\$ 285	\$ -	\$ 320	\$ -
1.5									
1.6									
1.7									
1.8									
1.10									
1.10									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ 11,025		\$ 14,625		\$ 25,650
	FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	1	EA	\$ 14,940	\$ 14,940	\$ 16,000	\$ 16,000	\$ 30,940	\$ 30,940
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,145		\$ 28,000		\$ 54,145	
2.1e	Switch Stand Foundations	6	EA	\$ 4,482				\$ 9,282	
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ 4,482	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 9,282	
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ 4,482	<u> </u>		\$ -	\$ 9,282	
2.1j	Instrument Transformer Stand Foundations	9	EA	\$ 4,482				\$ 9,282	
2.1k	Arrester Stand Foundations	3	EA	\$ 4,482	<u> </u>			\$ 9,282	
2.1m	Wave Trap Stand Foundations	1	EA	\$ 4,482			\$ 4,800	\$ 9,282	. ,
2.1n 2.1p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -

Page 27 of 42

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2g	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	•	\$ -
2.2h	Bus Support 1 Ph Foundations	0		\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2j	Instrument Transformer Stand Foundations	0		\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2m	Wave Trap Stand Foundations	0		\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0		\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0		\$ 16,434	\$ -		\$ -	\$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3k	Arrester Stand Foundations	0		\$ 2,988	\$ -		\$ -	\$ 6,188	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p									
2.4	Transformer Foundations								
2.4			F.4	07.440	A	404000	4	Å 204.440	4
2.4a	345-230kV Transformer Foundation w/ Oil Containment 345-115kV Transformer Foundation w/ Oil Containment	0		\$ 97,110	\$ - \$ -	\$ 104,000	\$ -	\$ 201,110	
2.4b	·	0		\$ 74,700 \$ -	\$ - \$ -		\$ - \$ -	\$ 154,700 \$ -	
2.4c 2.4d	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA EA	7	T .	Ÿ	T	Ť.	\$ - \$ -
2.40	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	-
2.5	Control House Foundations / Pad								
2.5a	Control House Addition Foundation (25-ft x 50-ft)	1	EA	\$ 61,079	\$ 61,079	,	\$ 64,100	\$ 125,179	
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TATION FOUNDATIONS				\$ 161,177		\$ 171,300		\$ 332,477
	N STRUCTURES								
3.1	345kV				-	4		4	4
3.1a	Substation A-Frame Structures - Stand alone	0		\$ 37,000 \$ 37,000	\$ -	\$ 37,000 \$ 37,000	\$ - \$ -	\$ 74,000 \$ 74,000	\$ - \$ -
3.1b 3.1c	Substation A-Frame Structures - Shared Column Switch Stands	1		\$ 37,000 \$ 14,800	\$ 14,800		\$ -	\$ 74,000	
3.1c 3.1d	Station Service Transformer Stand	0		\$ 14,800	\$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600	\$ 29,600
3.1e	Bus Support 3ph	0		\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 25,000	\$ -
3.1f	Bus Support 1 Ph	0	EA	\$ 3,700	\$ -		\$ -	\$ 7,400	
3.1g	Instrument Transformer Stand	9		\$ 1,850	\$ 16,650	1 -,	\$ 16,650	\$ 3,700	
3.1h	Arrester Stand	3		\$ 1,850	\$ 5,550			\$ 3,700	
3.1j	Wave Trap Stand	1		\$ 7,400	\$ 7,400		\$ 7,400	\$ 14,800	\$ 14,800
3.1k	Misc. Structures	0		\$ 6,475	\$ -		\$ -	\$ 12,950	
3.2	230kV				-				
3.2a	Substation A-Frame Structures - Stand alone	0		\$ 33,300	\$ -	\$ 33,300		\$ 66,600	
3.2b	Substation A-Frame Structures - Shared Column	0		1		\$ 33,300		\$ 66,600	
3.2c	Switch Stands	0		\$ 12,025		\$ 12,025		\$ 24,050	
3.2d	Station Service Transformer Stand	0		\$ 12,025		\$ 12,025		\$ 24,050	
3.2e	Bus Support 3 Ph	0		\$ -			\$ -		\$ -
3.2f	Bus Support 1 Ph Instrument Transformer Stand	0		\$ 2,775		\$ 2,775		\$ 5,550 \$ 2,590	
3.2g 3.2h	Arrester Stand	0		\$ 1,295 \$ 1,295	\$ -	\$ 1,295 \$ 1,295		\$ 2,590 \$ 2,590	
3.2n 3.2j	Wave Trap Stand	0		\$ 1,295				\$ 2,590	
J.2J	evave map statiu		L.M.	الادرد ب	-	الادرد ب	-	y 11,100	D 20 C

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV			4	•	4		4	
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -		\$ -	\$ 37,000	
3.3b 3.3c	Substation A-Frame Structures - Shared Column Switch Stands	0	EA EA	\$ 18,500 \$ 7,955	\$ - \$ -		\$ - \$ -	\$ 37,000 \$ 15,910	
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -		\$ -	\$ 15,910	
3.3e	Bus Support 3ph	0	EA	\$ 3,330	\$ -	\$ 3,330		\$ 6,660	
3.3f	Bus Support 1 Ph	0		\$ 1,850	\$ -		\$ -	\$ 3,700	
3.3g	Instrument Transformer Stand	0		\$ 740	\$ -	\$ 740		\$ 1,480	
3.3h	Arrester Stand	0	EA	\$ 740	\$ -		\$ -	\$ 1,480	
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
	TATION STRUCTURES				\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQU									
4.1 4.1a	345kV Circuit Breakers	1	EA	\$ 200,000	\$ 200,000	\$ 80,000	\$ 80,000	\$ 280,000	\$ 280,000
4.1a 4.1b	Capacitor Banks - W/ Center Tap VT and Reactors	0		\$ 200,000	\$ 200,000		\$ 60,000	\$ 450,000	\$ 280,000
4.1b	Circuit Breakers - Cap Switching	0	EA	\$ 220,000	\$ -	\$ 750,000	\$ -	\$ 970,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -		\$ -	\$ 750,000	
4.2	230kV	- i							
4.2a	Circuit Breakers	0	EA	\$ 115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 52,000	\$ -	\$ 60,000	\$ -	\$ 112,000	
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL MANG	DR EQUIPTMENT				¢ 200,000		\$ 80,000		ć 200.000
	JIPTMENT / MATERIALS				\$ 200,000		\$ 80,000		\$ 280,000
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	1	EA	\$ 40,000	\$ 40,000	\$ 15,000	\$ 15,000	\$ 55,000	\$ 55,000
5.1b	Disconnect Switches - 3ph w/ manual operator	1		\$ 35,000	\$ 35,000		\$ 17,500		\$ 52,500
5.1c	VT'S	3	EA	\$ 25,000	\$ 75,000	\$ 12,000	\$ 36,000	\$ 37,000	\$ 111,000
5.1d	CT'S	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1e	CCVT'S	3	EA	\$ 13,000	\$ 39,000		\$ 24,000	\$ 21,000	
5.1f	Arresters	3			ć 10 F00	\$ 1,500			
5.1g	Wave Traps		EA	\$ 6,500	\$ 19,500		\$ 4,500	\$ 8,000	\$ 24,000
5.1h		1	EA	\$ 13,000	\$ 13,000	\$ 8,000	\$ 8,000	\$ 21,000	\$ 21,000
F 11	Station Service Transformers					\$ 8,000			\$ 21,000
5.1j	Station Service Transformers	1	EA	\$ 13,000	\$ 13,000	\$ 8,000	\$ 8,000	\$ 21,000	\$ 21,000
		1	EA	\$ 13,000	\$ 13,000	\$ 8,000	\$ 8,000	\$ 21,000	\$ 21,000
5.2	230kV	1 0	EA EA	\$ 13,000 \$ 200,000	\$ 13,000	\$ 8,000 \$ 50,000	\$ 8,000	\$ 21,000 \$ 250,000	\$ 21,000 \$ -
		1	EA EA	\$ 13,000 \$ 200,000	\$ 13,000	\$ 8,000 \$ 50,000	\$ 8,000	\$ 21,000	\$ 21,000 \$ -
5.2 5.2a	230kV Line Switches - 3ph w/ motor operator	0	EA EA	\$ 13,000 \$ 200,000 \$ \$ 35,000	\$ 13,000 \$ - \$	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500	\$ 8,000 \$ - \$	\$ 21,000 \$ 250,000 \$ \$ 50,000	\$ 21,000 \$ - \$ \$ \$ - \$ -
5.2 5.2a 5.2b	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	0 0	EA EA EA EA EA	\$ 13,000 \$ 200,000 \$ \$ 35,000 \$ 30,000	\$ 13,000 \$ - \$ - \$ -	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000	\$ 8,000 \$ - \$ \$ - \$ -	\$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500	\$ 21,000 \$ - \$ - \$ - \$ - \$ -
5.2 5.2a 5.2b 5.2c 5.2d 5.2e	Z30kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S	0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 250,000 \$ 50,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters	0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 250,000 \$ 50,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2g	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ 13,000	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ 5 - \$	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ 5	\$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 -
5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters	0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 250,000 \$ 50,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2g	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ 13,000	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ 5 - \$	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ 5	\$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 -
5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ 13,000	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ 5 - \$	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ 5	\$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 -
5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 10,000 \$ 10,000 \$ 5,000 \$ 13,000 \$ 5,000 \$ 5,000 \$ 13,000	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ -	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5	\$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 11,000 \$ 11,000 \$ 21,000 \$ -	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2f 5.2g 5.2h 5.2j	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator	1 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ 13,000 \$ 5,000 \$ 5,000 \$ 13,000 \$ 5,000 \$ 13,000	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ 7	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$ -	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	1 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 13,000 \$ - \$ 13,000 \$ 5,000 \$ 13,000 \$ 28,000	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 7.500 \$ 15,000 \$ 15,000	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 11,000 \$ 11,000 \$ - \$ - \$ 21,000 \$ 47,500 \$ 48,000 \$ 48,000 \$ 45,500	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2 5.2a 5.2b 5.2c 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3c	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 13,000 \$ 5,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ 7 15,000 \$ 15,000 \$ 8,000 \$ 8,000	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 11,000 \$ 11,000 \$ - \$ - \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	1 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 5,000 \$ \$ 5,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 7.500 \$ 15,000 \$ 15,000	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 11,000 \$ 11,000 \$ - \$ - \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2 5.2a 5.2b 5.2c 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3a 5.3a 5.3a 5.3c 5.3d	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CT'S	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ 5,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 6,000 \$ 7.500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 11,000 \$ 11,000 \$ - \$ - \$ - \$ 48,000 \$ 45,500 \$ 21,000	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3a 5.3a 5.3a 5.3c 5.3d 5.3c	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 13,000 \$ - \$ 13,000 \$ - \$ 33,000 \$ 33,000 \$ 34,000 \$ 13,000 \$ 13,000	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 15,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 11,000 \$ 11,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 48,500 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3a 5.3a 5.3a 5.3c 5.3d 5.3c 5.3d	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CC'S CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 5,000 \$ 5,000 \$ 13,000 \$ 5,000 \$ 5	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 7 15,000 \$ 17,500 \$ 17,	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 11,000 \$ 11,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 45,500 \$ 21,000 \$ 21,000 \$ 3 21,000 \$ 3 3,500 \$ 3 3,500 \$ 3 3,500 \$ 3 4,500 \$ 4 4,500 \$ 5 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3c 5.3d 5.3c	230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 13,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 13,000 \$ - \$ 13,000 \$ - \$ 33,000 \$ 33,000 \$ 34,000 \$ 13,000 \$ 13,000	\$ 13,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 8,000 \$ 50,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 7 15,000 \$ 17,500 \$ 17,	\$ 8,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 21,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 11,000 \$ 11,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 45,500 \$ 21,000 \$ 21,000 \$ 3 21,000 \$ 3 3,500 \$ 3 3,500 \$ 3 3,500 \$ 3 4,500 \$ 4 4,500 \$ 5 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$ 5 5 6,500 \$	\$ 21,000 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
						,			
	L EQUIPTMENT / MATERIALS				\$ 260,500		\$ 129,000		\$ 389,50
	OUSE / PANELS / GENERATOR	4	F.A.	ć 225.000	ć 225.000	ć 05.000	ć 05.000	ć 440.000	¢ 440.00
6.1	CONTROL HOUSE Addition (25-ft x 50-ft)	1	EA	\$ 325,000	\$ 325,000	\$ 85,000	\$ 85,000	\$ 410,000	\$ 410,00
6.2	Protection and Telecom Equipment Panels	3	EA	\$ 35,000	\$ 105,000	\$ 12,500	\$ 37,500	\$ 47,500	\$ 142,50
6.3	125VDC Batteries	0	EA	\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	Control Cables	1	LS	\$ 130,900	\$ 130,900	\$ 130,900	\$ 130,900	\$ 261,800	\$ 261,80
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0		\$ 50,000	\$ -	\$ 100,000		\$ 150,000	\$ -
6.7	DC Distribution System	0	EA	\$ 50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$ -
6.8	Security	0	EA	\$ 7,500	\$ -			\$ 15,000	
6.9	Fire Alarm	0	EA	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.10	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	
		_		7 200,000	*	+	*	+ ====,===	*
TOTAL - CONT	ROL HOUSE / PANELS / GENERATOR				\$ 560,900		\$ 253,400		\$ 814,30
7. MISC ITEMS					,		, 50		.,,,,
7.1	Conduit & Cable Trench System	800	LF	\$ 185.00	\$ 148,000	\$ 170.00	\$ 136,000	\$ 355	\$ 284,00
7.2	Rigid Bus, Fittings & Insulators	0	LF	\$ 125.07	\$ -	\$ 237.10		\$ 362	
					· ·				
7.3	Strain Bus, Connectors & Insulators	2,500	LF	\$ 13.38	\$ 33,450		\$ 98,375	\$ 53	,
7.4	Grounding System	0	LF	\$ 6.93	\$ -	\$ 32.58	\$ -	\$ 40	\$ -
7.5	Strain Bus Insulators - 345kV	38	EA	\$ 2,000	\$ 76,000	\$ 1,050	\$ 39,900	\$ 3,050	\$ 115,90
7.6	Strain Bus Insulators - 230kV	0	EA	\$ 1,400	\$ -			\$ 2,150	
7.7	Strain Bus Insulators - 115kV	0	EA	\$ 1,000	\$ -	\$ 550		\$ 1,550	
7.8	Low Voltage AC Station Service	0	LS	\$ 50,000	\$ -	\$ 75,000	\$ -	\$ 125,000	
7.9	SSVT Service	0	LS	\$ 45,000	\$ -		\$ -	\$ 90,000	
7.10		1	LS	\$ 62,500	\$ 62,500	\$ 75,000	\$ 75,000	\$ 137,500	
	Control Conduits from Trench to Equipment		LS					\$ 198,000	
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$ 90,000	\$ 90,000	\$ 108,000	\$ 108,000	\$ 198,000	\$ 198,00
7.12									
7.13									
7.14									
7.15									
7.16									
7.17									
7.18									
7.19									
7.20									
7.21									
7.22									
7.23									
7.24									
7.25									
TOTAL - MISC	ITEMS				\$ 409,950		\$ 457,275		\$ 867,23
I Pleasa	nt Valley Substation - Install				\$ 1,647,952		\$ 1,150,000		\$ 2,797,9
	-				1,047,332		1,130,000		2,737,3
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
<u> </u>	Contractor Mobilization / Demobilization					4	4 4		
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 27,980	\$ 27,980	\$ 27,980	\$ 27,98
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 173,946	\$ 173,946	\$ 173,946	\$ 173,94
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 27,980	\$ 27,980	\$ 27,980	\$ 27,98
8.4	Site Accommodation, Facilities, Storage	1		\$ -		\$ 27,980			
	Engineering	-				. 27,500	. 27,500	. 2,,500	
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 223,836	\$ 223,836	\$ 223,836	\$ 223,83
8.6	LiDAR	-	LS		\$ -			\$ 223,830	
8.7									
	Geotech Supraving (Staking	4							
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 19,586	\$ 19,586	\$ 19,586	\$ 19,58
L	Testing & Commissioning				_				
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 69,949	\$ 69,949	\$ 69,949	\$ 69,94
	Permitting and Additional Costs								

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supp	ly Rate	Material Supply Cost	Labor & Equipment Supply Rate			TOTAL
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 8,394	\$ 8,394	\$ 8,394	\$ 8,394
8.13	Real Estate Costs (New)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.17	Carrying Charges	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 1	31,836	\$ 131,836	\$ -	\$ -	\$ 131,836	\$ 131,836
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 2,798	\$ 2,798	\$ 2,798	\$ 2,798
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 131,836		\$ 596,447		\$ 728,283

Page 31 of 42

J. SS Pleasant Valley-Install

NextEra T022 (Segment B) Interconnection Knickerbocker Station

Estimate Revision: 6 Total: \$ 1,826,890

NextEra T022 (Segment B)										
		Supply	lr	nstallation		Total				
L. Interconnection Knickerbocker Station										
1. CLEARING & ACCESS	\$	-	\$	436,850	\$	436,850				
2. FOUNDATIONS	\$	238,638	\$	241,194	\$	479,832				
3. STRUCTURES	\$	313,836	\$	219,711	\$	533,547				
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$	-				
5. INSULATORS, FITTINGS, HARDWARE	\$	58,150	\$	26,466	\$	84,616				
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	48,850	\$	243,195	\$	292,045				
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-				
SUBTOTAL:	\$	659,474	\$	1,167,416	\$	1,826,890				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL:	Ś	659,474	Ś	1.167.416	Ś	1.826.890				

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
L. Interc	onnection Knickerbocker Station									
1. CLEARING 8	ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$	-	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000
1.3	Access Road	-	LF	\$	-	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	3,500.0	LF	\$	-	\$ -	\$ 4	\$ 14,000	\$ 4	\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$	-	\$ -	\$ 70	\$ 245,000	\$ 70	\$ 245,000
1.6	Matting - To Work Area	525.0	LF	\$	-	\$ -	\$ 70	\$ 36,750	\$ 70	\$ 36,750
1.7	Snow Removal	-	LS	\$	-	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	\$		\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.9	Work Pads	35,000.0	SF	\$	-	\$ -	\$ 4	\$ 123,200	\$ 4	\$ 123,200
1.10	Restoration for Work Pad areas	7,000.0	SF	\$	-	\$ -	\$ 0.2	\$ 1,050	\$ 0	\$ 1,050
1.11	Temporary Access Bridge	-	EA	\$	-	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$	-	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$	-	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$	-	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$ 2	,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$	750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18						\$ -		\$ -		\$ -
1.19						\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$	27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEAR	RING & ACCESS					\$ -		\$ 436,850		\$ 436,850
2. FOUNDATIO	DNS									
2.1	Drilled Pier - 345KV THREE POLE TAP, STEEL	2	Structures	\$ 119	,319	\$ 238,638	\$ 120,597	\$ 241,194	\$ 239,916	\$ 479,832
2.2										
2.3										
2.4										
2.5	Rock Excavation Adder	-	CY	\$	-	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.6						\$ -		\$ -		\$ -
2.7						\$ -		\$ -		\$ -

Page 32 of 42

2	ltem	item Description	Estimated Quantity	Unit of Measure	Material Supply		Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.20	2.8					\$			т		
271											•
2.72											·
2.33									•		
2.1											
STATE-CONTINUES						\$	-		\$ -		
31 346V 110 2 30 30 30 30 30 30 30	2.15					\$	-		\$ -		\$ -
31 36/05/ TREE POLIC TWO STEEL 2 Settatives 5 155,000 5 30,000 5	TOTAL - FOUN	DATIONS				\$	238,638		\$ 241,194		479,832
32	3. STRUCTURE	5									
3.1	3.1	345KV THREE POLE TAP, STEEL	2	Structure	\$ 155	,400 \$	310,800	\$ 93,240	\$ 186,480	\$ 248,640	\$ 497,280
3.4 multi-discovering and decounting Accessorates											
24 10 10 10 10 10 10 10 1											
1									<u>'</u>		
2.7		Install Grounding and Grounding Accessories	6	Pole	\$			\$ 5,539			
3.5					-						
3					 				·		
3.10					1	- 7					•
3.11											•
13.13									\$ -		•
3.14	3.12					\$	-		'		\$ -
S											•
CONDUCTORS NULLOWES, OFFICE									т		•
CONDUCTOR_SHELDWER, DROW									\$ -		
4.1 345W 1) 1/38/cml styl / ACSS* Curlew' . LF \$ 2.82 \$. \$. 5.00 \$. \$. 7.82 \$.	TOTAL - STRUC	TURES				\$	313,836		\$ 219,711		533,547
4.2 (1) 0 Few 26 - 53 - 357 - 5 5.00 5 5.05 5 5 - 4 4.5 6 6 6 6 6 6 6 6 6											
4.3 13/3/EPS7Steel -									т		
4.5 Remove Existing 115VC Zable From Existing Structures											
4.6 Remove Existing OFGW Cable - Mile S						-					•
A7 Remove Existing EH7						- + :					
## 1.1 SEW-1 (19-54 kmml 54/7 ACS5 "Cardinal"					-			T,	T	,	•
4.9					-	1.90 \$			•		
A.11 Rider Poles . EA \$ 1,750 \$. \$ 3,500 \$. \$ 5,250,00 \$ 5 .	4.9		-								
Sample S	4.10		-			- 7	-		\$ -		\$ -
Substance Subs			-	EA	\$ 1			\$ 3,500			
S						\$	-		\$ -		\$ -
Social Content of the Content of t				A secondalis	Ć 4	000 6		ć 720	ć	ć 2.530	*
5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 30 Assembly \$ 1,800 \$ 54,000 \$ 720 \$ 21,600 \$ 2,520 \$ 75,6 5 5,4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) - Assembly \$ 900 \$ - \$ 5,60 \$ - \$ 1,460 \$ - \$ 5,50 0 FOW Assembly - Tangelr DE - Assembly \$ 200 \$ - \$ 5,50 0 FOW Assembly - Angle / DE 2 Assembly \$ 200 \$ - \$ 300 \$ 400 \$ 8 1 Assembly \$ 200 \$ - \$ 300 \$ 400 \$ 8 1 Assembly \$ 200 \$ - \$ 300 \$ 400 \$ 8 8 - - \$ 5,10 \$ 300 \$ 400 \$ 8 8 - - \$ 5,10 5,10 5,10 \$ 300 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
5.4 115kV bead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) - Assembly 5 900 \$ - \$ 560 \$ - \$ 1,460 \$ 5 5 5 5 5 5 5 5 5					<u> </u>				7		•
5.5 OPGW Assembly - Tangent - Assembly \$ 200 \$ - \$ 150 \$ - \$ 350 \$ - \$ 5 5											
S.6 OPGW Assembly - Angle / DE									•		•
S.8 OHSW Assembly - Angle / DE			2		\$	250 \$	500	\$ 150	\$ 300	\$ 400	
5.9 OPGW Splice Boxes 1 Set \$ 1,750 \$ 1,746 \$ 3,496 \$ 3,44 5.10 OPGW Splice & Test 1 EA \$ 1,400 \$ 2,520 \$ 2,520 \$ 3,90									т		<u> </u>
S.10 OPGW Splice & Test 1 EA \$ 1,400 \$ 2,520 \$ 2,520 \$ 3,920 \$ 3,95 \$ 5,11 \$ \$ \$ \$ \$ \$ \$ \$ \$					-						·
S.11 Spacer - Conductor S.12 Vibration Dampers - Conductor S.12 Vibration Dampers - Conductor S.12 Vibration Dampers - Conductor S.13 Shieldwire / OPGW Dampers, Misc. Fittings S.14 Spacer - Conductor S.15 Spacer - Conductor S.16 Spacer - Conductor S.17 Spacer - Conductor S.18 Spacer - Conductor S.19 Spacer - Conductor S.19 Spacer - Conductor S.10 Spacer - Spacer										,	
5.12 Vibration Dampers - Conductor FA S 35 S S S S S S S S S											
5.13 Shieldwire / OPGW Dampers, Misc. Fittings - EA \$ 27 \$ - \$ 35 \$ - \$ 62 \$ - \$ 5.14 Guys, Anchors, and Accessories - EA \$ 720 \$ - \$ 885 \$ - \$ 1,605 \$ - - \$ 1,605 \$ - \$ 1,605 \$ - - \$ 1,605 \$ - \$ 1,776 \$ - \$ 1,776 \$ - \$ 1,776 \$ - \$ 1,776 \$ - \$ 1,776 \$ - \$ 1,776 \$ - \$ 1,776 \$ - \$ 1,776 \$ - \$ 1,776 \$ - \$ 1,776 \$ - \$ 1,776 \$ - \$ 1,777 \$ - \$ 1,777 \$ - - \$ 1,777 \$ - - \$ 1,777 \$ - -											
5.14 Guys, Anchors, and Accessories - EA \$ 720 \$ - \$ 1,605 \$ - \$ 5.15 Misc. materials (Signs and Markers) - \$ 1,006 \$ - \$ 1,777 \$ - \$ 1,777 \$ - \$ 1,777 \$ - \$											•
5.15 Misc. materials (Signs and Markers) - Mile \$ 770 \$ - \$ 1,006 \$ - \$ 1,776 \$ - \$ 5.16 \$ 5.17 \$ 5.18 \$ 5.19 \$ 5.20 \$ 5.20 \$ 5.85 \$ 5			-								•
5.17 -	5.15		-	Mile	\$	770 \$	-	\$ 1,006	\$ -		\$ -
5.18 5.19 5.20 5.20 TOTAL - INSULATOR, FITTINGS, HARDWARE \$ 58,150 \$ 26,466 \$ 84,6 L. Interconnection Knickerbocker Station \$ 610,624 \$ 924,221 \$ 1,534,8											
5.19			-			-					
5.20 TOTAL - INSULATOR, FITTINGS, HARDWARE \$ 58,150 \$ 26,466 \$ 84,6 L. Interconnection Knickerbocker Station \$ 610,624 \$ 924,221 \$ 1,534,8					-						
TOTAL - INSULATOR, FITTINGS, HARDWARE \$ 58,150 \$ 26,466 \$ 84,6 L. Interconnection Knickerbocker Station \$ 610,624 \$ 924,221 \$ 1,534,8					 						
L. Interconnection Knickerbocker Station \$ 924,221 \$ 1,534,8		ATOR EITTINGS HARDWARE					F0.4F0		\$ 20,400		94.646
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:						\$	610,624		\$ 924,221		1,534,845
	6. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 15,348	\$ 15,348	\$ 15,348	\$ 15,348
	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 95,420	\$ 95,420	\$ 95,420	\$ 95,420
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 15,348	\$ 15,348	\$ 15,348	\$ 15,348
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 15,348	\$ 15,348	\$ 15,348	\$ 15,348
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 76,742	\$ 76,742	\$ 76,742	\$ 76,742
6.6	Lidar	1	LS	\$ -	\$ -	\$ 4,605	\$ 4,605	\$ 4,605	\$ 4,605
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 10,744	\$ 10,744	\$ 10,744	\$ 10,744
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 40,000	\$ -	\$ 40,000	\$ -
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 4,605	\$ 4,605	\$ 4,605	\$ 4,605
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17	Carrying Charges	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 48,850	\$ 48,850	\$ -	\$ -	\$ 48,850	\$ 48,850
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 1,535	\$ 1,535	\$ 1,535	\$ 1,535
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 48,850		\$ 243,195		\$ 292,045

Page 34 of 42
L. In. Knickerbocker SS

NextEra T022 (Segment B) M. Interconnection Churchtown Station

Estimate	6		Total:	ċ	5,486,886	
Revision:	b		TOLAI.	Ą	3,400,000	
	NextEra T022 (Se	egment B)				
			Supply		Installation	Total
	M. Interconnection Churchtown Station					
	1. CLEARING & ACCESS	\$	-	\$	712,850	\$ 712,850
	2. FOUNDATIONS	\$	861,128	\$	1,284,831	\$ 2,145,960
	3. STRUCTURES	\$	570,674	\$	498,922	\$ 1,069,596
	4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$ -
	5. INSULATORS, FITTINGS, HARDWARE	\$	481,350	\$	200,586	\$ 681,936
	6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	153,052	\$	723,492	\$ 876,545
	CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$ -
	SUBTOTAL:	\$	2,066,205	\$	3,420,681	\$ 5,486,886
	CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$ -
	TOTAL:	\$	2,066,205	\$	3,420,681	\$ 5,486,886
Description	of Work:					

Item	Item Description	Estimated Quantity	Unit of Measure	Mater	ial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
M. Inter	connection Churchtown Station										
1. CLEARING	& ACCESS										
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$ -	\$ 15,000	\$ -	\$ 15,000	\$	-
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$	-	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$	10,000
1.3	Access Road	-	LF	\$	-	\$ -	\$ 45	\$ -	\$ 45	\$	-
1.4	Silt Fence	3,500.0	LF	\$	-	\$ -	\$ 4	\$ 14,000	\$ 4	\$	14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$	-	\$ -	\$ 70	\$ 245,000	\$ 70	\$	245,000
1.6	Matting - To Work Area	1,425.0	LF	\$	-	\$ -	\$ 70	\$ 99,750	\$ 70	\$	99,750
1.7	Snow Removal	-	LS	\$	-	\$ -	\$ 516,800	\$ -	\$ 516,800	\$	-
1.8	ROW Restoration	0.5	Mile	\$	-	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$	5,000
1.9	Work Pads	95,000.0	SF	\$	-	\$ -	\$ 4			\$	334,400
1.10	Restoration for Work Pad areas	19,000.0	SF	\$	-	\$ -	\$ 0.2	\$ 2,850	\$ 0	\$	2,850
1.11	Temporary Access Bridge	-	EA	\$	-	\$ -	\$ 20,035	\$ -	\$ 20,035	\$	-
1.12	Air Bridge	-	EA	\$	-	\$ -	\$ 14,445	\$ -	\$ 14,445	\$	-
1.13	Stabilized Construction Entrance	-	EA	\$	-	\$ -	\$ 4,580	\$ -	\$ 4,580	\$	-
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$	-	\$ -	\$ 4,130	\$ -	\$ 4,130	\$	-
1.15	Gates	-	EA	\$,	\$ -	\$ 2,500	\$ -	\$ 4,500	\$	-
1.16	Culverts / Misc. Access	-	EA	\$	750	•	\$ 1,250	·	\$ 2,000	\$	-
1.17	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$	1,850
1.18						\$ -		\$ -		\$	-
1.19						\$ -		\$ -		\$	-
1.20	Crushed Rock	0	CY	\$	27		\$ 75	\$ -	\$ 102	\$	-
	RING & ACCESS					\$ -		\$ 712,850		\$	712,850
2. FOUNDATI	ONS										
2.1	Drilled Pier - 345KV S/C DEADEND, STEEL	17	Structures	\$	50,485	\$ 858,249	\$ 51,026	\$ 867,441	\$ 101,511	\$	1,725,690
2.2	Direct Embed - 115KV DELTA S/C TANGENT, CONCRETE	2	Structures	\$	1,440	\$ 2,879	\$ 8,695	\$ 17,391	\$ 10,135	\$	20,270
2.3											
2.4											
2.5	Rock Excavation Adder	200	СУ	\$	-	\$ -	\$ 2,000	\$ 400,000	\$ 2,000	\$	400,000
2.6						\$ -		\$ -		Ś	_
2.0				1		Ÿ		÷ -		١,٠	•

Estimate

						Labor & Equipment	Labor & Equipment		
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Supply Rate	Cost	Total Unit Rate	TOTAL
2.7					\$ -		\$ -		\$ -
2.8					\$ -		\$ -		\$ -
2.9					\$ -		\$ -		\$ -
2.10					\$ -		\$ -		\$ -
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -
2.15	A FIGURE				\$ -		\$ -		\$ -
3. STRUCTURES					\$ 861,128		\$ 1,284,831		\$ 2,145,960
	345KV S/C DEADEND, STEEL	17	Structure	\$ 31,450	\$ 534,650	\$ 18,870	\$ 320,790	\$ 50,320	\$ 855,440
	115KV DELTA S/C TANGENT, CONCRETE	2	Structure	\$ 13,205			\$ 72,900		
3.3	TISKY DELTA S/C TANGENT, CONCRETE	2	Structure	3 13,203	3 20,410	3 30,430	\$ 72,300	3 45,033	3 33,310
3.4					\$ -		\$ -		s -
	Install Grounding and Grounding Accessories	19	Pole	\$ 506	Ÿ	\$ 5,539	\$ 105,232	\$ 6,045	<u>'</u>
3.6		15		. 300	\$ -	. 3,333	\$ -	. 3,0.13	\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCT	TURES				\$ 570,674		\$ 498,922		\$ 1,069,596
	R, SHIELDWIRE, OPGW						, , , ,		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	345kV - (2) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90	\$ -	\$ 5.00	\$ -	\$ 6.90	\$ -
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$ 1.35		\$ 5.00	\$ -	\$ 6.35	
4.3	(1) 3/8" EHS7 Steel	-	LF	\$ 0.47		\$ 5.00	\$ -	\$ 5.47	
4.5	Remove Existing 115kV Cable From Existing Structures	-	Mile	\$ -	\$ -	\$ 30,000	\$ -	\$ 30,000.00	\$ -
4.6	Remove Existing OPGW Cable	-	Mile	\$ -	\$ -	\$ 12,000	\$ -	\$ 12,000.00	\$ -
4.7	Remove Existing EH7	-	Mile	\$ -		\$ 12,000	\$ -	\$ 12,000.00	
	115kV - (1) 795kcmil 26/7 ACSS "Drake"	-	LF	\$ 1.72	\$ -	\$ 5.00	\$ -	\$ 6.72	\$ -
4.9		-							
	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	
	Rider Poles	-	EA	\$ 1,750		\$ 3,500	\$ -	\$ 5,250.00	
	ICTOR, SHIELDWIRE, OPGW:				\$ -		\$ -		\$ -
	FITTINGS, HARDWARE 345kV Tangent (1-Group of 18-Bells Each Assembly)		Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
	115kV Tangent (1-Group of 9-Bells Each Assembly)	12	Assembly	\$ 1,800		\$ 560	\$ 6,720		
	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	255	Assembly	\$ 1,800		\$ 720	\$ 183,600		
	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900			\$ 183,000	\$ 1,460	
	OPGW Assembly - Tangent	16	Assembly	\$ 200		\$ 150	\$ 2,400		
	OPGW Assembly - Angle / DE	4	Assembly	\$ 250		\$ 150	\$ 600		
	OHSW Assembly - Tangent	16	Assembly	\$ 200		\$ 150	\$ 2,400		
5.8	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
	OPGW Splice Boxes	1	Set	\$ 1,750		. , .	\$ 1,746		
	OPGW Splice & Test	1	EA	\$ 1,400			\$ 2,520		
	Spacer - Conductor	-	EA	\$ 50		7	\$ -	\$ 85	
	Vibration Dampers - Conductor	-	EA	\$ 35		7	\$ -	\$ 70	
	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$ 27		\$ 35		\$ 62	
5.14	Guys, Anchors, and Accessories	-	EA	\$ 720	\$ -	\$ 885	\$ -	\$ 1,605	\$ -
5.15	Misc. materials (Signs and Markers)	-	Mile	\$ 770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$ -
5.16					\$ -		\$ -		\$ -
5.17					\$ -		\$ -		\$ -
5.18					\$ -		\$ -		\$ -
5.19					\$ -		\$ -		\$ -
5.20					\$ -		\$ -		\$ -
TOTAL - INSULA	ATOR, FITTINGS, HARDWARE				\$ 481,350		\$ 200,586		\$ 681,936

ltem	Item Description	Estimated Quantity	Unit of Measure	Material Su	ipply Rate	Materi	ial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
M. Inte	rconnection Churchtown Station					\$	1,913,152		\$ 2,697,189		\$ 4,610,341
6. MOB/DEN	IOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	\$	-	\$	-	\$ 46,103	\$ 46,103	\$ 46,103	\$ 46,103
	Project Management, Material Handling & Amenities										
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS					\$ 286,620	\$ 286,620	\$ 286,620	\$ 286,620
6.3	Utility PM and Project Oversite	1	LS			\$	-	\$ 46,103	\$ 46,103	\$ 46,103	\$ 46,103
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$	-	\$ 46,103	\$ 46,103	\$ 46,103	\$ 46,103
	Engineering										-
6.5	Design Engineering	1	LS	\$	-	\$	-	\$ 230,517	\$ 230,517	\$ 230,517	\$ 230,517
6.6	LiDAR	1	LS	\$	-	\$	-	\$ 13,831	\$ 13,831	\$ 13,831	\$ 13,831
6.7	Geotech	1	Location	\$	-	\$	-	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$	-	\$	-	\$ 32,272	\$ 32,272	\$ 32,272	\$ 32,272
	Testing & Commissioning										
6.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$	-	\$	-	\$ 40,000	\$ -	\$ 40,000	\$ -
	Permitting and Additional Costs										
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$
6.11	Environmental Mitigation	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$	-	\$ 13,831	\$ 13,831	\$ 13,831	\$ 13,831
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	1	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.17	Carrying Charges	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$	153,052	\$	153,052	\$ -	\$ -	\$ 153,052	\$ 153,052
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$	-	\$ 4,610	\$ 4,610	\$ 4,610	\$ 4,610
TOTAL - MOE	D/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$	153,052		\$ 723,492		\$ 876,545

Page 37 of 42

NextEra T022 (Segment B) N. Interconnection Milan Station

NextEra T022 (Segment B)											
	T	Supply		Installation		Total					
N. Interconnection Milan Station											
1. CLEARING & ACCESS	\$	-	\$	121,100	\$	121,100					
2. FOUNDATIONS	\$	84,375	\$	135,279	\$	219,654					
3. STRUCTURES	\$	130,328	\$	88,667	\$	218,994					
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$	-					
5. INSULATORS, FITTINGS, HARDWARE	\$	45,200	\$	18,480	\$	63,680					
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	20,792	\$	100,860	\$	121,652					
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-					
SUBTOTAL:	\$	280,695	\$	464,385	\$	745,080					
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-					
TOTAL:	\$	280,695	\$	464,385	\$	745,080					

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
N. Inter	connection Milan Station								
1. CLEARING	& ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	1.0	Acre	\$ -	\$ -	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	500.0	LF	\$ -	\$ -	\$ 4	\$ 2,000	\$ 4	\$ 2,000
1.5	Matting - Access and ROW	500.0	LF	\$ -	\$ -	\$ 70	\$ 35,000	\$ 70	\$ 35,000
1.6	Matting - To Work Area	525.0	LF	\$ -	\$ -	\$ 70	\$ 36,750	\$ 70	\$ 36,750
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	\$ -	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.9	Work Pads	10,000.0	SF	\$ -	\$ -	\$ 4	\$ 35,200	\$ 4	\$ 35,200
1.10	Restoration for Work Pad areas	2,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 300	\$ 0	\$ 300
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18					\$ -		\$ -		\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEA	RING & ACCESS				\$ -		\$ 121,100		\$ 121,100
2. FOUNDATI	ONS								
2.1	Drilled Pier - 115kV Single Circuit Single Pole Angle/DE	2	EA	\$ 42,187	\$ 84,375	\$ 42,639	\$ 85,279	\$ 84,827	\$ 169,654
2.2									
2.3									
2.4									
2.5	Rock Excavation Adder	25	СУ	\$ -	\$ -	\$ 2,000	\$ 50,000	\$ 2,000	\$ 50,000
2.6					\$ -		\$ -		\$ -
2.7					\$ -		\$ -		\$ -
2.8					\$ -		\$ -		\$ -
2.9					\$ -		\$ -		\$ -
2.10					\$ -		\$ -		\$ -
2.11				I	\$ -		\$ -	ı	\$ -

Total: \$ 745,080

Page 38 of 42

Estimate

Revision:

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -
2.15	DATIONS				\$ -		\$ -		\$ -
TOTAL - FOUN 3. STRUCTURE					\$ 84,375		\$ 135,279		\$ 219,654
3.1	115kV Single Circuit Single Pole Angle/DE	2	Structure	\$ 64,658	\$ 129,316	\$ 38,795	\$ 77,590	\$ 103,453	\$ 206,905
3.2		_		7 .,,,,,,	7 220,020	7 00,100	11,555	7 200,100	
3.3									
3.4					\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	2	Pole	\$ 506		\$ 5,539			\$ 12,089
3.6					\$ -		\$ -		\$ -
3.7					\$ - \$ -		\$ -		\$ - \$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		Š -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUC	TURES				\$ 130,328		\$ 88,667		\$ 218,994
	R, SHIELDWIRE, OPGW								
	345kV - (2) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90		\$ 5.00			\$ -
4.2	(1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-	LF	\$ 1.35	+	\$ 5.00	\$ -		\$ - \$ -
4.3	Remove Existing 115kV Cable From Existing Structures	-	LF Mile	\$ 0.47	\$ - \$ -	\$ 5.00 \$ 30,000	\$ - \$ -		\$ - \$ -
4.6	Remove Existing OPGW Cable	-	Mile	\$ -	\$ -	\$ 12,000	\$ -		\$ -
4.7	Remove Existing EH7	_	Mile	\$ -	\$ -	\$ 12,000	\$ -		\$ -
4.8	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90	\$ -	\$ 5.00	\$ -		\$ -
4.9		-							
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500			\$ -
4.11	Rider Poles	-	EA	\$ 1,750		\$ 3,500		\$ 5,250.00	
	JCTOR, SHIELDWIRE, OPGW: FITTINGS, HARDWARE				\$ -		\$ -		\$ -
	345kV Tangent (1-Group of 18-Bells Each Assembly)		Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900		\$ 560			\$ -
	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	24	Assembly	\$ 1,800		\$ 720		, , , , ,	\$ 60,480
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.5		-	Assembly			\$ 360	\$ -		\$ -
	OPGW Assembly - Tangent	-	Assembly	\$ 200		\$ 150			\$ -
	OPGW Assembly - Angle / DE	4	Assembly	\$ 250					\$ 1,600
	OHSW Assembly - Tangent OHSW Assembly - Angle / DE	- 4	Assembly Assembly	\$ 200 \$ 250		\$ 150 \$ 150			\$ - \$ 1,600
	OPGW Splice Boxes	- 4	Set	\$ 250		\$ 1,746			\$ 1,600
5.11	OPGW Splice & Test	-	EA	\$ 1,400		\$ 2,520			\$ -
5.12	Spacer - Conductor	-	EA	\$ 50		\$ 35			\$ -
5.13	Vibration Dampers - Conductor	-	EA	\$ 35	\$ -	\$ 35	\$ -	\$ 70	\$ -
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$ 27	\$ -	\$ 35	\$ -	\$ 62	\$ -
5.15	Guys, Anchors, and Accessories	-	EA	\$ 720	\$ -	\$ 885	\$ -	\$ 1,605	\$ -
5.16	Misc. materials (Signs and Markers)	-	Mile	\$ 770		\$ 1,006	\$ -		\$ -
5.17									
5.18									
5.19 5.20									
	ATOR, FITTINGS, HARDWARE				\$ 45,200		\$ 18,480		\$ 63,680
	onnection Milan Station				\$ 259,903		\$ 363,525		\$ 623,428
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 6,234	\$ 6,234	\$ 6,234	\$ 6,234
	Project Management, Material Handling & Amenities								

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Ra	te I	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 38,758	\$ 38,758	\$ 38,758	\$ 38,758
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 6,234	\$ 6,234	\$ 6,234	\$ 6,234
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 6,234	\$ 6,234	\$ 6,234	\$ 6,234
	Engineering									
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 31,171	\$ 31,171	\$ 31,171	\$ 31,171
6.6	LiDAR	1	LS	\$ -	\$	-	\$ 1,870	\$ 1,870	\$ 1,870	\$ 1,870
6.7	Geotech	1	Location	\$ -	\$	-	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 4,364	\$ 4,364	\$ 4,364	\$ 4,364
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 1,870	\$ 1,870	\$ 1,870	\$ 1,870
6.13	Real Estate Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.14	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.15	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.16	Carrying Charges	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.17	Sales Tax on Materials	1	LS	\$ 20,79	92 \$	20,792	\$ -	\$ -	\$ 20,792	\$ 20,792
6.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 623		\$ 623	\$ 623
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	20,792		\$ 100,860		\$ 121,652

Page 40 of 42 N. In. Milan SS

NextEra - T022 - (Segment B)

O. System Upgrade Facilities (Cricket Valley to Long Mt. Line)

Estimate Revision: Total: \$ 3,943,950

SYSTEM UPG	SYSTEM UPGRADE FACILITIES		Unit of Measure	Material Supply R	ate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
SUF 1	Transmission Line Upgrade Cricket Valley - Connecticut Border to Long Mountain (3.3 + 6.0 = 9.3 Miles)									
1.1	345kV - (1) 954kcmil 45/7 ACSS "Rail" Conductor (Cricket Vly to Conn Border)	109,771.20	LF	\$ 2.	.50	\$ 274,428	\$ 5.00	\$ 548,856	\$ 8	\$ 823,284
1.2	345kV - (1) 2312kcmil 76/19 ACSS "Thrasher" Conductor (Conn Border to Long Mtn.)	99,792.00	LF	\$ 8.	.00	\$ 798,336	\$ 5.00	\$ 498,960	\$ 13	\$ 1,297,296
1.3	Remove Existing 795 ACSS Conductor and Accessories (Cricket VIy to Conn Border)	3.30	Mile	\$ -	-	\$ -	\$ 30,000.00	\$ 99,000	\$ 30,000	\$ 99,000
1.4	Remove Existing 2156kmil ACSS Conductor and Accessories (Conn Border to Long Mtn.)	6.00	Mile	\$ -	-	\$ -	\$ 30,000.00	\$ 180,000	\$ 30,000	\$ 180,000
1.5	Rider Poles	10.00	Sets	\$ 1,750.	.00	\$ 17,500	\$ 3,500.00	\$ 35,000	\$ 5,250	\$ 52,500
1.6	345kV Vertical Tangent Insulator Assembly	147.00	Assembly	\$ 1,800.	.00	\$ 264,600	\$ 720.00	\$ 105,840	\$ 2,520	\$ 370,440
1.7	345kV Deadend Insulator Assembly	132.00	Assembly	\$ 1,800.	.00	\$ 237,600	\$ 720.00	\$ 95,040	\$ 2,520	\$ 332,640
	Subtotal SUG 1 Direct Cost					\$ 1,592,464		\$ 1,562,696		\$ 3,155,160
2	Indirect Cost (25% of Direct Cost)					\$ 398,116		\$ 390,674		\$ 788,790
	TOTAL:					\$ 1.990.580		\$ 1.953.370		\$ 3.943.950

	NextEra T022 (Segment B)
	ESTIMATE ASSUMPTIONS & CLARIFICATIONS
1	Cost Estimate is based on 2017 rates.
2	Construction schedule is in accordance with proposed schedule - we have assumed continuous working with no breaks in the schedule. Six months have been added to the construction schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.).
3	We have assumed a typical work week of five-(5) days per week at ten-(10) hours per day (5 x 10 hour days).
4	All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017.
5	We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type. 20% of the total length of the line is assumed to use Type 1 Gravel road and 80% of the line length access to be used wood matting. In addition 75 feet of wood matting is included from the access matting to the work pad area matting. The estimate also include 5,000 square feet of wood matting for each structure work area within the ROW. For the ground restoration (seed, straw and woven mat), 20% of the work pad area included.
6	Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not enough information to provide a quantified estimate for this item, allowance is included in the contingency monies.
7	Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for formal quotes.
8	Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing.
9	A Contractor Mark-Up (OH&P) of 15% has been included in the Total section.
10	We have assumed that all project details provided are accurate unless noted otherwise.
11	Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%)
12	A contractor allowance of 1% for mobilization and demobilization has been included in the total section.
13	A contractor allowance of 5.406% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safety inspector, compliance inspector, environmental inspector, and SWPP inspector.
14	An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section.
15	A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section.
16	An allowance of 5% for transmission design and engineering has been included in the total section.
17	An allowance of 8% for substation design and engineering has been included in the total section.
18	An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section.
19	An allowance of 0.3% for LIDAR of the transmission line has been included in the total section.
20	An allowance of 3.75% for substation testing and commissioning has been included in the total section.
21	An allowance of \$20,000.00 per circuit for transmission line testing and commissioning has been included in the total section.
22	New York state sales tax of 8% is included in all material pricing.
23	An allowance of 1.5% for insurance is included in the DPS sheet.
24	From Churchtown to Pleasant Valley only one line of Lattice Structures is to be removed.
25	From Churchtown to Pleasant Valley; Churchtown loop around 345kV conductor 0.3 miles have been added.
26	An additional Quantity of 5% have been added to conductors, OPGW, & OHSW for sag and jumpers.
27	Rock excavation not provided in proposal foundation data, most of the foundation are concrete pole direct embedded, rock excavation assumed 50% for T022 (Churchtown to Pleasant Valley) and rest 75% of quantities of National Grid's proposal.
	Cricket Valley to Long Mountain line upgrade: The length of the re-conductor between Cricket Valley and the NY/CT border is 3.3 miles and will remove the existing (to be installed on CV project) 2 bundle 795 ACSS conductor and install new 2 bundle Rail 954 ACSS conductor.
	-The length of the re-conductor between the NY/CT border and Long Mountain is 6 miles and will remove the existing single 2156 ACSS conductor and install new single Thrasher 2312
28	ACSS conductor.
	-The Insulators and associated conductor hardware will be replaced.
	-The existing structures are assumed to have adequate strength to support the new conductors.
	-The estimate is a rough order of magnitude estimate as no engineering was performed and SECo did not have access to record drawings.
29	The SUF estimates for the stations are rough order of magnitude estimates. No engineering was performed and SECo did not have access to record drawings.

Assumptions & Clarifications



		NextEra Energy (T023)	
		Description	Total Amount (In thousand \$)
	1	Transmission Lines	
	1.1	Clearing & Access	\$34,215
	1.2	Foundations	\$21,257
	1.3	Structures	\$67,904
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$30,529
	1.5	Insulators, Fitting and Hardwares	\$11,349
		Subtotal (1)	\$165,255
;;	2	Substations	
Direct Cost	2.1	Knickerbocker Substation	\$15,110
rect	2.2	East Greenbush Substation	\$61
Θ	2.3	Schodack Substation	\$0
	2.4	Churchtown Substation	\$13,040
	2.5	Pleasant Valley Substation	\$2,798
	2.6	Substation Interconnections	\$6,473
		Subtotal (2)	\$37,482
		Total (1+2)	\$202,736
		Contractors Mark-up (15% of Total 1+2)	\$30,410
		Total Direct Cost (A)	\$233,147
	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$2,027
st	3.2	Project Management, Material Handling & Amenities	\$16,697
Indirect Cost	3.3	Engineering	\$13,253
lirec	3.4	Testing & Commissioning	\$874
luc	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$12,954
	3.6	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,628
		Total Indirect Cost (3)	\$53,433
		Subtotal Project Cost (B=A+3) 2017 \$	\$286,580
	4	Network Upgrade Facilities (NUF)	
	4.1	NUF proposed as element of the Project	\$0
	4.2	NUF identified by System Impact Study (Cricket Valley Line Upgrade)	\$4,417
		Subtotal NUF Cost (C)	\$4,417
		Total Project Cost (B+C) 2017 \$	\$290,997
		Total Project Cost 2018 \$	\$299,727

5/22/2018 Page 1 of 42

NextEra T023 (Segment B Alternate)

Estimate Revision: 5

	NextEra T023 (Segment B Alternate) - Direct Costs	7	Total Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Knickerbocker to Churchtown	\$	59,787,815
Direct Labor, Material & Equipment Costs	B. Transmission Line Churchtown to Pleasant Valley	\$	100,720,518
Direct Labor, Material & Equipment Costs	C. Blue Stores Junction to Blue Stores Substation	\$	4,746,361
Direct Labor, Material & Equipment Costs	D. Knickerbocker 345kV Substation - Install	\$	15,109,913
Direct Labor, Material & Equipment Costs	E.	\$	-
Direct Labor, Material & Equipment Costs	F.	\$	-
Direct Labor, Material & Equipment Costs	G.	\$	-
Direct Labor, Material & Equipment Costs	H. North Churchtown Substation - Install	\$	13,039,784
Direct Labor, Material & Equipment Costs	I. Greenbush Substation - Removal	\$	61,200
Direct Labor, Material & Equipment Costs	J. Pleasant Valley Substation - Install	\$	2,797,952
Direct Labor, Material & Equipment Costs	K.	\$	-
Direct Labor, Material & Equipment Costs	L. Interconnection Knickerbocker Station	\$	1,534,845
Direct Labor, Material & Equipment Costs	M. Interconnection Churchtown Station	\$	4,339,656
Direct Labor, Material & Equipment Costs	N. Interconnection Milan Station	\$	598,228
Direct Labor, Material & Equipment Costs	O. System Upgrade Facilities (Cricket Valley Line Upgrade)	\$	3,155,160
Direct Labor, Material & Equipment Costs	P. System Upgrade Facilities (Various Stations Knickerbocker to Pleasant Valley)	\$	-
	SUBTOTAL:	\$	205,891,432
	CONTRACTOR MARK-UP (OH&P)	\$	30,883,715
	CONTINGENCY ON ENTIRE PROJECT	\$	-
	TOTAL DIRECT:	\$	236,775,147

	NextEra T023 (Segment B Alternate) - Indirect Costs	Tot	al Each Segment
Indirect Costs	A. Transmission Line Knickerbocker to Churchtown	\$	13,640,683
Indirect Costs	B. Transmission Line Churchtown to Pleasant Valley	\$	21,913,317
Indirect Costs	C. Blue Stores Junction to Blue Stores Substation	\$	1,004,213
Indirect Costs	D. Knickerbocker 345kV Substation - Install	\$	4,011,148
Indirect Costs	E.	\$	-
Indirect Costs	F.	\$	-
Indirect Costs	G.	\$	-
Indirect Costs	H. North Churchtown Substation - Install	\$	3,246,034
Indirect Costs	I. Greenbush Substation - Removal	\$	9,439
Indirect Costs	J. Pleasant Valley Substation - Install	\$	728,830
Indirect Costs	K. Pleasant Valley Substation - Removal	\$	-
Indirect Costs	L. Interconnection Knickerbocker Station	\$	292,345
Indirect Costs	M. Interconnection Churchtown Station	\$	843,122
Indirect Costs	N. Interconnection Milan Station	\$	116,394
Indirect Costs	O. System Upgrade Facilities (Cricket Valley Line Upgrade)	\$	788,790
Indirect Costs	P. System Upgrade Facilities (Various Stations Knickerbocker to Pleasant Valley)	\$	-
Indirect Costs	Legal and Permitting (Includes Legal, Envir. Lisc. & Permit., and Envir. Mitigation)	\$	7,627,609
	TOTAL INDI	RECT: \$	54,221,924

TOTAL ESTIMATED COST: \$ 290,997,071

A. Transmission Line Knickerbocker to Churchtown

NextEra T023 (Segment B Alternate)

Estimate Revision:

5

Total: \$ 73,428,499

NextEra TO23 (Segment B Alternate)										
		Supply	I.	Installation Total						
A. Transmission Line Knickerbocker to Churchtown										
1. CLEARING & ACCESS	\$	11,500	\$	13,208,953	\$	13,220,453				
2. FOUNDATIONS	\$	1,519,868	\$	4,432,528	\$	5,952,396				
3. STRUCTURES	\$	4,990,679	\$	19,604,107	\$	24,594,786				
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	2,943,787	\$	8,681,855	\$	11,625,642				
5. INSULATORS, FITTINGS, HARDWARE	\$	2,896,560	\$	1,497,978	\$	4,394,539				
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	988,992	\$	12,651,692	\$	13,640,683				
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-				
SUBTOTAL:	\$	13,351,386	\$	60,077,113	\$	73,428,499				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL:	Ś	13.351.386	\$	60.077.113	Ś	73.428.499				

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
A. Transı	mission Line Knickerbocker to Churchtown								
1. CLEARING &	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	19.0	Acre	\$ -	\$ -	\$ 15,000	\$ 285,000	\$ 15,000	\$ 285,000
1.2	Clearing the ROW - Light (mowing)	61.0	Acre		\$ -	\$ 5,000	\$ 305,000	\$ 5,000	\$ 305,000
1.3	Permanent Access Road	23,126	LF	\$ -	\$ -	\$ 45.00			
	Silt Fence	115,632	LF	\$ -	\$ -	\$ 4.00			\$ 462,528
1.5	Matting - Access and ROW	92,506	LF	\$ -	\$ -	\$ 70.00			
1.6	Matting - To Work Area	11,925	LF	\$ -	\$ -	\$ 70.00			\$ 834,750
1.7	Snow Removal	21.9	Mile	\$ -	\$ -	\$ 16,000			
1.8	ROW Restoration	21.9	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	795,000	SF	\$ -	\$ -	\$ 3.52			\$ 2,798,400
1.10	Restoration for Work Pad areas	159,000	SF	\$ -	\$ -	\$ 0.15			\$ 23,850
1.11	Temporary Access Bridge	9	EA	\$ -	\$ -	\$ 20,035			
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance Maintenance and Protection of Traffic on Public Roads	4 47		\$ - \$ -	\$ -	\$ 4,580 \$ 4,130			
1.14 1.15	Culverts / Misc. Access	10		\$ 750	· ·				
1.15	Gates	2	EA EA	\$ 2,000					
1.17	Concrete Washout Station	2	EA	\$ 2,000	\$ 4,000	\$ 2,500			
	ING & ACCESS:	2	LA	· -	\$ 11,500	3 1,630	\$ 13,208,953	\$ 1,650	\$ 13,220,453
2. FOUNDATIO					\$ 11,300		3 13,206,933		3 13,220,433
Z. FOUNDATIO	N3								
2.1	Drilled Pier - 115/345KV D/C DEADEND, STEEL	13	EA	\$ 86,969	\$ 1,130,593	\$ 87,900	\$ 1,142,702	\$ 174,869	\$ 2,273,295
2.2	Drilled Pier - 345KV S/C DEADEND, STEEL	1	EA	\$ 39,770	\$ 39,770	\$ 40,196	\$ 40,196	\$ 79,966	\$ 79,966
2.3	Direct Embed - 115/345KV D/C TANGENT, CONCRETE	145	EA	\$ 2,410	\$ 349,504	\$ 16,391	\$ 2,376,630	\$ 18,801	\$ 2,726,134
2.4	Rock Excavation Adder	436.5	СУ	\$ -	\$ -	\$ 2,000	\$ 873,000	\$ 2,000	\$ 873,000
2.5									
2.6									
2.7					+				
2.7									+
2.9									
2.10									
2.11									
2.12									

ltem	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
2.13									
2.14									
2.15									
2.16									
2.17									
2.18									
TOTAL - FOUN	NDATIONS:				\$ 1,519,868		\$ 4,432,528		\$ 5,952,396
3. STRUCTUR					-,,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		7 0,000,000
3.1	115/345KV D/C DEADEND, STEEL	13	Structure	\$ 131,581	\$ 1,710,556	\$ 78,949	\$ 1,026,334	\$ 210,530	\$ 2,736,890
3.2	345KV S/C DEADEND, STEEL	1	Structure	\$ 51,800	\$ 51,800		\$ 31,080		
3.3	115/345KV D/C TANGENT, CONCRETE	145	Structure	\$ 21,709	\$ 3,147,869				
3.3	113/3 ISAT B/C MITGERT, CONTINETE	1.5	otractare -	Ų 21,703	ψ 3,117,003	ψ 31,30 <i>i</i>	ψ 15,200,072	Ų 110,230	Ţ 20,127,310
3.4	Remove Existing Foundation	688	EA	\$ -	\$ -	\$ 3,250	\$ 2,236,000		
3.5	Remove Existing Structure and Accessories	172	EA	\$ -	\$ -	\$ 12,500	\$ 2,150,000	\$ 12,500	\$ 2,150,000
3.6	Install Grounding and Grounding Accessories	159	Pole	\$ 506	\$ 80,454	\$ 5,539	\$ 880,622	\$ 6,045	\$ 961,076
3.7									
3.8									
3.9									
3.10									
3.11									
3.12									
3.13									
3.14									
3.15	OTHERS.				4 4000.570		40.004.407		4 24 504 505
TOTAL - STRU					\$ 4,990,679		\$ 19,604,107		\$ 24,594,786
	DR, SHIELDWIRE, OPGW	720 402		4 202	4 2054240	4 5.00	A 2542.440	4 700	4
4.1	345kV - (1) 1,033kcmil 54/7 ACSS "Curlew"	728,482	LF						
4.2	(1) OPGW 36 Fiber AC-33/38/571	121,414	LF	\$ 1.35					
4.3	(1) 3/8" EHS7 Steel	121,414	LF		\$ 57,065				
4.4	Remove Existing Cable From Existing Structures	43.8	Mile	\$ -	\$ -	\$ 30,000	\$ 1,314,000		
4.5	Remove Existing OPGW Cable and Accessories	21.9	Mile	\$ -	\$ -	\$ 12,000	\$ 262,800	\$ 12,000.00	
4.6	Remove Existing OHSW and Accessories	21.9	Mile	\$ -	\$ -	\$ 12,000	\$ 262,800	\$ 12,000.00	
4.7	115kV - (1) 795kcmil 26/7 ACSS "Drake"	364,241	LF			\$ 5.00	\$ 1,821,205		
4.8	Rider Poles (47 Locations)	24	Set	\$ 1,750	\$ 42,000	\$ 3,500	\$ 84,000	\$ 5,250.00	\$ 126,000
4.9	Rider Poles - Relocated	23	Set	\$ -	\$ -	\$ 3,500	\$ 80,500	\$ 3,500.00	\$ 80,500
4.10									
4.11									
4.12									
4.13									
4.14									
4.15									
4.16									
4.17									
	DUCTOR, SHIELDWIRE, OPGW:				\$ 2,943,787		\$ 8,681,855		\$ 11,625,642
	R, FITTINGS, HARDWARE								
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	725	Assembly	\$ 1,800	\$ 1,305,000			\$ 2,520	\$ 1,827,000
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	870	Assembly						
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	210	Assembly	\$ 1,800					
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	91	Assembly	\$ 900		\$ 560			
5.5					\$ -		\$ -		
5.6					\$ -		\$ -	\$ -	\$ -
5.7					\$ -		\$ -	\$ -	\$ -
		445			4 20.000	l .			
5.8	OPGW Assembly - Tangent	145	Assembly	\$ 200	\$ 29,000	\$ 150	\$ 21,750	\$ 350	\$ 50,750

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
5.10	OHSW Assembly - Tangent	145	Assembly			<u> </u>		\$ 350	· · · · · · · · · · · · · · · · · · ·
5.11	OHSW Assembly - Angle / DE	28	Assembly	\$ 250	\$ 7,000	\$ 150	\$ 4,200	\$ 400	\$ 11,200
5.12	OPGW Splice Boxes	8	Set	\$ 1,746	\$ 13,969	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161
5.13	OPGW Splice & Test	8	EA	\$ 2,520	\$ 20,160	\$ 2,520	\$ 20,160	\$ 5,040	\$ 40,320
5.14	Spacer - Conductor	3,659	EA	\$ 50	\$ 182,950	\$ 35	\$ 128,065	\$ 85	\$ 311,015
5.15	Vibration Dampers - Conductor	878	EA	\$ 35	\$ 30,730	\$ 35	\$ 30,730	\$ 70	\$ 61,460
5.16	Shield wire / OPGW Dampers, Misc. Fittings	444	EA	\$ 27	\$ 11,988	\$ 35	\$ 15,540	\$ 62	\$ 27,528
5.17									
5.18									
5.19									
5.20									
5.21	Guys, Anchors, and Accessories	-	EA	\$ 720	\$ -	\$ 885	\$ -	\$ 1,605	\$ -
5.22	Misc. materials (Signs and Markers)	21.9	Mile	\$ 770	\$ 16,863	\$ 1,006	\$ 22,031	\$ 1,776	\$ 38,894
5.23		-		\$ -	\$ -	\$ -	\$ -		\$ -
TOTAL - INSU	LATORS, FITTINGS, HARDWARE:				\$ 2,896,560		\$ 1,497,978		\$ 4,394,539
A Trans	mission Line Knickerbocker to Churchtown				\$ 12,362,395		\$ 47,425,421		\$ 59,787,815
					ÿ 12,302,393		3 47,423,421		33,767,613
6. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
_	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 597,878	\$ 597,878	\$ 597,878	\$ 597,878
6.2	Project Management, Material Handling & Amenities Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 3,728,637			
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 597,878	\$ 597,878	\$ 597,878	\$ 597,878
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 597,878	\$ 597,878	\$ 597,878	\$ 597,878
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,989,391	\$ 2,989,391	\$ 2,989,391	\$ 2,989,391
6.6	Lidar	1	LS	\$ -	\$ -	\$ 179,363	\$ 179,363	\$ 179,363	\$ 179,363
6.7	Geotech	22	Location	\$ -	\$ -	\$ 3,500	\$ 77,000	\$ 3,500	\$ 77,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 418,515	\$ 418,515	\$ 418,515	\$ 418,515
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 179,363	\$ 179,363	\$ 179,363	\$ 179,363
6.13	Real Estate Costs (New ROW)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 3,186,000	\$ 3,186,000	\$ 3,186,000	\$ 3,186,000
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17	·	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 988,992	\$ 988,992	\$ -	\$ -	\$ 988,992	\$ 988,992
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 59,788	\$ 59,788		\$ 59,788
	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 988,992	1	\$ 12,651,692		\$ 13,640,683

NextEra T023 (Segment B Alternate)

B. Transmission Line Churchtown to Pleasant Valley

Estimate Revision: 5 Total: \$ 122,633,835

NextEra T023 (Segm	ent B Alterna	te)				
		Supply		Installation		Total
B. Transmission Line Churchtown to Pleasant Valley						
1. CLEARING & ACCESS	\$	14,000	\$	19,576,466	\$	19,590,466
2. FOUNDATIONS	\$	1,639,170	\$	12,502,886	\$	14,142,057
3. STRUCTURES	\$	6,814,286	\$	34,951,509	\$	41,765,796
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	3,421,997	\$	15,009,440	\$	18,431,437
5. INSULATORS, FITTINGS, HARDWARE	\$	4,481,834	\$	2,308,928	\$	6,790,763
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,309,703	\$	20,603,613	\$	21,913,317
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	17,680,991	\$	104,952,843	\$	122,633,835
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL:	Ś	17.680.991	Ś	104.952.843	Ś	122.633.835

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost Labor & Equipment Supply Rate		Labor & Equipment Cost	Total Unit Rate	TOTAL
B. Transı	nission Line Churchtown to Pleasant Valley								
1. CLEARING &	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	98.0	Acre	\$ -	\$ -	\$ 5,000	\$ 490,000	\$ 5,000	\$ 490,000
1.3	Permanent Access Road	34,108.8	LF	\$ -	\$ -	\$ 45			
1.4	Silt Fence	170,544.0	LF	\$ -	\$ -	\$ 4		\$ 4	\$ 682,176
1.5	Matting - Access and ROW	136,435.2	LF	\$ -	\$ -				
1.6	Matting - To Work Area	18,750.0	LF	\$ -		\$ 70			
1.7	Snow Removal	32.3	Mile	\$ -	\$ -		\$ 516,800		
1.8	ROW Restoration	32.3	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	1,250,000.0	SF	\$ -	\$ -				\$ 4,400,000
1.10	Restoration for Work Pad areas	250,000.0	SF	\$ -	\$ -	\$ 0.2			\$ 37,500
1.11	Temporary Access Bridge	14	EA	\$ -	\$ -		\$ 280,490		
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance	12	EA	\$ -	<u> </u>	\$ 4,580	\$ 54,960		
1.14	Maintenance and Protection of Traffic on Public Roads	86	EA	\$ -	\$ -	\$ 4,130	\$ 355,180		
1.15	Gates	4	EA	\$ 2,000		\$ 2,500	\$ 10,000		
1.16	Culverts / Misc. Access	8	EA	\$ 750		\$ 1,250			
1.17	Concrete Washout Station	10	EA	\$ -	\$ -	\$ 1,850	\$ 18,500	\$ 1,850	
TOTAL - CLEAR					\$ 14,000		\$ 19,576,466		\$ 19,590,466
2. FOUNDATIO	NS								
2.1	Drilled Pier - 345KV S/C DEADEND, STEEL	6	EA	\$ 50,485	\$ 302,911	\$ 51,026	\$ 306,156	\$ 101,511	\$ 609,067
2.2	Drilled Pier - 345KV S/C DEADEND, STEEL	15	EA	\$ 64,923	\$ 973,838	\$ 65,618	\$ 984,267	\$ 130,540	\$ 1,958,105
2.3	Direct Embed - 115/345KV D/C TANGENT, CONCRETE	229	EA	\$ 1,583	\$ 362,421	\$ 10,762	\$ 2,464,464	\$ 12,344	\$ 2,826,885
2.4									
2.5	Rock Excavation Adder	4,374.0	СУ	\$ -	\$ -	\$ 2,000	\$ 8,748,000	\$ 2,000	\$ 8,748,000
2.6									
2.7									
2.8									
2.9									
2.10					 				
2.11									
2.12									
TOTAL - FOUN	DATIONS:				\$ 1,639,170		\$ 12,502,886		\$ 14,142,057 Page 6 of 42

Item	Item Description	Estimated Quantity	Unit of Measure	Ma	aterial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
3. STRUCTURE	S										
3.1	345KV S/C DEADEND, STEEL	6	Structure	\$	90,765	\$ 544,588	\$ 54,459	\$ 326,753	\$ 145,224	\$	871,341
3.2	345KV S/C DEADEND, STEEL	15	Structure	\$	120,698	\$ 1,810,466	\$ 72,419	\$ 1,086,279	\$ 193,116	\$	2,896,745
3.3	115/345KV D/C TANGENT, CONCRETE	229	Structure	\$	18,920	\$ 4,332,733	\$ 82,395	\$ 18,868,352	\$ 101,315	\$	23,201,085
3.4											
3.5											
3.6											
3.7											
3.8											
3.9											
3.10											
3.11											
3.11											
3.12	Remove Existing Foundation	2,084	EA	\$	-	\$ -	\$ 3,250	\$ 6,773,000	\$ 3,250	\$	6,773,000
3.13	Remove Existing Structure and Accessories	521	EA	\$	-	\$ -	\$ 12,500	\$ 6,512,500	\$ 12,500	\$	6,512,500
3.14	Install Grounding and Grounding Accessories	250	Structure	\$	506	\$ 126,500	\$ 5,539	\$ 1,384,625		<u> </u>	1,511,125
3.15	, , , , , , , , , , , , , , , , , , ,			Ė		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-,	, ,	.,,,,,	Ė	
3.16											
3.17											
TOTAL - STRUC	TURES PRINCTOWN TO NEW SCOTLAND:					\$ 6,814,286		\$ 34,951,509		\$	41,765,796
	R, SHIELDWIRE, OPGW										
4.1	345kV - (1) 1,033kcmil 54/7 ACSS "Curlew"	1,094,386	LF	\$	1.90			\$ 5,471,930		_	7,551,263
4.2	(1) OPGW 36 Fiber AC-33/38/571	182,398	LF	\$	1.35			\$ 911,990		_	1,158,227
4.3	(1) 3/8" EHS7 Steel	182,398	LF Nail-	+-	0.47			\$ 911,990			997,717
4.5	Remove Existing 115kV Cable From Existing Structures	130.4	Mile	\$	-	\$ -	\$ 30,000 \$ 12,000	\$ 3,912,000		\$	3,912,000
4.6 4.7	Remove Existing OPGW Cable and Accessories	32.6	Mile	\$	-	Υ	7,		\$ 12,000.00	\$	390,600
	Remove Existing OHSW and Accessories	32.6 543,866	Mile LF	Ś	1.72	'	7,	\$ 390,600 \$ 2,719,330		\$	390,600 3,654,780
4.8	115kV - (1) 795kcmil 26/7 ACSS "Drake"	343,800	Lr	1 2	1.72	3 933,430	\$ 5.00	\$ 2,719,550	3 0.72	,	3,034,780
4.10	Rider Poles - Relocated	43	Set	Ś	-	\$ -	\$ 3,500	\$ 150,500	\$ 3,500.00	\$	150,500
4.11	Rider Poles (86 Total)	43	EA	Ś	1,750		\$ 3,500	\$ 150,500			225,750
	UCTOR, SHIELDWIRE, OPGW:	.5	271	1	1,730	\$ 3,421,997	3,300	\$ 15,009,440	ψ 3) <u>2</u> 30.00	\$	18,431,437
	, FITTINGS, HARDWARE					, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, ,,,,,,			
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	1,145	Assembly	\$	1,800	\$ 2,061,000	\$ 720	\$ 824,400	\$ 2,520	\$	2,885,400
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	1,374	Assembly	\$	900	\$ 1,236,600	\$ 560	\$ 769,440	\$ 1,460	\$	2,006,040
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	315	Assembly	\$	1,800	\$ 567,000	\$ 720	\$ 226,800	\$ 2,520	\$	793,800
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	105	Assembly	\$	900	\$ 94,500	\$ 560	\$ 58,800	\$ 1,460	\$	153,300
5.5	OPGW Assembly - Tangent	229	Assembly	\$	200	\$ 45,800	\$ 150	\$ 34,350	\$ 350	\$	80,150
5.6	OPGW Assembly - Angle / DE	42	Assembly	\$	250	\$ 10,500	\$ 150	\$ 6,300	\$ 400	\$	16,800
5.7	OHSW Assembly - Tangent	229	Assembly	\$	200	\$ 45,800	\$ 150	\$ 34,350	\$ 350	\$	80,150
5.8	OHSW Assembly - Angle / DE	42	Assembly	\$	250	\$ 10,500	\$ 150	\$ 6,300	\$ 400	\$	16,800
5.9	OPGW Splice Boxes	12	Set	\$	1,746	\$ 20,954	\$ 2,274	\$ 27,288	\$ 4,020	\$	48,242
5.10	OPGW Splice & Test	12	EA	\$	2,520		\$ 2,520	\$ 30,240		_	60,480
5.11	Spacer - Conductor	5,414	EA	\$	50		\$ 35			\$	460,190
5.12	Vibration Dampers - Conductor	1,299	EA	\$	35		\$ 35			\$	90,930
5.13	Shieldwire / OPGW Dampers, Misc. Fittings	656	EA	\$	27		\$ 35	\$ 22,960	\$ 62	_	40,672
5.14	Guys, Anchors, and Accessories	- 22.5	EA	\$	720		\$ 885	\$ -	\$ 1,605	_	-
5.15	Misc. materials (Signs and Markers) ATORS, FITTINGS, HARDWARE:	32.6	Mile	\$	770		\$ 1,006	\$ 32,745	\$ 1,776	_	57,809
						\$ 4,481,834		\$ 2,308,928		\$	6,790,763
	mission Line Churchtown to Pleasant Valley					\$ 16,371,288		\$ 84,349,230		\$	100,720,518
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS										
6.1	Contractor Mobilization / Demobilization Mob / Demob	1	LS	\$		\$ -	\$ 1,007,205	\$ 1,007,205	\$ 1,007,205	ć	1,007,205
0.1	Project Management, Material Handling & Amenities	1	LS	13	-	· ·	1,007,205 ج	1,007,205	ş 1,007,205	,	1,007,205
				1							
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 6,281,385	\$ 6,281,385	\$ 6,281,385	\$	6,281,385

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Co	st L	abor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$	1,007,205	\$ 1,007,205	\$ 1,007,205	\$ 1,007,205
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$	1,007,205	\$ 1,007,205	\$ 1,007,205	\$ 1,007,205
	Engineering										
6.5	Design Engineering	1	LS	\$	-	\$ -	\$	5,036,026	\$ 5,036,026	\$ 5,036,026	\$ 5,036,026
6.6	Lidar	1	LS	\$	-	\$ -	\$	302,162	\$ 302,162	\$ 302,162	\$ 302,162
6.7	Geotech	33	Location	\$	-	\$ -	\$	3,500	\$ 115,500	\$ 3,500	\$ 115,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$	705,044	\$ 705,044	\$ 705,044	\$ 705,044
	Testing & Commissioning										
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$		\$ -	\$	40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs										
6.10	Environmental Licensing & Permitting Costs	-	LS	\$		\$ -	\$	-	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$	302,162	\$ 302,162	\$ 302,162	\$ 302,162
6.13	Real Estate Costs (New ROW)	-	LS	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$	4,699,000	\$ 4,699,000	\$ 4,699,000	\$ 4,699,000
6.15	Legal Fees	-	LS	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
6.17		-	LS	\$	-	\$ -	\$	-	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$	1,309,703	\$ 1,309,70	3 \$	-	\$ -	\$ 1,309,703	\$ 1,309,703
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$	100,721	\$ 100,721	\$ 100,721	\$ 100,721
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,309,70)3		\$ 20,603,613		\$ 21,913,317

NextEra T023 (Segment B Alternate) C. Blue Stores Junction to Blue Stores Substation

5		Total:	\$ 5,750,574	
NextEra T023 (Segment B Altern	ate)			
		Supply	Installation	Total
C. Blue Stores Junction to Blue Stores Substation				
1. CLEARING & ACCESS	\$	-	\$ 1,404,512	\$ 1,404,512
2. FOUNDATIONS	\$	236,848	\$ 925,954	\$ 1,162,802
3. STRUCTURES	\$	596,484	\$ 946,665	\$ 1,543,149
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	84,763	\$ 387,095	\$ 471,858
5. INSULATORS, FITTINGS, HARDWARE	\$	107,544	\$ 56,496	\$ 164,040
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	82,051	\$ 922,162	\$ 1,004,213
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	1,107,690	\$ 4,642,884	\$ 5,750,574
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	1,107,690	\$ 4,642,884	5,750,574

Description of Work:

Estimate

Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
C. Blue S	tores Junction to Blue Stores Substation								
1. CLEARING &	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	4.0	Acre	\$ -	\$ -	\$ 5,000			•
1.3	Permanent Access Road	2,218	LF	\$ -	\$ -	\$ 45			
1.4	Silt Fence	11,088.0	LF	\$ -	\$ -	\$ 4			
	Matting - Access and ROW	8,870	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	1,800.0	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	2.1	Mile	\$ -	\$ -	\$ 16,000			
1.8	ROW Restoration	2.1	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	120,000.0	SF	\$ -	\$ -	\$ 4			\$ 422,400
1.10	Restoration for Work Pad areas	24,000.0	SF	\$ -	\$ -	\$ 0.2			
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035		\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance	1	EA	\$ -	\$ -	\$ 4,580			
1.14	Maintenance and Protection of Traffic on Public Roads	2		\$ -	\$ -	\$ 4,130			
1.15	Gates	-	EA	\$ 2,000		\$ 2,500		\$ 4,500	
1.16	Culverts / Misc. Access	-	EA	\$ 750	· · · · · · · · · · · · · · · · · · ·	\$ 1,250 \$ 1.850		\$ 2,000	
1.17	Concrete Washout Station ING & ACCESS:	-	EA	\$ -	\$ - \$ -	\$ 1,850		\$ 1,850	
2. FOUNDATIO					\$ -		\$ 1,404,512		\$ 1,404,512
Z. FOUNDATIO	NS								
2.1	Drilled Pier - 115kV Single Circuit H- Pole Angle/ DE	6	EA	\$ 31,225	\$ 187,348	\$ 31,559	\$ 189,354	\$ 62,784	\$ 376,702
2.2	Direct Embed - 115kV Single Circuit H- Pole Tangent	18	EA	\$ 2,750	\$ 49,500	\$ 18,700	\$ 336,600	\$ 21,450	\$ 386,100
2.3	Rock Excavation Adder	200.0	CY	\$ -	\$ -	\$ 2,000	\$ 400,000	\$ 2,000	\$ 400,000
2.4									
2.5									
2.6									
2.7									
2.8									
2.9									
2.10									
2.11									
2.12									
2.13									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
2.14										
2.15 TOTAL - FOUN	DATIONIC						4			
3. STRUCTURE					\$ 236,848		\$ 925,954		\$	1,162,802
3.1	115kV Single Circuit H- Pole Angle/ DE	6	Structure	\$ 39,822	\$ 238,929	\$ 23,893	\$ 143,358	\$ 63,714	\$	382,287
3.2	115kV Single Circuit H- Pole Tangent	18		\$ 18,515	\$ 333,266	\$ 11,109	\$ 199,960	\$ 29,624	\$	533,226
3.3	Remove Existing Foundation	_	EA	\$ -	s -	\$ 7,500	\$ -	\$ 7,500	\$	
3.4		27		'	'				Ś	227 500
3.4	Remove Existing Structure and Accessories	21	EA	\$ -	\$ -	\$ 12,500	\$ 337,500	\$ 12,500	>	337,500
3.6	Install Grounding and Grounding Accessories	48	Structure	\$ 506	\$ 24,288	\$ 5,539	\$ 265,848	\$ 6,045	\$	290,136
3.7										
3.8										
3.9										
3.10										
3.12										
3.13										
3.14										
3.15 TOTAL - STRUG	THIRE.				\$ 596,484		\$ 946,665		\$	1,543,149
	R, SHIELDWIRE, OPGW				\$ 590,464		\$ 940,005		Þ	1,545,149
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90	\$ -	\$ 5.00	\$ -	\$ 6.90	\$	-
4.2	(1) OPGW 36 Fiber AC-33/38/571	_	LF	\$ 1.35		\$ 5.00		\$ 6.35	\$	_
4.3	(1) 3/8" EHS7 Steel	34,927.0	LF LF	\$ 0.47 \$ 1.72		\$ 5.00 \$ 5.00		\$ 5.47 \$ 6.72	\$	234,709
	115kV - (1) 795kcmil 26/7 ACSR "Drake"						·			
4.5	(1) OPGW 36 Fiber AC-33/38/571	11,642.0	LF	\$ 1.35	\$ 15,717	\$ 5.00	\$ 58,210	\$ 6.35	\$	73,927
4.6	(1) 3/8" EHS7 Steel	11,642.0	LF	\$ 0.47	\$ 5,472	\$ 5.00	\$ 58,210	\$ 5.47	\$	63,682
4.7	Remove Existing Cable	2.1	Mile	\$ -	\$ -	\$ 30,000	\$ 63,600	\$ 30,000.00	\$	63,600
4.8	Remove Existing OPGW Cable and Accessories	-	Mile	\$ -	\$ -	\$ 12,000	\$ -	\$ 12,000.00	\$	
4.9	Remove Existing OHSW and Accessories	2.1	Mile	\$ -	\$ -	\$ 12,000	\$ 25,440	\$ 12,000.00	\$	25,440
4.10		-								
4.11		-		4 750	4 2.500	4 2.500	4 7.000	A 5.250.00		
4.12	Rider Poles (Locations)	2.0	EA	\$ 1,750	\$ 3,500	\$ 3,500	\$ 7,000	\$ 5,250.00	Ş	10,500
4.13	UCTOR, SHIELDWIRE, OPGW:				¢ 04.762		\$ 387.095		*	474.050
	, FITTINGS, HARDWARE				\$ 84,763		\$ 387,095		\$	471,858
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)		Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	Ś	-
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	54	Assembly	\$ 900	\$ 48,600	\$ 360	\$ 19,440	\$ 1,260	\$	68,040
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$	-
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	36	Assembly	\$ 900	\$ 32,400	\$ 360	\$ 12,960	\$ 1,260	\$	45,360
5.5			Assembly		\$ -		\$ -	\$ -	\$	-
5.6	OPGW Assembly - Tangent	18	Assembly	\$ 200		\$ 150			\$	6,300
5.7	OPGW Assembly - Angle / DE	12	Assembly	\$ 250		\$ 150	\$ 1,800	\$ 400	\$	4,800
5.8 5.9	OHSW Assembly - Tangent OHSW Assembly - Angle / DE	18 12	Assembly Assembly	\$ 200 \$ 250		\$ 150 \$ 150	\$ 2,700 \$ 1,800	\$ 350 \$ 400	\$	6,300 4,800
5.10	OPGW Splice Boxes	2	Set	\$ 1,746		\$ 2,274			\$	8,040
5.11	OPGW Splice & Test	2	EA	\$ 2,520		\$ 2,520	\$ 5,040	\$ 5,040	\$	10,080
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$	-
5.13	Vibration Dampers - Conductor	72	EA	\$ 35			\$ 2,520	\$ 70	\$	5,040
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	25	EA	\$ 27	\$ 675	\$ 35	\$ 875	\$ 62	\$	1,550
5.15	Guys, Anchors, and Accessories	-	EA	\$ 720		\$ 885		\$ 1,605		-
5.16	Misc. materials (Signs and Markers)	2.1	Mile	\$ 770	\$ 1,617	\$ 1,006	\$ 2,113	\$ 1,776	\$	3,730
5.17 5.18										
5.18										
5.20										
TOTAL - INSUL	ATORS, FITTINGS, HARDWARE:				\$ 107,544		\$ 56,496		\$	164,040

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply R	ate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	Total Unit Rate	
C. Blue S	tores Junction to Blue Stores Substation				\$	1,025,639		\$ 3,720,722		\$	4,746,361
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	\$	- \$	-	\$ 47,464	\$ 47,464	\$ 47,464	\$	47,464
	Project Management, Material Handling & Amenities										
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 296,004	\$ 296,004	\$ 296,004	\$	296,004
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 47,464	\$ 47,464	\$ 47,464	\$	47,464
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	- \$	-	\$ 47,464	\$ 47,464	\$ 47,464	\$	47,464
	Engineering										
6.5	Design Engineering	1	LS	\$	- \$	-	\$ 237,318	\$ 237,318	\$ 237,318	\$	237,318
6.6	Lidar	1	LS	\$	- \$	-	\$ 14,239	\$ 14,239	\$ 14,239	\$	14,239
6.7	Geotech	2	Location	\$	- \$	-	\$ 3,500	\$ 7,000	\$ 3,500	\$	7,000
6.8	Surveying/Staking	1	LS	\$	- \$	-	\$ 33,225	\$ 33,225	\$ 33,225	\$	33,225
	Testing & Commissioning										
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	- \$	-	\$ 20,000	\$ 20,000	\$ 20,000	\$	20,000
	Permitting and Additional Costs										
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	- \$	-	\$ -	\$ -	\$ -	\$	-
6.11	Environmental Mitigation	-	LS	\$	- \$	-	\$ -	\$ -	\$ -	\$	-
6.12	Warranties / LOC's	1	LS	\$	- \$	-	\$ 14,239	\$ 14,239	\$ 14,239	\$	14,239
6.13	Real Estate Costs (New ROW)	-	LS	\$	- \$	-	\$ -	\$ -	\$ -	\$	-
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	- \$	-	\$ 153,000	\$ 153,000	\$ 153,000	\$	153,000
6.15	Legal Fees	-	LS	\$	- \$	-	\$ -	\$ -	\$ -	\$	-
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	- \$	-	\$ -	\$ -	\$ -	\$	-
6.17		-	LS	\$	- \$	-	\$ -	\$ -	\$ -	\$	-
6.18	Sales Tax on Materials	1	LS	\$ 82,	051 \$	82,051	\$ -	\$ -	\$ 82,051	\$	82,051
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	· ·	\$	-	\$ 4,746	\$ 4,746	\$ 4,746	\$	4,746
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	82,051		\$ 922,162	,	\$	1,004,213

Page 11 of 42

C. TL BS Junc.-Blue Stores SS

NextEra T023 (Segment B Alternate) D. Knickerbocker 345kV Substation - Install

Estimate Revision: 5 Total: \$ 19,121,061

NextEra T023 (Segment B	Altern	ate)		
		Supply	Installation	Total
D. Knickerbocker 345kV Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	223,675	\$ 1,936,115	\$ 2,159,790
2. SUBSTATION FOUNDATIONS	\$	1,572,935	\$ 1,694,150	\$ 3,267,085
3. SUBSTATION STRUCTURES	\$	727,975	\$ 727,975	\$ 1,455,950
4. MAJOR EQUIPTMENT	\$	600,000	\$ 240,000	\$ 840,000
5. SMALL EQUIPTMENT / MATERIALS	\$	1,086,500	\$ 489,500	\$ 1,576,000
6. CONTROL HOUSE / PANELS	\$	1,837,125	\$ 1,227,625	\$ 3,064,750
7. MISC ITEMS	\$	1,061,528	\$ 1,684,810	\$ 2,746,338
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	568,779	\$ 3,442,369	\$ 4,011,148
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	7,678,517	\$ 11,442,544	\$ 19,121,061
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	7,678,517	\$ 11,442,544	\$ 19,121,061

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Suppl	/ Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
D. Knick	erbocker 345kV Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	3.875	ACRES	\$	-	\$ -	\$ 355,000	\$ 1,375,625	\$ 355,000	\$ 1,375,625
1.2	Station stone within substation fence.	1,650	CY	\$	27	\$ 44,550	\$ 75	\$ 123,750	\$ 102	\$ 168,300
1.3	Substation Fence	1,660	LF	\$	100	\$ 166,000	\$ 100	\$ 166,000	\$ 200	\$ 332,000
1.4										
1.5										
1.6	Permanent Access Road - 20'-Wide	275	LF	\$	35	\$ 9,625	\$ 285	\$ 78,375	\$ 320	\$ 88,000
1.7	Pavement	3,373	SY	\$	-	\$ -	\$ 55	\$ 185,515	\$ 55	\$ 185,515
1.8	Gates	1	EA	\$	2,000	\$ 2,000	\$ 2,500	\$ 2,500	\$ 4,500	\$ 4,500
1.9	Culverts / Misc. Access	2	EA	\$	750	\$ 1,500	\$ 1,250	\$ 2,500	\$ 2,000	\$ 4,000
1.10	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 223,675		\$ 1,936,115		\$ 2,159,790
2. SUBSTATIO	N FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	3	EA	\$ 1	4,940	\$ 44,820	\$ 16,000	\$ 48,000	\$ 30,940	\$ 92,820
2.1b	Capacitor Bank Foundations	0	EA	\$ 5	6,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	16	EA	\$ 2	6,145	\$ 418,320	\$ 28,000	\$ 448,000	\$ 54,145	\$ 866,320
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 2	6,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	72	EA	\$	4,482	\$ 322,704	\$ 4,800	\$ 345,600	\$ 9,282	\$ 668,304
2.1f	Station Service Transformer Stand Foundation	4	EA	\$	4,482	\$ 17,928	\$ 4,800	\$ 19,200	\$ 9,282	\$ 37,128
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	72	EA	\$	4,482	\$ 322,704	\$ 4,800	\$ 345,600	\$ 9,282	\$ 668,304
2.1j	Instrument Transformer Stand Foundations	27	EA	\$	4,482	\$ 121,014	\$ 4,800	\$ 129,600	\$ 9,282	\$ 250,614
2.1k	Arrester Stand Foundations	9	EA	\$	4,482	\$ 40,338	\$ 4,800	\$ 43,200	\$ 9,282	\$ 83,538
2.1m	Wave Trap Stand Foundations	3	EA	\$	4,482	\$ 13,446	\$ 4,800	\$ 14,400	\$ 9,282	\$ 27,846
2.1n	Reactor Foundations	0	EA	\$	7,470	\$ -	\$ 8,000	\$ -	\$ 15,470	\$ -
2.1p										

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.1q									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	8	EA	\$ 16,434	\$ 131,472	\$ 17,600	\$ 140,800	\$ 34,034	\$ 272,272
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3h	Bus Support 1 Ph Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3j	Instrument Transformer Stand Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3k	Arrester Stand Foundations	6	EA	\$ 2,988	\$ 17,928		\$ 19,200	\$ 6,188	\$ 37,128
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ 44,260	\$ 44,260	\$ 47,400	\$ 47,400	\$ 91,660	\$ 91,660
2.5b	Generator Foundation	1	EA	\$ 16,000	\$ 16,000	\$ 17,000	\$ 17,000	\$ 33,000	\$ 33,000
2.5c	Station Service Distribution Line - 3ph.	1	LS	\$ -	\$ -	\$ 9,750	\$ 9,750	\$ 9,750	\$ 9,750
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	5	EA	\$ 5,229	\$ 26,145	\$ 5,600	\$ 28,000	\$ 10,829	\$ 54,145
2.6b				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CUIDS	TATION FOUNDATIONS				A 570 005		4 4 604 450		¢ 2.257.005
	TATION FOUNDATIONS				\$ 1,572,935		\$ 1,694,150		\$ 3,267,085
3. SUBSTATIO 3.1	N STRUCTURES 345kV								
3.1a	Substation A-Frame Structures - Stand alone	4	EA	\$ 37,000	\$ 148,000	\$ 37,000	\$ 148,000	\$ 74,000	\$ 296,000
3.1d	Substation A-Frame Structures - Stand alone	4	EA	37,000	γ 148,000	37,000 و	γ 148,000	74,000	296,00 ج

Item	Item Description	Estimated Quantity	Unit of Measure	Mater	ial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$	37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$	-
3.1c	Switch Stands	12	EA	\$	14,800	\$ 177,600	\$ 14,800	\$ 177,600	\$ 29,600	\$	355,200
3.1d	Station Service Transformer Stand	1	EA	\$	14,800	\$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600	\$	29,600
3.1e	Bus Support 3ph	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
3.1f	Bus Support 1 Ph	72	EA	\$	3,700	\$ 266,400	\$ 3,700	\$ 266,400	\$ 7,400	\$	532,800
3.1g	Instrument Transformer Stand	27	EA	\$	1,850	\$ 49,950	\$ 1,850	\$ 49,950	\$ 3,700	\$	99,900
3.1h	Arrester Stand	9	EA	\$	1,850	\$ 16,650	\$ 1,850	\$ 16,650	\$ 3,700	\$	33,300
3.1j	Wave Trap Stand	3	EA	\$	7,400	\$ 22,200	\$ 7,400	\$ 22,200	\$ 14,800	\$	44,400
3.1k	Lightning Mast - 70'	5	EA	\$	6,475	\$ 32,375	\$ 6,475	\$ 32,375	\$ 12,950	\$	64,750
3.2	230kV										
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$	33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$	-
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$	33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$	-
3.2c	Switch Stands	0	EA	\$	12,025	\$ -	\$ 12,025	\$ -	\$ 24,050	\$	-
3.2d	Station Service Transformer Stand	0	EA	\$	12,025			\$ -	\$ 24,050	\$	-
3.2e	Bus Support 3ph	0	EA	\$	-		\$ -	\$ -	\$ -	\$	
3.2f	Bus Support 1 Ph	0	EA	\$	2,775	\$ -	\$ 2,775	\$ -	\$ 5,550	Ś	-
3.2g	Instrument Transformer Stand	0	EA	\$	1,295	\$ -	\$ 1,295	\$ -	\$ 2,590	Ś	-
3.2h	Arrester Stand	0	EA	\$	1,295	\$ -	\$ 1,295		\$ 2,590		
3.2j	Wave Trap Stand	0	EA	\$	5,550	\$ -	\$ 5,550	\$ -	\$ 11,100		-
3.2k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	-	_
J.L.K	inistration structures		271	1	0,	Ÿ	φ 0,173	Ÿ	ψ 12,550	Ť	
3.3	115kV										
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$	18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	ć	
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$	18,500			\$ -	\$ 37,000		
3.3c	Switch Stands	0	EA	Ś	7,955	\$ -	*	\$ -	\$ 15,910	-	-
3.3d	Fuse Stand	0	EA	\$	7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	Ś	
3.3e	Bus Support 3ph	0	EA	\$	3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	-	
3.3f	Bus Support 1 Ph	0	EA	\$	1,850	\$ -	\$ 1,850	·	\$ 3,700	-	
3.3g	Instrument Transformer Stand	0	EA	\$	740			\$ -	\$ 1,480		-
3.3h	Arrester Stand	0	EA	\$	740	\$ -	*	\$ -	\$ 1,480	-	-
3.3j	Wave Trap Stand	0	EA	\$	3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	Ś	
3.3k	Misc. Structures	0	EA	Ś	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	<u> </u>	
3.31	INISC. Structures	0	LA	٦	0,473	-	\$ 0,473	· -	\$ 12,930	,	
TOTAL CURC	FATION CTRUCTURES					A 707.075		A 707.075			4 455 050
	TATION STRUCTURES					\$ 727,975		\$ 727,975		\$	1,455,950
4. MAJOR EQU	345kV										
4.1a	Circuit Breakers	3	EA	Ś	200,000	\$ 600,000	\$ 80,000	\$ 240,000	\$ 280,000	\$	840,000
				+		-		,			840,000
4.1b	Capacitor Banks with Reactors	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	,	
4.1c											
4.1d											
4.1e											
4.2	230kV										
4.2a	Circuit Breakers	0	EA	\$	115,000		\$ 80,000		\$ 195,000		•
4.2b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	Ş	•
4.3	115kV										
4.3a	Circuit Breakers	0	EA	\$	52,000			\$ -	\$ 112,000	 	-
4.3b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 60,000	\$ -	\$ 60,000	\$	-
TOTAL - MAJO	R EQUIPTMENT					\$ 600,000		\$ 240,000		\$	840,000

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5. SMALL EQU	IPTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	3	EA	\$ 40,000	\$ 120,000	\$ 15,000	\$ 45,000	\$ 55,000	\$ 165,00
5.1b	Disconnect Switches - 3ph w/ manual operator	6	EA	\$ 35,000	\$ 210,000	\$ 17,500	\$ 105,000	\$ 52,500	\$ 315,00
5.1c	VT'S	9	EA	\$ 25,000	\$ 225,000	\$ 12,000	\$ 108,000	\$ 37,000	\$ 333,00
5.1d	CT'S	9	EA	\$ 13,000	\$ 117,000	\$ 8,000	\$ 72,000	\$ 21,000	\$ 189,00
5.1e	CCVT'S	9	EA	\$ 13,000	\$ 117,000	\$ 8,000	\$ 72,000	\$ 21,000	\$ 189,00
5.1f	Arresters	9	EA	\$ 6,500	\$ 58,500	\$ 1,500	\$ 13,500	\$ 8,000	\$ 72,00
5.1g	Wave Traps	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,00
5.1h	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000	\$ 50,000	\$ 50,000	\$ 250,000	\$ 250,00
5.1j									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,000	\$ -	\$ 17,500	\$ -	\$ 47,500	\$ -
5.2c	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -	\$ 6,000	\$ -	\$ 16,000	\$ -
5.2f	Arresters	0	EA	\$ 5,000	\$ -	\$ 6,000	\$ -	\$ 11,000	\$ -
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ 33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000	\$ -	\$ 17,500	\$ -	\$ 45,500	\$ -
5.3c	VT'S	0	EA	\$ 13,000	\$ -		\$ -	\$ 21,000	\$ -
5.3d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.3e	CCVT'S	0	EA	\$ 8,000	\$ -		\$ -	\$ 16,000	
5.3f	Arresters	0	EA	\$ 3,420	\$ -	\$ 6,000	\$ -	\$ 9,420	\$ -
5.3g	Wave Traps	0	EA	\$ 10,000	\$ -	\$ 8,000	\$ -	\$ 18,000	\$ -
5.3h	Station Service Transformers	0	EA EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ 1,500	\$ -	\$ 1,500	\$ -	\$ 3,000	\$ -
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				\$ 1,086,500		\$ 489,500		\$ 1,576,00
6. CONTROL H	IOUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	1	EA	\$ 409,500	\$ 409,500	\$ 95,000	\$ 95,000	\$ 504,500	\$ 504,50
6.2	Protection and Telecom Equipment Panels	17	EA	\$ 35,000	\$ 595,000	\$ 10,000	\$ 170,000	\$ 45,000	\$ 765,00
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,00
6.4	Control Cables	1	LS	\$ 317,625	\$ 317,625	\$ 317,625	\$ 317,625	\$ 635,250	\$ 635,25
6.5	SCADA and Communications	1	EA	\$ 50,000	\$ 50,000	\$ 100,000	\$ 100,000	\$ 150,000	\$ 150,00
6.6	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$ 300,00
6.7	DC Distribution System	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$ 300,00
6.8	Security	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$ 15,00
6.9	Fire Alarm	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$ 15,00
6.10	Generator	1	EA	\$ 100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$ 180,00
TOTAL - CONT	ROL HOUSE / PANELS / GENERATOR				\$ 1,837,125		\$ 1,227,625		\$ 3,064,75

Septime Reliance in Septime 1,500	Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
1,72 Rigid Bass Hamps Binocleans	7. MISC ITEMS										
2.00 1.00	7.1	Conduit & Cable Trench System	1,050	LF	\$	185.00	\$ 194,250	\$ 170.00	\$ 178,500	\$ 355	\$ 372,750
Part State Part State Part State Part State	7.2	Rigid Bus, Fittings & Insulators	1,900	LF	\$	125.07	\$ 237,633	\$ 237.10	\$ 450,490	\$ 362	\$ 688,123
	7.3	Strain Bus, Connectors & Insulators	1,000	LF	\$	39.30	\$ 39,300	\$ 53.35	\$ 53,350	\$ 93	\$ 92,650
Some Some	7.4	Grounding System	16,500	LF	\$	6.93	\$ 114,345	\$ 32.58	\$ 537,570	\$ 40	\$ 651,915
7.7	7.5	Strain Bus Insulators - 345kV	38	EA	_	2,000	\$ 76,000	\$ 1,050	\$ 39,900	\$ 3,050	\$ 115,900
7.8	7.6	Strain Bus Insulators - 230kV	0	EA	\$	1,400	\$ -	\$ 750	\$ -	\$ 2,150	\$ -
7.9 SVY Service	7.7	Strain Bus Insulators - 115kV	0	EA	\$	1,000	\$ -	\$ 550	\$ -	\$ 1,550	\$ -
7.10 Control Conduit from ment to Page premier 1 1 1 1 1 1 1 1 1	7.8	Low Voltage AC Station Service	1	LS	\$	50,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$ 125,000
7.71 Mic. Material, Jabone and Ricky Ground)	7.9	SSVT Service	1	LS	\$	45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 90,000	\$ 90,000
7.21	7.10	Control Conduits from Trench to Equipment	1	LS	\$	125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$ 250,000
7.34	7.11	Misc. Materials (Above and Below Ground)	1	LS	\$	180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$ 360,000
7.15	7.12										
7.15	7.13										
7.17	7.14										
7.17	7.15										
7.18	7.16										
7.20	7.17										
7.21	7.18										
7.21	7.19										
7.22	7.20										
7.23 7.24 7.25 7.26 7.27 7.27 7.27 7.28 7.28 7.28 7.29 7.29 7.29 7.29 7.29 7.29 7.29 7.29	7.21										
7.24	7.22										
TOTAL MISC (TEMS)	7.23										
D. Knickerbocker 345kV Substation - Install S. MOR/DEMOS, ENGINEERING, FERMITING, Tag, PM & INDIRECTS: S. MOR/DEMOS, ENGINEERING, FERMITING, Tag, PM & INDIRECTS: S. MOR/DEMOS, ENGINEERING, PERMITING, Tag, PM & INDIRECTS: S. MOR/DEMOS, ENGINEERING, PERMITING, Tag, PM & INDIRECTS: S. MOR/DEMOS S. MOR/DE	7.24										
D. Knickerbocker 345kV Substation - Install S. MOB/DEMOS, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: S. MOB S. MOBINEERING S. MOB S. MOB S. MOBINEERING S. MOB 7.25											
S. MOR/DEWOS, ENGINEERING, PERMITTING, T&C, PM& INDIRECTS:	TOTAL - MISC	ITEMS					\$ 1,061,528		\$ 1,684,810		\$ 2,746,338
Second Contractor Mobilization Demobilization Dem	D. Knick	erbocker 345kV Substation - Install					\$ 7,109,738		\$ 8,000,175		\$ 15,109,913
8.1 Mob / Demob	8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Project Management, Material Handling & Amerities		Contractor Mobilization / Demobilization									
R.2 Project Management & Staffing (Includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	8.1	Mob / Demob	1.0	LS	\$	-	\$ -	\$ 151,099	\$ 151,099	\$ 151,099	\$ 151,099
8.2 and Cost Manager, SHEQ Staff, and Admin Staff) LS S 942,322		Project Management, Material Handling & Amenities									
8.4 Site Accommodation, Facilities, Storage 1 LS \$ - \$ 151,099 \$ 1,208,793 \$ 1,208,793 \$ 1,208,793 \$ 1,208,793 \$ 1,208,793 \$	8.2		1	LS				\$ 942,322	\$ 942,322	\$ 942,322	\$ 942,322
Engineering Segment	8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 151,099	\$ 151,099	\$ 151,099	\$ 151,099
Engineering Cosign Engineering Cosign Engineering Costgn Enginee	8.4		1	LS	\$	-	\$ -	\$ 151,099	\$ 151,099	\$ 151,099	\$ 151,099
8.5 Design Engineering 1 LS \$ - \$ 1,208,793 \$ 1,208,793 \$ 1,208,793 8.6 LiDAR - LS \$ - \$					1			·			
8.6 LIDAR LIDAR LIDAR LIDAR S - S 14,000 S 3,500 \$ 14,000 S 3,500 \$ 14,000 S 3,500 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,779 \$	8.5		1	LS	\$	-	\$ -	\$ 1,208,793	\$ 1,208,793	\$ 1,208,793	\$ 1,208,793
8.7 Geotech 4 EA 5 - \$ 3,500 \$ 14,000 \$ 14,000 \$ 14,000 \$ 14,000 \$ 14,000 \$ 14,000 \$ 14,000 \$ 14,000 \$ 14,000 \$ 14,000 \$ 14,000 \$ 14,000 \$ 14,000 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,769 \$ 105,779 \$ 105,779 \$ 105,779 \$ 105,779 \$ 105,779 \$ 105,779 \$ 105,779 \$ 105,779 \$ 105,779 \$ 105,779 \$ 105,779 \$ 105,779 \$ 105,779 \$ 105,	8.6		-	LS	\$	-	\$ -	\$ -			
8.8 Surveying/Staking Surveying/Staking Site	8.7	Geotech	4	EA	\$	-	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
Esting & Commissioning Enting & Commissioning Enting & Commissioning of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Single of T-Line and Equipment Enting & Singl			1		_	-	\$ -				105,769
8.9 Testing & Commissioning of T-Line and Equipment 1 LS \$ - \$ 377,748 \$ <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td></th<>											-
Permitting and Additional Costs Environmental Licensing & Permitting Costs L L S C S	8.9		1	LS	\$	-	\$ -	\$ 377,748	\$ 377,748	\$ 377,748	\$ 377,748
8.10 Environmental Licensing & Permitting Costs - LS \$ - \$ <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
8.11 Environmental Mitigation LS \$ - \$	8.10		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.12 Warranties / LOC's 1 LS \$ - \$ - \$ 45,330 \$ 45,330 \$ 45,330 \$ 45,330			-		_						
	8.12		1	LS	\$	-	\$ -	\$ 45,330	\$ 45,330	\$ 45,330	\$ 45,330
	8.13		-	LS	_						

Item	Item Description	Estimated Quantity	Unit of Measure	Materi	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$	-	\$ -	\$ 280,000	\$ 280,000	\$ 280,000	\$ 280,000
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	568,779	\$ 568,779	\$ -	\$ -	\$ 568,779	\$ 568,779
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 15,110	\$ 15,110	\$ 15,110	\$ 15,110
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 568,779		\$ 3,442,369		\$ 4,011,148

Page 17 of 42

NextEra T023 (Segment B Alternate) H. North Churchtown Substation - Install

Total: \$ 16,285,817

NextEra T023 (Seg	ment B Altern	ate)			
		Supply	Installation		Total
H. North Churchtown Substation - Install					
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	919,243	\$ 2,855,295	\$	3,774,53
2. SUBSTATION FOUNDATIONS	\$	773,458	\$ 834,700	\$	1,608,15
3. SUBSTATION STRUCTURES	\$	208,000	\$ 338,365	\$	676,73
4. MAJOR EQUIPTMENT	\$	208,000	\$ 240,000	\$	448,00
5. SMALL EQUIPTMENT / MATERIALS	\$	954,540	\$ 637,800	\$	1,592,34
6. CONTROL HOUSE / PANELS	\$	1,962,850	\$ 1,310,350	\$	3,273,20
7. MISC ITEMS	\$	731,113	\$ 935,704	\$	1,666,81
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	471,006	\$ 2,775,028	\$	3,246,03
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-
SUBTOTAL:	\$	6,228,210	\$ 9,927,242	\$	16,285,81
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-
TOTAL:	Ś	6,228,210	\$ 9,927,242	Ś	16,285,81

Description of Work:	

Estimate Revision:

Item	ltem Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
H. North	Churchtown Substation - Install										
1. SITE PREP/	GRADING/ FENCING / CIVIL										
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	2.125	ACRES	\$	-	\$ -	\$ 660,000	\$ 1,402,500	\$ 660,000	\$	1,402,500
1.2	Station stone within substation fence.	600	CY	\$	27	\$ 16,200	\$ 75	\$ 45,000	\$ 102	\$	61,200
1.3	Substation Fence	970	LF	\$	100						194,000
1.4	Permanent Access Road - 20'-Wide	650	LF	\$	35						208,000
1.5	Retaining Wall (1050' x Avg. of 7.15')	1	LS	\$	318,371	\$ 318,371	\$ 492,245	\$ 492,245	\$ 810,616	\$	810,616
1.6	Compacted Fill (Sand)	27,143	CY	\$	17	\$ 461,423	\$ 20	\$ 542,850	\$ 37	\$	1,004,273
1.7											
1.8	Pavement	1,520	SY	\$	-	\$ -	\$ 55			\$	83,600
1.9	Gates	1	EA	\$	2,000						4,500
1.10	Culverts / Misc. Access	2	EA	\$	750	\$ 1,500			\$ 2,000		4,000
1.11	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$	1,850
1.12											
1.13											
1.14											
1.15											
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 919,243		\$ 2,855,295		\$	3,774,539
	N FOUNDATIONS										
	345kV										
2.1a	Circuit Breaker Foundations	0	EA	\$	14,940		\$ 16,000		\$ 30,940	<u> </u>	-
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025		\$ 60,000		\$ 116,025		-
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	26,145		\$ 28,000		\$ 54,145		-
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145		\$ 28,000		\$ 54,145		-
2.1e	Switch Stand Foundations	0	EA	\$	4,482		\$ 4,800		\$ 9,282		-
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$	-
	Bus Support 3ph Foundations	0	EA	\$		T	\$ -	\$ -	\$ -	\$	-
2.1h	Bus Support 1 Ph Foundations	0	EA	\$	4,482		\$ 4,800		\$ 9,282		-
2.1j	Instrument Transformer Stand Foundations	0	EA	\$	4,482		\$ 4,800		\$ 9,282		-
2.1k	Arrester Stand Foundations	0	EA	\$	4,482		\$ 4,800		\$ 9,282		-
2.1m	Wave Trap Stand Foundations	0	EA	\$	4,482		\$ 4,800		\$ 9,282	\$	-
2.1n	Reactor Foundations	0	EA	\$	7,470	\$ -	\$ 8,000	\$ -	\$ 15,470	\$	-
2.1p											
				\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.2	230kV										
2.2a	Circuit Breaker Foundations	0	EA	\$	11,952		\$ 12,800		\$ 24,752		-
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$	-
	· ·				,						10.0

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000		\$ 7,735	
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2j 2.2k	Instrument Transformer Stand Foundations	0	EA EA	\$ 3,735 \$ 3,735	\$ - \$ -	\$ 4,000 \$ 4,000	\$ - \$ -	\$ 7,735 \$ 7,735	
2.2K 2.2m	Arrester Stand Foundations Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2m	Misc. Structure Foundations	0	EA	\$ 3,733	\$ -	\$ 4,000	\$ -	,	\$ -
2.2p	Wisc. Structure Foundations		EA	,	<u> </u>	,	<u> </u>	J.	*
2.3	115kV								
2.3a	Circuit Breaker Foundations	4	EA	\$ 5,229	\$ 20,916	\$ 5,600	\$ 22,400	\$ 10,829	\$ 43,316
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column)	24	EA	\$ 16,434	\$ 394,416		\$ 422,400	\$ 34,034	
2.3e	Switch Stand Foundations	24	EA	\$ 2,988	\$ 71,712			\$ 6,188	
2.3f	Fuse Stand Foundations	2	EA	\$ 2,988	\$ 5,976		\$ 6,400	\$ 6,188	
2.3g 2.3h	Bus Support 1 Ph Foundations	8	EA EA	\$ 2,988 \$ 2,988	\$ 23,904 \$ 35,856		\$ 25,600 \$ 38,400	\$ 6,188 \$ 6,188	\$ 49,504 \$ 74,256
2.3n 2.3j	Bus Support 1 Ph Foundations Instrument Transformer Stand Foundations	36	EA	\$ 2,988	\$ 35,856		\$ 38,400	\$ 6,188	
2.3k	Arrester Stand Foundations	12	EA	\$ 2,988	\$ 35,856		\$ 38,400	\$ 6,188	\$ 74,256
2.3m	Wave Trap Stand Foundations	8	EA	\$ 2,988	\$ 23,904		\$ 25,600	\$ 6,188	
2.3n	Station Service Foundations	1	EA	\$ 3,735	\$ 3,735		\$ 4,000	\$ 7,735	
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	- (-);								
2.4	Transformer Foundations		F.A.	Ć 07.110	ć	ć 404.000	ć	Ć 201.110	A
2.4a 2.4b	345-230kV Transformer Foundation w/ Oil Containment 345-115kV Transformer Foundation w/ Oil Containment	0	EA EA	\$ 97,110 \$ 74,700	\$ - \$ -	\$ 104,000 \$ 80,000	\$ - \$ -	\$ 201,110 \$ 154,700	\$ - \$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 134,700	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	·	-		,	,	7	,	,	*
2.5	Control House Foundations / Pad								4
2.5a	Control House / Pad	1	EA EA	\$ 33,615	\$ 33,615		\$ 36,000 \$ 17,000	\$ 69,615	
2.5b 2.5c	Generator Foundation Station Service Distribution Line - 1ph.	1	LS	\$ 16,000 \$ -	\$ 16,000 \$ -	\$ 17,000 \$ 6,500	\$ 17,000 \$ 6,500	\$ 33,000 \$ 6,500	\$ 33,000 \$ 6,500
2.6	Lightning Mast Foundations	1	L3	, -	÷ -	\$ 0,300	\$ 0,300	\$ 0,300	\$ 0,500
2.6a	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b	70 Lightning Medicion	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBST	TATION FOUNDATIONS				\$ 773,458		\$ 834,700		\$ 1,608,158
3. SUBSTATIO	N STRUCTURES								
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -		\$ -	\$ 74,000	
3.1c	Switch Stands	0	EA	\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	
3.1d	Station Service Transformer Stand	0	EA	\$ 14,800	\$ -		\$ -	\$ 29,600	
3.1e 3.1f	Bus Support 1 Ph	0	EA EA	\$ -	\$ - \$ -	\$ - \$ 3,700	\$ - \$ -	\$ - \$ 7,400	\$ - \$ -
3.1f 3.1g	Bus Support 1 Ph Instrument Transformer Stand	0	EA EA	\$ 3,700	\$ -	\$ 3,700	\$ - \$ -	\$ 7,400	
3.1h	Arrester Stand	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	
3.1j	Wave Trap Stand	0	EA	\$ 7,400	•		\$ -	\$ 14,800	
3.1k	Lightning Masts - 70'	0	EA	\$ 6,475		\$ 6,475		\$ 12,950	
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$ 33,300		\$ 33,300		\$ 66,600	
3.2c	Switch Stands	0	EA	\$ 12,025	\$ -			\$ 24,050	
3.2d	Station Service Transformer Stand	0	EA	\$ 12,025	\$ -	\$ 12,025	\$ -	\$ 24,050	
3.2e	Bus Support 3ph	0	EA	\$ -			\$ -	\$ -	
3.2f	Bus Support 1 Ph	0	EA		\$ -	\$ 2,775		\$ 5,550	
3.2g	Instrument Transformer Stand	0	EA	\$ 1,295	\$ -	\$ 1,295	\$ -	\$ 2,590	\$ -

2.70 Amende Stend	Item	Item Description	Estimated Quantity	Unit of Measure	Material Sup		Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
13.0 Mole Statutuses	3.2h	Arrester Stand			\$	1,295	\$ -		\$ -	\$ 2,590	
Section Sect	3.2j	Wave Trap Stand	0	EA	\$	5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
3.30	3.2k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
2.30 Substation Arrange Structures - Stand after 3											
3.8 Acceptation Armone Structures Shared Column 2 56 5 11,000 5 140,000 5 2,000 5 3,000											
12 2A 5 7300					+ '				7		
1.5 1.6	3.3b	Substation A-Frame Structures - Shared Column	8	EA	\$	18,500	\$ 148,000	\$ 18,500	\$ 148,000	\$ 37,000	\$ 296,000
3.2 Res Support 2 PM 1.2 1.3			12		· .					·	
33 But Support 1 Ph					· ·						
2.48 Instrument fromformer stands											
33 Arester Stand		**									
3.3 Wave Trap Stand											
23.8 Unphrime Mart					<u> </u>		. ,				
3.3 Station Service Transformer Support Stand 1 5 5 11 5 11 6 11 10 5 2,220 5										·	
STORAL-SMOKE AUTOMOST WILLIAMS STORAGE S					<u> </u>						
ALL SASY			1	EA	\$	1,110		\$ 1,110		\$ 2,220	
4.19 S458V							\$ 338,365		\$ 338,365		\$ 676,730
4.1											
4.1 Capacitor Banks				F.*	ė	200.000	ć	ć 00.000	ć	ć 200.000	¢
4.1 365 W - 280 W Auto Transformer											
4.1 345-W - 115 M Auto Transformer					+ -						•
4.22 236W											
4.2			U	EA	\$	-	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
A			0	ΕΛ	c	250,000	ċ	¢ 90,000	ċ	¢ 220,000	\$ -
4.3 155V											
4 BA S 52,000 S 28,000 S 240,000 S 112,000 S 240,000 S 112,000 S 240,000 S 240	4.20	Capacitor banks	U	EA	3		ş -	\$ 80,000	Ş -	\$ 80,000	-
4 BA S 52,000 S 28,000 S 240,000 S 112,000 S 240,000 S 112,000 S 240,000 S 240	12	115W									
A			1	FΛ	¢	52,000	\$ 208,000	\$ 60,000	\$ 240,000	\$ 112,000	\$ 448,000
TOTAL - MAJOR EQUIPMENT											
S.MALI CQUIFFMENT, MATERIALS S.1 Mas Witches - 3ph w/ marcor operator 0 EA 5 40,000 5 5 15,000 5 5 55,000 5 5 5,100 5 5 5,100 5 5 5,100 5 5 5,100 5 5 5,100 5 5 5,100 5 5 5,100 5 5 5,100 5 5 5,100 5 5,100 5 5,100 5 5,100 5 5 5,100 5 5 5,100 5 5,100 5 5,10		Coponer Burns			Ť		Ť	<i>\$</i> 00,000	¥	ψ 00,000	<u> </u>
S.MALI CQUIFFMENT, MATERIALS S.1 Mas Witches - 3ph w/ marcor operator 0 EA 5 40,000 5 5 15,000 5 5 55,000 5 5 5,100 5 5 5,100 5 5 5,100 5 5 5,100 5 5 5,100 5 5 5,100 5 5 5,100 5 5 5,100 5 5 5,100 5 5,100 5 5,100 5 5,100 5 5 5,100 5 5 5,100 5 5,100 5 5,10	TOTAL - MAJO	R EQUIPTMENT					\$ 208,000		\$ 240.000		\$ 448,000
S.1. 345kV S.1. Inswitches 3ph w/ motor operator O EA S 40,000 S S 15,000 S S 55,000 S S 55,000 S S 51,000 S S S 55,000 S S S 55,000 S S S S S S S S S	5. SMALL EQUI	IPTMENT / MATERIALS									
S.1b Disconnect Switches - 3ph w/ manual operator 0	5.1	345kV									
S-1c	5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$	40,000	\$ -	\$ 15,000	\$ -	\$ 55,000	\$ -
S.1d	5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$	35,000	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
S.1e CCVTS	5.1c	VT'S	0	EA	\$	25,000	\$ -	\$ 12,000	\$ -	\$ 37,000	\$ -
S.1f Arresters 0 EA S 6,500 S - S 1,500 S - S 8,000 S S S S S S S S S	5.1d	CT'S	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
S.1g Wave Traps	5.1e	CCVT'S	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
S.1h Station Service Transformers 0 EA \$ 200,000 \$ - \$ 50,000 \$ 5 5 50,000 \$ 5 5 5 5 5 5 5 5 5	5.1f	Arresters	0	EA	\$	6,500	\$ -	\$ 1,500	\$ -	\$ 8,000	\$ -
S.1 S.2 230kV S.2 Line Switches - 3ph w/ motor operator S.2 Line Switches - 3ph w/ manual operator S.2 Line Switches - 3ph w/ manual operator S.2 Line Switches - 3ph w/ manual operator S.2 Line Switches - 3ph w/ manual operator S.2 Line Switches - 3ph w/ manual operator S.2 Line Switches - 3ph w/ manual operator S.2 Line Switches - 3ph w/ manual operator S.2 Line Switches - 3ph w/ manual operator S.2 Line Switches - 3ph w/ manual operator S.2 Line Switches - 3ph w/ manual operator S.2 Line Switches - 3ph w/ manual operator S.2 Line Switches - 3ph w/ motor operator S.2 Line Switches - 3ph w/ motor operator S.3 Line Switches - 3ph w/ motor operator S.3 Line Switches - 3ph w/ manual operator S.3 L	5.1g	Wave Traps	0	EA	\$	13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
S230KV S	5.1h	Station Service Transformers	0	EA	\$	200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.2a Line Switches - 3ph w/ motor operator 0 EA \$ 35,000 \$ - \$ 50,000 \$ \$ 5.2b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 30,000 \$ - \$ 17,000 \$ - \$ 47,500 \$ 5.2c VT'S 0 EA \$ 13,000 \$ - \$ 13,000 \$ - \$ 21,000 \$ 5.2d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ \$ 5.2e CVT'S 0 EA \$ 13,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5 \$ 5,2e CVT'S 0 EA \$ 10,000 \$ - \$ 5,000 \$ - \$ 16,000 \$ \$ 5.2e CVT'S 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5 \$ 5,2e CVT'S 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5,000 \$ 5,	5.1j										
5.2a Line Switches - 3ph w/ motor operator 0 EA \$ 35,000 \$ -											
5.2b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 30,000 \$ - \$ 17,500 \$ - \$ 47,500 \$ 5.2c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.2d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.2d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.2d CT'S 0 EA \$ 10,000 \$ - \$ 8,000 \$ - \$ 16,000 \$ 5.2d CT'S CCVT'S 0 EA \$ 10,000 \$ - \$ 6,000 \$ - \$ 11,000 \$ 5.2f Arresters 0 EA \$ 13,000 \$ - \$ 5,000 \$ - \$ 11,000 \$ 5.2g Wave Traps 0 EA \$ 13,000 \$ - \$ 5,000 \$ - \$ 11,000 \$ 5.2g Wave Traps 0 EA \$ 13,000 \$ - \$ - \$ - \$ - \$ 5.2l \$ 5.2l Station Service Transformers 0 EA \$ - \$ - \$ - \$ - \$ - \$ \$											
S.2c					+						•
5.2d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$											
5.2e CCVT'S 0 EA \$ 10,000 \$ - \$ 6,000 \$ - \$ 16,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 6,000 \$ - \$ 11,000 \$ \$ 5.2g Wave Traps 0 EA \$ 13,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5,											
5.2f Arresters 0 EA \$ 5,000 \$ - \$ 6,000 \$ - \$ 11,000 \$ 5.2g Wave Traps 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.2h Station Service Transformers 0 EA \$ - \$<											
5.2g Wave Traps 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.2h Station Service Transformers 0 EA \$ - \$,			
Station Service Transformers 0 EA \$ - \$ - \$ - \$ - \$ - \$ \$ - \$									T	, , , , , ,	
5.2											
5.3 115kV EA \$ 33,000 \$ 132,000 \$ 15,000 \$ 60,000 \$ 48,000 \$ \$ 5.3b Disconnect Switches - 3ph w/ manual operator BEA \$ 28,000 \$ 224,000 \$ 17,500 \$ 140,000 \$ 45,500 \$ 5.3c VT'S \$ 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 21,000 \$ 5.3c VT'S \$ 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 21,000 \$ 5.3c VT'S \$ 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 21,000 \$ 5.3c VT'S \$ 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 21,000 \$ 5.3c VT'S \$ 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 96,000 \$ 21,000 \$ 5.3c VT'S \$ 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 96,000 \$ 21,000 \$ \$ 16,000 \$ \$		Station Service Transformers	0	ŁΑ	۶	-	> -	ş -	ş -	ş -	\$ -
5.3a Line Switches - 3ph w/ motor operator 4 EA \$ 33,000 \$ 132,000 \$ 15,000 \$ 60,000 \$ 48,000 \$ 5.3b 5.3b Disconnect Switches - 3ph w/ manual operator 8 EA \$ 28,000 \$ 224,000 \$ 17,500 \$ 140,000 \$ 45,500 \$ 5.3c 5.3c VT'S 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 21,000 \$ 5.3c 5.3e CCVT'S 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 21,000 \$ 5.3c	5.2]				<u> </u>						
5.3a Line Switches - 3ph w/ motor operator 4 EA \$ 33,000 \$ 132,000 \$ 15,000 \$ 60,000 \$ 48,000 \$ 5.3b 5.3b Disconnect Switches - 3ph w/ manual operator 8 EA \$ 28,000 \$ 224,000 \$ 17,500 \$ 140,000 \$ 45,500 \$ 5.3c 5.3c VT'S 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 21,000 \$ 5.3c 5.3e CCVT'S 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 21,000 \$ 5.3c	E 2	115W									
5.3b Disconnect Switches - 3ph w/ manual operator 8 EA \$ 28,000 \$ 224,000 \$ 17,500 \$ 140,000 \$ 45,500 \$ 5.3c VT'S 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 21,000 \$ 5.3d CT'S 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 21,000 \$ 5.3e CCVT'S 12 EA \$ 8,000 \$ 96,000 \$ 96,000 \$ 16,000 \$				ΕΛ	ė	22,000	¢ 122,000	ć 1E 000	¢ 60,000	ć 40.000	ć 103.000
5.3c VT'S 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 21,000 \$ 5.3d CT'S 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 21,000 \$ 5.3e CCVT'S 12 EA \$ 8,000 \$ 96,000 \$ 96,000 \$ 16,000 \$											
5.3d CT'S 12 EA \$ 13,000 \$ 156,000 \$ 8,000 \$ 96,000 \$ 21,000 \$ 5.3e CCVT'S 12 EA \$ 8,000 \$ 96,000 \$ 96,000 \$ 16,000 \$											
5.3e CCVT'S 12 EA \$ 8,000 \$ 96,000 \$ 96,000 \$ 16,000 \$											
1 3.51 IATIESLEIS 1 12 EA 15 3.420.15 41.040.15 5.000.15 77.000.15 9.420.15											
5.38 Wave Traps 4 EA \$ 13,000 \$ 52,000 \$ 8,000 \$ 32,000 \$ 21,000 \$											

5.01		Estimated Quantity	Unit of Measure	Mate	ial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
5.3h Stati	ation Service Transformers	1	EA	\$	75,000	\$ 75,000	\$ 35,000	\$ 35,000	\$ 110,000	\$	110,000
5.3j Fuse	ses	3	EA	\$	7,500	\$ 22,500	\$ 3,600	\$ 10,800	\$ 11,100	\$	33,300
						d 054.540		d 527.000			4 502 240
	QUIPTMENT / MATERIALS SE / PANELS / GENERATOR					\$ 954,540		\$ 637,800		\$	1,592,340
	ONTROL HOUSE	1	EA	\$	292,500	\$ 292,500	\$ 85,000	\$ 85,000	\$ 377,500	<u> </u>	377,500
	otection and Telecom Equipment Panels	23	EA	\$	35,000		\$ 10,000			\$	1,035,000
6.3 125	5VDC Batteries	2	EA	Ś	75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$	200,000
	ntrol Cables	1	LS	\$	350,350				\$ 700,700		700,700
6.5 SCAI	ADA and Communications	1	EA	\$	50,000	\$ 50,000	\$ 100,000	\$ 100,000	\$ 150,000	\$	150,000
	w Voltage AC Distribution	2	EA	\$	50,000				\$ 150,000		300,000
	C Distribution System	2	EA	\$	50,000				\$ 150,000	_	300,000
	curity	1	EA	\$	7,500				\$ 15,000	\$	15,000
	e Alarm	1	EA	\$		\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$	15,000
6.10 Gen	enerator	1	EA	\$	100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$	180,000
TOTAL CONTROL	HOUSE / DANIELS / SENIEDATOR					4 4 052 050		4 4 240 250			2 272 222
7. MISC ITEMS	. HOUSE / PANELS / GENERATOR					\$ 1,962,850		\$ 1,310,350		\$	3,273,200
	nduit & Cable Trench System	600.0	LF	Ś	185.00	\$ 111,000	\$ 170.00	\$ 102,000	\$ 355	\$	213,000
				+ -							
	gid Bus, Fittings & Insulators	700.0	LF	\$	125.07	· ,	\$ 237.10		\$ 362	\$	253,519
7.3 Strai	rain Bus, Connectors & Insulators	1,000.0	LF	\$	39.30	\$ 39,300	\$ 53.35	\$ 53,350	\$ 93	\$	92,650
7.4 Grou	ounding System	4,800.0	LF	\$	6.93	\$ 33,264	\$ 32.58	\$ 156,384	\$ 40	\$	189,648
7.5 Strai	rain Bus Insulators - 345kV	0	EA	\$	2,000	\$ -	\$ 1,050	\$ -	\$ 3,050	\$	-
7.6 Strai	rain Bus Insulators - 230kV	0	EA	\$	1,400	\$ -	\$ 750	\$ -	\$ 2,150	\$	-
7.7 Strai	rain Bus Insulators - 115kV	60	EA	\$	1,000		\$ 550	\$ 33,000	\$ 1,550	\$	93,000
	w Voltage AC Station Service	1	LS	\$	50,000				\$ 125,000		125,000
	VT Service	1	LS	\$	45,000			\$ 45,000	\$ 90,000	\$	90,000
	ntrol Conduits from Trench to Equipment	1	LS	\$	125,000	\$ 125,000		\$ 125,000	\$ 250,000	\$	250,000
	isc. Materials (Above and Below Ground)	1	LS	\$	180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$	360,000
7.12 7.13											
7.13											
7.15											
7.16											
7.17											
7.18											
7.19											
7.20											
7.21											
7.22										<u> </u>	
7.23				-							
7.24											
7.25 TOTAL - MISC ITEM	MS					\$ 731,113		\$ 935,704		\$	1,666,817
	hurchtown Substation - Install					\$ 5,887,569		\$ 7,152,214		\$	13,039,784
8. MOB/DEMOR F	ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	ntractor Mobilization / Demobilization										
	ob / Demob	1.0	LS	\$	-	\$ -	\$ 130,398	\$ 130,398	\$ 130,398	\$	130,398
	oject Management, Material Handling & Amenities								·		
	oject Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler d Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 813,220	\$ 813,220	\$ 813,220	\$	813,220
8.3 Utili	ility PM and Project Oversite	1	LS			\$ -	\$ 130,398	\$ 130,398	\$ 130,398	\$	130,398
	e Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 130,398				130,398
	gineering						,	,	,		
			1.0	\$		\$ -	\$ 1,043,183	\$ 1,043,183	ć 1.042.402	ć	1,043,183
8.5 Desi	sign Engineering	1	LS	\$	-		3 1,043,103	3 1,043,163	\$ 1,043,183	٠,>	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 91,278	\$ 91,278	\$ 91,278	\$ 91,278
	Testing & Commissioning								
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 325,995	\$ 325,995	\$ 325,995	\$ 325,995
	Permitting and Additional Costs								
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 39,119	\$ 39,119	\$ 39,119	\$ 39,119
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -	\$ 44,000	\$ 44,000	\$ 44,000	\$ 44,000
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 471,006	\$ 471,006	\$ -	\$ -	\$ 471,006	\$ 471,006
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 13,040	\$ 13,040	\$ 13,040	\$ 13,040
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 471,006		\$ 2,775,028		\$ 3,246,034

Page 22 of 42

NextEra T023 (Segment B Alternate) I. Greenbush Substation - Removal Total: \$ 70,639

NextEra T023 (Segment I	Alternate)			
	Supply		Installation	Total
I. Greenbush Substation - Removal				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ -	\$ -
2. SUBSTATION FOUNDATIONS	\$	-	\$ 12,000	\$ 12,000
3. SUBSTATION STRUCTURES	\$	-	\$ -	\$ -
4. MAJOR EQUIPTMENT	\$	-	\$ 7,000	\$ 7,000
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ 35,000	\$ 35,000
6. CONTROL HOUSE / PANELS	\$	-	\$ 7,200	\$ 7,200
7. MISC ITEMS	\$	-	\$ -	\$ -
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$ 9,439	\$ 9,439
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	-	\$ 70,639	\$ 70,639
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$		\$ 70,639	\$ 70,639

Doccri	iption of	Mor	٠.
Descii	puon o	VVOI	٨.

Estimate Revision:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
I. Green	bush Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
	N FOUNDATIONS								
2.1	345kV				_			4	
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 14,200	\$ -	\$ 14,200	
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	· ·	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	7	-,	\$ -	\$ 2,400 \$ -	
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ - \$ -	· ·	т	\$ -	т	\$ -
2.1k	Arrester Stand Foundations	0	EA	7	7	\$ - \$ -	\$ -	\$ -	\$ -
2.1m 2.1n	Wave Trap Stand Foundations	0	EA	\$ - \$ -	\$ - \$ -	7	\$ - \$ -	\$ - \$ -	\$ - \$ -
	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	, -
2.1p									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200	\$ -	\$ 7,200	s -
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000		\$ 32,000	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000		\$ 22,000	
	Table 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1			1 *	T	1 + 22,000	I *	+ 22,000	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -		\$ -	\$ 11,000	\$ -
2.2e	Switch Stand Foundations	0		\$ -	\$ -	\$ 5,200		\$ 5,200	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.2g	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2j 2.2k	Instrument Transformer Stand Foundations	0	EA EA	\$ -	\$ - \$ -	\$ 2,400 \$ 2,400	\$ - \$ -	\$ 2,400 \$ 2,400	
2.2K 2.2m	Arrester Stand Foundations	0		\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ - \$ -
2.2m	Wave Trap Stand Foundations Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	IMISC. Structure Fouridations	0	EA	-	-	-	· -	· -	-
2.29									
2.3	115kV								
2.3a	Circuit Breaker Foundations	1	EA	\$ -	\$ -	\$ 7,200	\$ 7,200	\$ 7,200	\$ 7,200
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	2	EA	\$ -	\$ -	\$ 2,400	\$ 4,800	\$ 2,400	\$ 4,800
2.3k	Arrester Stand Foundations	0	EA EA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.3m	Wave Trap Stand Foundations		EA		7	1	1	-	
2.3n 2.3p	Station Service Foundations Misc. Structure Foundations	0	EA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.5μ	INISC. Structure Foundations	U	EA	-	-	, -	, ·	· -	-
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b	70 Lightning Wast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		-					,		
TOTAL - SUBS	FATION FOUNDATIONS				\$ -		\$ 12,000		\$ 12,000
	N STRUCTURES								
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d 3.1e	Station Service Transformer Stand	0	EA EA	\$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
3.1e 3.1f	Bus Support 3ph Bus Support 1 Ph	0	EA	\$ -	\$ - \$ -	\$ 2,250	\$ - \$ -	\$ - \$ 2,250	\$ -
3.1g	Instrument Transformer Stand	0		\$ -	\$ -	\$ 2,230	\$ -	\$ 2,250	\$ -
3.1g 3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		-							
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0		\$ -	\$ -	\$ 27,000		\$ 27,000	
3.2b	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -			\$ 27,000	
3.2c	Switch Stands	0		\$ -		\$ 9,750		\$ 9,750	
3.2d	Station Service Transformer Stand	0		\$ -	\$ -		\$ -	\$ -	
3.2e	Bus Support 3ph	0		\$ -	\$ -		\$ -	\$ -	
3.2f	Bus Support 1 Ph	0		\$ -		\$ 2,250		\$ 2,250	
3.2g 3.2h	Instrument Transformer Stand Arrester Stand	0		\$ -	\$ -	\$ 1,050 \$ 1,050		\$ 1,050 \$ 1,050	
3.211	Arrester stand	<u> </u>	L CA	1 -		1,050		1,050	D24-£42

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ 4,500	\$ -	\$ 4,500	\$ -
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	0	EA	\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
3.3d	Fuse Stand	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBST	TATION STRUCTURES				\$ -		\$ -		\$ -
4. MAJOR EQU	IIPTMENT								
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, , , , , , , , , , , , , , , , , , , ,	•
4.3	115kV								
4.3a	Circuit Breakers	1	EA	\$ -	\$ -	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
4.3b	Capacitor Banks	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				*	*	*	7	*	*
TOTAL - MAJO	R EQUIPTMENT				\$ -		\$ 7,000		\$ 7,000
5. SMALL EQU	IPTMENT / MATERIALS						, ,,,,,,		, ,,,,,,
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -		\$ -	\$ 5,500	
5.1c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S	0		\$ -	\$ -		\$ -	\$ -	\$ -
5.1e	CCVT'S	0	EA	\$ -	\$ -		\$ -	\$ 2,500	
5.1f	Arresters	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j				,			,		
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ICI S	()	FA FA			1. *	'	\$ 1,500	
	CCYT'S	0	EA EA		7	\$ 1.500	S - I		
5.2e	CCVT'S	0	EA	\$ -	\$ -		\$ - \$ -		Ś -
5.2e 5.2f	CCVT'S Arresters	0	EA EA	\$ -	\$ - \$ -	\$ 2,500	\$ -	\$ 2,500	\$ - \$ -
5.2e 5.2f 5.2g	CCVT'S Arresters Wave Traps	0 0 0	EA EA EA	\$ - \$ - \$ -	\$ - \$ - \$ -	\$ 2,500 \$ 2,500	\$ - \$ -	\$ 2,500 \$ 2,500	\$ -
5.2e 5.2f 5.2g 5.2h	CCVT'S Arresters	0	EA EA	\$ -	\$ - \$ -	\$ 2,500	\$ -	\$ 2,500	
5.2e 5.2f 5.2g	CCVT'S Arresters Wave Traps	0 0 0	EA EA EA	\$ - \$ - \$ -	\$ - \$ - \$ -	\$ 2,500 \$ 2,500	\$ - \$ -	\$ 2,500 \$ 2,500	\$ -
5.2e 5.2f 5.2g 5.2h 5.2j	CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0	EA EA EA	\$ - \$ - \$ -	\$ - \$ - \$ -	\$ 2,500 \$ 2,500	\$ - \$ -	\$ 2,500 \$ 2,500	\$ -
5.2e 5.2f 5.2g 5.2h 5.2j	CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0 0	EA EA EA EA	\$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ -	\$ 2,500 \$ 2,500 \$ -	\$ - \$ - \$ -	\$ 2,500 \$ 2,500 \$ -	\$ -
5.2e 5.2f 5.2g 5.2h 5.2j 5.3	CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator	0 0 0 0	EA EA EA EA	\$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ -	\$ 2,500 \$ 2,500 \$ -	\$ - \$ - \$ -	\$ 2,500 \$ 2,500 \$ -	\$ -
5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a	CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	0 0 0	EA EA EA EA EA EA	\$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ -	\$ 2,500 \$ 2,500 \$ - \$ - \$ 5,500	\$ - \$ - \$ - \$ - \$ -	\$ 2,500 \$ 2,500 \$ - \$ - \$ 5,500	\$ - \$ - \$ - \$ -
5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3b 5.3c	CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S	0 0 0 0	EA EA EA EA EA EA EA EA EA	\$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 2,500 \$ 2,500 \$ - \$ - \$ 5,500 \$ -	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 2,500 \$ 2,500 \$ - \$ - \$ 5,500 \$ -	\$ - \$ - \$ - \$ - \$ -
5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3a 5.3c 5.3d	CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CT'S	0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 2,500 \$ 2,500 \$ - \$ - \$ 5,500 \$ - \$ 5,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 2,500 \$ 2,500 \$ - \$ - \$ 5,500 \$ - \$ 5,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3b 5.3c 5.3d 5.3e	CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 2,500 \$ 2,500 \$ - \$ - \$ 5,500 \$ - \$ 5,500 \$ - \$ 5	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5	\$ 2,500 \$ 2,500 \$ - \$ - \$ 5,500 \$ - \$ 5,500 \$ - \$ 5	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3c 5.3c 5.3d 5.3d 5.3d 5.3e 5.3f	CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters	0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 2,500 \$ 2,500 \$ - \$ - \$ 5,500 \$ - \$ 1,500 \$ 1,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 5 - \$ - \$ -	\$ 2,500 \$ 2,500 \$ - \$ - \$ 5,500 \$ - \$ 5 \$ 17,500 \$ 1,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3c 5.3c 5.3d 5.3e 5.3e 5.3e 5.3f 5.3g	CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 2,500 \$ 2,500 \$ - \$ - \$ 5,500 \$ - \$ 17,500 \$ 1,500 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 5 - \$ 5 5 - \$ 5 5 - \$ -	\$ 2,500 \$ 2,500 \$ - \$ - \$ 5,500 \$ - \$ 17,500 \$ 1,500 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5
5.2e 5.2f 5.2g 5.2h 5.2.2 5.3 5.3a 5.3a 5.3c 5.3d 5.3e 5.3f 5.3g 5.3f 5.3g 5.3h	CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters	0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 2,500 \$ 2,500 \$ - \$ - \$ 5,500 \$ - \$ 17,500 \$ 1,500 \$ - \$ 1,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5 5 - \$ - \$ -	\$ 2,500 \$ 2,500 \$ - \$ - \$ 5,500 \$ - \$ 17,500 \$ 1,500 \$ - \$ 1,500 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
TOTAL - SMALL	L EQUIPTMENT / MATERIALS				\$ -		\$ 35,000		\$ 35,000
	OUSE / PANELS / GENERATOR				Ţ		33,000		33,000
	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
	Protection and Telecom Equipment Panels	2	EA	\$ -	\$ -	\$ 3,600	7	\$ 3,600	
	125VDC Batteries	0		\$ -	\$ -	\$ -	\$ 7,200	\$ -	\$ 7,200
6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Fire Alarm	0		\$ -	т	\$ -	\$ -	\$ -	\$ -
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
0.10	Generator	0	EA	, -	, -	, -	, -	· -	· -
TOTAL - CONT	 ROL HOUSE / PANELS / GENERATOR				\$ -		\$ 7,200		\$ 7,200
7. MISC ITEMS					,		7,200		7,200
	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
	Rigid Bus, Fittings & Insulators	0		\$ -	\$ -	\$ 42,000.00		\$ 42,000	
	Strain Bus, Connectors & Insulators	0	LS	\$ -	\$ -	\$ 126.23	\$ -	\$ 21,000	
	Grounding System	0	EA EA	\$ -	\$ -	\$ 21,000.00		\$ 42,000	
7.4	orounding system	0	EM	-	-	42,000.00	-	y 42,000	-
7.6									
7.7									
7.7									
7.8									
7.10									
7.11 7.12									
7.13									
7.14 7.15									
TOTAL - MISC	ITEMAC				\$ -		\$ -		\$ -
I. Greent	bush Substation - Removal				\$ -		\$ 61,200		\$ 61,200
8. MOB/DEMC	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 612	\$ 612	\$ 612	\$ 612
	Project Management, Material Handling & Amenities								
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler								
8.2	and Cost Manager, SHEQ Staff, Admin, Materials Management Staff)	1	Months			\$ 3,319	\$ 3,319	\$ 3,319	\$ 3,319
8.3	Site Accommodation, Facilities, Storage	1.0	LS	\$ -	\$ -	\$ 612	\$ 612	\$ 612	\$ 612
	Engineering							·	
8.4	Design Engineering	1.0	LS	\$ -	\$ -	\$ 4,896	\$ 4,896	\$ 4,896	\$ 4,896
	Lidar	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.6	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$
	Surveying/Staking	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$
	Testing & Commissioning								
8.8	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Permitting and Additional Costs								
8.9	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Warranties / LOC's	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Real Estate Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.13	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Sales Tax on Materials	1.0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	\$ -	\$ -	\$ -	\$ -
8.17									

NextEra T023 (Segment B Alternate) J. Pleasant Valley Substation - Install

Total: \$ 3,526,782

NextEra T023 (Seg	gment B Altern	ate)		
		Supply	Installation	Total
J. Pleasant Valley Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	11,025	\$ 14,625	\$ 25,650
2. SUBSTATION FOUNDATIONS	\$	161,177	\$ 171,300	\$ 332,477
3. SUBSTATION STRUCTURES	\$	44,400	\$ 44,400	\$ 88,800
4. MAJOR EQUIPTMENT	\$	200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPTMENT / MATERIALS	\$	260,500	\$ 129,000	\$ 389,500
6. CONTROL HOUSE / PANELS	\$	560,900	\$ 253,400	\$ 814,300
7. MISC ITEMS	\$	409,950	\$ 457,275	\$ 867,225
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	131,836	\$ 596,994	\$ 728,830
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	1,779,788	\$ 1,746,994	\$ 3,526,782
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	1,779,788	\$ 1,746,994	\$ 3,526,782

Doccri	iption of	Mor	٠.
Descii	puon o	VVOI	٨.

Estimate Revision:

Item	ltem Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
J. Pleasa	nt Valley Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$	-	\$ -	\$ 230,000	\$ -	\$ 230,000	\$ -
1.2	Station stone within substation fence.	75	CY	\$	27	\$ 2,025	\$ 75	\$ 5,625	\$ 102	\$ 7,650
1.3	Substation Fence	90	LF	\$	100	\$ 9,000	\$ 100	\$ 9,000	\$ 200	\$ 18,000
1.4	Permanent Access Road - 20'-Wide	0	LF	\$	35		\$ 285		\$ 320	
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
	REP/ GRADING/ FENCING / CIVIL					\$ 11,025		\$ 14,625		\$ 25,650
	N FOUNDATIONS					Ţ 11,025		Ţ 1,025		25,050
2.1	345kV									
2.1a	Circuit Breaker Foundations	1	EA	Ś	14,940	\$ 14,940	\$ 16,000	\$ 16,000	\$ 30,940	\$ 30,940
2.1b	Capacitor Bank Foundations	0	EA	Ś	56,025		\$ 60,000		\$ 116,025	
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	26,145		\$ 28,000		\$ 54,145	
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	Ś	26,145		\$ 28,000		\$ 54,145	
2.1e	Switch Stand Foundations	6	EA	Ś	4,482				\$ 9,282	
2.1f	Station Service Transformer Stand Foundation	0	EA	Ś	4,482		\$ 4,800		\$ 9,282	
2.1g	Bus Support 3ph Foundations	0	EA	Ś		\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	Ś	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	s -
2.1j	Instrument Transformer Stand Foundations	9	EA	\$	4,482				\$ 9,282	
2.1k	Arrester Stand Foundations	3	EA	\$	4,482				\$ 9,282	
2.1m	Wave Trap Stand Foundations	1	EA	Ś	4,482			\$ 4,800	\$ 9,282	
2.1n	Reactor Foundations	0	EA	Ś	7,470		\$ 8,000	· ,	\$ 15,470	
2.1p	Nedecti Foundations	Ŭ.	Δ,	1	7,170	<u> </u>	ψ 0,000	·	Ψ 15,σ	
2.29										
2.2	230kV									
2.2a	Circuit Breaker Foundations	0	EA	Ś	11.952	\$ -	\$ 12,800	\$ -	\$ 24,752	Ś -
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820		\$ 48,000		\$ 92,820	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	22,410		\$ 24,000		\$ 46,410	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	Ś	22,410		\$ 24,000	·	\$ 46,410	
		·	υ,	1 7	22,710	т	- 27,000	7	7 .0,410	Page 27 of 42

Page 27 of 42

2.2f Stz 2.2g Bu 2.2h Bu 2.2l Ins 2.2k Art 2.2m Wa 2.2n Mi 2.2p 2.3 11 2.3a Cir 2.3b Ca 2.3c Ca 2.3d Ca	witch Stand Foundations tation Service Transformer Stand Foundation us Support 3ph Foundations us Support 1 Ph Foundations ustrument Transformer Stand Foundations urrester Stand Foundations Vave Trap Stand Foundations lisc. Structure Foundations	0 0 0 0 0	EA EA EA	\$ 3,735 \$ 3,735	\$ -	\$ 4,000			
2.2g Bu 2.2h Bu 2.2j Ins 2.2k Arra 2.2m Wa 2.2n Mi 2.2p 2.3 11 2.3a Cir 2.3b Ca 2.3c Ca 2.3d Ca	us Support 3ph Foundations us Support 1 Ph Foundations nstrument Transformer Stand Foundations rrester Stand Foundations Vave Trap Stand Foundations	0 0 0	EA	¢ 2.725		4,000	\$ -	\$ 7,735	\$ -
2.2h Bu 2.2j Insa 2.2k Arr 2.2m W2 2.2n Mi 2.2p 2.3 11 2.3a Cir 2.3b Ca 2.3c Ca 2.3d Ca	us Support 1 Ph Foundations Instrument Transformer Stand Foundations Irrester Stand Foundations Vave Trap Stand Foundations	0		,	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2j Ins 2.2k Arra 2.2m Wa 2.2n Mi 2.2p	nstrument Transformer Stand Foundations rrester Stand Foundations Vave Trap Stand Foundations	0		\$ -	\$ -	\$ -	\$ -		\$ -
2.2k Arı 2.2m W.2.2n Mi 2.2p	rrester Stand Foundations Vave Trap Stand Foundations		EA	\$ 3,735	\$ -		\$ -	\$ 7,735	
2.2m Wa 2.2n Mi 2.2p 2.3 11 2.3a Ca 2.3b Ca 2.3c Ca 2.3d Ca 2.3d Ca	Vave Trap Stand Foundations	0	EA	\$ 3,735	\$ -		\$ -	\$ 7,735	
2.2n Mi 2.2p 2.3 11 2.3a Cir 2.3b Ca 2.3c Cai 2.3d Cai			EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2p 2.3 11 2.3a Cir 2.3b Ca 2.3c Ca 2.3d Ca	Aisc. Structure Foundations	0	EA	\$ 3,735	\$ -		\$ -	\$ 7,735	
2.3a Cir 2.3b Ca 2.3c Ca 2.3d Ca		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3a Cir 2.3b Ca 2.3c Ca 2.3d Ca									
2.3a Cir 2.3b Ca 2.3c Ca 2.3d Ca									
2.3b Ca 2.3c Ca 2.3d Ca					•		4		
2.3c Ca 2.3d Ca	ircuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	
2.3d Ca	apacitor Bank Foundations	0	EA	\$ 33,615			\$ -	\$ 69,615	•
	aisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -	\$ 17,600		\$ 34,034	
	aisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	•
	witch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
	use Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -		\$ -
	us Support 3ph Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
	us Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
	nstrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -		
	rrester Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
	Vave Trap Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
	tation Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p Mi	Aisc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ransformer Foundations								
	45-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	
	45-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -		\$ -	\$ 154,700	\$ -
	30kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d 11	15kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5 Co	ontrol House Foundations / Pad								
2.5a Cc	Control House Addition Foundation (25-ft x 50-ft)	1	EA	\$ 61,079	\$ 61,079	\$ 64,100	\$ 64,100	\$ 125,179	\$ 125,179
2.5b Ge	ienerator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6 Lig	ightning Mast Foundations								
	0' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
TOTAL - SUBSTAT	TION FOUNDATIONS				\$ 161,177		\$ 171,300		\$ 332,477
3. SUBSTATION ST	STRUCTURES								
	45kV								
	ubstation A-Frame Structures - Stand alone	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
	ubstation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -		\$ -	\$ 74,000	
	witch Stands	1	EA	\$ 14,800	\$ 14,800		\$ 14,800	\$ 29,600	-
	tation Service Transformer Stand	0	EA	\$ 14,800			\$ -		\$ -
	us Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	us Support 1 Ph	0	EA	\$ 3,700	\$ -		\$ -		\$ -
	nstrument Transformer Stand	9	EA	\$ 1,850	\$ 16,650	\$ 1,850	\$ 16,650	\$ 3,700	\$ 33,300
	rrester Stand	3	EA	\$ 1,850	\$ 5,550	\$ 1,850	\$ 5,550		
	Vave Trap Stand	1	EA	\$ 7,400	\$ 7,400	\$ 7,400	\$ 7,400	\$ 14,800	
	Aisc. Structures	0		\$ 6,475	\$ -	\$ 6,475		\$ 12,950	
				.,		-,		,	
3.2 23	30kV								
	ubstation A-Frame Structures - Stand alone	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
	ubstation A-Frame Structures - Shared Column	0		\$ 33,300		\$ 33,300	\$ -	\$ 66,600	
	witch Stands	0	EA			\$ 12,025		\$ 24,050	
	tation Service Transformer Stand	0	EA	\$ 12,025				\$ 24,050	
	us Support 3ph	0	EA	\$ -			\$ -	\$ -	
	us Support 1 Ph	0		\$ 2,775				\$ 5,550	
	nstrument Transformer Stand	0		\$ 1,295	•			\$ 2,590	

130 Noverting Standards	Item	Item Description	Estimated Quantity	Unit of Measure	Material Sup		Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.5 Most Standards	3.2h	Arrester Stand	0	EA	\$		\$ -		\$ -	\$ 2,590	\$ -
State Stat			0	EA			•		\$ -		
3.8. Abbotton A-Frame Surveusers - Stand above 0	3.2k	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.8. Abbotton A-Frame Surveusers - Stand above 0											
3.50 Scientine Animal Societies Shared Column 0 6A 5 16,00 5 1, 18,00 5 3 3,000 5 3 3,000 5 3 3,000 5 3 3,000 5 3 3,000 5 3 3,000 5	3.3	115kV									
3.36 Sector Stander	3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$			\$ 18,500	\$ -	\$ 37,000	\$ -
3.30 five Stand	3.3b	Substation A-Frame Structures - Shared Column	0	EA		18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.38 Bot Support 3th	3.3c	Switch Stands	0	EA	\$	7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.5 Rus Support 1Ph	3.3d I	Fuse Stand	0						\$ -		
Same Same									•		
3.3 Average Stand	3.3f I	Bus Support 1 Ph	0						\$ -		
3.3 Water Tang Stand									\$ -		
1.0 1.0	3.3h	Arrester Stand	0						т		\$ -
TOTAL - SUBSTATION STRUCTURES \$ 44,000 \$ \$ 44,000 \$ \$ 44,000 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$											
### A 1 356V ### A 2	3.3k I	Misc. Structures	0	EA	\$	6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
### A 1 356V ### A 2											
## 1 SMAN ## 1 S							\$ 44,400		\$ 44,400		\$ 88,800
### Street Branck-WC Center Tary VT and Reactors 1											
4-10 Capacitor Fany VI and Reactors 0 EA \$ 370,000 \$ - \$ 80,000 \$ -											
4.1c Circus Brossers - Cap Swortching						_					
## 14.0 345 W - 115 V AUD Transformer 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$									•		·
A-22 236W						_					
4.2			0	EA	\$	-	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
A 3											
A3 STANCE A3 Circuit Breakers									\$ -		
4.30 Cyrcult Persekres 0 EA \$ 25,000 \$ - \$ 60,000 \$ - \$ 28,000 \$	4.2b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.30 Cyrcult Persekres 0 EA \$ 25,000 \$ - \$ 60,000 \$ - \$ 28,000 \$											
A 3D Capacitor Banks		115kV									
TOTAL - MADER CQUIPTMENT						225,000	\$ -		\$ -		
S.MALICQUETMENT (MATERIAS S.1 358V S.1 358V S.1 358V S.1 10.6 Switches - 3gh w/ motor operator 1 EA \$ 40,000 \$ 40,000 \$ 15,000 \$ 15,000 \$ 55,000 \$ 5,100	4.3b	Capacitor Banks	0	EA	\$	-	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
S.MALICQUETMENT (MATERIAS S.1 358V S.1 358V S.1 358V S.1 10.6 Switches - 3gh w/ motor operator 1 EA \$ 40,000 \$ 40,000 \$ 15,000 \$ 15,000 \$ 55,000 \$ 5,100											
S-1,							\$ 200,000		\$ 80,000		\$ 280,000
S.1a Line Switches - 3ph w/ manual operator 1 EA S 40,000 S 40,000 S 15,000 S 55,000											
S.1b Disconnect Switches - 3ph w/ manual operator 1 EA S 35,000 S 37,000 S 12,000 S 52,000 S 5,100 S S 5,100 S 5,100 S 5,100 S 5,100 S 5,100 S S 5,100 S 5,100 S 5,100 S 5,100 S 5,100 S S 5,100 S 5,100 S 5,100 S 5,100 S 5,100 S S 5,100 S 5,100 S 5,100 S 5,100 S 5,100 S S											
S.1c											
S.1d											
Sile CCVTS Sile											
S.1f										, , , , , , , , , , , , , , , , , , , ,	
S.1g Wave Traps 1 EA S 13,000 S 13,000 S 8,000 S 21,000 S S.1h Station Service Transformers 0 EA S 200,000 S - S 50,000 S - S 250,000 S S.1h Station Service Transformers 0 EA S 30,000 S - S 15,000 S S S S S S S S S											
S.1h Station Service Transformers 0 EA \$ 200,000 \$ - \$ 50,000 \$ \$ \$ \$ \$ \$ \$ \$ \$											
S.1 S.2								. ,	. ,	. ,	
S2 230kV		Station Service Transformers	0	EA	3	200,000	, -	\$ 30,000	, -	\$ 230,000	, -
S.2a Line Switches - 3ph w/ motor operator S.2b Disconnect Switches - 3ph w/ manual operator S.2b Disconnect Switches - 3ph w/ manual operator S.2c VT'S S.2c VT'S S.2c	3.1]										
S.2a Line Switches - 3ph w/ motor operator S.2b Disconnect Switches - 3ph w/ manual operator S.2b Disconnect Switches - 3ph w/ manual operator S.2c VT'S S.2c VT'S S.2c	5.2	230kV									
S.2b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 30,000 \$ -			0	FΔ	Ś	35,000	ς _	\$ 15,000	ς .	\$ 50,000	\$ -
S.2c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.2d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.2d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.2d CCVT'S 0 EA \$ 10,000 \$ - \$ 6,000 \$ - \$ 11,000 \$ 5.2d Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ - \$ 11,000 \$ 5.2d Wave Traps 0 EA \$ 13,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,2d \$ 5									'		
5.2d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.2e CCVT'S 0 EA \$ 10,000 \$ - \$ 6,000 \$ - \$ 16,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 5,000 \$ - \$ 5,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$		<u> </u>							•		
5.2e CCVT'S 0 EA \$ 10,000 \$ - \$ 6,000 \$ - \$ 16,000 \$ 5.2f Arresters 0 EA \$ 5,000 \$ - \$ 6,000 \$ - \$ 11,000 \$ 5.2g Wave Traps 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.2h Station Service Transformers 0 EA \$ - \$ <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>•</td><td></td><td></td><td></td><td></td></t<>							•				
5.2f Arresters 0 EA \$ 5,000 \$ - \$ 6,000 \$ - \$ 11,000 \$ 5.2g Wave Traps 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.2h Station Service Transformers 0 EA \$ - <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>•</td><td></td><td>•</td><td></td><td></td></t<>							•		•		
5.2g Wave Traps 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.2h Station Service Transformers 0 EA \$ - \$ 48,000 \$ - \$ - \$ 48,000 \$ - \$ - \$ 48,000 \$ - \$ - \$ 48,000 \$ - \$ - \$ 48,000 \$ - \$ - \$ 48,000 \$ - \$ - \$ - <											
5.2h Station Service Transformers 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 48,000 \$ 5.3a Line Switches - 3ph w/ motor operator 0 EA \$ 33,000 \$ - \$ 15,000 \$ - \$ 48,000 \$ 5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 28,000 \$ - \$ 45,500 \$ 5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$							т		'		•
5.2j 115kV EA \$ 33,000 \$ - \$ 15,000 \$ - \$ 48,000 \$ 5.3a Line Switches - 3ph w/ motor operator 0 EA \$ 28,000 \$ - \$ 17,500 \$ - \$ 45,500 \$ 5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 28,000 \$ - \$ 17,500 \$ - \$ 45,500 \$ 5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16,000 \$ 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9,420 \$ 5.3g Wave Traps 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 9,420 \$							7		Ÿ		•
5.3 115kV EA \$ 33,000 \$ - \$ 15,000 \$ - \$ 48,000 \$ 5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 28,000 \$ - \$ 17,500 \$ - \$ 45,500 \$ 5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16,000 \$ 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 9,420 \$ 5.3g Wave Traps 0 EA \$ - <td< td=""><td></td><td></td><td></td><td></td><td>i .</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>					i .						
5.3a Line Switches - 3ph w/ motor operator 0 EA \$ 33,000 \$ - \$ 15,000 \$ - \$ 48,000 \$ 5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 28,000 \$ - \$ 17,500 \$ - \$ 45,500 \$ 5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3d CCVTS 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16,000 \$ 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 5 - \$ 6,000 \$ - \$ 9,420 \$ 5.3g Wave Traps 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$											
5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 28,000 \$ - \$ 17,500 \$ - \$ 45,500 \$ 5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16,000 \$ 5.3f Arresters 0 EA \$ 3,420 \$ - \$ - \$ 9,420 \$ 5.3g Wave Traps 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$<	5.3	115kV									
5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 28,000 \$ - \$ 17,500 \$ - \$ 45,500 \$ 5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16,000 \$ 5.3f Arresters 0 EA \$ 3,420 \$ - \$ - \$ 9,420 \$ 5.3g Wave Traps 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$<			0	EA	\$	33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$ -
5.3c VT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16,000 \$ 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9,420 \$ 5.3g Wave Traps 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 9,420 \$			0		\$						
5.3d CT'S 0 EA \$ 13,000 \$ - \$ 8,000 \$ - \$ 21,000 \$ \$ 5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16,000 \$ \$ 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9,420 \$ \$ 5.3g Wave Traps 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$					-						
5.3e CCVT'S 0 EA \$ 8,000 \$ - \$ 8,000 \$ - \$ 16,000 \$ 5.3f Arresters 0 EA \$ 3,420 \$ - \$ 6,000 \$ - \$ 9,420 \$ 5.3g Wave Traps 0 EA \$ -											
5.3g WaveTraps 0 EA \$ - \$ - \$ - \$ - \$			0			8,000					
5.3g WaveTraps 0 EA \$ - \$ - \$ - \$ - \$	5.3f	Arresters	0	EA	\$	3,420	\$ -	\$ 6,000	\$ -	\$ 9,420	\$ -
	5.3g	Wave Traps	0	EA	\$		\$ -	\$ -	\$ -	\$ -	\$ -
5.3h Station Service Transformers 0 EA \$ - \$ - \$ - \$ - \$	5.3h	Station Service Transformers	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	-	TOTAL
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
	L EQUIPTMENT / MATERIALS				\$ 260,500		\$ 129,000		\$	389,500
	OUSE / PANELS / GENERATOR	4	F.A.	ć 225.000	ć 225.000	¢ 05.000	ć 05.000	ć 440.000	<u></u>	440.000
6.1	Control House Addition (25-ft x 50-ft)	1	EA	\$ 325,000	\$ 325,000	\$ 85,000	\$ 85,000	\$ 410,000	\$	410,000
6.2	Protection and Telecom Equipment Panels	3	EA	\$ 35,000	\$ 105,000	\$ 12,500	\$ 37,500	\$ 47,500	\$	142,500
6.3	125VDC Batteries	0		\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000		-
6.4	Control Cables	1	LS	\$ 130,900	\$ 130,900			\$ 261,800		261,800
6.5	SCADA and Communications	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
6.6	Low Voltage AC Distribution	0		\$ 50,000	\$ -		\$ -	\$ 150,000		-
6.7	DC Distribution System	0	EA	\$ 50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$	-
6.8	Security	0	EA	\$ 7,500	\$ -	\$ 7,500		\$ 15,000		-
6.9 6.10	Fire Alarm	0	EA EA	\$ 7,500 \$ 100,000	\$ -	\$ 7,500	\$ -	\$ 15,000		-
6.10	Generator	U	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	>	
TOTAL - CONT	 ROL HOUSE / PANELS / GENERATOR				\$ 560,900		\$ 253,400		\$	814,300
7. MISC ITEMS					J 500,900		200,400		7	014,300
7. IVIISC ITEIVIS	Conduit & Cable Trench System	800	LF	\$ 185.00	\$ 148,000	\$ 170.00	\$ 136,000	\$ 355	S	284,000
7.1	Rigid Bus, Fittings & Insulators	0	LF	\$ 125.07	\$ 148,000			\$ 362		- 204,000
7.3	Strain Bus, Connectors & Insulators	2,500	LF	\$ 13.38	\$ 33,450		\$ 98,375	\$ 53		131,825
7.4	Grounding System	0	LF	\$ 6.93	\$ -	\$ 32.58	\$ -	\$ 40	, ,	-
7.5	Strain Bus Insulators - 345kV	38	EA	\$ 2,000	\$ 76,000	\$ 1,050	\$ 39,900	\$ 3,050	\$	115,900
7.6	Strain Bus Insulators - 230kV	0	EA	\$ 1,400	\$ -	\$ 750	\$ -	\$ 2,150		-
7.7	Strain Bus Insulators - 115kV	0	EA	\$ 1,000	\$ -	\$ 550	\$ -	\$ 1,550	\$	-
7.8	Low Voltage AC Station Service	0	LS	\$ 50,000	\$ -	\$ 75,000	\$ -	\$ 125,000		-
7.9	SSVT Service	0	LS	\$ 45,000	\$ -	\$ 45,000	\$ -	\$ 90,000	\$	-
7.10	Control Conduits from Trench to Equipment	1	LS	\$ 62,500	\$ 62,500	\$ 75,000	\$ 75,000	\$ 137,500	\$	137,500
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$ 90,000	\$ 90,000	\$ 108,000	\$ 108,000	\$ 198,000	\$	198,000
7.12										
7.13										
7.14										
7.15										
7.16 7.17										
7.17										
7.18										
7.20										
7.21										
7.22										
7.23										
7.24										
7.25										
TOTAL - MISC	ITEMS				\$ 409,950		\$ 457,275		\$	867,225
	nt Valley Substation - Install				\$ 1,647,952		\$ 1,150,000		\$	2,797,952
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
0.1	Contractor Mobilization / Demobilization	4.0	LS	\$ -	\$ -	\$ 27.980	\$ 27.980	\$ 27.980	_	27.000
8.1	Mob / Demob Project Management, Material Handling & Amenities	1.0	LS	ş -	-	\$ 27,980	\$ 27,980	\$ 27,980	>	27,980
8.2	Project Management, Wateriar Handling & Amendes Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 174,493	\$ 174,493	\$ 174,493	\$	174,493
									.	
8.3	Utility PM and Project Oversite	1			\$ -					27,980
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 27,980	\$ 27,980	\$ 27,980	\$	27,980
	Engineering Design Engineering		1.0	ć	<u> </u>	ć 222.020	ć 222.02 <i>c</i>	ć 222.020		222.022
8.5	Design Engineering	1		\$ - \$ -		\$ 223,836 \$ -				223,836
8.6 8.7	LiDAR Geotech	- 4	LS EA	\$ -	\$ - \$ -	\$ - \$ 3,500	'		\$	14,000
8.7	Surveying/Staking	1		\$ -	\$ -	\$ 3,500				19,586
0.0	Testing & Commissioning	1	Site	- ·		000,61 ب	15,500 د	7 روزور	,	13,300
	. coming or commissioning	1	l		l	l .				

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Sup	ply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$		\$ -	\$ 69,949	\$ 69,949	\$ 69,949	\$ 69,949
	Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$		\$ -	\$ 8,394	\$ 8,394	\$ 8,394	\$ 8,394
8.13	Real Estate Costs (New)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	131,836	\$ 131,836	\$ -	\$ -	\$ 131,836	\$ 131,836
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 2,798	\$ 2,798	\$ 2,798	\$ 2,798
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 131,836		\$ 596,994		\$ 728,830

Page 31 of 42

J. SS Pleasant Valley-Install

NextEra T023 (Segment B Alternate)

Interconnection Knickerbocker Station

Estimate Revision: 5 Total: \$ 1,827,190

NextEra T023 (Segment	B Alternate)				
		Supply	Installation		Total
L. Interconnection Knickerbocker Station					
1. CLEARING & ACCESS	\$	-	\$ 436,850	\$	436,850
2. FOUNDATIONS	\$	238,638	\$ 241,194	\$	479,832
3. STRUCTURES	\$	313,836	\$ 219,711	\$	533,547
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$ -	\$	-
5. INSULATORS, FITTINGS, HARDWARE	\$	58,150	\$ 26,466	\$	84,616
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	48,850	\$ 243,495	\$	292,345
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-
SUBTOTAL:	\$	659,474	\$ 1,167,716	\$	1,827,190
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-
TOTAL:	Ś	659.474	\$ 1.167.716	Ś	1.827.190

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
L. Interc	onnection Knickerbocker Station									
1. CLEARING 8	ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$	-	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000
1.3	Access Road	-	LF	\$	-	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	3,500.0	LF	\$	-	\$ -	\$ 4	\$ 14,000	\$ 4	\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$	-	\$ -	\$ 70	\$ 245,000	\$ 70	\$ 245,000
1.6	Matting - To Work Area	525.0	LF	\$	-	\$ -	\$ 70	\$ 36,750	\$ 70	\$ 36,750
1.7	Snow Removal	-	LS	\$	-	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	\$		\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.9	Work Pads	35,000.0	SF	\$	-	\$ -	\$ 4	\$ 123,200	\$ 4	\$ 123,200
1.10	Restoration for Work Pad areas	7,000.0	SF	\$	-	\$ -	\$ 0.2	\$ 1,050	\$ 0	\$ 1,050
1.11	Temporary Access Bridge	-	EA	\$	-	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$	-	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$	-	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$	-	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$ 2	,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$	750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18						\$ -		\$ -		\$ -
1.19						\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$	27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEAR	RING & ACCESS					\$ -		\$ 436,850		\$ 436,850
2. FOUNDATIO	DNS									
2.1	Drilled Pier - 345KV THREE POLE TAP, STEEL	2	Structures	\$ 119	,319	\$ 238,638	\$ 120,597	\$ 241,194	\$ 239,916	\$ 479,832
2.2										
2.3										
2.4										
2.5	Rock Excavation Adder	-	CY	\$	-	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.6						\$ -		\$ -		\$ -
2.7						\$ -		\$ -		\$ -

Page 32 of 42

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.8					\$ -		\$ -		\$ -
2.9					\$ -		\$ -		\$ -
2.10					\$ -		\$ -		\$ -
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -
2.15					\$ -		\$ -		\$ -
TOTAL - FOUN	DATIONS				\$ 238,638		\$ 241,194		\$ 479,832
3. STRUCTURE	S								
3.1	345KV THREE POLE TAP, STEEL	2	Structure	\$ 155,400	\$ 310,800	\$ 93,240	\$ 186,480	\$ 248,640	\$ 497,280
3.2									
3.3									
3.4					\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	6	Pole	\$ 506	\$ 3,036	\$ 5,539	\$ 33,231	\$ 6,045	\$ 36,267
3.6	<u> </u>			1	\$ -	2,200	\$ -	.,,	\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUC	THE CONTRACTOR OF THE CONTRACT				-				-
					\$ 313,836		\$ 219,711		\$ 533,547
	R, SHIELDWIRE, OPGW								
4.1	345kV - (1) 1,033kcmil 54/7 ACSS "Curlew"	-	LF	\$ 2.82		\$ 5.00	\$ -	\$ 7.82	\$ -
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$ 1.35			\$ -	\$ 6.35	\$ -
4.3	(1) 3/8" EHS7 Steel	-	LF	\$ 0.47		\$ 5.00	\$ -	\$ 5.47	
4.5	Remove Existing 115kV Cable From Existing Structures	-	Mile	\$ -		\$ 30,000	\$ -	\$ 30,000.00	\$ -
4.6	Remove Existing OPGW Cable	-	Mile	\$ -	\$ -	\$ 12,000	\$ -	\$ 12,000.00	\$ -
4.7	Remove Existing EH7	-	Mile	\$ -		\$ 12,000	\$ -	\$ 12,000.00	
4.8	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90	\$ -	\$ 5.00	\$ -	\$ 6.90	\$ -
4.9		-							
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	· /	\$ -	\$ 3,500.00	
4.11	Rider Poles	-	EA	\$ 1,750		\$ 3,500	\$ -	\$ 5,250.00	\$ -
	JCTOR, SHIELDWIRE, OPGW:				\$ -		\$ -		\$ -
	FITTINGS, HARDWARE								
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800			\$ -	\$ 2,520	
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900		\$ 560	\$ -	\$ 1,460	
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	30	Assembly	\$ 1,800			\$ 21,600		
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900		•	\$ -	\$ 1,460	
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200		\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	2	Assembly	\$ 250			\$ 300		
5.7	OHSW Assembly - Tangent	-	Assembly	\$ 200		\$ 150	\$ -	\$ 350	\$ -
5.8	OHSW Assembly - Angle / DE	2	Assembly	\$ 250			\$ 300		\$ 800
5.9	OPGW Splice Boxes	1	Set	\$ 1,750		\$ 1,746	\$ 1,746		\$ 3,496
5.10	OPGW Splice & Test	1	EA	\$ 1,400			\$ 2,520		
5.11	Spacer - Conductor	-	EA		\$ -	\$ 35		\$ 85	
5.12	Vibration Dampers - Conductor	-	EA		\$ -	\$ 35		\$ 70	
5.13	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA		\$ -		\$ -	\$ 62	
5.14	Guys, Anchors, and Accessories	-	EA	\$ 720			\$ -	\$ 1,605	
	Misc. materials (Signs and Markers)	-	Mile	\$ 770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$ -
5.16									
5.17		-							
5.18									
5.19									
5.20									
TOTAL - INSUL	ATOR, FITTINGS, HARDWARE				\$ 58,150		\$ 26,466		\$ 84,616
I Interce	onnection Knickerbocker Station				\$ 610,624		\$ 924,221		\$ 1,534,845
					010,024		9 324,221		7 1,334,643
In IVIUR/DEIVIC	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 15,348	\$ 15,348	\$ 15,348	\$ 15,348
	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 95,720	\$ 95,720	\$ 95,720	\$ 95,720
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 15,348	\$ 15,348	\$ 15,348	\$ 15,348
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 15,348	\$ 15,348	\$ 15,348	\$ 15,348
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 76,742	\$ 76,742	\$ 76,742	\$ 76,742
6.6	Lidar	1	LS	\$ -	\$ -	\$ 4,605	\$ 4,605	\$ 4,605	\$ 4,605
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 10,744	\$ 10,744	\$ 10,744	\$ 10,744
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 40,000	\$ -	\$ 40,000	\$ -
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 4,605	\$ 4,605	\$ 4,605	\$ 4,605
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 48,850	\$ 48,850	\$ -	\$ -	\$ 48,850	\$ 48,850
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 1,535	\$ 1,535	\$ 1,535	\$ 1,535
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 48,850		\$ 243,495		\$ 292,345

Page 34 of 42

NextEra T023 (Segment B Alternate) M. Interconnection Churchtown Station

Estimate	E		Total:	ċ	5,182,778	
Revision:	3		TOLAI.	Ą	3,102,770	
	NextEra T023 (Segme	nt B Alterna	te)			
			Supply		Installation	Total
1	M. Interconnection Churchtown Station					
	1. CLEARING & ACCESS	\$	-	\$	712,850	\$ 712,850
	2. FOUNDATIONS	\$	758,142	\$	859,756	\$ 1,617,898
1	3. STRUCTURES	\$	838,481	\$	581,612	\$ 1,420,092
	4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$ -
1	5. INSULATORS, FITTINGS, HARDWARE	\$	416,550	\$	172,266	\$ 588,816
	6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	161,054	\$	682,068	\$ 843,122
1	CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$ -
	SUBTOTAL:	\$	2,174,226	\$	3,008,553	\$ 5,182,778
1	CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$ -
	TOTAL:	\$	2,174,226	\$	3,008,553	\$ 5,182,778
Description	of Work:					

Item	Item Description	Estimated Quantity	Unit of Measure	Mai	terial Supply Rate	Mat	terial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
M. Inter	connection Churchtown Station											
1. CLEARING	& ACCESS											
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$	-	\$ 15,000	\$ -	\$ 15,000	\$	-
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$	-	\$	-	\$ 5,000	\$ 10,000	\$ 5,000	\$	10,000
1.3	Access Road	-	LF	\$	-	\$	-	\$ 45	\$ -	\$ 45	\$	-
1.4	Silt Fence	3,500.0	LF	\$	-	\$	-	\$ 4	\$ 14,000	\$ 4	\$	14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$	-	\$	-	\$ 70	\$ 245,000	\$ 70	\$	245,000
1.6	Matting - To Work Area	1,425.0	LF	\$	-	\$	-	\$ 70	\$ 99,750	\$ 70	\$	99,750
1.7	Snow Removal	-	LS	\$	-	\$	-	\$ 516,800	\$ -	\$ 516,800	\$	-
1.8	ROW Restoration	0.5	Mile	\$	-	\$	-	\$ 10,000	\$ 5,000	\$ 10,000	\$	5,000
1.9	Work Pads	95,000.0	SF	\$	-	\$	-	\$ 4	\$ 334,400	\$ 4	\$	334,400
1.10	Restoration for Work Pad areas	19,000.0	SF	\$	-	\$	-	\$ 0.2	\$ 2,850	\$ 0	\$	2,850
1.11	Temporary Access Bridge	-	EA	\$	-	\$	-	\$ 20,035	\$ -	\$ 20,035	\$	-
1.12	Air Bridge	-	EA	\$	-	\$	-	\$ 14,445	\$ -	\$ 14,445	\$	-
1.13	Stabilized Construction Entrance	-	EA	\$	-	\$	-	\$ 4,580	\$ -	\$ 4,580	\$	-
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$	-	\$	-	\$ 4,130	\$ -	\$ 4,130	\$	-
1.15	Gates	-	EA	\$			-	,	\$ -	\$ 4,500		-
1.16	Culverts / Misc. Access	-	EA	\$	750	\$	-	\$ 1,250	\$ -	\$ 2,000	\$	-
1.17	Concrete Washout Station	1	EA	\$	-	\$	-	7 -,	\$ 1,850	\$ 1,850	-	1,850
1.18						\$	-		\$ -		\$	-
1.19						\$	-		\$ -		\$	-
1.20	Crushed Rock	0	CY	\$	27	_	-	\$ 75	\$ -	\$ 102	\$	-
TOTAL - CLEA	RING & ACCESS					\$	-		\$ 712,850		\$	712,850
2. FOUNDATI	ONS											
2.1	Drilled Pier - 345KV S/C DEADEND, STEEL	15	Structures	\$	50,543	\$	758,142	\$ 30,650	\$ 459,756	\$ 81,193	\$	1,217,898
2.2												
2.3												
2.4												
2.5	Rock Excavation Adder	200	СҮ	\$	-	\$	-	\$ 2,000	\$ 400,000	\$ 2,000	\$	400,000
2.6						\$	-		\$ -		\$	_
2.7				1		\$	-		\$ -	1	Ś	
2.8						Ś	-		\$ -		Ś	_

Page 35 of 42

Estimate

2.13	ltem	Item Description	Estimated Quantity	Unit of Measure	Material Supp	ly Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
231	2.9								·		
2.23											
2.23									•		
2									•		•
25									<u>'</u>		•
STINCTIMES											
STRUCTURE									<u>'</u>		<u>. </u>
1 SARDY SC CRADING, TYPEL 15 STRUCTURE 5 SARDE 5 S						\$	5 /58,142		\$ 859,756		\$ 1,617,898
3.7			45	Characteria	ć	FF 202 6	020.004	ć 22.22c	ć 400 F24	¢ 00.000	ć 4.220.42E
3.1		345KV S/C DEADEND, STEEL	15	Structure	\$	55,393 \$	830,891	\$ 33,236	\$ 498,534	\$ 88,628	\$ 1,329,425
A											
3.5 Install Grounding and Grounding Accessories 15 Pole 5 505 5 5,509 5 8,8078 5 6,005 5 3.6									ć		^
\$ \$ \$ \$ \$ \$ \$ \$ \$ \$		Install Crounding and Crounding Assessaries	15	Dala	ć	500 0	7 500	ć F.F30	¢ 02.070	¢ 6.045	•
3		Install Grounding and Grounding Accessories	15	Pole	3			\$ 5,559			
3.8											<u> </u>
3 3									T		•
3.10									т		·
3.11					1				7		<u> </u>
\$ 1.72					1				'		
3.13									<u>'</u>		
3.14									-		•
3.15 S									<u>'</u>		
TOTAL-STRUCTURES									•	-	-
CONDUCTOR_SHIEDWIRE_OPEN	3.15					\$	-		\$ -		\$ -
CONDUCTOR_SHELDWIRE_OFEN	TOTAL - STRUC	CTURES				Ś	838,481		\$ 581,612		\$ 1,420,092
4.1 345W-19 Skicmil SA/7 ACSS 'Cardinal' - LF S 1.90 S - S 5.00 S - 5.69 S	4 CONDUCTO	P SHIELDWIDE ODGW							<u> </u>		. , ,
4.2 (1) OPGW 36 Fiber AC-33/34/5/71 -			_	I E	ċ	1 00 5	-	¢ = 00	Ġ _	\$ 6.00	\$ -
4.3 (1) 3/8" EMST Steel - F S 0.47 S - S 5.00 S - S 5.07 S 4.5 Remove Estisting StrUctures - Mile S - S - S 1,200 S - S 3,000.00 S 4.6 Remove Estisting F17 - Mile S - S - S 1,200 S - S 1,200.00 S 4.7 Remove Estisting E17 - Mile S - S - S 1,200 S - S 1,200.00 S 4.8 1154V - (1) 795kmil 26/7 ACSS 'Drake" - 4.0 Rider Poles - Relocated - 4.10 Rider Poles - Relocated - 4.11 Rider Poles - Relocated -					-				·		•
4.5 Remove Existing 215W Cable From Existing PASW Cable From Existi									-		
4.6 Remove Existing DRV Cable - Mile S - S 1,2000 S - S 1,2000 S					· ·			7 0.00	·		
4.7 Remove Existing EH7									7		•
4.8 15My - 179 Securil 26/7 ACSS* Orake* - E									·		
4.19 Rider Poles - Relocated - Set S - S - S 3,500 S - S 3,500 S S S S S S S S S									<u>'</u>		
A 1.10 Rider Poles - Relocated - Set S - S 3,500 S - S 3,500 S S S 3,500 S S S 5,500 S S S S S S S S S		113KV (1) 735KCHIII 20/7 AC33 BIAKC			1	1.72 9	,	ý 5.00	<u> </u>	Ų 0.72	<u> </u>
A 11 Rider Poles - EA \$ 1,750 \$ - \$ \$ \$ \$ \$ \$ \$ \$		Rider Poles - Relocated	-	Set	Ś	- 5	-	\$ 3,500	Ś -	\$ 3,500.00	\$ -
SINDULTOR, SHEDWIRE, OPON: S					<u> </u>						•
S.NSULATOR, FITTINGS, HARDWARE				L) (Ť	2,750 \$		5,500		ÿ 3,230.00	
S.1 345kV Tangent (1-Group of 18-Bells Each Assembly) - Assembly S 1,800 S - S 720 S - S 2,520 S						7			*		<u>*</u>
S.2				Assembly	Ś	1.800 \$	-	\$ 720	\$ -	\$ 2,520	\$ -
S.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 225 Assembly S 1,800 S 405,000 S 720 S 162,000 S 2,520 S											•
S.4			225								
S.5 OPGW Assembly - Tangent 16 Assembly \$ 200 \$ 3,200 \$ 150 \$ 2,400 \$ 350 \$ 5 5.6 OPGW Assembly - Tangent 4 Assembly \$ 200 \$ 3,200 \$ 150 \$ 600 \$ 400 \$ 5 5.7 OHSW Assembly - Tangent 5 6 Assembly \$ 200 \$ 3,200 \$ 150 \$ 2,400 \$ 350 \$ 5 5.8 \$ 5.8 OHSW Assembly - Tangent 5 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5											
S.6 OPGW Assembly - Angle / DE			16							, , , , ,	•
5.7 OHSW Assembly - Tangent 16 Assembly \$ 200 \$ 3,200 \$ 150 \$ 2,400 \$ 350 \$ 5.8 5.8 OHSW Assembly - Angle / DE											
5.8 OHSW Assembly - Angle / DE 4 Assembly \$ 250 \$ 1,000 \$ 150 \$ 600 \$ 400 \$ 5.9 OPGW Splice Boxes 1 Set \$ 1,750 \$ 1,746 \$ 3,496 \$ 5.10 OPGW Splice Boxes 1 EA \$ 1,400 \$ 2,520 \$ 3,496 \$ 5.10 OPGW Splice Boxes 1 EA \$ 1,400 \$ 2,520 \$ 3,496 \$ 5.10 OPGW Splice Boxes 1 EA \$ 1,400 \$ 2,520 \$ 3,496 \$ 5.11 Spacer - Conductor - EA \$ 5.00 \$ - \$ 5 - \$ 35 \$ - \$ \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$											
5.9 OPGW Splice Boxes 1 Set \$ 1,750 \$ 1,750 \$ 1,746 \$ 1,746 \$ 3,496 \$ 5.10 5.10 OPGW Splice & Test 1 EA \$ 1,400 \$ 1,400 \$ 2,520 \$ 2,520 \$ 3,920 \$ 5.11 5.11 Spacer - Conductor - EA \$ 50 \$ - \$ 35 \$ - \$ 85 \$ 5 \$ 50 \$ 5 \$ 5 \$ 5 \$ 85 \$ 5 \$ 50 \$ 5 \$ 50 <											
5.10 OPGW Splice & Test 1 EA \$ 1,400 \$ 2,520 \$ 2,520 \$ 3,920 \$ 3,920 \$ 5.11 Spacer - Conductor EA \$ 50 \$ - \$ 35 \$ - \$ 85 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 50 \$ - \$ 85 \$ 5											
5.11 Spacer - Conductor - EA \$ 50 \$ - \$ 35 \$ - \$ 85 \$ 5.12 Vibration Dampers - Conductor - EA \$ 35 \$ - \$ 70 \$ 5.13 Shieldwire / OPGW Dampers, Misc. Fittings - EA \$ 27 \$ - \$ 62 \$ 5.14 Guys, Anchors, and Accessories - EA \$ 720 \$ - \$ 885 \$ - \$ 1,605 \$ 5.15 Misc. materials (Signs and Markers) - Mile \$ 770 \$ - \$ 1,776 \$ 5.16 - - Mile \$ 770 \$ - \$ 1,776 \$ 5.17 - - - - - - \$ - - \$ - - \$ - -											
5.12 Vibration Dampers - Conductor - EA \$ 35 \$ - \$ 70 \$ 5.13 Shieldwire / OPGW Dampers, Misc. Fittings - EA \$ 27 \$ - \$ 52 \$ 5.14 Guys, Anchors, and Accessories - EA \$ 720 \$ - \$ 885 \$ - \$ 1,605 \$ 5.15 Misc. materials (Signs and Markers) - Mile \$ 770 \$ - \$ 1,776 \$ 5.16 - Mile \$ 770 \$ - \$ 1,776 \$ 5.17 - - Mile \$ - - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$											
5.13 Shieldwire / OPGW Dampers, Misc. Fittings - EA \$ 27 \$ - \$ 35 \$ - \$ 62 \$ 5.14 Guys, Anchors, and Accessories - EA \$ 720 \$ - \$ 1,005 \$ 5.15 Misc. materials (Signs and Markers) - Mile \$ 770 \$ - \$ 1,776 \$ 5.16 - Mile \$ 770 \$ - \$ - \$ 1,776 \$ 5.17 - - - Mile \$ - - \$ - - \$ - - \$ - - \$ - - \$ - - \$ - - \$ - - \$ - - \$ - - \$ - - \$ - - \$ - - \$ -			-								•
5.14 Guys, Anchors, and Accessories - EA \$ 720 \$ - \$ 1,005 \$ 5.15 Misc. materials (Signs and Markers) - Mile \$ 770 \$ - \$ 1,776 \$ 5.16 \$ - \$<							_				
5.15 Misc. materials (Signs and Markers) - Mile \$ - \$ 1,776 \$ 5.16 \$ - \$ - \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$	3.13	Sinciawite / Of GW Dampers, which inthings		LM			, -		· -		· -
5.16 \$ - \$ - \$ 5.17 \$ - \$ - \$ - 5.18 \$ - \$ - \$ - 5.19 \$ - \$ - \$ - 5.20 \$ - \$ - \$ - TOTAL - INSULATOR, FITTINGS, HARDWARE \$ 416,550 \$ 172,266 \$	5.14	Guys, Anchors, and Accessories	-	EA	\$	720 \$	-	\$ 885	\$ -	\$ 1,605	\$ -
5.16 \$ - \$ - \$ 5.17 \$ - \$ - \$ - 5.18 \$ - \$ - \$ - 5.19 \$ - \$ - \$ - 5.20 \$ - \$ - \$ - TOTAL - INSULATOR, FITTINGS, HARDWARE \$ 416,550 \$ 172,266 \$	5.15	Misc. materials (Signs and Markers)	-	Mile	\$	770 S	-	\$ 1,006	\$ -	\$ 1,776	\$ -
5.17		, ,		-				,			
5.18 5.19 5.20 5.20 TOTAL - INSULATOR, FITTINGS, HARDWARE \$ 416,550 \$ 172,266 \$									•		
5.19											
5.20 TOTAL - INSULATOR, FITTINGS, HARDWARE \$ 416,550 \$ 172,266 \$											
TOTAL - INSULATOR, FITTINGS, HARDWARE \$ 416,550 \$ 172,266 \$											
		ATOR, FITTINGS, HARDWARE				Ś	416,550		\$ 172,266		\$ 588,816
									\$ 2,326,484		
						\$	2,013,172		2,320,484		4,339,036
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	6. MOB/DEMC	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Su	ipply Rate	Material Supply Cost	Equipment ly Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
	Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 43,397	\$ 43,397	\$ 43,397	\$	43,39
	Project Management, Material Handling & Amenities										
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 270,641	\$ 270,641	\$ 270,641	\$	270,64
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 43,397	\$ 43,397	\$ 43,397	\$	43,39
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 43,397	\$ 43,397	\$ 43,397	\$	43,39
	Engineering										
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 216,983	\$ 216,983	\$ 216,983	\$	216,983
6.6	LiDAR	1	LS	\$	-	\$ -	\$ 13,019	\$ 13,019	\$ 13,019	\$	13,01
6.7	Geotech	1	Location	\$	-	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$	3,50
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 30,378	\$ 30,378	\$ 30,378	\$	30,37
	Testing & Commissioning										
6.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$	-	\$ -	\$ 40,000	\$ -	\$ 40,000	\$	-
	Permitting and Additional Costs										
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 13,019	\$ 13,019	\$ 13,019	\$	13,01
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.15	Legal Fees	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.18	Sales Tax on Materials	1	LS	\$	161,054	\$ 161,054	\$ -	\$ -	\$ 161,054	\$	161,05
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 4,340	\$ 4,340	\$ 4,340	\$	4,340
TAL - MOE	B/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 161.054		\$ 682,068		Ś	843.12

Page 37 of 42

M. In. Churchtown SS

NextEra T023 (Segment B Alternate) N. Interconnection Milan Station

Estimate	5		Total:	Ġ	714,622	
Revision:	<u> </u>			٠	714,022	
	NextEra T023 (Segment B A	lternate	2)			
			Supply		Installation	Total
	N. Interconnection Milan Station					
	1. CLEARING & ACCESS	\$	-	\$	121,100	\$ 121,100
	2. FOUNDATIONS	\$	84,375	\$	135,279	\$ 219,654
	3. STRUCTURES	\$	130,328	\$	88,667	\$ 218,994
	4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$ -
	5. INSULATORS, FITTINGS, HARDWARE	\$	27,200	\$	11,280	\$ 38,480
	6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	19,352	\$	97,042	\$ 116,394
	CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$ -
1	SUBTOTAL:	\$	261,255	\$	453,367	\$ 714,622
1						

	TOTAL:	\$ 261,255	\$ 453,367	\$	714,622					
Description	of Work:									
Item	ltem Description	Estimated Quantity	Unit of Measure	Material Sup	oply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
N. Inter	connection Milan Station									
1. CLEARING 8	ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	1.0	Acre	\$	-	\$ -	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
1.3	Access Road	-	LF	\$	-	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	500.0	LF	\$	-	\$ -	\$ 4	\$ 2,000	\$ 4	\$ 2,000
1.5	Matting - Access and ROW	500.0	LF	\$	-	\$ -	\$ 70	\$ 35,000	\$ 70	\$ 35,000
1.6	Matting - To Work Area	525.0	LF	\$	-	\$ -	\$ 70	\$ 36,750	\$ 70	\$ 36,750
1.7	Snow Removal	-	LS	\$	-	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	\$	-	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.9	Work Pads	10,000.0	SF	\$	-	\$ -	\$ 4	\$ 35,200	\$ 4	\$ 35,200
1.10	Restoration for Work Pad areas	2,000.0	SF	\$	-	\$ -	\$ 0.2	\$ 300	\$ 0	\$ 300
1.11	Temporary Access Bridge	-	EA	\$	-	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$	-	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$	-	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$	-	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$	2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	
1.16	Culverts / Misc. Access	-	EA	\$	750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18						\$ -		\$ -		\$ -
1.19						\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$	27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEA	RING & ACCESS					\$ -		\$ 121,100		\$ 121,100
2. FOUNDATIO	DNS							,		
2.1	Drilled Pier - 115kV Single Circuit Single Pole Angle/DE	2	EA	\$	42,187	\$ 84,375	\$ 42,639	\$ 85,279	\$ 84,827	\$ 169,654
2.2										
2.3										
2.4										
2.5	Rock Excavation Adder	25	СҮ	\$	-	\$ -	\$ 2,000	\$ 50,000	\$ 2,000	\$ 50,000
2.6						\$ -		\$ -		\$ -
2.7						\$ -		\$ -		\$ -
2.8						\$ -		\$ -		\$ -
2.9						\$ -		\$ -		\$ -
2.10	1	1				\$ -		\$ -		\$ -

Page 38 of 42

Estimate

CONTINGENCY ON ENTIRE PROJECT

ltem	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	• Material	Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.11					\$	-		\$ -		\$ -
2.12					\$	-		\$ -		\$ -
2.13					\$	-		\$ - \$ -		\$ - \$ -
2.15					\$	-		\$ -		\$ -
TOTAL - FOUND	DATIONS				\$	84,375		\$ 135,279		\$ 219,654
3. STRUCTURES										
	115kV Single Circuit Single Pole Angle/DE	2	Structure	\$ 64,658	3 \$	129,316	\$ 38,795	\$ 77,590	\$ 103,453	\$ 206,905
3.2										
3.3					Ś	-		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	2	Pole	\$ 506	7	1,012	\$ 5,539	\$ 11,077		\$ 12,089
3.6		_		,	\$	-	7 0,000	\$ -	7 2,515	\$ -
3.7					\$	-		\$ -		\$ -
3.8					\$	-		\$ -		\$ -
3.9					\$	-		\$ -		\$ -
3.10					\$	-		\$ - \$ -		\$ - \$ -
3.11 3.12					\$	-		\$ - \$ -		\$ - \$ -
3.13					\$	-		\$ -		\$ -
3.14					\$	-		\$ -		\$ -
3.15					s	-		\$ -		\$ -
	TUDEC					420.220		•		•
TOTAL - STRUC					\$	130,328		\$ 88,667		\$ 218,994
	R, SHIELDWIRE, OPGW						Å 5.00	<u> </u>	4 500	
4.1	345kV - (2) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571	-	LF LF	\$ 1.90 \$ 1.35		-	\$ 5.00 \$ 5.00	\$ - \$ -		\$ - \$ -
4.3	(1) 07GW 30 Fiber AC-33/38/371 (1) 3/8" EHS7 Steel	-	LF	\$ 0.47		-	\$ 5.00	\$ -		\$ -
	Remove Existing 115kV Cable From Existing Structures	-	Mile	\$ -		-	\$ 30,000	\$ -		\$ -
4.6	Remove Existing OPGW Cable	-	Mile	\$ -	\$	-	\$ 12,000	\$ -	\$ 12,000.00	\$ -
4.7	Remove Existing EH7	-	Mile	\$ -		-	\$ 12,000	\$ -	, , , , , , , , ,	\$ -
	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90) \$	-	\$ 5.00	\$ -	\$ 6.90	\$ -
4.9 4.10	Rider Poles - Relocated	-	Set	\$ -	\$	-	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	7	-	\$ 3,500	т		\$ -
	ICTOR, SHIELDWIRE, OPGW:			2,7.5.	\$	-	9,500	\$ -	7 0,200.00	\$ -
5. INSULATOR,	FITTINGS, HARDWARE									
	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800		-	\$ 720	\$ -	, ,	\$ -
	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 1,800		-	\$ 560	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -
	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	14	Assembly	\$ 1,800		25,200	\$ 720 \$ 560	\$ 10,080 \$ -		\$ 35,280
5.4 5.5	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly Assembly	\$ 900	9	-	\$ 500	\$ -	·	\$ - \$ -
	OPGW Assembly - Tangent	-	Assembly	\$ 200) 5	-	\$ 150	\$ -		\$ -
	OPGW Assembly - Angle / DE	4	Assembly	\$ 250		1,000	\$ 150	\$ 600		\$ 1,600
5.8	OHSW Assembly - Tangent	-	Assembly	\$ 200	\$	-	\$ 150	\$ -	\$ 350	\$ -
	OHSW Assembly - Angle / DE	4	Assembly	\$ 250		1,000	\$ 150	\$ 600		\$ 1,600
	OPGW Splice Boxes	-	Set	\$ 1,750		-	\$ 1,746	\$ -	,	\$ -
	OPGW Splice & Test Spacer - Conductor	-	EA EA	\$ 1,400		-	\$ 2,520 \$ 35	\$ - \$ -	1 -7	\$ - \$ -
	Vibration Dampers - Conductor	-	EA	\$ 35		-	\$ 35			\$ -
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$ 27	7 \$	-	\$ 35	\$ -	\$ 62	\$ -
	Guys, Anchors, and Accessories	-	EA	\$ 720		-	\$ 885	\$ -		\$ -
	Misc. materials (Signs and Markers)	-	Mile	') \$	-	\$ 1,006	т	, , , , , , , , , , , , , , , , , , , ,	\$ -
5.17										
5.18										
5.19										
5.20	ATOR, FITTINGS, HARDWARE				\$	27,200		\$ 11,280		\$ 38,480
								,		
	onnection Milan Station				\$	241,903		\$ 356,325		\$ 598,228
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization				1.			_		
6.1	Mob / Demob	1	LS	\$ -	\$	-	\$ 5,982	\$ 5,982	\$ 5,982	\$ 5,982

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	e Mat	terial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	то	DTAL
	Project Management, Material Handling & Amenities										
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 37,308	\$ 37,308	\$ 37,308	\$	37,308
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 5,982	\$ 5,982	\$ 5,982	\$	5,982
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 5,982	\$ 5,982	\$ 5,982	\$	5,982
	Engineering										
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 29,911	\$ 29,911	\$ 29,911	\$	29,911
6.6	LiDAR	1	LS	\$ -	\$	-	\$ 1,795	\$ 1,795	\$ 1,795	\$	1,795
6.7	Geotech	1	Location	\$ -	\$	-	\$ 3,500	\$ 3,500	\$ 3,500	\$	3,500
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 4,188	\$ 4,188	\$ 4,188	\$	4,188
	Testing & Commissioning										
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$		\$ -	\$ -	\$ -	\$	-
	Permitting and Additional Costs										
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 1,795	\$ 1,795	\$ 1,795	\$	1,795
6.13	Real Estate Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.14	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.15	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.16		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.17	Sales Tax on Materials	1	LS	\$ 19,352	2 \$	19,352	\$ -	\$ -	\$ 19,352	\$	19,352
6.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 598		\$ 598	\$	598
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	19,352		\$ 97,042		\$	116,394

Page 40 of 42

NextEra - T023 - (Segment B)

O. System Upgrade Facilities (Cricket Valley to Long Mt. Line)

Estimate Revision: Total: \$ 3,943,950

SYSTEM UPG	RADE FACILITIES	Estimated Quantity	Unit of Measure	Material Supply Ra	ate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
SUF 1	Transmission Line Upgrade Cricket Valley - Connecticut Border to Long Mountain (3.3 + 6.0 = 9.3 Miles)									
1.1	345kV - (1) 954kcmil 45/7 ACSS "Rail" Conductor (Cricket Vly to Conn Border)	109,771.20	LF	\$ 2.5	50	\$ 274,428	\$ 5.00	\$ 548,856	\$ 8	\$ 823,284
1.2	345kV - (1) 2312kcmil 76/19 ACSS "Thrasher" Conductor (Conn Border to Long Mtn.)	99,792.00	LF	\$ 8.0	00	\$ 798,336	\$ 5.00	\$ 498,960	\$ 13	\$ 1,297,296
1.3	Remove Existing 795 ACSS Conductor and Accessories (Cricket VIy to Conn Border)	3.30	Mile	\$ -		\$ -	\$ 30,000.00	\$ 99,000	\$ 30,000	\$ 99,000
1.4	Remove Existing 2156kmil ACSS Conductor and Accessories (Conn Border to Long Mtn.)	6.00	Mile	\$ -		\$ -	\$ 30,000.00	\$ 180,000	\$ 30,000	\$ 180,000
1.5	Rider Poles	10.00	Sets	\$ 1,750.0	00	\$ 17,500	\$ 3,500.00	\$ 35,000	\$ 5,250	\$ 52,500
1.6	345kV Vertical Tangent Insulator Assembly	147.00	Assembly	\$ 1,800.0	00	\$ 264,600	\$ 720.00	\$ 105,840	\$ 2,520	\$ 370,440
1.7	345kV Deadend Insulator Assembly	132.00	Assembly	\$ 1,800.0	00	\$ 237,600	\$ 720.00	\$ 95,040	\$ 2,520	\$ 332,640
	Subtotal SUG 1 Direct Cost					\$ 1,592,464		\$ 1,562,696		\$ 3,155,160
2	Indirect Cost (25% of Direct Cost)		·			\$ 398,116		\$ 390,674		\$ 788,790
	TOTAL:					\$ 1,990,580		\$ 1,953,370		\$ 3,943,950

	NextEra T023 (Segment B Alternate)
	ESTIMATE ASSUMPTIONS & CLARIFICATIONS
1	Cost Estimate is based on 2017 rates.
2	Construction schedule is in accordance with proposed schedule - we have assumed continuous working with no breaks in the schedule. Six months have been added to the construction schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.).
3	We have assumed a typical work week of five-(5) days per week at ten-(10) hours per day (5 x 10 hour days).
4	All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017.
5	We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type. 20% of the total length of the line is assumed to use Type 1 Gravel road and 80% of the line length access to be used wood matting. In addition 75 feet of wood matting is included from the access matting to the work pad area matting. The estimate also include 5,000 square feet of wood matting for each structure work area within the ROW. For the ground restoration (seed, straw and woven mat), 20% of the work pad area included.
6	Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not enough information to provide a quantified estimate for this item, allowance is included in the contingency monies.
7	Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for formal quotes.
8	Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing.
9	A Contractor Mark-Up (OH&P) of 15% has been included in the Total section.
10	We have assumed that all project details provided are accurate unless noted otherwise.
11	Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%)
12	A contractor allowance of 1% for mobilization and demobilization has been included in the total section.
13	A contractor allowance of 5.423% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safety inspector, compliance inspector, environmental inspector, and SWPP inspector.
14	An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section.
15	A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section.
16	An allowance of 5% for transmission design and engineering has been included in the total section.
17	An allowance of 8% for substation design and engineering has been included in the total section.
18	An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section.
19	An allowance of 0.3% for LIDAR of the transmission line has been included in the total section.
20	An allowance of 3.75% for substation testing and commissioning has been included in the total section.
21	An allowance of \$20,000.00 per circuit for transmission line testing and commissioning has been included in the total section.
22	New York state sales tax of 8% is included in all material pricing.
23	An allowance of 1.5% for insurance is included in the DPS sheet.
24	From Churchtown to Pleasant Valley; Churchtown loop around 345kV conductor 0.3 miles have been added.
25	An additional Quantity of 5% have been added to conductors, OPGW, & OHSW for sag and jumpers. Rock excavation not provided in proposal foundation data, most of the foundation are concrete pole direct embedded, rock excavation assumed 50% for T022 (Churchtown to Pleasant
26	Valley) and rest 75% of quantities of National Grid's proposal.
	Cricket Valley to Long Mountain line upgrade: The length of the re-conductor between Cricket Valley and the NY/CT border is 3.3 miles and will remove the existing (to be installed on CV
	project) 2 bundle 795 ACSS conductor and install new 2 bundle Rail 954 ACSS conductor.
	-The length of the re-conductor between the NY/CT border and Long Mountain is 6 miles and will remove the existing single 2156 ACSS conductor and install new single Thrasher 2312
27	ACSS conductor.
-	-The Insulators and associated conductor hardware will be replaced.
	-The existing structures are assumed to have adequate strength to support the new conductors.
	-The estimate is a rough order of magnitude estimate as no engineering was performed and SECo did not have access to record drawings.
28	The SUF estimates for the stations are rough order of magnitude estimates. No engineering was performed and SECo did not have access to record drawings.
	1



		NY Power Authority and North American Transmission (T029)	
		Description	Total Amount (In thousand \$)
	1	Transmission Lines	
	1.1	Clearing & Access	\$34,313
	1.2	Foundations	\$17,769
	1.3	Structures	\$52,916
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$30,069
	1.5	Insulators, Fitting and Hardwares	\$11,442
		Subtotal (1)	\$146,509
ا پر ا	2	Substations	
Direct Cost	2.1	Knickerbocker Substation	\$14,982
rect	2.2	East Greenbush Substation	\$61
	2.3	Schodack Substation	\$2,226
	2.4	Churchtown Substation	\$15,925
	2.5	Pleasant Valley Substation	\$2,798
	2.6	Substation Interconnections	\$5,495
		Subtotal (2)	\$41,487
		Total (1+2)	\$187,996
		Contractors Mark-up (15% of Total 1+2)	\$28,199
		Total Direct Cost (A)	\$216,196
	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$1,880
st	3.2	Project Management, Material Handling & Amenities	\$15,363
Indirect Cost	3.3	Engineering	\$12,524
direc	3.4	Testing & Commissioning	\$973
<u>=</u>	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$14,136
	3.6	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,628
		Total Indirect Cost (3)	\$52,504
		Subtotal Project Cost (B=A+3) 2017 \$	\$268,700
	4	Network Upgrade Facilities (NUF)	
	4.1	NUF proposed as element of the Project (Middletown Line and Terminal)	\$16,261
	4.2	NUF identified by System Impact Study (Cricket Valley Line Upgrade)	\$4,417
		Subtotal NUF Cost (C)	\$20,678
		Total Project Cost (B+C) 2017 \$	\$289,378
		Total Project Cost 2018 \$	\$298,059

5/22/2018 Page 1 of 60

NAT - NYPA - T029 - (Segment B)

Estimate Revision: 7

	NAT - NYPA - T029 - (Segment B) - Direct Costs	Total Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 53,833,887
Direct Labor, Material & Equipment Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 87,928,556
Direct Labor, Material & Equipment Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 4,746,361
Direct Labor, Material & Equipment Costs	D. Knickerbocker 345kV Substation - Install	\$ 14,982,000
Direct Labor, Material & Equipment Costs	E. Greenbush Substation - Removal	\$ 61,200
Direct Labor, Material & Equipment Costs	F. Schodack Substation - Install	\$ 2,089,357
Direct Labor, Material & Equipment Costs	G. Schodack Substation - Removal	\$ 136,200
Direct Labor, Material & Equipment Costs	H. Churchtown Substation - Install	\$ 15,046,621
Direct Labor, Material & Equipment Costs	I. Churchtown Substation - Removal	\$ 878,578
Direct Labor, Material & Equipment Costs	J. Pleasant Valley Substation - Install	\$ 2,797,952
Direct Labor, Material & Equipment Costs	K. Interconnection Milan Station	\$ 675,154
Direct Labor, Material & Equipment Costs	L. Interconnection Knickerbocker Station	\$ 1,206,222
Direct Labor, Material & Equipment Costs	M. Interconnection Churchtown Station	\$ 1,775,951
Direct Labor, Material & Equipment Costs	N. Interconnection Pleasant Valley Station	\$ 1,838,080
Direct Labor, Material & Equipment Costs	O. System Upgrade Facilities (Middletown and Cricket Valley Line Upgrade)	\$ 3,530,841
Direct Labor, Material & Equipment Costs	P. System Upgrade Facilities (Middletown Substation)	\$ 11,239,000
	SUBTOTAL:	\$ 202,765,960
	CONTRACTOR MARK-UP (OH&P)	\$ 30,414,894
	CONTINGENCY ON ENTIRE PROJECT	\$ -
	TOTAL DIRECT:	\$ 233,180,854

	NAT - NYPA - T029 - (Segment B) - Indirect Costs		Total Each Segment
Indirect Costs	A. Transmission Line Knickerbocker to Churchtown		\$ 12,932,303
Indirect Costs	B. Transmission Line Churchtown to Pleasant Valley		\$ 20,756,469
Indirect Costs	C. Blue Stores Junction to Blue Stores Substation		\$ 1,001,157
Indirect Costs	D. Rotterdam Substation - Install		\$ 3,969,250
Indirect Costs	E. Greenbush Substation - Removal		\$ 10,754
Indirect Costs	F. Schodack Substation - Install		\$ 531,867
Indirect Costs	G. Schodack Substation - Removal		\$ 23,933
Indirect Costs	H. Churchtown Substation - Install		\$ 3,765,943
Indirect Costs	I. Churchtown Substation - Removal		\$ 153,506
Indirect Costs	J. Pleasant Valley Substation - Install		\$ 727,028
Indirect Costs	K. Interconnection Milan Station		\$ 129,428
Indirect Costs	L. Interconnection Knickerbocker Station		\$ 218,560
Indirect Costs	M. Interconnection Churchtown Station		\$ 329,054
Indirect Costs	N. Interconnection Pleasant Valley Station		\$ 327,187
Indirect Costs	O. System Upgrade Facilities (Middletown and Cricket Valley Line Upgrade)		\$ 882,710
Indirect Costs	P. System Upgrade Facilities (Middletown Substation)		\$ 2,810,000
Indirect Costs	Legal and Permitting (Includes Legal, Envir. Lisc. & Permit., and Envir. Mitigation)		\$ 7,627,609
		TOTAL INDIRECT:	\$ 56,196,758

TOTAL ESTIMATED COST: \$ 289,377,612

A. Transmission Line Knickerbocker to Churchtown

NAT - NYPA - T029 - (Segment B)

Estimate Revision:

7

Total: \$ 66,766,190

NAT - NYPA - TO	029 - (Segment B)					
		Supply		Installation		Total
A. Transmission Line Knickerbocker to Churchtown						
1. CLEARING & ACCESS	\$	11,500	\$	13,264,953	\$	13,276,453
2. FOUNDATIONS	\$	1,222,467	\$	5,948,438	\$	7,170,905
3. STRUCTURES	\$	7,893,794	\$	9,965,095	\$	17,858,889
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	2,367,420	\$	8,759,465	\$	11,126,885
5. INSULATORS, FITTINGS, HARDWARE	\$	2,914,366	\$	1,486,388	\$	4,400,755
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,152,764	\$	11,779,540	\$	12,932,303
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	15,562,311	\$	51,203,879	\$	66,766,190
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL:	Ś	15.562.311	Ś	51.203.879	Ś	66.766.190

Description of Work:

1.1	Item	ltem Description	Estimated Quantity	Unit of Measure	Materi	ial Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate		TOTAL
1.1 Clearing the ROW - Heavy (moving) 1.9 Acre 5	A. Transı	mission Line Knickerbocker to Churchtown										
1.2 Clearing the ROW - Light (mowing)	1. CLEARING &	ACCESS										
23.13 Permanent Access Road 13.502 15 5 5 5 5 5 5 5 5	1.1	Clearing the ROW - Heavy (mowing & clearing)	19	Acre	\$	-	\$ -	\$ 15,000	\$ 285,000	\$ 15,000	\$	285,000
1.1	1.2	Clearing the ROW - Light (mowing)	63	Acre			\$ -	\$ 5,000	\$ 315,000	\$ 5,000	\$	315,000
1.5					T	-	'					1,040,688
1.6 Matting - 1 work Area 12,075 F S S S 70,00 S 845,550 S 70 S 1.7 Show Removal 21,9 Mile S S S S 16,000 S 310,000 S 1.8 ROW Restoration 21,9 Mile S S S S S S 21,000 S 10,000 S 1.9 Work Parts 885,000 S S S S S S S S S					· -							462,528
1.7 Snow Removal 21.9 Mile \$ \$ \$. 16,000 \$. 390,000 \$. 16,000 \$. 18,000 \$. 18,000 \$. 19,							*					6,475,392
1.8			,				т					845,250
1.9 Work Pads					T		т					350,400
1.10 Restoration for Work Pad areas 161,000.0 SF S S S S S S S S							т					219,000
1.11 Temporary Access Bridge		1 111			· -		T				_	2,833,600 24,150
1.12 Air Bridge							т				<u> </u>	180,315
1.13 Stabilized Construction Entrance			-		-						-	-
1.14 Maintenance and Protection of Traffic on Public Roads		- v					т				-	18,320
1.15 Culverts Misc. Access 10 EA \$ 750 \$ 7,500 \$ 1,250 \$ 1,250 \$ 2,000 \$ 5							'	7 1,500				194,110
1.16 Gates 2 EA \$ 2,000 \$ 4,000 \$ 2,500 \$ 5,000 \$ 4,500 \$ 5	1.15	Culverts / Misc. Access		EA	-	750	\$ 7,500				_	20,000
TOTAL - CLEARING & ACCESS: S 11,500 S 13,264,953 S 12,204,053 S 13,204,953 S 13,204,953 S 13,204,953 S 14,204,000 S 14,000 S	1.16	Gates	2	EA	\$	2,000	\$ 4,000	\$ 2,500			\$	9,000
2.1 1-CKT 345KV VERTICAL SMALL ANGLE (1*-15*)	1.17	Concrete Washout Station	2	EA	\$	-	\$ -	\$ 1,850	\$ 3,700	\$ 1,850	\$	3,700
2.1 1-CKT 345KV VERTICAL SMALL ANGLE (1*-15")	TOTAL - CLEAR	ING & ACCESS:					\$ 11,500		\$ 13,264,953		\$	13,276,453
2.2 1-CKT 345KV VERTICAL TANGENT (0°-1°) 1 EA \$ 2,929 \$ 19,916 \$ 19,916 \$ 22,844 \$ 2.3 2-CKT 115KV/345KV DELTA SMALL ANGLE (1°-15°) 7 EA \$ 3,685 \$ 25,795 \$ 25,058 \$ 175,406 \$ 28,743 \$ 2.4 2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD 1 EA \$ 2,720 \$ 350,859 \$ 18,495 \$ 2,385,840 \$ 21,215 \$ 2.4 2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD 3 EA \$ 2,878 \$ 8,635 \$ 19,573 \$ 58,718 \$ 22,451 \$ 2.5 2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD 3 EA \$ 3,193 \$ 31,928 \$ 21,711 \$ 217,107 \$ 24,903 \$ 2.7 2.5 2-CKT 115KV/345KV DELTA TANGENT DEADEND (0°-5°) 1 EA \$ 118,078 \$ 118,078 \$ 119,343 \$ 119,343 \$ 237,421 \$ 2.8 1-CKT 345KV VERTICAL LARGE ANGLE DEADEND (15°-60°) 1 EA \$ 93,345 \$ 93,345 \$ 94,345 \$ 94,345 \$ 187,690 \$ 2.9 2-CKT 115KV/345KV DELTA MEDIUM ANGLE DEADEND (15°-60°) 8 EA \$ 73,419 \$ 587,351 \$ 74,205 \$ 593,641 \$ 147,624 \$ 3.5 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1	2. FOUNDATIO	ONS CONTRACTOR OF THE PROPERTY										
2.3 2-CKT 115KV/345KV DELTA TANGENT (0°-1°)	2.1	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	1	EA	\$	3,548	\$ 3,548	\$ 24,123	\$ 24,123	\$ 27,671	\$	27,671
2.4 2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD 2.5 2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD 3 EA \$ 2,720 \$ 350,859 \$ 18,495 \$ 2,385,840 \$ 21,215 \$ 22,251 \$ 2.5 2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD 3 EA \$ 2,878 \$ 8,635 \$ 19,573 \$ 58,718 \$ 22,451 \$ 2.6 2-CKT 115KV/345KV DELTA TANGENT DEADEND (0°-5°) 10 EA \$ 3,193 \$ 31,928 \$ 21,711 \$ 217,107 \$ 24,903 \$ 2.7 1-CKT 345KV VERTICAL LARGE ANGLE DEADEND (60°-90°) 1 EA \$ 118,078 \$ 118,078 \$ 119,343 \$ 119,343 \$ 237,421 \$ 2.8 1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) 1 EA \$ 93,345 \$ 93,345 \$ 94,345 \$ 94,345 \$ 187,690 \$ 2.9 2-CKT 115KV/345KV DELTA MEDIUM ANGLE DEADEND (15°-60°) 8 EA \$ 73,419 \$ 587,351 \$ 74,205 \$ 593,641 \$ 147,624 \$ 12,000 \$ 2.000 \$	2.2	1-CKT 345KV VERTICAL TANGENT (0°-1°)	1	EA	\$	2,929	\$ 2,929	\$ 19,916	\$ 19,916	\$ 22,844	\$	22,844
2.5 2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD	2.3	2-CKT 115KV/345KV DELTA SMALL ANGLE (1°-15°)	7	EA	\$	3,685	\$ 25,795	\$ 25,058	\$ 175,406	\$ 28,743	\$	201,201
2.6 2-CKT 115KV/345KV DELTA TANGENT DEADEND (0°-5°) 10 EA \$ 3,193 \$ 31,928 \$ 21,711 \$ 217,107 \$ 24,903 \$ 27,107 \$ 27,107	2.4	2-CKT 115KV/345KV DELTA TANGENT (0°-1°)	129	EA	\$			\$ 18,495	\$ 2,385,840			2,736,698
2.7 1-CKT 345KV VERTICAL LARGE ANGLE DEADEND (60°-90°) 1 EA \$ 118,078 \$ 119,343 \$ 119,343 \$ 237,421 \$ 2.8 1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) 1 EA \$ 93,345 \$ 93,345 \$ 94,345 \$ 94,345 \$ 187,690 \$ 2.9 2-CKT 115KV/345KV DELTA MEDIUM ANGLE DEADEND (15°-60°) 8 EA \$ 73,419 \$ 587,351 \$ 74,205 \$ 593,641 \$ 147,624 \$ 12,000	2.5	2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD	3	EA	+ -	2,878	\$ 8,635	\$ 19,573	\$ 58,718	\$ 22,451		67,353
2.8 1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) 1 EA \$ 93,345 \$ 94,345 \$ 94,345 \$ 187,690 \$ 2.9 2-CKT 115KV/345KV DELTA MEDIUM ANGLE DEADEND (15°-60°) 8 EA \$ 73,419 \$ 587,351 \$ 74,205 \$ 593,641 \$ 147,624 \$ 12,000 \$ 2.10 Rock Excavation Adder 1,130.0 CY \$ - \$ - \$ 2,000 \$ 2,260,000 \$ 2,000 \$ 2	2.6	2-CKT 115KV/345KV DELTA TANGENT DEADEND (0°-5°)	10	EA	\$	3,193	\$ 31,928	\$ 21,711	\$ 217,107	\$ 24,903	\$	249,035
2.9 2-CKT 115KV/345KV DELTA MEDIUM ANGLE DEADEND (15°-60°) 8 EA \$ 73,419 \$ 587,351 \$ 74,205 \$ 593,641 \$ 147,624 \$ 1 2.10 Rock Excavation Adder 1,130.0 CY \$ - \$ - \$ 2,000 \$ 2,260,000 \$ 2,000 \$ 2,110	2.7	1-CKT 345KV VERTICAL LARGE ANGLE DEADEND (60°-90°)	1	EA	\$	118,078	\$ 118,078	\$ 119,343	\$ 119,343	\$ 237,421	\$	237,421
2.10 Rock Excavation Adder 1,130.0 CY \$ - \$ - \$ 2,000 \$ 2,260,000 \$ 2,000 \$ 2	2.8	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	1	EA	\$	93,345	\$ 93,345	\$ 94,345	\$ 94,345	\$ 187,690	\$	187,690
2.11	2.9	2-CKT 115KV/345KV DELTA MEDIUM ANGLE DEADEND (15°-60°)	8	EA	\$	73,419	\$ 587,351	\$ 74,205	\$ 593,641	\$ 147,624	\$	1,180,993
	2.10	Rock Excavation Adder	1,130.0	СҮ	\$	-	\$ -	\$ 2,000	\$ 2,260,000	\$ 2,000	\$	2,260,000
	2.11											
	2.12											

131	Item	Item Description	Estimated Quantity	Unit of Measure	Materi	al Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
2.31 CET SHOWN PROTECTION AND ADDRESS OF THE PROTECTION AND ADDR	2.13										
2.17 2.17 2.17 2.17 2.17 2.17 2.17 2.17	2.14										
1.77	2.15										
\$ 1,000 1,00	2.16										
TOTAL - TOMOGRAPHONE 1. I LOT - MASSEV VERTICAL LAKELY ARCHED FOR 1976 (1976 VERTICAL LAKELY ARCHED FOR 1976 VERTICAL LAKELY	2.17										
	2.18										
STATE STAT	TOTAL - FOUN	DATIONS:					\$ 1,222,467		\$ 5,948,438		\$ 7,170,905
3.2 CCT SERVICETICAL MEDIUM ANGER DEPORT OF 1 1 5 STRUCTURE 5 101,575 5 60,797 5 60,797 5 105,105 5 105,055 5	3. STRUCTURE	S									
1.5 CETT SERV VERTICAL RAMIAL RAMIEL (F1-17) 1 Structure 5 181,184 5 1.80,84 5 1.80,80 5 1.80,80 8 1	3.1	1-CKT 345KV VERTICAL LARGE ANGLE DEADEND (60°-90°)	1	Structure	\$	239,760	\$ 239,760	\$ 143,856	\$ 143,856	\$ 383,616	\$ 383,616
1.	3.2	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	1	Structure	\$	116,328	\$ 116,328	\$ 69,797	\$ 69,797	\$ 186,125	\$ 186,125
3.5 CCT INSEQNATION PROTECT AMERICAN PROCESS S. 1.008,109 S. 7.730 S. 500,000 S. 2.008,600 S. 2.008	3.3	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	1	Structure	\$	103,156	\$ 103,156	\$ 61,894	\$ 61,894	\$ 165,050	\$ 165,050
2-021 ISEN//JANOV DUILA SAMULA ANGLE (1-2-17)	3.4	1-CKT 345KV VERTICAL TANGENT (0°-1°)	1	Structure	\$	50,024	\$ 50,024	\$ 30,014	\$ 30,014	\$ 80,038	\$ 80,038
3.7 2-CST LEAVY/LEAVE DELTA FAMILIAN PRINCIPLY 120 STRUCTURE S 8,0104/16 S 2,044 S 8,000/4,000 S 2,071 S 8,0774_624 3.8 2-CST LEAVY/LEAVE DELTA FAMILIAN PRINCIPLY S S 5,000 S 5,000 S 2,000 S 2,000 3.10 Service Principle	3.5	2-CKT 115KV/345KV DELTA MEDIUM ANGLE DEADEND (15°-60°)	8	Structure	\$	125,416	\$ 1,003,329	\$ 75,250	\$ 601,997	\$ 200,666	\$ 1,605,326
3.8 ACRT 138N/ASSON DELTA FARGEST (GYST) 10 10 10 10 10 10 10 1	3.6	2-CKT 115KV/345KV DELTA SMALL ANGLE (1°-15°)	7	Structure	\$	73,812	\$ 516,687	\$ 44,287	\$ 310,012	\$ 118,100	\$ 826,698
3	3.7	2-CKT 115KV/345KV DELTA TANGENT (0°-1°)	129	Structure	\$	39,107	\$ 5,044,765	\$ 23,464	\$ 3,026,859	\$ 62,571	\$ 8,071,624
3-2 2-CAT LISOV/JASAN (POTRAT ASSERDIT CARRONIC/S*) 10 STOCKUME 5 57,505 5 53,005 5 3,000 5 2,286,000 5 2,286,000 3 2,286,000	3.8		3		\$				\$ 97,647		\$
Solid Remove Existing Contract Foundation See EA S S S S S S S S S	3.9		10		\$						
3.12 Install Grounding Accessories 161 Pole \$ 5.05 \$ 81,465 \$ 5,39 \$ 80,695 \$ 6,045 \$ 973,145 3.13	3.10	Remove Existing Concrete Foundation	688	EA	\$	-	\$ -	\$ 3,250	\$ 2,236,000	\$ 3,250	\$ 2,236,000
3.31 Install Grounding Accessories 161 Pole \$	3.11	Remove Existing Structure and Accessories	172	EA	\$	-	\$ -	\$ 12,500	\$ 2,150,000	\$ 12,500	\$ 2,150,000
3.13	3.12		161	Pole	\$	506	\$ 81,466	\$ 5,539	\$ 891,699	\$ 6,045	\$ 973,165
3.15	3.13										
TOTAL STRUCTURES	3.14										
## A CONDUCTOR, SHILDOWER, DFGW ## 1 ASSIV* (1) 954cm 1847 ACSS "Cardinal" ## 1 ASSIV* (1) 954cm 1847 ACSS "Cardinal" ## 2	3.15										
## 1	TOTAL - STRUC	CTURES:					\$ 7,893,794		\$ 9,965,095		\$ 17,858,889
## 1	4. CONDUCTO	R, SHIELDWIRE, OPGW							, ,		, ,
4.2 (1) OPCW 36 Fiber Ac-33/38/77 123.631 LF S 1.35 S 165.902 S 5.00 S 618.155 S 5.35 \$788.097 4.3 (1) 1/38° ERSY Stell 123.441 LF S 0.47 S 57.065 S S S S 5.00 S 604.135 4.4 Remove Existing 115W Cable From Existing Structures 4.18 Mile S S S S S 30.000 S 1.314.000 S 30.000 S 1.314.000 4.5 Remove Existing OFOW Cable and Accessories 21.9 Mile S S S S 1.200 S 262.800 S 1.200.000 S 262.800 4.6 Remove Existing OFOW and Accessories 21.9 Mile S S S S S S S S S	4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	741,787	LF	\$	1.90	\$ 1,409,395	\$ 5.00	\$ 3,708,935	\$ 6.90	\$ 5,118,330
4.3	4.2		123,631	LF	\$						\$
4.4 Remove Existing 115W Cable From Existing Structures			121,414	LF	\$						
A.5 Remove Existing OPGW Cable and Accessories 21.9 Mille 5 - 5 12,000 5 262,800 5 12,000 0 5 262,800 6 17,000 6 12,000 6	4.4			Mile	\$						
4.6 Remove Existing OHSW and Accessories 21.9 Mile S	4.5			Mile	\$	-	\$ -				
4.7 115kV - (1) 954kcmli 54/7 ACSS "Cardinal" 364,241 LF S 1.90 5 622,058 S 5.00 S 1,821,205 S 6.90 S 2,512,623 4.8 Riber Poles - (Rel Catations) 24 Set S 1,750 S 42,000 S 3,500 S 80,500 S 3,500				Mile	\$	-	\$ -				
4.8 Rider Poles (47 Locations)					\$	1.90	\$ 692,058				
4.9 Rider Poles - Relocated 23 Set \$ - \$ \$ - \$ \$ 3,500 \$ 80,500 \$ 3,500,00 \$ 80,500					Ś						
4.10					\$						
4.11 4.12 4.13 4.14 4.15 4.15 4.16 4.17 4.17 4.17 4.17 4.17 4.17 4.17 4.17								,	,	,	,
4.12 4.13 4.14 4.15 4.16 4.17 TOTAL: CONDUCTOR, SHELDWIRE, OPGW: 5. INSULATOR, FITTINGS, HARDWARE 5.1 SASW Tangent (1-Group of 18-Bells Each Assembly) 5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) 695 Assembly \$ 900 \$ 625,500 \$ 500 \$ 389,200 \$ 1,460 \$ 1,014,700 5.3 43kSkV Tangent (1-Group of 18-Bells Each Assembly) 695 Assembly \$ 900 \$ 625,500 \$ 560 \$ 389,200 \$ 1,460 \$ 1,014,700 5.3 43kSkV Tangent (1-Group of 9-Bells Each Assembly) 695 Assembly \$ 900 \$ 625,500 \$ 560 \$ 389,200 \$ 1,460 \$ 1,014,700 5.3 43kSkV Tangent (1-Group of 18-Bells Each Assembly) 695 Assembly \$ 900 \$ 625,500 \$ 560 \$ 389,200 \$ 1,460 \$ 1,014,700 6.5 3 43kSkV Tangent (1-Group of 18-Bells Each Assembly) 695 Assembly \$ 900 \$ 113,400 \$ 560 \$ 720 \$ 2,520 \$ 756,000 6.5 4 115kV Tangent (1-Group of 9-Bells Each Assembly) 696 Assembly \$ 900 \$ 113,400 \$ 560 \$ 70,560 \$ 1,460 \$ 1,014,700 6.5 5.5 Consideration of the control of th											
4.13											
4.14 4.15 4.16 4.17 4.17 4.17 4.17 4.17 4.17 4.17 4.17 4.17 4.18 4.18 4.19 4.											
4.15 4.16 4.17 TOTAL: CONDUCTOR, SHIELDWIRE, OPGW: 5. 1345kV Tangent (1-Group of 18-Bells Each Assembly) 5.1 345kV Tangent (1-Group of 19-Bells Each Assembly) 6.95 Assembly \$ 1,800 \$ 1,269,000 \$ 720 \$ 507,600 \$ 2,520 \$ 1,776,600 \$ 5.2 11,156 \$ 1,146 \$ 1,147,000 \$ 1,148 \$ 1,14											
4.16 4.17 TOTAL: CONDUCTOR, SHIELDWIRE, OPGW: 5. INSULATOR, FITTINGS, HARDWARE 5.1 345kV Tangent (1-Group of 18-Bells Each Assembly) 5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 5.5 1 15kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 5.6 0 PGW Assembly - Tangent 5.7 0 PGW Assembly - Tangent 5.8 2,367,420 5.9 2,367,420 5.0 \$ 8,759,465 5.0 \$ 11,26,885 5.1 1,776,600 5.2 115kV Tangent (1-Group of 18-Bells Each Assembly) 5.1 1,800 \$ 1,269,000 \$ 720 \$ 507,600 \$ 2,520 \$ 1,776,600 5.2 115kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 5.5 -					1						
4.17											
State Stat											
5. INSULATOR, FITTINGS, HARDWARE S.1 345kV Tangent (1-Group of 18-Bells Each Assembly) 705 Assembly \$ 1,800 \$ 1,269,000 \$ 720 \$ 507,600 \$ 2,520 \$ 1,776,600 5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) 695 Assembly 900 \$ 625,500 \$ 560 \$ 389,200 \$ 1,460 \$ 1,014,700 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 300 Assembly \$ 1,800 \$ 540,000 \$ 720 \$ 216,000 \$ 2,520 \$ 756,000 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 126 Assembly \$ 900 \$ 113,400 \$ 560 \$ 70,560 \$ 1,460 \$ 183,960 5.5 Assembly \$ 900 \$ 113,400 \$ 560 \$ 70,560 \$ 1,460 \$ 183,960 5.5 Assembly \$ 900 \$ 113,400 \$ 560 \$ 70,560 \$ 1,460 \$ 183,960 5.5 Assembly \$ 900 \$ 28,200 \$ 150 \$ 21,150 \$ 350 \$ 49,350 5.6 OPGW Assembly - Tangent		UCTOR, SHIELDWIRE, OPGW:					\$ 2,367,420		\$ 8,759,465		\$ 11,126,885
5.1 345kV Tangent (1-Group of 18-Bells Each Assembly) 705 Assembly \$ 1,800 \$ 1,269,000 \$ 720 \$ 507,600 \$ 2,520 \$ 1,776,600 5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) 695 Assembly \$ 900 \$ 625,500 \$ 560 \$ 389,200 \$ 1,460 \$ 1,014,700 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 300 Assembly \$ 1,800 \$ 540,000 \$ 720 \$ 216,000 \$ 2,520 \$ 756,000 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 126 Assembly \$ 900 \$ 113,400 \$ 560 \$ 70,560 \$ 1,460 \$ 183,960 5.5 Assembly \$ 900 \$ 113,400 \$ 560 \$ 70,560 \$ 1,460 \$ 183,960 5.5 Assembly \$ 900 \$ 113,400 \$ 560 \$ 70,560 \$ 1,460 \$ 183,960 5.5 Assembly \$ 90 \$ 113,400 \$ 560 \$ 70,560 \$ 1,460 \$ 183,960 5.6 OPGW Assembly - Tangent 141 Assembly \$ 200 \$ 28,200 \$ 150 \$ 21,150 \$ 350 \$ 49,350 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 300 Assembly \$ 1,800 \$ 540,000 \$ 720 \$ 216,000 \$ 2,520 \$ 756,000 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 126 Assembly \$ 900 \$ 113,400 \$ 560 \$ 70,560 \$ 1,460 \$ 183,960 5.5 Assembly \$ -	5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	705	Assembly	\$	1,800	\$ 1,269,000	\$ 720	\$ 507,600	\$ 2,520	\$ 1,776,600
5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 126 Assembly \$ 900 \$ 113,400 \$ 560 \$ 70,560 \$ 1,460 \$ 183,960 5.5 Assembly \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - 5.6 OPGW Assembly - Tangent 141 Assembly \$ 200 \$ 28,200 \$ 150 \$ 21,150 \$ 350 \$ 49,350 5.7 OPGW Assembly - Angle / DE 40 Assembly \$ 250 \$ 10,000 \$ 150 \$ 6,000 \$ 400 \$ 16,000 5.8 OHSW Assembly - Tangent 139 Assembly \$ 200 \$ 27,800 \$ 150 \$ 20,850 \$ 350 \$ 48,650 5.9 OHSW Assembly - Angle / DE 36 Assembly \$ 250 \$ 9,000 \$ 150 \$ 5,400 \$ 14,400	5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	695	Assembly	\$	900	\$ 625,500	\$ 560	\$ 389,200	\$ 1,460	\$ 1,014,700
5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 126 Assembly \$ 900 \$ 113,400 \$ 560 \$ 70,560 \$ 1,460 \$ 183,960 5.5 Assembly \$ -	5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	300	Assembly	\$	1,800	\$ 540,000	\$ 720	\$ 216,000	\$ 2,520	\$ 756,000
5.5 Assembly \$ -					\$						
5.7 OPGW Assembly - Angle / DE 40 Assembly \$ 250 \$ 10,000 \$ 150 \$ 6,000 \$ 400 \$ 16,000 5.8 OHSW Assembly - Tangent 139 Assembly \$ 200 \$ 27,800 \$ 150 \$ 20,850 \$ 350 \$ 48,650 5.9 OHSW Assembly - Angle / DE 36 Assembly \$ 250 \$ 9,000 \$ 150 \$ 5,400 \$ 400 \$ 14,400											
5.7 OPGW Assembly - Angle / DE 40 Assembly \$ 250 \$ 10,000 \$ 150 \$ 6,000 \$ 400 \$ 16,000 5.8 OHSW Assembly - Tangent 139 Assembly \$ 200 \$ 27,800 \$ 150 \$ 20,850 \$ 350 \$ 48,650 5.9 OHSW Assembly - Angle / DE 36 Assembly \$ 250 \$ 9,000 \$ 150 \$ 5,400 \$ 400 \$ 14,400	5.6	OPGW Assembly - Tangent	141	Assembly	\$	200	\$ 28,200	\$ 150	\$ 21,150	\$ 350	\$ 49,350
5.8 OHSW Assembly - Tangent 139 Assembly \$ 200 \$ 27,800 \$ 150 \$ 20,850 \$ 350 \$ 48,650 5.9 OHSW Assembly - Angle / DE 36 Assembly \$ 250 \$ 9,000 \$ 150 \$ 5,400 \$ 400 \$ 14,400					\$						
5.9 OHSW Assembly - Angle / DE 36 Assembly \$ 250 \$ 9,000 \$ 150 \$ 5,400 \$ 14,400			139		\$						48,650
	5.9		36	Assembly	\$						14,400
									·		

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	e Mat	terial Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate		TOTAL
5.11	OPGW Splice & Test	8	EA	\$ 2,520	\$	20,160	\$ 2,520	\$ 20,160	\$ 5,040	\$	40,320
5.12	Spacer - Conductor	3,651	EA	\$ 50) \$	182,550	\$ 35	\$ 127,785	\$ 85	\$	310,335
5.13	Vibration Dampers - Conductor	1,314	EA	\$ 35	5 \$	45,990	\$ 35	\$ 45,990	\$ 70	\$	91,980
5.14	Shield wire / OPGW Dampers, Misc. Fittings	442	EA	\$ 27		11,934	\$ 35	\$ 15,470	\$ 62	\$	27,404
5.15						,		,			
5.16		-	Set		\$	-		\$ -	\$ -	\$	-
5.17		-	Set		\$	-		\$ -	\$ -	\$	-
5.18											
5.19	Guys, Anchors, and Accessories	-	EA	\$ 720) \$	-	\$ 885	\$ -	\$ 1,605	\$	_
5.20	Misc. materials (Signs and Markers)	21.9	Mile	\$ 770		16,863	\$ 1,006	\$ 22,031	\$ 1,776	-	38,894
5.21		-		\$ -	Ś	-	\$ -	\$ -	\$ -	Ś	-
5.22				i i	ľ					<u> </u>	
5.23											
TOTAL - INSUL	ATORS, FITTINGS, HARDWARE:				Ś	2,914,366		\$ 1.486.388		Ś	4,400,755
A. Trans	mission Line Knickerbocker to Churchtown				\$	14,409,547		\$ 39,424,340		\$	53,833,887
	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				-					·	
6. IVIOB/DEIVIO	Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	\$ -	Ś	-	\$ 538,339	\$ 538,339	\$ 538,339	Ś	538,339
0.1	Project Management, Material Handling & Amenities	1	LS	3 -	->	-	\$ 556,559	\$ 556,559	\$ 556,559	+-	330,339
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 3,322,654	\$ 3,322,654	\$ 3,322,654	\$	3,322,654
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 538,339	\$ 538,339	\$ 538,339	\$	538,339
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 538,339	\$ 538,339	\$ 538,339	\$	538,339
	Engineering										
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 2,691,694	\$ 2,691,694	\$ 2,691,694	\$	2,691,694
6.6	LiDAR	1	LS	\$ -	\$	-	\$ 161,502	\$ 161,502	\$ 161,502	\$	161,502
6.7	Geotech	25	Location	\$ -	\$	-	\$ 3,500	\$ 87,500	\$ 3,500	\$	87,500
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 376,837	\$ 376,837	\$ 376,837	\$	376,837
	Testing & Commissioning										
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ 40,000	\$ 40,000	\$ 40,000	\$	40,000
	Permitting and Additional Costs										
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 161,502	\$ 161,502	\$ 161,502	\$	161,502
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$	-	\$ 3,269,000	\$ 3,269,000	\$ 3,269,000	\$	3,269,000
6.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.17	, ,	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	_
6.18	Sales Tax on Materials	1	LS	\$ 1,152,764	1 \$	1,152,764	\$ -	\$ -	\$ 1,152,764	<u> </u>	1,152,764
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	, , , , , ,	\$	-	\$ 53,834	\$ 53,834	\$ 53,834	\$	53,834
	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	_	-		Ś	1,152,764	,	\$ 11,779,540		Ġ	12,932,303

NAT - NYPA - T029 - (Segment B) B. Transmission Line Churchtown to Pleasant Valley

Estimate Revision: 7 Total: \$ 108,685,025

NAT - NYPA - T029 - (S	egmen	t B)		
		Supply	Installation	Total
B. Transmission Line Churchtown to Pleasant Valley				
1. CLEARING & ACCESS	\$	14,000	\$ 19,618,466	\$ 19,632,466
2. FOUNDATIONS	\$	832,267	\$ 8,602,686	\$ 9,434,954
3. STRUCTURES	\$	11,844,213	\$ 21,669,343	\$ 33,513,556
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	3,505,234	\$ 14,965,085	\$ 18,470,319
5. INSULATORS, FITTINGS, HARDWARE	\$	4,562,919	\$ 2,314,342	\$ 6,877,261
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,660,691	\$ 19,095,779	\$ 20,756,469
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	22,419,324	\$ 86,265,701	\$ 108,685,025
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	22,419,324	\$ 86,265,701	\$ 108,685,025

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Materia	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
B. Transi	mission Line Churchtown to Pleasant Valley										
1. CLEARING 8	ACCESS										
1.1	Clearing the ROW - Heavy (mowing & clearing)	9.0	Acre	\$	-	\$ -	\$ 15,000	\$ 135,000	\$ 15,000	\$	135,000
1.2	Clearing the ROW - Light (mowing)	107.0	Acre	\$	-	\$ -	\$ 5,000	\$ 535,000	\$ 5,000	\$	535,000
1.3	Access Road	34,108.8	LF	\$	-	\$ -	\$ 45			-	1,534,896
1.4	Silt Fence	170,544.0	LF	\$	-	\$ -	\$ 4				682,176
1.5	Matting - Access and ROW	136,435.2	LF	\$	-	\$ -	\$ 70				9,550,464
1.6	Matting - To Work Area	18,300.0	LF	\$	-	\$ -	\$ 70				1,281,000
1.7	Snow Removal	32.3	Mile	\$	-	\$ -	\$ 16,000 \$ 10,000				516,800
1.8 1.9	ROW Restoration Work Pads	32.3 1,220,000.0	Mile SF	\$	-	\$ - \$ -	7 10,000	\$ 323,000 \$ 4,294,400		\$	323,000 4,294,400
1.10	Restoration for Work Pad areas	244,000.0	SF SF	Ś	-	\$ -	\$ 0.2			<u> </u>	36,600
1.10	Temporary Access Bridge	244,000.0	EA EA	\$	-	\$ -	\$ 20,035				280,490
1.12	Air Bridge	14	EA	Ś		\$ -	\$ 14,445		\$ 14,445		200,430
1.13	Stabilized Construction Entrance	12	EA	\$	-	\$ -	\$ 4,580				54,960
1.14	Maintenance and Protection of Traffic on Public Roads	86	EA	Ś	-	\$ -	\$ 4,130				355,180
1.15	Gates	4	EA	\$	2,000		\$ 2,500				18,000
1.16	Culverts / Misc. Access	8	EA	\$	750	\$ 6,000	\$ 1,250	\$ 10,000	\$ 2,000	\$	16,000
1.17	Concrete Washout Station	10	EA	\$	-	\$ -	\$ 1,850	\$ 18,500	\$ 1,850	\$	18,500
TOTAL - CLEAR	ING & ACCESS:					\$ 14,000		\$ 19,618,466		\$	19,632,466
2. FOUNDATIO	ONS .										
2.1	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	1	EA	\$	3,548	\$ 3,548	\$ 21,427	\$ 21,427	\$ 24,974	\$	24,974
2.2	1-CKT 345KV VERTICAL TANGENT (0°-1°)	1	EA	\$	2,063	\$ 2,063	\$ 12,458	\$ 12,458	\$ 14,520	\$	14,520
2.3	2-CKT 115KV/345KV DELTA SMALL ANGLE (1°-15°)	14	EA	\$	3,120	\$ 43,684	\$ 18,846	\$ 263,850	\$ 21,967	\$	307,534
2.4	2-CKT 115KV/345KV DELTA TANGENT (0°-1°)	187	EA	\$	1,943	\$ 363,309	\$ 11,735	\$ 2,194,384	\$ 13,678	\$	2,557,693
2.5	2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD	4	EA	\$	2,073	\$ 8,291	\$ 12,520	\$ 50,079	\$ 14,593	\$	58,370
2.6	2-CKT 115KV/345KV DELTA TANGENT DEADEND (0°-5°)	29	EA	\$	2,171	\$ 62,973	\$ 13,116	\$ 380,357	\$ 15,287	\$	443,330
2.7	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	1	EA	\$	32,046	\$ 32,046	\$ 32,390	\$ 32,390	\$ 64,436	\$	64,436
2.8	2-CKT 115KV/345KV DELTA MEDIUM ANGLE DEADEND (15°-60°)	7	EA	\$	45,194	\$ 316,355	\$ 45,678	\$ 319,743	\$ 90,871	\$	636,097
2.9	Rock Excavation Adder	2,664.0	СҮ	\$	-	\$ -	\$ 2,000	\$ 5,328,000	\$ 2,000	\$	5,328,000
2.10											

Item	item Description	Estimated Quantity	Unit of Measure	M	aterial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
2.11											
2.12											
TOTAL - FOUN						\$ 832,267		\$ 8,602,686		\$	9,434,954
3. STRUCTURE		1	Chrustura	\$	102.156	ć 102.1F6	ć 61.904	ć 61.904	ć 16F.0F0	\$	165.050
3.2	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	1	Structure	\$	103,156		\$ 61,894 \$ 43,856	\$ 61,894 \$ 43,856			165,050
3.3	1-CKT 345KV VERTICAL TANGENT (0°-1°)	1 14	Structure	\$	73,094	+,				\$	116,950
	2-CKT 115KV/345KV DELTA SMALL ANGLE (1°-15°)		Structure	+	78,909		, ,,				1,767,564
3.4	2-CKT 115KV/345KV DELTA TANGENT (0°-1°)	187	Structure	\$	39,764	\$ 7,435,835	\$ 23,858	\$ 4,461,501	\$ 63,622	\$	11,897,335
3.5	2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD	4	Structure	\$	51,227		\$ 30,736	\$ 122,944		\$	327,850
3.6	2-CKT 115KV/345KV DELTA TANGENT DEADEND (0°-5°)	29	Structure	\$	59,830		\$ 35,898	\$ 1,041,036		\$	2,776,095
3.7	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	1	Structure	\$	127,558	7	\$ 76,535	\$ 76,535		\$	204,092
3.8	2-CKT 115KV/345KV DELTA MEDIUM ANGLE DEADEND (15°-60°)	7	Structure	\$	133,774	\$ 936,415	\$ 80,264	\$ 561,849	\$ 214,038	\$	1,498,263
3.9	Remove Existing Structure and Accessories	2,084	EA	\$	-	\$ -	\$ 3,250	\$ 6,773,000	\$ 3,250	\$	6,773,000
3.10	Install Grounding and Grounding Accessories	521	EA	\$	-	\$ -	\$ 12,500	\$ 6,512,500	\$ 12,500	\$	6,512,500
3.11	Install Grounding and Grounding Accessories	244	Pole	\$	506	\$ 123,464	\$ 5,539	\$ 1,351,394	\$ 6,045	\$	1,474,858
3.12											
3.13											
3.14											
3.15											
3.16											
	TURES PRINCTOWN TO NEW SCOTLAND:					\$ 11,844,213		\$ 21,669,343		\$	33,513,556
	R, SHIELDWIRE, OPGW					3 11,044,213		21,003,343		7	33,313,330
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	1,087,733	LF	\$	1.90	\$ 2,066,693	\$ 5.00	\$ 5,438,665	\$ 6.90	\$	7,505,358
4.2	(1) OPGW 36 Fiber AC-33/38/571	181,289	LF	\$	1.35	\$ 244,740	\$ 5.00	\$ 906,445	\$ 6.35	\$	1,151,185
4.3	(1) 3/8" EHS7 Steel	181,289	LF	\$	0.47	\$ 85,206	\$ 5.00	\$ 906,445		\$	991,651
4.5	Remove Existing 115kV Cable From Existing Structures	130.4	Mile	\$	-	\$ -	\$ 30,000	\$ 3,912,000		\$	3,912,000
4.6	Remove Existing OPGW Cable and Accessories	32.6	Mile	\$	-	\$ -		\$ 390,600		\$	390,600
4.7	Remove Existing OHSW and Accessories	32.6	Mile	\$	-	\$ -	\$ 12,000	\$ 390,600		\$	390,600
4.8	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	543,866	LF	\$	1.90	\$ 1,033,345	\$ 5.00	\$ 2,719,330	\$ 6.90	\$	3,752,675
4.9	Rider Poles - Relocated	43	Set	Ś	_	\$ -	\$ 3,500	\$ 150,500	\$ 3,500.00	\$	150,500
4.10 4.11	Rider Poles (86 Total)	43	EA	\$	1,750		\$ 3,500	\$ 150,500	\$ 5,250.00	\$	225,750
	JCTOR, SHIELDWIRE, OPGW:	43	LA	7	1,730	\$ 3,505,234	3,300	\$ 14,965,085	3,230.00	\$	18,470,319
	FITTINGS, HARDWARE									-	20, 11 0,020
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	1,035	Assembly	\$	1,800	\$ 1,863,000	\$ 720	\$ 745,200	\$ 2,520	\$	2,608,200
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	1,025	Assembly	\$	900	. , ,		\$ 574,000		\$	1,496,500
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	555	Assembly	\$	1,800	\$ 999,000	\$ 720	\$ 399,600		\$	1,398,600
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	252	Assembly	\$	900	, ,,,,,,	\$ 560	\$ 141,120		\$	367,920
5.5			Assembly	1.	_	\$ -		\$ -	\$ -	\$	-
5.6	OPGW Assembly - Tangent	207	Assembly	\$	200	\$ 41,400	\$ 150	\$ 31,050		\$	72,450
5.7	OPGW Assembly - Angle / DE	74	Assembly	\$	250	\$ 18,500	\$ 150	\$ 11,100		\$	29,600
5.8	OHSW Assembly - Tangent	205 72	Assembly	\$	200 250	\$ 41,000	\$ 150 \$ 150	\$ 30,750 \$ 10.800	\$ 350 \$ 400	\$	71,750 28,800
5.9	OHSW Assembly - Angle / DE OPGW Splice Boxes	12	Assembly	\$	1,746	\$ 18,000 \$ 20,954	\$ 2,274	\$ 10,800 \$ 27,288		\$	48,242
5.11	OPGW Splice & Test	12	EA	\$	2,520			. ,			60,480
	Spacer - Conductor	5,414	EA	\$	50						460,190
5.13	Vibration Dampers - Conductor	1,949	EA	\$	35						136,430
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	657	EA	\$	27		\$ 35				40,734
5.15	Guys, Anchors, and Accessories	-	EA	\$	720		\$ 885		\$ 1,605	\$	-
5.16	Misc. materials (Signs and Markers)	32.3	Mile	\$	770	\$ 24,871		\$ 32,494		\$	57,365
TOTAL - INSUL	ATORS, FITTINGS, HARDWARE:					\$ 4,562,919		\$ 2,314,342		\$	6,877,261
B. Transı	mission Line Churchtown to Pleasant Valley					\$ 20,758,633		\$ 67,169,923		\$	87,928,556

Item	ltem Description	Estimated Quantity	Unit of Measure	Material	Supply Rate	Material Supply Cos	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
	Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 879,286	\$ 879,286	\$ 879,286	\$ 879,286
	Project Management, Material Handling & Amenities									
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 5,426,994	\$ 5,426,994	\$ 5,426,994	\$ 5,426,994
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 879,286	\$ 879,286	\$ 879,286	\$ 879,286
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 879,286	\$ 879,286	\$ 879,286	\$ 879,286
	Engineering									
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 4,396,428	\$ 4,396,428	\$ 4,396,428	\$ 4,396,428
6.6	LiDAR	1	LS	\$	-	\$ -	\$ 263,786	\$ 263,786	\$ 263,786	\$ 263,786
6.7	Geotech	33	Location	\$	-	\$ -	\$ 3,500	\$ 115,500	\$ 3,500	\$ 115,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 615,500	\$ 615,500	\$ 615,500	\$ 615,500
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 263,786	\$ 263,786	\$ 263,786	\$ 263,786
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$ 5,248,000	\$ 5,248,000	\$ 5,248,000	\$ 5,248,000
6.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$	1,660,691	\$ 1,660,69	1 \$ -	\$ -	\$ 1,660,691	\$ 1,660,691
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 87,929	\$ 87,929	\$ 87,929	\$ 87,929
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,660,69	1	\$ 19,095,779		\$ 20,756,469

Page 8 of 60

NG & NY Transco - T019 - (Segment B)

C. Blue Stores Junction to Blue Stores Substation

Estimate Revision: 7 Total: \$ 5,747,517

NG & NY Transco - T019 - (Segme	nt B)			
		Supply	Installation	Total
C. Blue Stores Junction to Blue Stores Substation				
1. CLEARING & ACCESS	\$	-	\$ 1,404,512	\$ 1,404,512
2. FOUNDATIONS	\$	236,848	\$ 925,954	\$ 1,162,802
3. STRUCTURES	\$	596,484	\$ 946,665	\$ 1,543,149
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	84,763	\$ 387,095	\$ 471,858
5. INSULATORS, FITTINGS, HARDWARE	\$	107,544	\$ 56,496	\$ 164,040
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	82,051	\$ 919,106	\$ 1,001,157
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	1,107,690	\$ 4,639,828	\$ 5,747,517
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	1,107,690	\$ 4,639,828	\$ 5,747,517

Description	Description of Work:												
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL				
C. Blue S	itores Junction to Blue Stores Substation												
1. CLEARING 8	ACCESS												
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -				
1.2	Clearing the ROW - Light (mowing)	4.0	Acre	\$ -	\$ -	\$ 5,000			\$ 20,000				
1.3	Access Road	2,218	LF	\$ -	\$ -	\$ 45		\$ 45	\$ 99,792				
1.4	Silt Fence	11,088.0	LF	\$ -	\$ -		\$ 44,352	\$ 4	\$ 44,352				
1.5	Matting - Access and ROW	8,870	LF	\$ -	\$ -	\$ 70			\$ 620,928				
1.6	Matting - To Work Area	1,800.0	LF	\$ -	\$ -	\$ 70			\$ 126,000				
1.7	Snow Removal	2.1	Mile	\$ -	\$ -	\$ 16,000							
1.8	ROW Restoration	2.1	Mile	\$ -	\$ -	\$ 10,000	\$ 21,000						
1.9	Work Pads	120,000.0	SF	\$ -	\$ -	\$ 4	\$ 422,400		\$ 422,400				
1.10	Restoration for Work Pad areas	24,000.0	SF	\$ -	\$ -	\$ 0.2			\$ 3,600				
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035							
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -				
1.13	Stabilized Construction Entrance	1	EA	\$ -	\$ -	\$ 4,580							
1.14	Maintenance and Protection of Traffic on Public Roads	2	EA	\$ -	\$ -	\$ 4,130		\$ 4,130					
1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500	\$ -						
1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250		\$ 2,000	\$ -				
1.17	Concrete Washout Station	-	EA	\$ -	\$ -	\$ 1,850	\$ -	\$ 1,850	\$ -				
TOTAL - CLEAR	RING & ACCESS:				\$ -		\$ 1,404,512		\$ 1,404,512				
2. FOUNDATIO	ons												
2.1	Drilled Pier - 115kV Single Circuit H- Pole Angle/ DE	6	EA	\$ 31,225	\$ 187,348	\$ 31,559	\$ 189,354	\$ 62,784	\$ 376,702				
2.2	Direct Embed - 115kV Single Circuit H- Pole Tangent	18	EA	\$ 2,750	\$ 49,500	\$ 18,700	\$ 336,600	\$ 21,450	\$ 386,100				
2.3	Rock Excavation Adder	200.0	CY	\$ -	\$ -	\$ 2,000	\$ 400,000	\$ 2,000	\$ 400,000				
2.4						,,,,,	,	,	,,,,,,				
2.5													
2.6													
2.7													
2.8													
2.9													
2.10													
2.11													
2.12													
2.13													

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.14									
2.15									
TOTAL - FOUN					\$ 236,848		\$ 925,954		\$ 1,162,802
3. STRUCTURE		-	<u> </u>	4 20.022	4 222.222	d 22.002	4 42 250	A 60.744	4 202 207
3.1	115kV Single Circuit H- Pole Angle/ DE	6	Structure	\$ 39,822		\$ 23,893	\$ 143,358		\$ 382,287
3.2	115kV Single Circuit H- Pole Tangent	18	Structure	\$ 18,515		\$ 11,109 \$ 7,500			
3.3	Remove Existing Structure and Accessories	27	EA	\$ - \$ -	\$ - \$ -	7,500	\$ -	7,500	\$ - \$ 337,500
3.5	Install Grounding and Grounding Accessories	21	EA	\$ -	3 -	\$ 12,500	\$ 337,500	\$ 12,500	\$ 337,500
3.5	Install Crounding and Crounding Assessation	48	Dala	\$ 506	\$ 24,288	\$ 5,539	\$ 265,848	\$ 6,045	\$ 290,136
3.7	Install Grounding and Grounding Accessories	46	Pole	\$ 500	\$ 24,288	\$ 5,559	\$ 205,648	\$ 0,045	\$ 290,136
3.8									
3.9									
3.10									
3.11									
3.12									
3.13									
3.14									
3.15									
TOTAL - STRUC	TURES:				\$ 596,484		\$ 946,665		\$ 1,543,149
	R, SHIELDWIRE, OPGW						. 5.0,305		2,5 .5,245
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ -	\$ -	\$ 5.00	\$ -	\$ 5.00	\$ -
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$ -		\$ 5.00		\$ 5.00	
4.3	(1) 3/8" EHS7 Steel	-	LF	\$ -	\$ -	\$ 5.00		\$ 5.00	
4.4	115kV - (1) 795kcmil 26/7 ACSR "Drake"	34,927.0	LF	\$ 1.72		\$ 5.00			
4.5	(1) OPGW 36 Fiber AC-33/38/571	11,642.0	LF	\$ 1.35	\$ 15,717	\$ 5.00	\$ 58,210	\$ 6.35	\$ 73,927
4.6	(1) 3/8" EHS7 Steel	11,642.0	LF	\$ 0.47		\$ 5.00			
4.7	Remove Existing Cable	2.1	Mile	\$ -			\$ 63,600		
4.8	Remove Existing OPGW Cable and Accessories	-	Mile	\$ -	\$ -	\$ 12,000	\$ -	\$ 12,000.00	\$ -
4.9	Remove Existing OHSW and Accessories	2.1	Mile	\$ -	\$ -	\$ 12,000	\$ 25,440		\$ 25,440
4.10		-							
4.11		-							
4.12	Rider Poles (Locations)	2.0	EA	\$ 1,750	\$ 3,500	\$ 3,500	\$ 7,000	\$ 5,250.00	\$ 10,500
4.13				7 -7.00	7 0,000	7 2,000	7 .,	7 0,20000	
	UCTOR, SHIELDWIRE, OPGW:				\$ 84,763		\$ 387,095		\$ 471,858
	, FITTINGS, HARDWARE				\$ 64,703		\$ 367,053		3 4/1,030
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.1	345KV Tangent (1-Group of 16-Bells Each Assembly)	-	Assembly	\$ 1,000	3 -	\$ 720	ş -	\$ 2,520	-
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	54	Assembly	\$ 900	\$ 48,600	\$ 360	\$ 19,440	\$ 1,260	\$ 68,040
	2451412 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1			4 4 000		4 700		A 2.520	_
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800		\$ 720	\$ -	\$ 2,520	\$ -
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	36	Assembly	\$ 900	\$ 32,400	\$ 360	\$ 12,960	\$ 1,260	\$ 45,360
5.5			Assembly		\$ -		\$ -	\$ -	\$ -
5.6	OPGW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
5.7	OPGW Assembly - Angle / DE	12	Assembly	\$ 250		\$ 150	·		\$ 4,800
5.8	OHSW Assembly - Tangert	18	Assembly	\$ 200			\$ 2,700		\$ 6,300
		12							
5.9	OHSW Assembly - Angle / DE		Assembly	\$ 250			7 -,		, , , , , , , , , , , , , , , , , , , ,
5.10	OPGW Splice Boxes	2	Set	\$ 1,746	\$ 3,492	\$ 2,274	\$ 4,548	\$ 4,020	\$ 8,040
5.11	OPGW Splice & Test	2	EA	\$ 2,520	\$ 5,040	\$ 2,520	\$ 5,040	\$ 5,040	\$ 10,080
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
5.13	Vibration Dampers - Conductor	72	EA	\$ 35	\$ 2,520	\$ 35	\$ 2,520	\$ 70	\$ 5,040
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	25	EA	\$ 27		\$ 35		\$ 62	
5.15	Guys, Anchors, and Accessories	-	EA	\$ 720				\$ 1,605	
5.16	Misc. materials (Signs and Markers)	2.1	Mile	\$ 770		\$ 1,006			
5.17	·				,	,	,	,	
TOTAL - INSUL	ATORS, FITTINGS, HARDWARE:				\$ 107,544		\$ 56,496		\$ 164,040
C. Blue S	Stores Junction to Blue Stores Substation				\$ 1,025,639		\$ 3,720,722		\$ 4,746,361
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464
	Project Management, Material Handling & Amenities				1				· · · · · · · · · · · · · · · · · · ·

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 292,948	\$ 292,948	\$ 292,948	\$ 292,948
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 237,318	\$ 237,318	\$ 237,318	\$ 237,318
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 14,239	\$ 14,239	\$ 14,239	\$ 14,239
6.7	Geotech	2	Location	\$ -	\$ -	\$ 3,500	\$ 7,000	\$ 3,500	\$ 7,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 33,225	\$ 33,225	\$ 33,225	\$ 33,225
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 14,239	\$ 14,239	\$ 14,239	\$ 14,239
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 153,000	\$ 153,000	\$ 153,000	\$ 153,000
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 82,051	\$ 82,051	\$ -	\$ -	\$ 82,051	\$ 82,051
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 4,746	\$ 4,746	\$ 4,746	\$ 4,746
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 82,051		\$ 919,106		\$ 1,001,157

Page 11 of 60

NAT - NYPA - T029 - (Segment B) D. Knickerbocker 345kV Substation - Install

Total: \$ 18,951,250

NAT - NYPA - T029	- (Segment I	B)		
		Supply	Installation	Total
D. Knickerbocker 345kV Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	277,200	\$ 1,745,500	\$ 2,022,700
2. SUBSTATION FOUNDATIONS	\$	1,467,421	\$ 1,581,150	\$ 3,048,571
3. SUBSTATION STRUCTURES	\$	710,400	\$ 710,400	\$ 1,420,800
4. MAJOR EQUIPTMENT	\$	600,000	\$ 240,000	\$ 840,000
5. SMALL EQUIPTMENT / MATERIALS	\$	1,191,500	\$ 542,000	\$ 1,733,500
6. CONTROL HOUSE / PANELS	\$	1,678,925	\$ 1,232,275	\$ 2,911,200
7. MISC ITEMS	\$	1,114,327	\$ 1,890,902	\$ 3,005,229
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	563,182	\$ 3,406,069	\$ 3,969,250
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	7,602,955	\$ 11,348,296	\$ 18,951,250
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -

escr)	ipt	ion	of	W	orl	k:
-------	-----	-----	----	---	-----	----

Estimate

Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
D. Knicke	erbocker 345kV Substation - Install									
1. SITE PREP/ C	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	4.75	ACRES	\$	-	\$ -	\$ 230,000	\$ 1,092,500	\$ 230,000	\$ 1,092,500
1.2	Station stone within substation fence.	2,100	CY	\$	27	\$ 56,700	\$ 75	\$ 157,500	\$ 102	\$ 214,200
1.3	Substation Fence	1,820	LF	\$	100	\$ 182,000	\$ 100	\$ 182,000	\$ 200	\$ 364,000
1.4										
1.5										
1.6	Permanent Access Road - 20'-Wide	1,100	LF	\$	35	\$ 38,500	\$ 285	\$ 313,500	\$ 320	\$ 352,000
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 277,200		\$ 1,745,500		\$ 2,022,700
2. SUBSTATION	FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	3	EA	\$ 14	1,940	\$ 44,820	\$ 16,000	\$ 48,000	\$ 30,940	\$ 92,820
2.1b	Capacitor Bank Foundations	0	EA	\$ 56	5,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$ 26	5,145	\$ 104,580	\$ 28,000	\$ 112,000	\$ 54,145	\$ 216,580
2.1d	Caisson DE Foundations (for DE A frame str shared column)	6	EA	\$ 26	5,145	\$ 156,870	\$ 28,000	\$ 168,000	\$ 54,145	\$ 324,870
2.1e	Switch Stand Foundations	96	EA	\$ 4	1,482	\$ 430,272	\$ 4,800	\$ 460,800	\$ 9,282	\$ 891,072
2.1f	Station Service Transformer Stand Foundation	4	EA	\$ 4	1,482	\$ 17,928	\$ 4,800	\$ 19,200	\$ 9,282	\$ 37,128
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ =
2.1h	Bus Support 1 Ph Foundations	63	EA	\$ 4	1,482	\$ 282,366	\$ 4,800	\$ 302,400	\$ 9,282	\$ 584,766
2.1j	Instrument Transformer Stand Foundations	27	EA	\$ 4	1,482	\$ 121,014	\$ 4,800	\$ 129,600	\$ 9,282	\$ 250,614
2.1k	Arrester Stand Foundations	9	EA	\$ 4	1,482	\$ 40,338	\$ 4,800	\$ 43,200	\$ 9,282	\$ 83,538
2.1m	Wave Trap Stand Foundations	3	EA	\$ 4	1,482	\$ 13,446	\$ 4,800	\$ 14,400	\$ 9,282	\$ 27,846
2.1n	Reactor Foundations	0	EA	\$	7,470	\$ -	\$ 8,000	\$ -	\$ 15,470	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.1p									
2.1q									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	8	EA	\$ 16,434	\$ 131,472	\$ 17,600	\$ 140,800	\$ 34,034	\$ 272,272
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3h	Bus Support 1 Ph Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3j	Instrument Transformer Stand Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3k	Arrester Stand Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ 33,615	\$ 33,615	\$ 36,000	\$ 36,000	\$ 69,615	\$ 69,615
2.5b	Generator Foundation	1	EA	\$ 16,000	\$ 16,000	\$ 17,000	\$ 17,000	\$ 33,000	\$ 33,000
2.5c	Station Service Distribution Line - 3ph.	1	LS	\$ -	\$ -	\$ 9,750	\$ 9,750	\$ 9,750	\$ 9,750
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	4	EA	\$ 5,229	\$ 20,916	\$ 5,600	\$ 22,400	\$ 10,829	\$ 43,316
2.6b				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TATION FOUNDATIONS				\$ 1,467,421		\$ 1,581,150		\$ 3,048,571
	N STRUCTURES								
3.1	345kV								

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rat	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.1a	Substation A-Frame Structures - Stand alone	1	EA	\$ 37,00	37,000	\$ 37,000	\$ 37,000	\$ 74,000	\$ 74,000
3.1b	Substation A-Frame Structures - Shared Column	2	EA	\$ 37,00	0 \$ 74,000	\$ 37,000	\$ 74,000	\$ 74,000	\$ 148,000
3.1c	Switch Stands	16	EA	\$ 14,80	3 \$ 236,800	\$ 14,800	\$ 236,800	\$ 29,600	\$ 473,600
3.1d	Station Service Transformer Stand	1	EA	\$ 14,80	0 \$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600	\$ 29,600
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	63	EA	\$ 3,70	3 \$ 233,100	\$ 3,700	\$ 233,100	\$ 7,400	\$ 466,200
3.1g	Instrument Transformer Stand	27	EA	\$ 1,85	9,950	\$ 1,850	\$ 49,950	\$ 3,700	\$ 99,900
3.1h	Arrester Stand	9	EA	\$ 1,85) \$ 16,650	\$ 1,850	\$ 16,650	\$ 3,700	\$ 33,300
3.1j	Wave Trap Stand	3	EA	\$ 7,40	22,200	\$ 7,400	\$ 22,200	\$ 14,800	\$ 44,400
3.1k	Misc. Structures	4	EA	\$ 6,47	5 \$ 25,900	\$ 6,475	\$ 25,900	\$ 12,950	\$ 51,800
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ 33,30) \$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$ 33,30	0 \$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2c	Switch Stands	0	EA	\$ 12,02	5 \$ -	\$ 12,025		\$ 24,050	\$ -
3.2d	Station Service Transformer Stand	0	EA	\$ 12,02	5 \$ -	\$ 12,025	\$ -	\$ 24,050	\$ -
3.2e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2f	Bus Support 1 Ph	0	EA	\$ 2,77	5 \$ -	\$ 2,775	\$ -	\$ 5,550	\$ -
3.2g	Instrument Transformer Stand	0	EA	\$ 1,29	5 \$ -	\$ 1,295	\$ -	\$ 2,590	\$ -
3.2h	Arrester Stand	0	EA	\$ 1,29	5 \$ -	\$ 1,295	\$ -	\$ 2,590	\$ -
3.2j	Wave Trap Stand	0	EA	\$ 5,55	o \$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
3.2k	Misc. Structures	0	EA	\$ 6,47		\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,50	o \$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,50	o \$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	0	EA	\$ 7,95		\$ 7,955	\$ -	\$ 15,910	\$ -
3.3d	Fuse Stand	0	EA	\$ 7,95	5 \$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3e	Bus Support 3ph	0	EA	\$ 3,33	+	\$ 3,330	\$ -	\$ 6,660	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ 1,85		\$ 1,850			\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ 74	_	\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0	EA	\$ 74		\$ 740	\$ -	\$ 1,480	\$ -
3.3j	Wave Trap Stand	0	EA	\$ 3,70	0 \$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$ 6,47	5 \$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
		-						,	
TOTAL - SUBS	TATION STRUCTURES				\$ 710,400		\$ 710,400		\$ 1,420,800
4. MAJOR EQU					710,100		Ţ 710,100		2,120,000
4.1	345kV								
4.1a	Circuit Breakers	3	EA	\$ 200,00	5 \$ 600,000	\$ 80,000	\$ 240,000	\$ 280,000	\$ 840,000
4.1b	Capacitor Banks with Reactors	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA			\$ 750,000	\$ -	\$ 750,000	\$ -
4.1e		-				,,,,,,			
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ 115,00	o \$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -		\$ 80,000		\$ 80,000	
		-				1,111		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	115kV								
4.3									
4.3 4.3a	Circuit Breakers	0	EA	\$ 52,00	o \$ -	\$ 60,000	\$ -	\$ 112,000	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
TOTAL BANK	OR FOUNDTMENT				\$ 600,000		\$ 340,000		<u> </u>	040.000
	DR EQUIPTMENT				\$ 600,000		\$ 240,000		\$	840,000
	JIPTMENT / MATERIALS 345kV									
5.1		2	F.A.	\$ 40,000	\$ 120,000	\$ 15.000	\$ 45,000	\$ 55.000		165.000
5.1a 5.1b	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	3 9	EA EA	\$ 40,000 \$ 35,000	\$ 120,000 \$ 315,000	\$ 15,000 \$ 17,500	\$ 45,000 \$ 157,500	\$ 55,000 \$ 52,500	\$	165,000 472,500
	VT'S	9	EA					,	· .	
5.1c 5.1d	CT'S	9	EA	\$ 25,000 \$ 13,000	\$ 225,000 \$ 117,000		\$ 108,000 \$ 72,000	\$ 37,000 \$ 21,000	\$	333,000 189,000
		9	EA	\$ 13,000	\$ 117,000		\$ 72,000	\$ 21,000	Ś	
5.1e	CCVT'S	9		7,			· · · · · · · · · · · · · · · · · · ·	,		189,000
5.1f	Arresters	3	EA EA	,	\$ 58,500	\$ 1,500	\$ 13,500 \$ 24,000	,	\$	72,000
5.1g	Wave Traps			,	\$ 39,000	\$ 8,000	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,	· .	63,000
5.1h 5.1j	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000	\$ 50,000	\$ 50,000	\$ 250,000	\$	250,000
5.1,										
5.2	230kV									
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$	-
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,000	\$ -	\$ 17,500	\$ -	\$ 47,500	\$	-
5.2c	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	-
5.2d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	-
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -	\$ 6,000	\$ -	\$ 16,000	\$	-
5.2f	Arresters	0	EA	\$ 5,000	\$ -	\$ 6,000	\$ -	\$ 11,000	\$	-
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	
5.2j										
	and the second s									
5.3	115kV		F.A.	ć 22.000	Ć.	ć 45.000	ć	¢ 40,000		
5.3a	Line Switches - 3ph w/ motor operator	0	EA EA	\$ 33,000 \$ 28,000	\$ - \$ -	\$ 15,000 \$ 17,500	\$ -	\$ 48,000 \$ 45,500	\$	-
5.3b	Disconnect Switches - 3ph w/ manual operator VT'S	0	EA	\$ 28,000 \$ 13,000	\$ - \$ -	-	\$ - \$ -	\$ 43,300	<u> </u>	-
5.3c 5.3d	CT'S	0	EA	\$ 13,000	\$ - \$ -	\$ 8,000 \$ 8,000	\$ - \$ -	\$ 21,000	Ś	
5.3e	CCVT'S	0	EA	\$ 13,000	\$ - \$ -	\$ 8,000	\$ -	\$ 21,000	, ,	
5.3f		0	EA	\$ 3,420	\$ -		\$ -	,	\$	
5.3g	Arresters Wave Traps	0	EA	\$ 3,420	\$ - \$ -	\$ 6,000	\$ -	\$ 9,420 \$ -	\$	-
5.3h		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	Ś	-
5.3j	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	
5.3]	Fuses	0	EA	, -	- -	ş -	-	÷ -	,	
TOTAL - SMAL	LL EQUIPTMENT / MATERIALS				\$ 1,191,500		\$ 542,000		\$	1,733,500
	HOUSE / PANELS / GENERATOR				7 2,222,232		7 0.2,000		7	2): 30):33
6.1	CONTROL HOUSE	1	EA	\$ 286,650	\$ 286,650	\$ 85,000	\$ 85,000	\$ 371,650	\$	371,650
6.2	Protection and Telecom Equipment Panels	15	EA	\$ 35,000	\$ 525,000	\$ 10,000	\$ 150,000	\$ 45,000	\$	675,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$	200,000
6.4	Control Cables	1	LS	\$ 352,275	\$ 352,275	\$ 352,275	\$ 352,275	\$ 704,550	\$	704,550
6.5	SCADA and Communications	1	EA	\$ 50,000	\$ 50,000			\$ 150,000		150,000
6.6	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$	300,000
6.7	DC Distribution System	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$	300,000
6.8	Security	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$	15,000
		1		1			4 7.500	45.000	<u>,</u>	15,000
6.9	Fire Alarm	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	>	13,000
	Fire Alarm Generator	1	EA EA	\$ 7,500 \$ 100,000	\$ 7,500		\$ 7,500	\$ 15,000		180,000

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	e Mate	erial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
TOTAL - CONT	 ROL HOUSE / PANELS / GENERATOR				\$	1,678,925		\$ 1,232,275		\$	2,911,200
7. MISC ITEMS											
7.1	Conduit & Cable Trench System	1,200.0	LF	\$ 185.00	\$	222,000	\$ 170.00	\$ 204,000	\$ 355	\$	426,000
7.2	Rigid Bus, Fittings & Insulators	3,000.0	LF	\$ 125.07	7 \$	375,210	\$ 237.10	\$ 711,300	\$ 362	\$	1,086,510
7.3	Strain Bus, Connectors & Insulators	0.0	LF	\$ 39.30	\$	-	\$ 53.35	\$ -	\$ 93	\$	-
7.4	Grounding System	16,900.0	LF	\$ 6.93	\$ \$	117,117	\$ 32.58	\$ 550,602	\$ 40	\$	667,719
7.5	Strain Bus Insulators - 345kV	0	EA	\$ 2,000	\$	-	\$ 1,050	\$ -	\$ 3,050	\$	-
7.6	Strain Bus Insulators - 230kV	0	EA	\$ 1,400	\$	-	\$ 750	\$ -	\$ 2,150	\$	-
7.7	Strain Bus Insulators - 115kV	0	EA	\$ 1,000	\$	-	\$ 550	\$ -	\$ 1,550	\$	-
7.8	Low Voltage AC Station Service	1	LS	\$ 50,000) \$	50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$	125,000
7.9	SSVT Service	1	LS	\$ 45,000) \$	45,000	\$ 45,000	\$ 45,000	\$ 90,000	\$	90,000
7.10	Control Conduits from Trench to Equipment	1	LS	\$ 125,000) \$	125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$	250,000
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$ 180,000		180,000	\$ 180,000	\$ 180,000	\$ 360,000	+	360,000
7.12		_			+				7 000,000	+	
7.13										+	
7.14										+	
7.15					+					+	
7.16					+					\vdash	
										+	
7.17					+					—	
7.18										—	
7.19										—	
7.20										↓	
7.21											
7.22											
7.23										<u> </u>	
7.24											
7.25											
TOTAL - MISC	ITEMS				\$	1,114,327		\$ 1,890,902		\$	3,005,229
D. Knicke	erbocker 345kV Substation - Install				\$	7,039,773		\$ 7,942,227		\$	14,982,000
8. MOB/DEMC	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
-	Contractor Mobilization / Demobilization										
8.1	Mob / Demob	1	LS	\$ -	\$	-	\$ 149,820	\$ 149,820	\$ 149,820	\$	149,820
	Project Management, Material Handling & Amenities						·		·	†	
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 924,697	\$ 924,697	\$ 924,697	\$	924,697
8.3	Utility PM and Project Oversite	1	LS		Ś	_	\$ 149,820	\$ 149,820	\$ 149,820	\$	149,820
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	Ś	-	\$ 149,820	\$ 149,820	\$ 149,820	-	149,820
0.4		1	L3	- ب	۰	-	143,820	143,820 ب	7 143,820	+	143,620
0.5	Engineering Design Engineering	1	1.0	\$ -	Ś		\$ 1.198.560	ć 4400 FC0	ć 4400 FCC	-	1 100 500
8.5	Design Engineering		LS LS		\$	-	. , ,	\$ 1,198,560 \$ -	\$ 1,198,560 \$ -	\$	1,198,560
	LIDAR	-		· .	+ -		*	1 *		+ -	- 44.000
	Geotech	4	EA	\$ -	\$		\$ 3,500				14,000
	Surveying/Staking	1	Site	\$ -	\$	-	\$ 104,874	\$ 104,874	\$ 104,874	 \$	104,874
	Testing & Commissioning				4.					 	
	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ 374,550	\$ 374,550	\$ 374,550	<u> </u>	374,550
	Permitting and Additional Costs				\perp					↓	
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
8.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
8.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 44,946	\$ 44,946	\$ 44,946	Ś	44,946

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.13	Real Estate Costs (New)	•	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$	-	\$ -	\$ 280,000	\$ 280,000	\$ 280,000	\$ 280,000
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	563,182	\$ 563,182	\$ -	\$ -	\$ 563,182	\$ 563,182
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 14,982	\$ 14,982	\$ 14,982	\$ 14,982
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 563,182		\$ 3,406,069		\$ 3,969,250

Page 17 of 60

D. SS Knickerbocker - Install

NAT - NYPA - T029 - (Segment B) I. Greenbush Substation - Removal Total: \$ 71,954

NAT - NYPA - T029 - (Se	gment B)		
	Supply	Installation	Total
I. Greenbush Substation - Removal			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ -	\$ -	\$ -
2. SUBSTATION FOUNDATIONS	\$ -	\$ 12,000	\$ 12,000
3. SUBSTATION STRUCTURES	\$ -	\$ -	\$ -
4. MAJOR EQUIPTMENT	\$ -	\$ 7,000	\$ 7,000
5. SMALL EQUIPTMENT / MATERIALS	\$ -	\$ 35,000	\$ 35,000
6. CONTROL HOUSE / PANELS	\$ -	\$ 7,200	\$ 7,200
7. MISC ITEMS	\$ -	\$ -	\$ -
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ -	\$ 10,754	\$ 10,754
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ -	\$ 71,954	\$ 71,954
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ -	\$ 71,954	\$ 71,954

Descr	iptic	on of	Wo	rk:

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
I. Greenl	oush Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
	N FOUNDATIONS								
2.1	345kV				<u> </u>	4 4 200	A	44.000	•
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 14,200		\$ 14,200	
2.1b	Capacitor Bank Foundations Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ -	\$ -
2.1c			EA	·		7		\$ -	\$ - \$ -
2.1d 2.1e	Caisson DE Foundations (for DE A frame str shared column) Switch Stand Foundations	0	EA EA		1:	7	7	\$ -	7
2.1e 2.1f	Station Service Transformer Stand Foundation	0	EA EA	\$ - \$ -	T .	7	\$ - \$ -	·	\$ - \$ -
2.1f 2.1g	Bus Support 3ph Foundations	0	EA EA	\$ -	\$ - \$ -	\$ - \$ -	\$ -	\$ -	\$ -
2.1g 2.1h	Bus Support 1 Ph Foundations	0	EA EA	\$ -	\$ -	\$ 2,400	Ψ	\$ 2,400	
2.1n 2.1j	Instrument Transformer Stand Foundations	0	EA EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.1j 2.1k	Arrester Stand Foundations	0	EA EA	\$ -	\$ -	7	\$ -	\$ -	\$ -
2.1K 2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ - \$ -	\$ -	\$ -	\$ -
2.1m	Misc. Structure Foundations	0	EA	\$ -	\$ -	7	\$ -	\$ -	\$ -
2.1n	INISC. SCIUCLUI C I SUITURALIONS	0	LA	<u> </u>		· -	-		-
2.15									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	s -	\$ -	\$ 7,200	\$ -	\$ 7,200	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000		\$ 32,000	
	Capacitor Burill Contactions			1 *	7	÷ 52,000	T	7 52,000	7

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000	\$ -	\$ 22,000	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ 11,000	\$ -	\$ 11,000	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h 2.2j	Bus Support 1 Ph Foundations Instrument Transformer Stand Foundations	0	EA EA	\$ -	\$ - \$ -	\$ 2,400 \$ 2,400	\$ - \$ -	\$ 2,400 \$ 2,400	\$ - \$ -
2.2j 2.2k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	
2.2K 2.2m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	Š -	\$ -	•	\$ -
2.2p				7	*	*	*	-	
<u> </u>									
2.3	115kV								
2.3a	Circuit Breaker Foundations	1	EA	\$ -	\$ -	\$ 7,200	\$ 7,200	\$ 7,200	\$ 7,200
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200		\$ 5,200	
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	2 0	EA EA	\$ -	\$ - \$ -	\$ 2,400 \$ -	\$ 4,800 \$ -	\$ 2,400 \$ -	\$ 4,800 \$ -
2.3k 2.3m	Arrester Stand Foundations Wave Trap Stand Foundations	0	EA EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ - \$ -
2.3m	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.56	inisc. Structure i ouridations		LA	,	7	,	,	Ÿ	Ť
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	I tabbata a Basak Farm daktara								
2.6 2.6a	Lightning Mast Foundations 70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b	70 Lighthing Wast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.00				,	Ť	Ť	,	Ť	Ť
TOTAL - SUBS	TATION FOUNDATIONS				\$ -		\$ 12,000		\$ 12,000
3. SUBSTATIO	N STRUCTURES						,		
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	
3.1g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1h	Arrester Stand Wave Trap Stand	0	EA EA	\$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
3.1j 3.1k	Misc. Structures	0	EA EA	\$ -	\$ -	\$ -	\$ -	\$ - \$ -	\$ - \$ -
3.11	INISC. Structures		EM	-	-	-	-	· -	* -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ 27,000		\$ 27,000	
3.2b		0		\$ -	\$ -			\$ 9,750	
3.2b 3.2c	Switch Stands								
	Station Service Transformer Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2c				\$ -		\$ - \$ -	\$ - \$ -		\$ - \$ -
3.2c 3.2d	Station Service Transformer Stand	0	EA EA EA				\$ - \$ -		\$ - \$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2h	Arrester Stand	0	EA	\$ -	\$ -	\$ 1,050	\$ -	\$ 1,050	\$ -
3.2j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ 4,500	\$ -	\$ 4,500	\$ -
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0		\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	0	EA		\$ -	\$ 6,450		\$ 6,450	\$ -
3.3d	Fuse Stand	0	EA		\$ -	\$ -	\$ -	\$ -	\$ -
3.3e 3.3f	Bus Support 3 Ph	0	EA EA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
3.3g	Bus Support 1 Ph Instrument Transformer Stand	0			\$ -	\$ -	\$ -		\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.5.0	missi structures	·	27.	,	Ÿ	Ÿ	<u> </u>	Ť	*
TOTAL - SUBST	TATION STRUCTURES				\$ -		\$ -		\$ -
4. MAJOR EQU									
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
4.3	115kV						<u> </u>		
4.3a	Circuit Breakers	1	EA	\$ -	\$ -	\$ 7,000	\$ 7,000	. , , , , , , , , , , , , , , , , , , ,	\$ 7,000
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL MAIO	DR EQUIPTMENT				\$ -		\$ 7,000		\$ 7,000
	IPTMENT / MATERIALS				\$ -		\$ 7,000		\$ 7,000
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -		\$ -		\$ -
5.1c	VT'S	0			\$ -	\$ -	\$ -		\$ -
5.1d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Arresters	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500		\$ 5,500	
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500			\$ -
5.2c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d 5.2e	CT'S CCVT'S	0	EA EA	\$ -	\$ -	\$ - \$ 1.500	\$ -	\$ - \$ 1.500	\$ - \$ -
5.2e 5.2f	Arresters	0	EA EA	\$ -	\$ - \$ -	\$ 1,500 \$ 2,500	\$ - \$ -	\$ 1,500 \$ 2,500	\$ - \$ -
5.2g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ - \$ -
5.2g 5.2h	Station Service Transformers	0		\$ -	\$ -	\$ 2,300	\$ -	\$ 2,300	\$ -
5.2j		0	- Ln	-	-	-	Ŧ	т	Ŧ
3.2,									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0			\$ -	\$ 5,500	\$ -	\$ 5,500	
5.3c	VT'S	0			\$ -		\$ -		\$ -
5.3d	CT'S	0			\$ -		\$ -		\$ -
5.3e	CCVT'S	2			\$ -	\$ 17,500		\$ 17,500	
5.3f	Arresters	0			\$ -	\$ 1,500		\$ 1,500	
	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3g 5.3h	Station Service Transformers	0			\$ -		\$ -		\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	EQUIPTMENT / MATERIALS				\$ -		\$ 35,000		\$ 35,000
	DUSE / PANELS / GENERATOR CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
6.2	Protection and Telecom Equipment Panels	2		\$ -	\$ -	\$ 3,600	т	\$ 3,600	\$ 7,200
6.3	125VDC Batteries	0			\$ -	\$ -	\$ 7,200	\$ 3,000	\$ 7,200
6.4	Control Cables	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.8	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.9	Fire Alarm	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CONT	OL HOUSE / PANELS / GENERATOR				4		A 7.000		4
7. MISC ITEMS	OL HOUSE / PANELS / GENERATOR				\$ -		\$ 7,200		\$ 7,200
7.1	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.1	Rigid Bus, Fittings & Insulators	0		\$ -	\$ -	\$ 126.25	т	\$ 42,000	\$ -
7.3	Strain Bus, Connectors & Insulators	0		\$ -	\$ -	\$ 21,000.00	\$ -	\$ 21,000	\$ -
7.4	Grounding System	0		\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5	- · · · · · · · · · · · · · · · · · · ·	-		·		,		, , , , , , , , , , , , , , , , , , , ,	
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13 7.14									
7.14									
TOTAL - MISC	TEMS				\$ -		\$ -		\$ -
I. Greenb	oush Substation - Removal				\$ -		\$ 61,200		\$ 61,200
8. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 612	\$ 612	\$ 612	\$ 612
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 3,777	\$ 3,777	\$ 3,777	\$ 3,777
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 612	\$ 612	\$ 612	\$ 612
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 612		\$ 612	\$ 612
	Engineering								
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 4,896	\$ 4,896	\$ 4,896	\$ 4,896
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 428	\$ -	\$ 428	\$ -
8.9	Testing & Commissioning Testing & Commissioning of T-Line and Equipment		LS	\$ -	\$ -	\$ 1,530	\$ -	\$ 1,530	\$ -
	Permitting and Additional Costs				7		, , , , , , , , , , , , , , , , , , ,		
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ - \$ -	\$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ -
8.11 8.12	Environmental Mitigation Warranties / LOC's		LS LS	\$ -	\$ - \$ -	\$ - \$ 184	7	\$ - \$ 184	\$ - \$ 184
8.13	Real Estate Costs (New)		LS	\$ -	\$ -	\$ -	\$ -	\$ 184	\$ -
8.14	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17	V - 1	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 61		\$ 61	
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 10,754		\$ 10,754

NAT - NYPA - T029 - (Segment B) F. Schodack Substation - Install

7		Total:	\$	2,621,224		
NAT - NYPA - T029 -	(Segment	В)				
		Supply		Installation		Total
F. Schodack Substation - Install						
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	4,050	\$	11,250	\$	15,300
2. SUBSTATION FOUNDATIONS	\$	201,690	\$	216,000	\$	417,690
3. SUBSTATION STRUCTURES	\$	60,680	\$	60,680	\$	121,360
4. MAJOR EQUIPTMENT	\$	104,000	\$	120,000	\$	224,000
5. SMALL EQUIPTMENT / MATERIALS	\$	316,520	\$	226,000	\$	542,520
6. CONTROL HOUSE / PANELS	\$	192,815	\$	147,815	\$	340,630
7. MISC ITEMS	\$	168,552	\$	259,305	\$	427,857
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	83,865	\$	448,002	\$	531,867
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	1,132,172	\$	1,489,052	\$	2,621,224
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL.	ć	1 122 172	ć	1 400 053	ć	2 624 224

escription of work	:
--------------------	---

Estimate Revision:

Site Works including clearing, sediment controls, rough grading, and final grading.	03,000 75 100 285	\$ -		-
1.1 Site Works including clearing, sediment controls, rough grading, and final grading. 0 ACRES \$ - \$ 2 1.2 Station stone within substation fence. 150 CY \$ 27 \$ 4,050 \$ 1.3 Substation Fence 0 LF \$ 100 \$ - \$ 1.4 Permanent Access Road - 20'-Wide 0 LF \$ 35 \$ - \$ 1.5 - - \$ - \$ - \$	75 100	\$ 11,250 \$ -	\$ 102	-
1.2 Station stone within substation fence. 150 CY \$ 27 \$ 4,050 \$ 1.3 Substation Fence 0 LF \$ 100 \$ - \$ 1.4 Permanent Access Road - 20'-Wide 0 LF \$ 35 \$ - \$ 1.5 - - - \$ - \$	75 100	\$ 11,250 \$ -	\$ 102	-
1.3 Substation Fence 0 LF \$ 100 \$ - \$ 1.4 Permanent Access Road - 20'-Wide 0 LF \$ 35 \$ - \$ 1.5 -	100	\$ -		
1.4 Permanent Access Road - 20'-Wide 0 LF \$ 35 \$ - \$ 1.5 -		·		
1.5	285		\$ 200	
		\$ -	\$ 320	\$ -
1.7				
1.8				
1.9				
1.10				
1.11				
1.12				
1.13				
1.14				
1.15				
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL \$ 4,050		\$ 11,250		\$ 15,30
2. SUBSTATION FOUNDATIONS				
2.1 345kV	15.000	<u> </u>		
	16,000		\$ 30,940	
	,	\$ -	\$ 116,025	
	-,	\$ -	\$ 54,145 \$ 54 145	+
	-,	\$ - \$ -	\$ 54,145 \$ 9,282	
2.1e Switch Stand Foundations 0 EA \$ 4,482 \$ - \$ 2.1f Station Service Transformer Stand Foundation 0 EA \$ 4,482 \$ - \$		\$ -	\$ 9,282	
	-	-	\$ 9,282	\$ -
2.1g Bus Support 3ph Foundations 0 EA \$ - \$ 2.1h Bus Support 1 Ph Foundations 0 EA \$ 4,482 \$ - \$	4,800		\$ 9,282	
		\$ -	\$ 9,282	
2.1j Instrument Transformer Stand Foundations 0 EA \$ 4,482 \$ - \$ 2.1k Arrester Stand Foundations 0 EA \$ 4,482 \$ - \$	4,800		\$ 9,282	
2.1k Wave Trap Stand Foundations 0 EA \$ 4,482 \$ - \$		\$ -	\$ 9,282	
2.111 Wave Trap Stand Polintations 0 EA \$ - \$ - \$		\$ -	\$ 9,262	\$ -
2.1p		· -	-	-
2.19				
2.2 230kV				
	12,800	\$ -	\$ 24,752	\$ -
	48,000		\$ 92,820	
	24,000		\$ 46,410	
	24,000		\$ 46,410	
2.20 Switch Stand Foundations 0 EA \$ 3,735 \$ - \$	4,000		\$ 7,735	
2.2f Station Service Transformer Stand Foundation 0 EA \$ 3,735 \$ - \$	4,000		\$ 7,735	
2.2g Bus Support 3ph Foundations 0 EA \$ - \$ - \$		\$ -	\$ 7,755	\$ -
2.2b Bus Support 1 Ph Foundations 0 EA \$ 3,735 \$ - \$		\$ -	\$ 7,735	·

Page 22 of 60

2.28 Cause M Fronditions (of Diff Arom et :	Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
Zero Prince Company										
1.20 1.20										
2.30 Nave										
300 300		Misc. Structure Foundations	0	EA	Ş -	\$ -	\$ -	\$ -	\$ -	\$ -
2.30 Control Research Constitution 2	2.2p									
2.30 Control Research Constitution 2	2.3	115kV								
2.38 Capactor paid hasenerance 0 FA 5 33.051 5 5 50.000 5 5 60.015 5 7.			2	FA	\$ 5,229	\$ 10.458	\$ 5,600	\$ 11.200	\$ 10.829	\$ 21.658
2.26 Calson of Fountiers (for QL A famour - stand alone) 2.30 Calson of Fountiers (for QL A famour - stand alone) 3.40 Calson of Fountiers (for QL A famour - stand alone) 3.40 Calson of Fountiers (for QL A famour - stand alone) 3.40 Calson of Fountiers (for QL A famour - stand alone) 3.40 Calson of QL A S									. ,	
2.28 Cause of Frontitions (© Dit A famour x - shared column)										
2.28 this topic part of householders	2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	
2.72 Bits Support Pile Processions	2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.10 No. Support 1 Ph Touristance 0 IA 5 2,988 5 7 2,000 5 5 1,988 5 7.22	2.3f		0	EA	, ,,,,,				,	
2.3) Instrument Transferrer Stand curvalations		** *								
2.38 Arrester Stand Foundations 6 1A S 2,088 5 1,1678 5 3,00 5 1,00 5 6,108 5 2,272 2.39 Most position gland Foundations 0 1A S S S S S S S S S					7 -,,,,,				,	
2.3m Nove Time Stand Foundations 4 EA \$ 2,988 \$ 1,1923 \$ 3,300 \$ 12,800 \$ 6,88 \$ 24,792										
2.38 Station Service Foundations 0 EA S S S S S S S S S										
A										
2.4 Transfermer Foundations					·			·		
2-4a 349-238W Transformer Foundation w/ Of Contamenent 0 EA 5 74,700 5 5 104,000 5 5 154,700 5 - 2.64 236W-135W Transformer Foundation w/ Of Contamenent 0 EA 5 7,700 5 - 5 5 5 5 5 5 5 5	2.3p	Misc. Structure Foundations	U	EA	\$ -	\$ -	\$ -	\$ -	\$ -	> -
2-4a 349-238W Transformer Foundation w/ Of Contamenent 0 EA 5 74,700 5 5 104,000 5 5 154,700 5 - 2.64 236W-135W Transformer Foundation w/ Of Contamenent 0 EA 5 7,700 5 - 5 5 5 5 5 5 5 5	2.4	Transformer Foundations								
2.46 303-115W Transformer Foundation w/ OI Containment 0 EA 5 74,700 \$ \$ 8,00,000 \$ \$ 154,700 \$ \$ 2.46 202 201			0	FA	\$ 97.110	\$ -	\$ 104.000	\$ -	\$ 201.110	s -
2.4d 1319/Varianformer foundation wy Oil Containment 0 EA \$. \$. \$. \$. \$. \$. \$. \$. \$. \$		·								
2.4			-							
2.5a Control House/ Fad					\$ -	•				
2.5a Control House/ Fad										
2.5 Cenerator Foundations Company Comp	2.5	Control House Foundations / Pad								
2.6 Ughtning Mast Foundations					, .					
2.68 70 Lightning Mast Foundation 0 EA \$ 5,229 \$ \$ \$ 5,600 \$ \$ \$ 10,829 \$ \$ \$ \$ \$ \$ \$ \$ \$	2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.68 70 Lightning Mast Foundation 0 EA \$ 5,229 \$ \$ \$ 5,600 \$ \$ \$ 10,829 \$ \$ \$ \$ \$ \$ \$ \$ \$										
2.66 SO Lightning Mast Foundation 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$			0	ГА	ć F 220	ć	¢ F.600	ċ	ć 10.830	ć
2.6E SO Lightning Mast Foundation								т		
S 201,690 S 216,000 S 417,690 S 31,000 S 3. 32,000 S 3.							_	·		
3.18 Substation A-Frame Structures - Stand alone 0 EA S 37,000 S - S 37,0	2.00	55 Eginting Most Foundation			Ť	<u> </u>	Ť	Ÿ	Ť	*
3.1a 345kV	TOTAL - SUBS	TATION FOUNDATIONS				\$ 201,690		\$ 216,000		\$ 417,690
3.1a Substation A-Frame Structures - Stand alone 0 EA S 37,000 S - S 74,000 S - S 37,000 S - S 74,000 S - S 37,000 S - S 74,000 S - S 37,000 S - S 37,000 S - S 74,000 S - S 37,000 S - S 37,000 S - S 74,000 S - S 37,000 S - S 37	3. SUBSTATIO	N STRUCTURES								
3.1b Substation A-Frame Structures - Shared Column 0 EA 5 37,000 5 - 5 74,000 5 - 5	3.1	345kV								
3.1c Switch Stands					. ,	\$ -				
3.1d Station Service Transformer Stand 0 EA 5 14,800 \$ - \$ 29,600 \$ - \$ 3.1d Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ \$										
3.1e Bus Support 3ph 0 EA S - S					· · · · · · · · · · · · · · · · · · ·					
3.1f Bus Support 1 Ph										
3.1g Instrument Transformer Stand								•		
3.1h Arrester Stand		**						·		
3.1j Wave Trap Stand					, , , , , , , , , , , , , , , , , , , ,				,	
3.1k Misc. Structures			-		, , , , , , , , , , , , , , , , , , , ,		,		,	
3.2 230kV 3.2 Substation A-Frame Structures - Stand alone 3.2 Substation A-Frame Structures - Stand Column 5.2 Switch Stands 5. Switch Stands 6. Substation Service Transformer Stand 7. Substation Service Transformer Stand 8. Support 3ph 8. Support 3ph 9. Support 1ph 9. Support 1ph 9. Support 1ph 9. Support 2ph 9. Support 3ph 9. Support					, , , , , ,		,		, , , , , , , , , , , , , , , , , , , ,	
3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ - \$ 32,000 \$ - \$ 66,600 \$ - \$ 66										
3.2b Substation A-Frame Structures - Shared Column 3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ - \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ - \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ - \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ - \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ - \$ 3.2d Station Service Transformer Stand 0 EA \$ 2,775 \$ - \$ 5	3.2	230kV								
3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 24,050 \$ - 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ - 3.2e Bus Support 3ph 0 EA \$ - <td></td> <td></td> <td></td> <td></td> <td>,,</td> <td></td> <td></td> <td>•</td> <td></td> <td></td>					,,			•		
3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ - \$ 3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$					· · · · ·					
3.2e Bus Support 3ph 0 EA \$ -					, ,, ,				, , , , , , ,	
3.2f Bus Support 1 Ph 0 EA \$ 2,775 \$ - \$ 2,775 \$ - \$ 5,550 \$ - \$ 3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 2,590 \$ 2,590 \$ 2,590 \$ 2,590										
3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ - \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ - \$ 3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$ - \$ 3.2k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950										
3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ - \$ 3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$ - \$ 3.2k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$ - \$ 12,950 \$ - \$ 12,950 \$ - \$ 13,200 \$ - \$ 15,000										
3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$ - 3.2k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$ - \$ 3.3k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$ - \$ 12,950 \$ - \$ 15,05										
3.2k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$ - \$ 3.3 115kV										
3.3 115kV										
	3.2				. 3,775		. 3,.73	•	. 12,550	•
	3.3	115kV								
		Substation A-Frame Structures - Stand alone	2	EA	\$ 18,500	\$ 37,000	\$ 18,500	\$ 37,000	\$ 37,000	\$ 74,000

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3e	Bus Support 3ph	0	EA	\$ 3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$ -
3.3f	Bus Support 1 Ph	4	EA	\$ 1,850	\$ 7,400	\$ 1,850	\$ 7,400	\$ 3,700	\$ 14,800
3.3g	Instrument Transformer Stand	6	EA	\$ 740	\$ 4,440	\$ 740	\$ 4,440	\$ 1,480	\$ 8,880
3.3h	Arrester Stand	6	EA	\$ 740	\$ 4,440	\$ 740	\$ 4,440	\$ 1,480	\$ 8,880
3.3j	Wave Trap Stand	2	EA	\$ 3,700	\$ 7,400	\$ 3,700	\$ 7,400	\$ 7,400	\$ 14,800
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
	TATION STRUCTURES				\$ 60,680		\$ 60,680		\$ 121,360
4. MAJOR EQU	·								
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ 300,000	\$ -	\$ 80,000	\$ -	\$ 380,000	
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -		\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ 250,000	\$ -		\$ -	\$ 330,000	
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV					4 4			
4.3a	Circuit Breakers	2	EA	\$ 52,000	\$ 104,000	\$ 60,000	\$ 120,000	\$ 112,000	
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
	DR EQUIPTMENT				\$ 104,000		\$ 120,000		\$ 224,000
	IIPTMENT / MATERIALS								
5.1	345kV				4	4	4		
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ 40,000	\$ -	\$ 15,000	\$ -	\$ 55,000	
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 35,000	\$ -	\$ 17,500	\$ -	\$ 52,500	
5.1c	VT'S	0	EA	\$ 25,000	\$ -		\$ - \$ -	\$ 37,000	
5.1d	CCYT'S	0	EA EA	\$ 13,000	\$ -	\$ 8,000 \$ 8,000	7	\$ 21,000 \$ 21,000	\$ -
5.1e		0	EA	\$ 13,000 \$ 6,500	\$ -		\$ - \$ -		
5.1f	Arresters	0		,	\$ -	, , , , , , , , , , , , , , , , , , , ,	:	,	\$ -
5.1g 5.1h	Wave Traps	0	EA EA	\$ 13,000 \$ 200.000	\$ - \$ -	\$ 8,000 \$ 50,000		\$ 21,000 \$ 250,000	\$ - \$ -
5.1n 5.1j	Station Service Transformers	0	EA	\$ 200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
3.1									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,000	\$ -	\$ 17,500	\$ -	\$ 47,500	
5.2c	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -		\$ -
5.2d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -	\$ 6,000	\$ -	\$ 16,000	
5.2e 5.2f	Arresters	0	EA	\$ 10,000	\$ -	\$ 6,000	\$ -	\$ 11,000	
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -		\$ -
5.2g 5.2h	Station Service Transformers	0	EA	\$ 13,000	\$ -	\$ -	\$ -	\$ 21,000	\$ -
5.2j	Station Service Hundronners	0	LA.	1	,	· ·	-	-	-
5.25									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	2	EA	\$ 33,000	\$ 66,000	\$ 15,000	\$ 30,000	\$ 48,000	\$ 96,000
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000	\$ -	\$ 17,500	\$ -	\$ 45,500	
	VT'S	6	EA	\$ 13,000	\$ 78,000	, , , , , , , , , , , , , , , , , , , ,	\$ 48,000	\$ 21,000	
5.3c			EA	\$ 13,000	\$ 78,000		. ,		
5.3c 5.3d		6							
5.3d	CT'S	6	EA	\$ 8,000	\$ 46,000		ا ١٠٥٥ ١		
5.3d 5.3e		6	EA EA	\$ 8,000 \$ 3,420					
5.3d 5.3e 5.3f	CT'S CCVT'S	6	EA		\$ 20,520	\$ 6,000	\$ 36,000	\$ 9,420	\$ 56,520
5.3d 5.3e 5.3f	CT'S CCVT'S Arresters	6	EA EA	\$ 3,420	\$ 20,520 \$ 26,000	\$ 6,000	\$ 36,000	\$ 9,420 \$ 21,000	\$ 56,520
5.3d 5.3e 5.3f 5.3g 5.3h	CT'S CCVT'S Arresters Wave Traps	6 6 2	EA EA	\$ 3,420 \$ 13,000	\$ 20,520 \$ 26,000 \$ -	\$ 6,000 \$ 8,000	\$ 36,000 \$ 16,000	\$ 9,420 \$ 21,000 \$ -	\$ 56,520 \$ 42,000
5.3d 5.3e 5.3f 5.3g 5.3h	CT'S CCVT'S Arresters Wave Traps Station Service Transformers	6 6 2 0	EA EA EA	\$ 3,420 \$ 13,000 \$ -	\$ 20,520 \$ 26,000 \$ -	\$ 6,000 \$ 8,000 \$ -	\$ 36,000 \$ 16,000 \$ -	\$ 9,420 \$ 21,000 \$ -	\$ 56,520 \$ 42,000 \$ -
5.3d 5.3e 5.3f 5.3g 5.3h 5.3j	CT'S CCVT'S Arresters Wave Traps Station Service Transformers	6 6 2 0	EA EA EA	\$ 3,420 \$ 13,000 \$ -	\$ 20,520 \$ 26,000 \$ -	\$ 6,000 \$ 8,000 \$ - \$ -	\$ 36,000 \$ 16,000 \$ -	\$ 9,420 \$ 21,000 \$ - \$ -	\$ 56,520 \$ 42,000 \$ -
5.3d 5.3e 5.3f 5.3g 5.3h 5.3j	CT'S CCVT'S Arresters Wave Traps Station Service Transformers Fuses	6 6 2 0	EA EA EA	\$ 3,420 \$ 13,000 \$ -	\$ 20,520 \$ 26,000 \$ - \$ -	\$ 6,000 \$ 8,000 \$ - \$ -	\$ 36,000 \$ 16,000 \$ - \$ -	\$ 9,420 \$ 21,000 \$ - \$ -	\$ 56,520 \$ 42,000 \$ - \$ -
5.3d 5.3e 5.3f 5.3g 5.3h 5.3j	CT'S CCVT'S Arresters Wave Traps Station Service Transformers Fuses L EQUIPTMENT / MATERIALS	6 6 2 0	EA EA EA	\$ 3,420 \$ 13,000 \$ -	\$ 20,520 \$ 26,000 \$ - \$ - \$ \$ 316,520	\$ 6,000 \$ 8,000 \$ - \$ -	\$ 36,000 \$ 16,000 \$ - \$ - \$ \$ -	\$ 9,420 \$ 21,000 \$ - \$ -	\$ 56,520 \$ 42,000 \$ - \$ - \$ \$

Item	Item Description	Estimated Quantity	Unit of Measure	Mater	ial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Protection and Telecom Equipment Panels	2	EA	\$	35,000	\$ 70,000	\$ 12,500	\$ 25,000	\$ 47,500	\$ 95,000
6.3	125VDC Batteries	0	EA	\$	75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	Control Cables	1	LS	\$	122,815	\$ 122,815	\$ 122,815	\$ 122,815	\$ 245,630	\$ 245,630
6.5	SCADA and Communications	0	EA	\$		\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0		\$		•	\$ 100,000		\$ 150,000	\$ -
6.7	DC Distribution System	0	EA	\$	50,000		\$ 100,000	\$ -	\$ 150,000	\$ -
6.8	Security Fire Alexander	0	EA	\$	7,500		\$ 7,500 \$ 7.500		\$ 15,000	\$ -
6.9 6.10	Fire Alarm Generator	0	EA EA	\$	7,500 100,000	\$ - \$ -	\$ 7,500 \$ 80,000	\$ - \$ -	\$ 15,000 \$ 180,000	\$ - \$ -
0.10	Generator	0	LA	+-	100,000	, -	\$ 80,000	· -	3 180,000	•
TOTAL - CONTI	ROL HOUSE / PANELS / GENERATOR					\$ 192,815		\$ 147,815		\$ 340,630
7. MISC ITEMS										
7.1	Conduit & Cable Trench System	530.0	LF	\$	185.00	\$ 98,050	\$ 170.00	\$ 90,100	\$ 355	\$ 188,150
7.2	Rigid Bus, Fittings & Insulators	0.0	LF	\$		\$ -	\$ -	\$ -	\$ -	\$ -
7.3	Strain Bus, Connectors & Insulators	300.0	LF	\$	39.30		\$ 53.35		\$ 93	\$ 27,795
7.4	Grounding System	800.0	LF	\$		•	\$ -	\$ -	\$ -	\$ -
7.5 7.6	Strain Bus Insulators - 345kV Strain Bus Insulators - 230kV	0	EA EA	\$	2,000 1,400	\$ - \$ -	\$ 1,050 \$ 750	\$ - \$ -	\$ 3,050 \$ 2,150	\$ - \$ -
7.7	Strain Bus Insulators - 230kV Strain Bus Insulators - 115kV	24	EA	\$	1,400		\$ 550	\$ 13,200	\$ 1,550	\$ 37,200
7.8	Low Voltage AC Station Service	0	LS	\$	50,000		\$ 75,000	\$ 13,200	\$ 125,000	\$ 37,200
7.9	SSVT Service	0	LS	\$	45,000		\$ 45,000		\$ 90,000	\$ -
7.10	Control Conduits from Trench to Equipment	1	LS	\$	14,000		\$ 70,000	\$ 70,000	\$ 84,000	\$ 84,000
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$	20,712	\$ 20,712	\$ 70,000	\$ 70,000	\$ 90,712	\$ 90,712
7.12										
7.13										
7.14										
7.15										
7.16 7.17				_						
7.18										
7.19										
7.20										
7.21										
7.22										
7.23										
7.24				_						
7.25 TOTAL - MISC	TEMS					\$ 168,552		\$ 259,305		\$ 427,857
										, , , , , , ,
	ack Substation - Install					\$ 1,048,307		\$ 1,041,050		\$ 2,089,357
8. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
- 0.1	Contractor Mobilization / Demobilization	1.0	1.0	Ś		ć	ć 20.004	¢ 20.004	ć 20.004	\$ 20.894
8.1	Mob / Demob Project Management, Material Handling & Amenities	1.0	LS	,	-	\$ -	\$ 20,894	\$ 20,894	\$ 20,894	\$ 20,894
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 128,956	\$ 128,956	\$ 128,956	\$ 128,956
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 20,894	\$ 20,894	\$ 20,894	\$ 20,894
8.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 20,894		\$ 20,894	\$ 20,894
	Engineering									
8.5	Design Engineering	1	LS	\$		\$ -	\$ 167,149	\$ 167,149	\$ 167,149	\$ 167,149
8.6	LiDAR	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
8.7 8.8	Geotech	4	EA	\$		\$ -	\$ 3,500		\$ 3,500	\$ 14,000
	Testing & Commissioning	1	Site	\$	-	\$ -	\$ 14,625	\$ 14,625	\$ 14,625	\$ 14,625
8.9	Testing & Commissioning Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 52,234	\$ 52,234	\$ 52,234	\$ 52,234
3.5	Permitting and Additional Costs	-		Ť		•	. 52,254	. 52,254	. 52,254	. 52,254
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$				\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1		\$			\$ 6,268			
	Real Estate Costs (New)	-	LS	\$			•	\$ -	•	\$ -
	Real Estate Costs (Incumbent Utility)	-	LS	\$	-				\$ -	
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Mater	ial Supply Rate	Mat	terial Supply Cost	Labor & Equipment Supply Rate	La	abor & Equipment Cost	Total Unit Rat	e	TOTAL	
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$	-	\$ -	\$	-	\$	-	\$	-
8.17		-	LS	\$	-	\$	-	\$ -	\$	-	\$	-	\$	-
8.18	Sales Tax on Materials	1	LS	\$	83,865	\$	83,865	\$ -	\$	-	\$ 83	,865	\$ 8	83,865
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$	-	\$ 2,089	\$	2,089	\$ 2	,089	\$	2,089
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$	83,865		\$	448,002			\$ 53	31,867

Page 26 of 60

NAT - NYPA - T029 - (Segment B) G. Schodack Substation - Removal

Total: \$ 160,133

NAT - NYPA - TO	29 - (Segment B)				
		Supply	Installa	ıtion	Total
G. Schodack Substation - Removal					
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$ -
2. SUBSTATION FOUNDATIONS	\$	-	\$	62,400	\$ 62,400
3. SUBSTATION STRUCTURES	\$	-	\$	73,800	\$ 73,800
4. MAJOR EQUIPTMENT	\$	-	\$	-	\$ -
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	-	\$ -
6. CONTROL HOUSE / PANELS	\$	-	\$	-	\$ -
7. MISC ITEMS	\$	-	\$	-	\$ -
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$	23,933	\$ 23,933
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$ -
SUBTOTAL:	\$	-	\$	160,133	\$ 160,133
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$ -
TOTAL:	\$		\$	160,133	\$ 160,133

			ork:

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
G. School	lack Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	. ,	\$ -	\$ 14,200	-
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -		\$ -	\$ 2,400	
	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200	\$ -	\$ 7,200	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000	\$ -	\$ 32,000	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000	\$ -	\$ 22,000	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ 11,000	\$ -	\$ 11,000	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	Ś -	\$ -	\$ -

Page 27 of 60

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2g	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -		\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -		\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ - \$ -	\$ 2,400	\$ -	\$ 2,400 \$ 2,400	
2.2k	Arrester Stand Foundations	0	EA EA	\$ -	т		\$ - \$ -		
2.2m 2.2n	Wave Trap Stand Foundations	0	EA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -		\$ - \$ -
2.2p	Misc. Structure Foundations	-	EA	, -	, -	, -	· -	, -	-
2.20									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.3e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -		\$ -
2.3f	Fuse Stand Foundations	0		\$ -	\$ -	\$ -	\$ -		\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Steel Transmission Pole Dead Ends (1ph.) Foundations	6	EA	\$ -	\$ -	\$ 10,400	\$ 62,400	\$ 10,400	\$ 62,400
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -		\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad					4	4	4	
2.5a	Control House / Pad (40'x125')	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation								
2.6b		0	EΛ	ـ ا د	¢ .	¢ -	¢ _	ċ _	¢
	70 Lightning Wast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	•	\$ -
	77 Lighting Wast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c	70 Egitting Wast Foundation		EA					\$ -	
2.6c		0	EA	\$ -	\$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.6c	TATION FOUNDATIONS	0	EA	\$ -	\$ - \$ -	\$ -	\$ -	\$ - \$ -	\$ -
2.6c TOTAL - SUBS 3. SUBSTATIO	ITATION FOUNDATIONS ON STRUCTURES	0	EA	\$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.6c	TATION FOUNDATIONS	0	EA	\$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ -	\$ - \$ -
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1	ITATION FOUNDATIONS IN STRUCTURES 345kV	0	EA EA	\$ -	\$ - \$ -	\$ -	\$ - \$ - \$ 62,400	\$ -	\$ - \$ - \$ 62,400
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone	0	EA EA	\$ -	\$ - \$ - \$ -	\$ -	\$ - \$ - \$ 62,400	\$ - \$ - \$ -	\$ - \$ - \$ 62,400
2.6c TOTAL - SUBSTATIO 3.1 3.1a 3.1b	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0 0 0	EA EA EA EA EA EA EA EA	\$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 62,400 \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 62,400 \$ - \$ - \$ - \$ - \$ -
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c	TATION FOUNDATIONS IN STRUCTURES 345KV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands	0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 62,400 \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 62,400 \$ - \$ - \$ - \$ - \$ -
2.6c TOTAL - SUBS 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d	TATION FOUNDATIONS ON STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 0 0 0 0 0	EA EA EA EA EA EA EA EA	\$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 62,400 \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 5 \$ - \$ 5 \$ -	\$ - \$ - \$ 62,400 \$ - \$ - \$ - \$ - \$ -
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 5 \$ - \$ 5 \$ -	\$ - \$ 62,400 \$ 62,400	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 62,400
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h	TATION FOUNDATIONS ON STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ -	\$ - \$ 62,400 \$ 62,400 \$ - \$ - \$ 5	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ -	\$ - \$ - \$ 62,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j	TATION FOUNDATIONS ON STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand	0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 62,400 \$ 5 - \$ - \$ 5 - \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 62,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h	TATION FOUNDATIONS ON STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ -	\$ - \$ 62,400 \$ 62,400 \$ - \$ - \$ 5	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 62,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1,1	TATION FOUNDATIONS IN STRUCTURES 345KV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures	0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 62,400 \$ 5 - \$ - \$ 5 - \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 62,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	TATION FOUNDATIONS IN STRUCTURES 335kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV	0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 62,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	TATION FOUNDATIONS ON STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone	0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ 5 - \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 5 - \$ 5 5 - \$ 5 5 - \$ 5 5 5 - \$ 5 5 5 - \$ 5 5 5 - \$ 5 5 5 5
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 62,400	\$ - \$ - \$ - \$ - \$ - \$ 2,550 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2a 3.2c	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ 5 -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ 5 \$ - \$ 2,250 \$ - \$ - \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5	\$ - S - C - C	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5	\$ - \$ - \$ - \$ - \$ 5 - \$
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d	TATION FOUNDATIONS IN STRUCTURES 335kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ 5 -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ \$ -	\$ - S - C - C	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1j 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2e	TATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - S - S - S - S - S - S - S - S - S -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ 62,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2c 3.2d 3.2e 3.2f	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 3ph Bus Support 1 Ph	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ 2,250 \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - S - C - S - C - C - C - C - C - C - C	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2a 3.2c 3.2d 3.2c 3.2d 3.2e 3.2f 3.2g	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ 5 -	\$ - \$ - \$ - \$ \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - S - C - S - C - S - C - C - C - C - C	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ 62,400
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2e 3.2f 3.2g 3.2f	TATION FOUNDATIONS IN STRUCTURES 335kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ 5 -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ \$ - \$ \$ \$ - \$ \$	\$ - S - C - C	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2a 3.2c 3.2d 3.2c 3.2d 3.2e 3.2f 3.2g	TATION FOUNDATIONS IN STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ - \$ - \$ - \$ 5 -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - S - C - C	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 2,250 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
						зирріу касе	Cost		
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.3b 3.3c	Substation A-Frame Structures - Shared Column Switch Stands	0	EA EA	\$ -	\$ - \$ -	\$ - \$ 6,450	\$ - \$ -	\$ - \$ 6,450	\$ - \$ -
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ 6,450	\$ -		\$ -
3.3e	Bus Support 3ph	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	6	EA	\$ -	\$ -	\$ 12,300	\$ 73,800	\$ 12,300	\$ 73,800
	TATION STRUCTURES				\$ -		\$ 73,800		\$ 73,800
4. MAJOR EQU									
4.1	345kV	0	ΓΛ	\$ -	\$ -	\$ -	ć	č	\$ -
4.1a 4.1b	Circuit Breakers Capacitor Banks	0	EA EA	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
4.1b	Capacitor banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c		0		-	* *	* -	¥ -	¥ "	*
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	R EQUIPTMENT				\$ -		\$ -		\$ -
5. SMALL EQU 5.1	IPTMENT / MATERIALS 345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
5.1c	VT'S	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Avvectors	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	ć
	Arresters	U			Ş -	,	· -		
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j									
F 2	22014								
5.2 5.2a	230kV Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ -		\$ -	\$ 5,500	
5.2c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
5.2e	CCVT'S	0	EA	\$ -	\$ -		\$ -	\$ 1,500	
5.2f	Arresters	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3	115kV	-	F.	4	ć		ć	ć	A
5.3a	Line Switches - 3ph w/ motor operator	0	EA EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0		\$ -	\$ - \$ -		\$ - \$ -	\$ 5,500 \$ -	\$ - \$ -
5.3c 5.3d	VT'S CT'S	0		\$ -	\$ -		\$ -		\$ -
5.3e	CCVT'S	0		\$ -	\$ -	\$ -	\$ -		\$ -
5.3f	Arresters	0		\$ -	•	\$ 1,500		\$ 1,500	
5.3g	Wave Traps	0		\$ -	\$ -		\$ -		\$ -
5.3h	Station Service Transformers	0		\$ -	\$ -	\$ -	\$ -		\$ -
5.3j	Fuses	0		\$ -	\$ -		\$ -		\$ -
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				\$ -		\$ -		\$ -
									D 20 -£(0

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6. CONTROL HO	DUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
6.2	Protection and Telecom Equipment Panels	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONTR	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.2	Rigid Bus, Fittings & Insulators	0	LS	\$ -	\$ -	\$ 10,500.00	\$ -	\$ 10,500	\$ -
7.3	Strain Bus, Connectors & Insulators	0	EA	\$ -	\$ -	\$ 39.35	\$ -	\$ 39	\$ -
7.4	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC I	TEMS				\$ -		\$ -		\$ -
G. Schoda	ack Substation - Removal				\$ -		\$ 136,200		\$ 136,200
8. MOB/DEMOI	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 1,362	\$ 1,362	\$ 1,362	\$ 1,362
	Project Management, Material Handling & Amenities								
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 8,406	\$ 8,406	\$ 8,406	\$ 8,406
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 1,362	\$ 1,362	\$ 1,362	\$ 1,362
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,362	\$ 1,362	\$ 1,362	\$ 1,362
	Engineering								
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 10,896	\$ 10,896	\$ 10,896	\$ 10,896
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 953	\$ -	\$ 953	\$ -
ŀ	Testing & Commissioning								
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 3,405	\$ -	\$ 3,405	\$ -
	Permitting and Additional Costs								
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 409	\$ 409	\$ 409	
	Real Estate Costs (New)		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
	Legal Fees		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Allowance for Funds Used During Construction (AFUDC)	_	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Fees for permits, including roadway, railroad, building or other local permits	1	LS	· ·	\$ -	\$ 136	\$ 136	\$ 136	\$ 136
		1	LJ		· ·	130 ب	130 ب	130	ا 130
	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 23,933		\$ 23,933

NAT - NYPA - T029 - (Segment B) H. Churchtown Substation - Install

Total: \$ 18,812,564

NAT - NYPA - TO2	29 - (Segment E	;)		
		Supply	Installation	Total
H. Churchtown Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	133,850	\$ 2,459,550	\$ 2,593,400
2. SUBSTATION FOUNDATIONS	\$	964,690	\$ 1,039,500	\$ 2,004,190
3. SUBSTATION STRUCTURES	\$	416,000	\$ 433,085	\$ 866,170
4. MAJOR EQUIPTMENT	\$	416,000	\$ 480,000	\$ 896,000
5. SMALL EQUIPTMENT / MATERIALS	\$	1,384,800	\$ 938,800	\$ 2,323,600
6. CONTROL HOUSE / PANELS	\$	2,344,525	\$ 1,517,025	\$ 3,861,550
7. MISC ITEMS	\$	1,013,691	\$ 1,488,020	\$ 2,501,711
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	535,251	\$ 3,230,692	\$ 3,765,943
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	7,208,807	\$ 11,586,672	\$ 18,812,564
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	7,208,807	\$ 11,586,672	\$ 18,812,564

Description	of Work:								
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	e Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
H. Churc	htown Substation - Install								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	2.0	ACRES	\$ -	\$ -	\$ 1,125,000	\$ 2,250,000	\$ 1,125,000	\$ 2,250,000
1.2	Station stone within substation fence.	900	CY	\$	7 \$ 24,300	\$ 75	\$ 67,500	\$ 102	\$ 91,800
1.3	Substation Fence	1,050	LF		0 \$ 105,000				
1.4	Permanent Access Road - 20'-Wide	130	LF	\$	5 \$ 4,550	\$ 285	\$ 37,050	\$ 320	\$ 41,600
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.15									
	REP/ GRADING/ FENCING / CIVIL				\$ 133,850		\$ 2,459,550		\$ 2,593,400
	N FOUNDATIONS				7 155,050		2,433,330		\$ 2,555,400
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ 14,9	10 \$ -	\$ 16,000	\$ -	\$ 30,940	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,0	.5 \$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 26,1	15 \$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA		15 \$ -	\$ 28,000	\$ -	\$ 54,145	
2.1e	Switch Stand Foundations	0	EA	\$ 4,4	32 \$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ 4,4	32 \$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	T	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA		32 \$ -	\$ 4,800	<u> </u>	\$ 9,282	<u> </u>
2.1j	Instrument Transformer Stand Foundations	0	EA		32 \$ -	\$ 4,800		\$ 9,282	·
2.1k	Arrester Stand Foundations	0	EA	\$ 4,4		\$ 4,800		\$ 9,282	
2.1m	Wave Trap Stand Foundations	0	EA	\$ 4,4		\$ 4,800		\$ 9,282	
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
2.2 2.2a	Circuit Breaker Foundations	0	EA	\$ 11.9	52 \$ -	\$ 12,800	\$ -	\$ 24,752	٠ .
2.2a 2.2b	Capacitor Bank Foundations	0	EA EA	\$ 11,9		\$ 12,800		\$ 24,752	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA		.0 \$ -	\$ 24,000	· · · · · · · · · · · · · · · · · · ·	\$ 46,410	<u> </u>
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA		.0 \$ -	\$ 24,000		\$ 46,410	
2.2e	Switch Stand Foundations	0	EA		15 \$ -	\$ 4,000	<u> </u>	\$ 7,735	
2.2f	Station Service Transformer Stand Foundation	0	EA		15 \$ -	\$ 4,000		\$ 7,735	
2.2g	Bus Support 3ph Foundations	0	EA	\$ -		\$ -	\$ -	\$ 7,755	\$ -

Page 31 of 60

Estimate Revision:

2.70 Bat August 1	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	e Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.20	2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,73	5 \$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2m Now Two Stand Foundations 0 FA 5 1,755 5 4,000 5 5 7,755 5	2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,7	5 \$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2-70 Min. Granture Foundations	2.2k		0					\$ -	\$ 7,735	\$ -
2.5		'						7		
State Process State St		Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.30 Croat Resear Foundations 8 CA 5 5,225 5 4,030 5 4,040 5 1,040 5 2,130 5 5,000 5 5 4,040 5 1,040 5 2,130 5 5,000 5 5 6,041 5 2,130 5 5,000 5 5 6,000 5 5 6,000 5 5 6,000 5 5 6,000 5 5 6,000 5 5 6,000 5	2.2p									
2.30 Croat Resear Foundations 8 CA 5 5,225 5 4,030 5 4,040 5 1,040 5 2,130 5 5,000 5 5 4,040 5 1,040 5 2,130 5 5,000 5 5 6,041 5 2,130 5 5,000 5 5 6,000 5 5 6,000 5 5 6,000 5 5 6,000 5 5 6,000 5 5 6,000 5										
2.30 Cassactor form Foundations 0 CA \$ 33,551 \$ \$ \$ \$ \$ \$ \$ \$ \$			0	EA.	ć 5.3°	0 6 44 022	¢ 5.000	ć 44.000	ć 40.030	ć oc.caa
2.5 Casson Of Foundations (or Diff A from att. 1, shed along) 20 FA 5 13,649 5 23,000 5 13,000 5 34,000 5 2,00										
2-30 Casson Of Froundations (or DF A farme tot shared course) 0 FA 5 16,404 5 17,716 5 10,240 5 5,108 5 10,240 5 5,108 5 5 10,240 5 5,108 5 5 5,108		'								
23 Select Stand Foundations										
2.21 Ivas bland Foundations										•
2.18										
2.48 But Support 1 Pt Standartons 24 1A \$ 2,008 \$ 71,777 \$ 3,000 \$ 7,800 \$ 4,108 \$ 2,00 \$ 7,800 \$ 4,000 \$ 5,000 \$										
2.3 Instrument Transformer Stand Foundations \$15 EA \$ 2,988 \$ 4,920 \$ 3,200 \$ 10,300 \$ 6,188 \$ 2.00 \$ 10,000 \$ 6,188 \$ 2.00 \$ 10,000 \$ 6,188 \$ 2.00 \$ 10,000 \$ 6,188 \$ 2.00 \$ 10,000										
2.3m Wave Frag Stand Foundations 10 EA 5 2,088 5 2,080 5 3,000 5 2,000 5 6,188 5 2,300 3,000 5 2,000 5 6,188 5 2,300 3,000 5 2,000 5 2,775 5 5 5 5 5 5 5 5 5		**		EA	\$ 2,98					
2.3m										
2.30 Misc. Structure Foundations	2.3m	Wave Trap Stand Foundations	10	EA	\$ 2,98	8 \$ 29,880	\$ 3,200	\$ 32,000	\$ 6,188	\$ 61,880
2.30 Misc. Structure Foundations	2.3n	Station Service Foundations	1	EA		5 \$ 3,735	\$ 4,000	\$ 4,000		
2.4a 345-28W Transformer (poundation w/ OI Containment 0 EA S 97,110 S 5 100,000 S S 201,110 S 2.4a 234W-135W Transformer (poundation w/ OI Containment 0 EA S 74,700 S S S S S S S S S	2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		
2.4a 345-28W Transformer (poundation w/ OI Containment 0 EA S 97,110 S 5 100,000 S S 201,110 S 2.4a 234W-135W Transformer (poundation w/ OI Containment 0 EA S 74,700 S S S S S S S S S										
2.4b										
2.4c 2384/158V Transformer Foundation w/ Oil Containment		,						\$ -		
2.4d 1154V-69VIV Paraformer Foundation w/ Oil Containment 0 EA 5								·		
2.5 Control House Foundations Fad		· · · · · · · · · · · · · · · · · · ·						· -		•
2-30 Centrol House/ Pad 1 EA \$ 33,615 \$ 36,000 \$ 36,000 \$ 69,015 \$	2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	Ş -	\$ -	\$ -	\$ -
2-5a Control House / Part 1	2.5	Control House Foundations / Bad								
2.5b Generator Foundation 1 EA \$ 16,000 \$ 17,000 \$ 17,000 \$ 33,000 \$ 2.5c Station Service Distribution line 1-ph. 1 1 1 5 \$ \$ \$ \$ \$ \$ \$ \$ \$		·	1	ГА	ć 22.6	F ¢ 22.61F	¢ 26,000	ć 26.000	ć 60.61F	\$ 69,615
2.56 Station Service Distribution (ine -1ph. 1 1 1 1 1 1 1 1 1										
2.6 Ughtning Mast Foundation										
2.6a 70 Lightning Mast Foundation 4 EA 5 5,229 5 20,916 5 5,000 5 10,829 5 2,66		·		LS	7	7	ŷ 0,500	\$ 0,500	9 0,500	y 0,500
2.66			4	EA	\$ 5.2	9 \$ 20,916	\$ 5.600	\$ 22,400	\$ 10.829	\$ 43,316
TOTAL - SUBSTATION FOUNDATIONS S 964,690 S 1,039,500 S 3. US\$ 3.		- G - G			· · · · · · · · · · · · · · · · · · ·					
S.SUBSTATION STRUCTURES	2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.18 Substation A-Frame Structures - Stand alone 0 EA \$ 37,000 \$. \$ 37,000 \$. \$ 37,000 \$. \$ 37,000 \$ \$ \$ 37,000 \$ \$ \$ 37,000 \$. \$ 37,000 \$ \$ \$ 37,000 \$ \$ \$ 37,000 \$. \$ 37,000 \$ \$ \$ 37,000 \$ \$ \$ 37,000 \$. \$ 37,000 \$ \$ \$ 37,000 \$ \$ \$ \$ 37,000 \$ \$ \$ \$ 37,000 \$ \$ \$ \$ 37,000 \$ \$ \$ \$ \$ 37,000 \$ \$ \$ \$ \$ \$ \$ \$ \$										
3.1 345kV	TOTAL - SUBST	ATION FOUNDATIONS				\$ 964,690		\$ 1,039,500	!	\$ 2,004,190
3.1a Substation A-Frame Structures - Stand alone 0 EA \$ 37,000 \$. \$ \$ \$ \$ \$ \$ \$ \$										
3.1b Substation A-Frame Structures - Shared Column 0 EA S 37,000 S - S 74,000 S		345kV								
3.1c Switch Stands 0 EA S 14,800 S - S 14,800 S - S 29,600 S										
3.1d Station Service Transformer Stand 0 EA S 14,800 S - S 14,800 S - S 29,600 S 3.1e Bus Support 3ph 0 EA S - S								7		•
3.1e Bus Support 3ph 0 EA S S S S S S S S S										
3.1f Bus Support 1 Ph							, , , , , , , , , , , , , , , , , , , ,		,	<u> </u>
3.1g Instrument Transformer Stand 0 EA \$ 1,850 \$ - \$ 1,850 \$ - \$ 3,700 \$ 3.1h Arrester Stand 0 EA \$ 1,850 \$ - \$ 1,850 \$ - \$ 3,700 \$ 3.1h Wave Trap Stand 0 EA \$ 1,850 \$ - \$ 5,7400 \$ - \$ 5,7400 \$ 3.1h Lightning Masts - 70' 0 EA \$ 6,475 \$ - \$ 5,7400 \$ 3.2 230kV 3.2 Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ - \$ 66,600 \$ 3.2 Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ - \$ 66,600 \$ 3.2c Switch Stands 0 EA \$ 33,300 \$ - \$ 5,66,600 \$ 3.2e Substation Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 5,24,050 \$ 3.2e Bus Support 3ph 0 EA \$ 1,202 \$ - \$ 5,250 \$ 3.2f Bus Support 1Ph 0 EA \$ 1,295 \$ - \$ 5,250 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 5,250 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 5,550 \$ - \$ 5,550 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 5,550 \$ - \$ 5,550 \$ 3.2k Misc. Structures 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,550 \$ 3.2k Misc. Structures 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,550 \$ 3.2k Misc. Structures 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,550 \$ 3.2k Misc. Structures 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,550 \$ 3.2k Misc. Structures 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,550 \$ 3.2k Misc. Structures 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,550 \$ 3.2k Misc. Structures 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,550 \$ 3.2k Misc. Structures 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,550 \$ 3.2k Misc. Structures 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,550 \$ 3.2k Misc. Structures 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,55		** *					'			
3.1h Arrester Stand 0 EA 5 1,850 5 - 5 1,850 5 - 5 3,700 \$ 3.1j Wave Trap Stand 0 EA 5 7,400 5 - 5 7,400 5 - 5 14,800 5 3.1k Lightning Masts - 70' 0 EA 5 6,475 5 - 5 14,800 5 3.2 230kV										·
3.1 Wave Trap Stand										
3.1k Lightning Masts - 70'								7		<u> </u>
3.2 230kV 3.2 3Ubstation A-Frame Structures - Stand alone 3.2 Substation A-Frame Structures - Shared Column 5.2 Switch Stands 5.2 Switch Stands 6. Column Structures - Shared Column 7. Column Structures - Shared Column 8. Column Structures - Shared Column Str							. ,		. ,	
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ - \$ 66,600 \$ \$ \$ \$ \$ \$ \$ \$ \$	3.1K	Lagraning mode 70			, 0,4.	- -	- 0,473	-	- 12,550	· ·
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ - \$ 66,600 \$ \$ \$ \$ \$ \$ \$ \$ \$	3.2	230kV								
3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ - <			0	EA	\$ 33,30	0 \$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ -	3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$ 33,30	0 \$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,550 \$ - \$ 5,550 \$ - \$ 2,590 \$ - \$ 2,590 \$ - \$ 2,590 \$ - \$ 2,590 \$ - \$ 2,590 \$ - \$ 2,590 \$ - \$ 2,590 \$ - \$ 2,590 \$ - \$ 2,590 \$ - \$ 2,590 \$ - \$ 2,590 \$ - \$ 2,590 \$ - \$ 2,590 \$ - \$ 2,590	3.2c	Switch Stands	0	EA	\$ 12,0	5 \$ -	\$ 12,025	\$ -	\$ 24,050	\$ -
3.2f Bus Support 1 Ph 0 EA \$ 2,775 \$ - \$ 2,775 \$ - \$ 5,550 \$ 3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 1,295 \$ - \$ 1,295 \$ - \$ 1,295 \$ - \$ 1,100 \$ 3.2k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$										
3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$ 3.2k Misc. Structures 0 EA \$ 6,475 \$ - \$ 12,950 \$		***								
3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$ 3.2k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$										
3.2j Wave Trap Stand 0 EA \$ 5,550 \$ - \$ 5,550 \$ - \$ 11,100 \$ 3.2k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$										
3.2k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$										
		·							. ,	·
	3.2k	Misc. Structures	0	ΕA	\$ 6,4	5 \$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
	3.3	115kV								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rat	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3a	Substation A-Frame Structures - Stand alone	5	EA	\$ 18,50	92,500	\$ 18,500	\$ 92,500	\$ 37,000	\$ 185,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,50) \$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	16	EA	\$ 7,95	5 \$ 127,280	\$ 7,955	\$ 127,280	\$ 15,910	\$ 254,560
3.3d	Fuse Stand	1	EA	\$ 7,95			\$ 7,955	\$ 15,910	\$ 15,910
3.3e	Bus Support 3ph	20	EA	\$ 3,33			\$ 66,600	\$ 6,660	\$ 133,200
3.3f	Bus Support 1 Ph	24	EA	\$ 1,85				\$ 3,700	
3.3g	Instrument Transformer Stand	51	EA		37,740		\$ 37,740	\$ 1,480	\$ 75,480
3.3h	Arrester Stand	15	EA	\$ 74			\$ 11,100	\$ 1,480	\$ 22,200
3.3j	Wave Trap Stand	5	EA	\$ 3,70		\$ 3,700	\$ 18,500	\$ 7,400	\$ 37,000
3.3k	Misc. Structures	4	EA	\$ 6,47		\$ 6,475	· ,	\$ 12,950	\$ 51,800
3.31	Station Service Transformer Support Stand	1	EA	\$ 1,11		\$ 1,110	. ,	\$ 2,220	
4. MAJOR EQU	ATION STRUCTURES				\$ 433,085		\$ 433,085		\$ 866,170
4. WAJOR EQU 4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ 300,00) \$ -	\$ 80,000	\$ -	\$ 380,000	\$ -
4.1a 4.1b	Capacitor Banks	0	EA	\$ 300,00	s -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1b 4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000		\$ 750,000	
4.10	230kV	U	EA	3 -	, -	\$ 730,000	· -	\$ 730,000	-
4.2a	Circuit Breakers	0	EA	\$ 250,00) \$ -	\$ 80,000	\$ -	\$ 330,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ 230,00	s -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.20	Capacitor Banks	0	LA.	7	7	3 00,000	7	\$ 00,000	7
4.3	115kV								
4.3a	Circuit Breakers	8	EA	\$ 52,00	\$ 416,000	\$ 60,000	\$ 480,000	\$ 112,000	\$ 896,000
4.3b	Capacitor Banks	0	EA	\$ 52,00	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ 650,000
55	Capacitor Burino		271	Ť	Ť	ψ σσ,σσσ	Ť	φ σσ,σσσ	*
TOTAL - MAJO	R EQUIPTMENT				\$ 416,000		\$ 480,000		\$ 896,000
	PTMENT / MATERIALS				7		+ 100,000		7 223,222
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ 40,00) \$ -	\$ 15,000	\$ -	\$ 55,000	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 35,00		\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	0	EA	\$ 25,00) \$ -	\$ 12,000	\$ -	\$ 37,000	\$ -
5.1d	CT'S	0	EA	\$ 13,00) \$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.1e	CCVT'S	0	EA	\$ 13,00) \$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.1f	Arresters	0	EA	\$ 6,50) \$ -	\$ 1,500	\$ -	\$ 8,000	\$ -
5.1g	Wave Traps	0	EA	\$ 13,00) \$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.1h	Station Service Transformers	0	EA	\$ 200,00) \$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j									
5.2	230kV		_			1			
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,00		\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,00		\$ 17,500	\$ -	\$ 47,500	\$ -
5.2c	VT'S	0	EA	\$ 13,00		\$ 8,000	\$ -	\$ 21,000	
5.2d	CT'S	0	EA EA	\$ 13,00		\$ 8,000 \$ 6.000	\$ -	\$ 21,000	\$ - \$ -
5.2e	CCVT'S	0	EA	\$ 10,00		7	\$ - \$ -	\$ 16,000	
5.2f 5.2g	Arresters Wave Traps	0	EA EA	\$ 5,00 \$ 13,00		\$ 6,000 \$ 8,000	\$ - \$ -	\$ 11,000 \$ 21,000	\$ - \$ -
5.2g 5.2h	Station Service Transformers	0	EA EA	\$ 13,00	\$ - \$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2ii	Station Service Halistofficis	U	EM	-	-	-	-	-	-
3.2j									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	5	EA	\$ 33,00) \$ 165,000	\$ 15,000	\$ 75,000	\$ 48,000	\$ 240,000
5.3b	Disconnect Switches - 3ph w/ manual operator	16	EA	\$ 28,00			· ,	\$ 45,500	
	VT'S	15		\$ 13,00	- '		. ,		
5.3d	CT'S	15	EA	\$ 13,00					
5.3e	CCVT'S	21	EA) \$ 168,000				
5.3f	Arresters	15	EA		51,300			\$ 9,420	
5.3g	Wave Traps	5	EA	\$ 13,00					
5.3h	Station Service Transformers	1	EA	\$ 75,00	5 75,000	\$ 35,000	\$ 35,000	\$ 110,000	\$ 110,000
5.3j	Fuses	3	EA	\$ 7,50	22,500	\$ 3,600	\$ 10,800	\$ 11,100	\$ 33,300
TOTAL - SMALI	EQUIPTMENT / MATERIALS				\$ 1,384,800		\$ 938,800		\$ 2,323,600
									D 22 -£(0

B	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
December and Telecom Lougement Provide 20	. CONTROL H	DUSE / PANELS / GENERATOR									
5-3 22/OC Nationals 2	6.1	CONTROL HOUSE	1	EA	\$ 292,500	\$ 292,500	\$ 85,000	\$ 85,000	\$ 377,500	\$	377,500
6.4 Carrot Cables	6.2	Protection and Telecom Equipment Panels	30	EA	\$ 35,000	\$ 1,050,000	\$ 10,000	\$ 300,000	\$ 45,000	\$	1,350,000
S. S. ASADA and Communications 1								-			200,000
E.		Control Cables	1								974,050
6.7 C Constitution System 2 EA \$ 9,000 \$ 100,000 \$ 1	6.5	SCADA and Communications	1	EA	\$ 50,000	\$ 50,000	\$ 100,000	\$ 100,000	\$ 150,000	\$	150,000
6.8 Security	6.6	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$	300,000
SA 1.0						·					300,000
E.		·									15,000
TOTAL-CONTROL HOUSE / PANELS / GENERATOR	6.9	Fire Alarm	1	EA	\$ 7,500			\$ 7,500	\$ 15,000	\$	15,000
Zamon Carlos	6.10	Generator	1	EA	\$ 100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$	180,000
Zamon Carlos											
2.7.1		ROL HOUSE / PANELS / GENERATOR				\$ 2,344,525		\$ 1,517,025		\$	3,861,550
Rigid Ris, Fritings & Insulators					4	4					
7.3 Strain Bus, Connectors & Insulators	7.1	Conduit & Cable Trench System	1,300.0	LF	\$ 185.00	\$ 240,500	\$ 170.00	\$ 221,000	\$ 355	Ş	461,500
7.4 Grounding System 10,500 LF S 6.93 S 72,755 S 32.58 S 340,00 S Ad S	7.2	Rigid Bus, Fittings & Insulators	1,800.0	LF	\$ 125.07	\$ 225,126	\$ 237.10	\$ 426,780	\$ 362	\$	651,906
7.5 Strain Bus Insolutions - 3456V	7.3	Strain Bus, Connectors & Insulators	1,000.0	LF	\$ 39.30	\$ 39,300	\$ 53.35	\$ 53,350	\$ 93	\$	92,650
7.6 Strain Bus insulations - 230kV 0 EA \$ 1,400 \$ - \$ 7.70 \$ - \$ 2,150 \$ 5					,			-		<u> </u>	414,855
7.7 Strain Bus insulations - 115kV 36											-
7.9 SSY Service						т					
7.9 SSVT Service											55,800
7.10 Control Conduits from Trench to Equipment 1 1.5 5 125,000 5 125,000 5 125,000 5 250,000 5 360,000 5 7.12 7.12 7.13 7.14 7.15 7.16 7.15 7.16 7.17 7.18 7.18 7.19		Low Voltage AC Station Service	1			\$ 50,000	\$ 75,000	\$ 75,000			125,000
Till Misc Materials (Above and Below Ground) 1 1 1 1 1 1 1 1 1			1					\$ 45,000			90,000
7.12 7.13 7.14 7.15 7.16 7.17 7.18 7.19 7.19 7.19 7.20 7.21 7.21 7.21 7.22 7.21 7.22 7.23 7.24 7.25 7.25 7.26 7.27 7.27 7.28 7.29 7.29 7.20 7.21 7.21 7.22 7.23 7.24 7.25 7.25 7.26 7.27 7.27 7.27 7.28 7.29 7.29 7.20 7.21 7.21 7.22 7.23 7.24 7.25 7.25 8.06/0000, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization	7.10	Control Conduits from Trench to Equipment	1	LS	\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$	250,000
7.13	7.11	Misc. Materials (Above and Below Ground)	1	LS	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$	360,000
7.14	7.12										
7.15	7.13										
7.16	7.14										
7.17	7.15										
7.18	7.16										
7.19	7.17										
7.20	7.18										
7.21	7.19										
7.22 7.23 7.24 7.25 7.24 7.25 7.24 7.25 7.24 7.25 7.24 7.25 7.24 7.25 7.24 7.25 7.24 7.25	7.20										
7.23 7.24 7.25 7.25 7.75 7.76 7.77 7.78 7.78 7.79 7.79 7.79 7.79 7.79	7.21										
7.23 7.24 7.25 7.75 70TAL MISCITEMS S 1,013,691 \$ 1,488,020 \$ 2 H. Churchtown Substation - Install \$ \$ 6,690,641 \$ \$ 8,355,980 \$ 15 8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization 8.1 Mob/Demob \$ 1.0 LS \$ - \$ - \$ 150,466 \$ 150,466 \$ 150,466 \$ Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 8.3 Utility PM and Project Oversite \$ 1 LS \$ - \$ - \$ 150,466 \$ 150,466 \$ 150,466 \$ 8.4 Site Accommodation, Facilities, Storage \$ 1 LS \$ - \$ - \$ 150,466 \$ 150,466 \$ 150,466 \$ 8.5 Design Engineering \$ 1 LS \$ - \$ - \$ 150,466 \$ 150,466 \$ 150,466 \$ 8.6 LIDAR \$ - LS \$ - \$ - \$ - \$ 1,203,730 \$ 1,	7.22										
TOTAL - MISC ITEMS											
TOTAL - MISC ITEMS											
TOTAL - MISC ITEMS										1	
H. Churchtown Substation - Install \$ 6,690,641 \$ 8,355,980 \$ 15		TEMS				\$ 1,013,691		\$ 1,488,020		\$	2,501,711
S. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization / D	1 Churs	htown Substation Install									
Contractor Mobilization / Demobilization / Demobilizati						0,090,041		0,355,980 ج		۶	15,046,621
8.1 Mob / Demob 1.0 LS \$ - \$ - \$ \$ 150,466											
Project Management, Material Handling & Amenities		·								L	
8.2 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 8.3 Utility PM and Project Oversite 8.4 Site Accommodation, Facilities, Storage 8.5 Design Engineering 8.6 LiDAR 1 LS 1 LS 2 928,685 \$ 928,685 \$ 928,685 \$ 928,685 \$ 928,685 \$ 928,685 \$ 928,685 \$ 928,685 \$ 928,685 \$ \$ 150,466 \$ 150,	8.1		1.0	LS	\$ -	\$ -	\$ 150,466	\$ 150,466	\$ 150,466	\$	150,466
8.2 and Cost Manager, SHEQ Staff, and Admin Staff) 8.3 Utility PM and Project Oversite 1 LS \$ - \$ 150,466 \$ 150,46		Project Management, Material Handling & Amenities								ļ	
8.3 Utility PM and Project Oversite 1 LS \$ - \$ 150,466 \$ 150,466 \$ 150,466 \$ 150,466 \$ 184 \$ 5 te Accommodation, Facilities, Storage 1 LS \$ - \$ - \$ 150,466	8.2		1	LS			\$ 928,685	\$ 928,685	\$ 928,685	\$	928,685
8.4 Site Accommodation, Facilities, Storage 1 LS \$ - \$ - \$ 150,466 \$ 150,466 \$ Engineering 1 LS \$ - \$ - \$ 1,203,730		- 1								-	
Engineering 1 LS \$ - \$ 1,203,730 \$ 1,203,730 \$ 1,203,730 \$ 1,203,730 \$ 1,203,730 \$ 1,203,730 \$ 1 8.6 LIDAR - LS \$ - \$											150,466
8.5 Design Engineering 1 LS \$ - \$ 1,203,730 \$ 1,203,730 \$ 1,203,730 \$ 1,203,730 \$ 1,203,730 \$ 1 8.6 LIDAR - LS \$ - <			1	LS	\$ -	\$ -	\$ 150,466	\$ 150,466	\$ 150,466	\$	150,466
8.6 LIDAR - LS \$ - \$ - \$ - \$ - \$ - \$ 8.7 Geotech										!	
8.7 Geotech											1,203,730
											-
$\begin{bmatrix} & & & & & & & & & & & & & & & & & & &$											14,000
8.8 Surveying/Staking 1 Site \$ - \$ 105,326 \$ 105,326 \$ \$ 105,326 \$	8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 105,326	\$ 105,326	\$ 105,326	\$	105,326

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	e Mate	erial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
	Testing & Commissioning										
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ 376,166	\$ 376,166	\$ 376,166	\$ 376	6,166
	Permitting and Additional Costs										
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
8.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
8.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 45,140	\$ 45,140	\$ 45,140	\$ 45	5,140
8.13	Real Estate Costs (New)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$	-	\$ 91,200	\$ 91,200	\$ 91,200	\$ 91	1,200
8.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
8.17		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
8.18	Sales Tax on Materials	1	LS	\$ 535,25	1 \$	535,251	\$ -	\$ -	\$ 535,251	\$ 535	5,251
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 15,047	\$ 15,047	\$ 15,047	\$ 15	5,047
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$	535,251		\$ 3,230,692		\$ 3,765	5,943

Page 35 of 60

NAT - NYPA - T029 - (Segment B) I. Churchtown Substation - Removal

Estimate Revision: 7 Total: \$ 1,032,084

NAT - NYPA - T029 - (Segment B)										
	Supply		Installation		Total					
I. Churchtown Substation - Removal										
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ 25,900	\$	25,900					
2. SUBSTATION FOUNDATIONS	\$	-	\$ 340,400	\$	340,400					
3. SUBSTATION STRUCTURES	\$	-	\$ 252,600	\$	252,600					
4. MAJOR EQUIPTMENT	\$	-	\$ 24,600	\$	24,600					
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$ 60,000	\$	60,000					
6. CONTROL HOUSE / PANELS	\$	-	\$ 150,000	\$	150,000					
7. MISC ITEMS	\$	-	\$ 25,078	\$	25,078					
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	-	\$ 153,506	\$	153,506					
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-					
SUBTOTAL:	\$	-	\$ 1,032,084	\$	1,032,084					
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-					
TOTAL:	Ś		\$ 1,032,084	Ś	1,032,084					
			2,002,00	T						

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
I. Church	town Substation - Removal								
1. SITE PREP/ (GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.		ACRES	\$ -	\$ -	\$ 250,000	\$ -	\$ 250,000	\$ -
1.2	Station stone within substation fence.		CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	740	LF	\$ -	\$ -	\$ 35	\$ 25,900	\$ 35	\$ 25,900
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ 25,900		\$ 25,900
2. SUBSTATION	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1j	Instrument Transformer Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.1n	Reactor Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
2.2a	Circuit Breaker Foundations		EA	\$ -	\$ -	\$ 7,200	\$ -	\$ 7,200	\$ -
2.2b	Capacitor Bank Foundations		EA	\$ -	\$ -	\$ 32,000	\$ -	\$ 32,000	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)		EA	\$ -	\$ -	\$ 22,000	\$ -	\$ 22,000	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)		EA	\$ -	\$ -	\$ 11,000	\$ -	\$ 11,000	\$ -
2.2e	Switch Stand Foundations		EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
2.2f	Station Service Transformer Stand Foundation		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2g	Bus Support 3ph Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations		EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2j	Instrument Transformer Stand Foundations		EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
	Arrester Stand Foundations		EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
	Wave Trap Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Misc. Structure Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
	Circuit Breaker Foundations	2	EA	\$ -	\$ -	\$ 15,000	\$ 30,000	\$ 15,000	\$ 30,0
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Switch Stand Foundations	18	EA	\$ -	\$ -	\$ 5,200	\$ 93,600	\$ 5,200	\$ 93,6
	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	6	EA	\$ -	\$ -	\$ 5,200	\$ 31,200	\$ 5,200	\$ 31,2
2.3j	Instrument Transformer Stand Foundations	3	EA	\$ -	\$ -		\$ 15,600	\$ 5,200	\$ 15,6
	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Steel Transmission Pole Deadend Fnds (1Ph)	9	EA	\$ -	\$ -	\$ 15,000	\$ 135,000	\$ 15,000	\$ 135,0
2.5μ	Steel Hansinission Fole Deadend Hids (1FH)	,		, -	,	3 13,000	3 133,000	3 13,000	3 133,0
2.4	Transformer Foundations								
	345-230kV Transformer Foundation w/ Oil Containment		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	345-115kV Transformer Foundation w/ Oil Containment		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	230kV-115kV Transformer Foundation w/ Oil Containment		EA	\$ -	\$ -	\$ 67,500	\$ -	\$ 67,500	\$ -
	115kV-69kV Transformer Foundation w/ Oil Containment		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
£.4u	225A STATE TO ANALON WY ON CONTAINMENT			· -	-	-	-	7	-
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ -	\$ -	\$ 14,200	\$ 14,200	\$ 14,200	\$ 14,2
2.5a 2.5b	Generator Foundation	1	EA	\$ - \$ -	\$ - \$ -	\$ 14,200	\$ 14,200	\$ 14,200	\$ 14,2
2.30	Generator i odnidation		EA		, -	- ·	-	- ب	-
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	4	EA	\$ -	\$ -	\$ 5,200	\$ 20,800	\$ 5,200	\$ 20,8
2.6b	7.0 Eightining Wast Foundation	4		\$ -	\$ -	\$ 3,200	\$ 20,800	\$ 3,200	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.00					, -	- ·	-	- ب	-
							4 245		A 7:2:
	ATION FOUNDATIONS N STRUCTURES				\$ -		\$ 340,400		\$ 340,4
	345kV								
5.1	YACEC								D 27 -64

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.1a	Substation A-Frame Structures - Stand alone		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1b	Substation A-Frame Structures - Shared Column		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1c	Switch Stands		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d	Station Service Transformer Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 3ph		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g	Instrument Transformer Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1h	Arrester Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j	Wave Trap Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone		EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Shared Column		EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2c	Switch Stands		EA	\$ -	\$ -		\$ -	\$ 9,750	
3.2d	Station Service Transformer Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ 9,730	\$ -
3.2e	Bus Support 3ph		EA	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	\$ -
3.2f	Bus Support 1 Ph		EA	\$ -	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 2,250	
3.2g	Instrument Transformer Stand		EA	\$ -	\$ -	\$ 1,050	\$ -	\$ 2,230	\$ -
3.2g 3.2h	Arrester Stand		EA	\$ -	\$ -		\$ -	\$ 1,050	-
				+ '			·	, ,	
3.2j	Wave Trap Stand		EA	-		1	\$ -	,	· ·
3.2k	Misc. Structures		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV				A	45,000	A	4 45 000	A
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -		\$ -	\$ 15,000	
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	9	EA	\$ -	\$ -	\$ 6,450	\$ 58,050	\$ 6,450	\$ 58,050
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	6		\$ -	\$ -		\$ 38,700	\$ 6,450	
3.3g	Instrument Transformer Stand	3	EA	\$ -	\$ -	\$ 6,450	\$ 19,350	\$ 6,450	\$ 19,350
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Steel Transmission Pole Deadend (1Ph)	9	EA	\$ -	\$ -	\$ 12,300	\$ 110,700	\$ 12,300	\$ 110,700
3.41	Lightning Mast	4	EA	\$ -	\$ -	\$ 6,450	\$ 25,800	\$ 6,450	\$ 25,800
TOTAL - SUBS	TATION STRUCTURES				\$ -		\$ 252,600		\$ 252,600
4. MAJOR EQU	UPTMENT								
4.1	345kV								
4.1a	Circuit Breakers		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c			EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers		EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
4.2b	Capacitor Banks		EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	2	EA	\$ -	\$ -	\$ 12,300	\$ 24,600	\$ 12,300	\$ 24,600
4.3b	Capacitor Banks	0		\$ -	\$ -		\$ -		\$ -
TOTAL - MAIO	 R EQUIPTMENT				\$ -		\$ 24,600		\$ 24,600
							2.,300		D 20 - f (0

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5. SMALL EQUI	PTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator		EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator		EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1c	VT'S		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S		EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Arresters		EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.1g	Wave Traps		EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	·	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator		EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2c	VT'S		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d	CT'S		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S		EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.2f	Arresters		EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2g	Wave Traps		EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2h	Station Service Transformers		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,500
5.3b	Disconnect Switches - 3ph w/ manual operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,500
5.3c	VT'S	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
5.3d	CT'S	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
5.3e	CCVT'S	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
5.3f	Arresters	9	EA	\$ -	\$ -	\$ 1,500	\$ 13,500	\$ 1,500	\$ 13,500
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALI	EQUIPTMENT / MATERIALS				\$ -		\$ 60,000		\$ 60,000
	DUSE / PANELS / GENERATOR				*		7 55,555		
6.1	CONTROL HOUSE	1	EA	\$ -	\$ -	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000
6.2	Protection and Telecom Equipment Panels		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.8	Security		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.9	Fire Alarm		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
0.10			- In	Ŧ	T	7	· ·	7	Ŧ
TOTAL - CONTI	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ 150,000		\$ 150,000
7. MISC ITEMS									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
7.1	Conduit & Cable Trench System		LS	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.2	Rigid Bus, Fittings & Insulators	535.0	LF	\$ -	\$ -	\$ 46.88	\$ 25,078	\$ 47	\$ 25,078
7.3	Strain Bus, Connectors & Insulators		LF	\$ -	\$ -	\$ 39.35	\$ -	\$ 39	\$ -
7.4	Grounding System		LS	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12				1					
7.13 7.14									
7.14									
TOTAL - MISC	ITEMS				\$ -		\$ 25,078		\$ 25,078
I. Church	town Substation - Removal				\$ -		\$ 878,578		\$ 878,578
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:						, , , ,		7
O. IVIOD, DEIVIO	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 8,786	\$ 8,786	\$ 8,786	\$ 8,786
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 54,226	\$ 54,226	\$ 54,226	\$ 54,226
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 8,786	\$ 8,786	\$ 8,786	\$ 8,786
8.4	Site Accommodation, Facilities, Storage	1.0	LS	\$ -	\$ -	\$ 8,786	\$ 8,786	\$ 8,786	\$ 8,786
	Engineering								
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 70,286	\$ 70,286	\$ 70,286	\$ 70,286
8.6	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 6,150	\$ -	\$ 6,150	\$ -
	Testing & Commissioning								
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 21,964	\$ -	\$ 21,964	\$ -
	Permitting and Additional Costs								
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 2,636	\$ 2,636	\$ 2,636	\$ 2,636
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16 8.17	Allowance for Funds Used During Construction (AFUDC)	-	LS LS	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
8.17	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	\$ 879	\$ -	\$ 879	\$ -
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 153,506		\$ 153,506

NAT - NYPA - T029 - (Segment B) J. Pleasant Valley Substation - Install

Total: \$ 3,524,980

NAT - NYPA - T029 - (Se	egment B)								
		Supply		Installation	ation Total				
J. Pleasant Valley Substation - Install									
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	11,025	\$	14,625	\$	25,650			
2. SUBSTATION FOUNDATIONS	\$	161,177	\$	171,300	\$	332,477			
3. SUBSTATION STRUCTURES	\$	44,400	\$	44,400	\$	88,800			
4. MAJOR EQUIPTMENT	\$	200,000	\$	80,000	\$	280,000			
5. SMALL EQUIPTMENT / MATERIALS	\$	260,500	\$	129,000	\$	389,500			
6. CONTROL HOUSE / PANELS	\$	560,900	\$	253,400	\$	814,300			
7. MISC ITEMS	\$	409,950	\$	457,275	\$	867,225			
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	131,836	\$	595,192	\$	727,028			
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-			
SUBTOTAL:	\$	1,779,788	\$	1,745,192	\$	3,524,980			
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-			
TOTAL:	\$	1,779,788	\$	1,745,192	\$	3,524,980			

esc			

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	ate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
J. Pleasa	nt Valley Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	- \$	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	75	CY	\$	27 \$	\$ 2,025	\$ 75	\$ 5,625	\$ 102	\$ 7,650
1.3	Substation Fence	90	LF	\$ 1	100 \$	\$ 9,000	\$ 100	\$ 9,000	\$ 200	\$ 18,000
1.4	Permanent Access Road - 20'-Wide	0	LF	\$	35 \$	\$ -	\$ 285	\$ -	\$ 320	\$ -
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE F	PREP/ GRADING/ FENCING / CIVIL				9	\$ 11,025		\$ 14,625		\$ 25,650
2. SUBSTATIO	N FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$ 14,9	940 \$	\$ 14,940	\$ 16,000	\$ 16,000	\$ 30,940	\$ 30,940
2.1b	Capacitor Bank Foundations	0	EA	\$ 56,0)25 \$	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 26,1	145 \$	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 26,1	145 \$	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	6	EA	\$ 4,4	182 \$	\$ 26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$ 55,692
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ 4,4	182 \$	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	- 5	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ 4,4	182 \$	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1j	Instrument Transformer Stand Foundations	9	EA	\$ 4,4	182 \$	\$ 40,338	\$ 4,800	\$ 43,200	\$ 9,282	\$ 83,538
2.1k	Arrester Stand Foundations	3	EA	\$ 4,4	182 \$	\$ 13,446	\$ 4,800	\$ 14,400	\$ 9,282	\$ 27,846
2.1m	Wave Trap Stand Foundations	1	EA	\$ 4,4	182	\$ 4,482	\$ 4,800	\$ 4,800	\$ 9,282	\$ 9,282
2.1n	Station Service Foundations	0	EA	\$ -	- 5	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p	Misc. Structure Foundations	0	EA	\$ -	- 5	\$ -	\$ -	\$ -	\$ -	\$ -
				\$ -	- 5	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	230kV									
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,9	952 \$	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,8	320 \$	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,4	110 \$	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,4	110 \$	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ 3,7	735 \$	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3.7	735	\$ -	\$ 4,000	Ś -	\$ 7,735	Ś -

Page 41 of 60

2.5 2.5	Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.73 Instrument standardums of the control	2.2g	Bus Support 3ph Foundations				\$ -		\$ -	•	
2.00 Amendment of the control cont						\$ -				
2.25 Ween Tag Board Foundations						\$ -				
2.39 SML Stockure Foundations					,	\$ -	, , , , , , , , , , , , , , , , , , , ,		. ,	
2.72										
Hard		Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.50 Circuit Procedure Consistance 0	2.2p									
2.73 Create Providence 0	2.3	115kV								
2.20 Capacide has first-ordinates			0	FA	\$ 5,229	Ś -	\$ 5,600	\$ -	\$ 10.829	\$ -
2.86 Calmon Dif Fundations for CA finement - Interest assert 0 6.6 \$ \$ \$ \$ \$ \$ \$ \$ \$										
2.76 Caucous of Foundations (s) OF A from etc shared columns 0 5.6 5.8 5.86.48 5 0.5 7.700 5 5.84.04 5 2.28 5 3.200 3 5 5.86.08 5 2.28 5 3.200 5 5.86.08 5 2.28 5 2.28 5 2.28 5 2.28 5 2.28 2.28 5 2.28				EA		\$ -				
2.31 Figure Stand Toundations 0 LA 3 2.988 5 5 3.008 5 5 6.188 5 - 2.28 B 5			0	EA		\$ -		\$ -	\$ 34,034	\$ -
2.48 But Support Phil Frontidations 0 EA 5 2,888 5 5 2,000 5 5 6,388 5 2.288 5 2.288 5 5 2.088 5 2.288 5	2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.7	2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.31 Instrument Translations S	2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.84 Accester Stand Foundations 0 FA S 2,988 S S 3,00 S S 5,188 S	2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3m Wise Pray State Foundations 0 6A 5 2,988 5 5 3,000 5 5 5,188 5	2.3j	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2-30 Miss Shorture Foundations 0 EA S S S S S S S S S	2.3k	Arrester Stand Foundations			\$ 2,988	\$ -		\$ -	\$ 6,188	\$ -
2.4	2.3m	Wave Trap Stand Foundations	0	EA		\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.4 Transformer Foundations		Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4a 345-208V Transformer Foundation wy Ol Containment	2.3p									
2.4a 345-230W Transformer Foundation wy Oli Containment	2.4	Transfermer Fermidations								
2.46 345-115N Transformer Foundation w/ Oil Containment 0 EA \$ 74,700 \$ \$ \$ \$ \$ \$ \$ \$ \$		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		F.4		A	404000	4	Å 201.110	4
2.46 2304-135NT randomer foundation w) OI Containment O EA S S S S S S S S S										
2.5 Control House Addition Foundations / Pad		•				т				
2.5 Control House Foundation (25-ft x 50-ft)						7				•
2.5a Control House Addition Foundation (25-fix \$0-fit)	2.40	115KV-69KV Transformer Foundation W/ Oil Containment	U	EA	\$ -	· -	ş -	\$ -	, -	-
2.5a Control House Addition Foundation [25-fix \$0-fit]	2.5	Control House Foundations / Pad								
2.6 Lightning Mast Foundations						\$ 61,079	,			
2.6a 70 Lightning Mast Foundation 0 EA 5 5.229 S - 5 5.600 S - 5 10.829 S - 2.6c 0 EA 5 -	2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6a 70 Lightning Mast Foundation 0 EA 5 5.229 S - 5 5.600 S - 5 10.829 S - 2.6c 0 EA 5 -	2.6	Lightning Mast Foundations								
2.66			0	EA	\$ 5,229	\$ -	\$ 5,600	Ś -	\$ 10.829	\$ -
Company Comp						\$ -		· .		
3.10 345kV			0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.10 345KY						4 .4		4		
3.1. Substation A-Frame Structures - Stand alone 0 EA \$ 37,000 \$ \$ - \$ \$ 37,000 \$ \$ - \$ \$ 74,000 \$ \$ - \$ 3.10 Substation A-Frame Structures - Shared Column 0 EA \$ 37,000 \$ - \$ \$ 37,000 \$ - \$ \$ 74,000 \$ \$ - \$ 3.10 Substation A-Frame Structures - Shared Column 0 EA \$ 37,000 \$ - \$ \$ 37,000 \$ - \$ \$ 74,000 \$ \$ - \$ 3.10 Substation A-Frame Structures - Shared Column 0 EA \$ 14,800 \$ 14,800 \$ 14,800 \$ 14,800 \$ 29,600 \$ 29						\$ 161,177		\$ 171,300		\$ 332,477
3.1a Substation A-Frame Structures - Stand alone 0 EA \$ 37,000 \$ - \$ \$ 37,000 \$ - \$ \$ 74,000 \$ - \$ 31,00 \$ \$ - \$ \$ 37,000 \$ - \$ \$ 74,000 \$ - \$ \$ 31,00 \$ \$ - \$ \$ 37,000 \$ - \$ \$ \$ 74,000 \$ - \$ \$ 31,00 \$ \$ - \$ \$ 74,000 \$ \$ - \$ \$ 31,00 \$ \$ - \$ \$ 74,000 \$ \$ - \$ \$ \$ 74,000 \$ \$ - \$ \$ 74,000 \$ \$ - \$ \$ 74,000 \$ \$ - \$ \$ 74,000 \$ \$ - \$ \$ 74,000 \$ \$ - \$ \$ 74,000 \$ \$ - \$ \$ \$ 74,000 \$ \$ - \$ \$ \$ 74,000 \$ \$ - \$ \$ \$ 74,000 \$ \$ - \$ \$ \$ \$ 74,000 \$ \$ - \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$										
3.1b Substation A-Frame Structures - Shared Column 0 EA \$ 37,000 \$ - \$ 37,000 \$ - \$ 37,000 \$ - \$ 37,000 \$ - \$ 37,000 \$ - \$ 37,000 \$ - \$ 37,000 \$ - \$ 37,000 \$ - \$ 37,000 \$ - \$ 37,000 \$ - \$ 37,000 \$ - \$ 37,000 \$ - \$ 37,000 \$ - \$ 37,000 \$ - \$ 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,000 \$ - 37,0			0	ΕΛ	¢ 27,000	ċ	¢ 27,000	ć	¢ 74,000	ė
3.1c Switch Stands 1 EA \$ 14,800 \$ 14,800 \$ 14,800 \$ 14,800 \$ 29,600 \$ 29,600 \$ 3.1d Station Service Transformer Stand 0 EA \$ 14,800 \$ - \$ 29,600 \$ - 3.1e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ 29,600 \$ - \$ 3.1e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ \$						т				
3.1d Station Service Transformer Stand 0 EA \$ 14,800 \$ - \$ 14,800 \$ - \$ 29,600 \$ - 3.1e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$						7				
3.1e Bus Support 3ph									,	
3.1f Bus Support 1Ph					, , , , , , , , , , , , , , , , , , , ,					•
3.1g Instrument Transformer Stand 9 EA \$ 1,850 \$ 16,650 \$ 1,850 \$ 16,650 \$ 3,700 \$ 33,30 \$ 3,14 Arrester Stand 3 EA \$ 1,850 \$ 5,550 \$ 1,850 \$ 5,550 \$ 3,700 \$ 11,11 \$ 3.1j Wave Trap Stand 1 EA \$ 7,400 \$ 7,400 \$ 7,400 \$ 7,400 \$ 1,800 \$ 14,800		., ,				т				
3.1h Arrester Stand 3 EA \$ 1,850 \$ 5,550 \$ 1,850 \$ 5,550 \$ 3,700 \$ 11,10 3.1j Wave Trap Stand 1 EA \$ 7,400 \$ 7,400 \$ 7,400 \$ 7,400 \$ 14,800 \$ 14,80 \$						т	,	· .	. ,	
Same Same										
3.1k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$ - \$ 3.2 230kV 3.2 230kV									,	
3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ - \$ 32,000 \$ - \$ 33,000 \$ - \$ 66,600 \$ - \$ 32,000 \$ - \$ 66,600 \$ - \$ 66,000 \$ - \$ 66			0	EA	\$ 6,475			\$ -		
3.2a Substation A-Frame Structures - Stand alone 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ - \$ 32,000 \$ - \$ 33,000 \$ - \$ 66,600 \$ - \$ 32,000 \$ - \$ 66										
3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 66,600 \$ - 3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ - 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 24,050 \$ - 3.2e Bus Support 3ph 0 EA \$ - \$ </td <td></td> <td></td> <td>_</td> <td>F.*</td> <td>ć 22.200</td> <td>ć</td> <td>ć 22.200</td> <td>ć</td> <td>¢</td> <td>¢</td>			_	F.*	ć 22.200	ć	ć 22.200	ć	¢	¢
3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ \$ - 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ \$ - 3.2e Bus Support 3ph 0 EA \$ - <										
3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ - 3.2e Bus Support 3ph 0 EA \$ -										
3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5,550 \$ - - \$ 2,775 \$ - \$ 5,550 \$ - - \$ 2,775 \$ - \$ 2,590 \$ - - \$ 1,295 \$ - \$ 2,590 \$ - - \$ 2,295 \$ - \$ 2,590 \$ - - \$ 2,295 \$ - \$ 2,590 \$ - - \$ 2,295 \$ - \$ 2,590 \$ - - \$ 2,295 \$ - \$ 2,590 \$ - - \$ 2,295 \$ - \$ 2,290 \$ - - \$ 2,290 \$ </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>										
3.2f Bus Support 1 Ph 0 EA \$ 2,775 \$ - \$ 2,775 \$ - \$ 5,550 \$ - 3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,775 \$ - \$ 2,775 \$ - \$ 2,775 \$ - 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ -										
3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ - 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ -										
3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ -						т				
						т				
	3.2j	Wave Trap Stand	0							

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -		\$ -	\$ 37,000	•
3.3c	Switch Stands	0		\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -	\$ 7,955		\$ 15,910	
3.3e 3.3f	Bus Support 3ph Bus Support 1 Ph	0	EA EA	\$ 3,330 \$ 1,850	\$ - \$ -	\$ 3,330 \$ 1,850	\$ - \$ -	\$ 6,660 \$ 3,700	
3.3g	Instrument Transformer Stand	0	EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0	EA	\$ 740	\$ -	'	'	\$ 1,480	
3.3j	Wave Trap Stand	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
TOTAL CLIDS	TATION CTRUCTURES				4 44400		4 44 400		A 00.000
4. MAJOR EQU	TATION STRUCTURES				\$ 44,400		\$ 44,400		\$ 88,800
4. WAJOR EQU	345kV								
4.1a	Circuit Breakers	1	EA	\$ 200,000	\$ 200,000	\$ 80,000	\$ 80,000	\$ 280,000	\$ 280,000
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0		\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ 115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	
4.2b	Capacitor Banks	0	EA	\$ 52,000	\$ -	\$ 80,000	\$ -	\$ 132,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 225,000	\$ -	\$ 60,000	\$ -	\$ 285,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
	·							,	
	R EQUIPTMENT				\$ 200,000		\$ 80,000		\$ 280,000
	IPTMENT / MATERIALS								
5.1	345kV	1	EA	\$ 40,000	\$ 40.000	ć 45.000	ć 45.000	ć 55.000	ć 55.000
5.1a 5.1b	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	1 1	EA EA	\$ 40,000 \$ 35,000	\$ 40,000 \$ 35,000		\$ 15,000 \$ 17,500	\$ 55,000 \$ 52,500	\$ 55,000 \$ 52,500
5.1c	VT'S	3	EA	\$ 25,000	\$ 75,000		\$ 36,000	\$ 37,000	\$ 111,000
5.1d	CT'S	3	EA	\$ 13,000	\$ 39,000		\$ 24,000	\$ 21,000	
5.1e	CCVT'S	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1f	Arresters	3	EA	\$ 6,500	\$ 19,500		\$ 4,500	\$ 8,000	
5.1g	Wave Traps	1	EA	\$ 13,000	\$ 13,000		\$ 8,000	\$ 21,000	
5.1h	Station Service Transformers	0	EA	\$ 200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0		\$ 30,000	\$ -		\$ -	\$ 47,500	
5.2c	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	
5.2d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -	\$ 6,000		\$ 16,000	
5.2f 5.2g	Arresters Wave Traps	0	EA EA	\$ 5,000 \$ 13,000	\$ - \$ -	\$ 6,000 \$ 8,000	\$ -	\$ 11,000 \$ 21,000	
5.2g 5.2h	Station Service Transformers	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2j	Station Service Transformers		LA.		· ·	_	-	· ·	Ţ
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0		\$ 33,000		\$ 15,000		\$ 48,000	
5.3a 5.3b	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 28,000	\$ -	\$ 17,500	\$ -	\$ 45,500	\$ -
5.3a 5.3b 5.3c	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S	0	EA EA	\$ 28,000 \$ 13,000	\$ - \$ -	\$ 17,500 \$ 8,000	\$ - \$ -	\$ 45,500 \$ 21,000	\$ - \$ -
5.3a 5.3b 5.3c 5.3d	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S	0 0	EA EA EA	\$ 28,000 \$ 13,000 \$ 13,000	\$ - \$ - \$	\$ 17,500 \$ 8,000 \$ 8,000	\$ - \$ - \$	\$ 45,500 \$ 21,000 \$ 21,000	\$ - \$ - \$
5.3a 5.3b 5.3c 5.3d 5.3e	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CC''S CCVT'S	0 0 0 0	EA EA EA	\$ 28,000 \$ 13,000 \$ 13,000 \$ 8,000	\$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$	\$ 45,500 \$ 21,000 \$ 21,000 \$ 16,000	\$ - \$ - \$ - \$
5.3a 5.3b 5.3c 5.3d 5.3e 5.3f	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S	0 0	EA EA EA EA	\$ 28,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 6,000	\$ - \$ - \$ - \$	\$ 45,500 \$ 21,000 \$ 21,000	\$ - \$ - \$ - \$ -
5.3a 5.3b 5.3c 5.3d 5.3e	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters	0 0 0 0 0	EA EA EA EA EA	\$ 28,000 \$ 13,000 \$ 13,000 \$ 8,000 \$ 3,420	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 6,000 \$ -	\$ - \$ - \$ - \$ - \$ -	\$ 45,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 9,420 \$ -	\$ - \$ - \$ - \$ - \$ -
5.3a 5.3b 5.3c 5.3d 5.3e 5.3f 5.3g	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0	EA EA EA EA EA EA	\$ 28,000 \$ 13,000 \$ 13,000 \$ 8,000 \$ 3,420 \$ -	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 6,000 \$ - \$ -	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 45,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 9,420 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ -

				ı						ı	
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply R	ate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
TOTAL - SMALL	EQUIPTMENT / MATERIALS					\$ 260,500		\$ 129,000		\$	389,500
6. CONTROL HO	DUSE / PANELS / GENERATOR										
6.1	CONTROL HOUSE Addition (25-ft x 50-ft)	1	EA	\$ 325,	000	\$ 325,000	\$ 85,000	\$ 85,000	\$ 410,000	\$	410,000
	Protection and Telecom Equipment Panels	3	EA		000	\$ 105,000		\$ 37,500			142,500
	125VDC Batteries	0	EA		000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$	-
	Control Cables	1	LS		900				\$ 261,800		261,800
	SCADA and Communications	0	EA EA		- 000	\$ -	•	\$ - \$ -	\$ - \$ 150,000	\$	-
	Low Voltage AC Distribution DC Distribution System	0	EA		000		\$ 100,000 \$ 100,000		\$ 150,000		-
	Security	0	EA		500		\$ 7,500		\$ 15,000		-
	Fire Alarm	0	EA		_		\$ 7,500		\$ 15,000		-
	Generator	0	EA	\$ 100,		\$ -	\$ 80,000	\$ -	\$ 180,000		-
						•	, ,,,,,,,,	,			
TOTAL - CONTR	ROL HOUSE / PANELS / GENERATOR					\$ 560,900		\$ 253,400		\$	814,300
7. MISC ITEMS											
	Conduit & Cable Trench System	800	LF		.00		\$ 170.00	\$ 136,000	\$ 355	\$	284,000
7.2	Rigid Bus, Fittings & Insulators	0	LS	\$ 15,008	3.40	\$ -	\$ 56,904.00	\$ -	\$ 71,912	\$	-
7.3	Strain Bus, Connectors & Insulators	2,500	LF	\$ 13	.38	\$ 33,450	\$ 39.35	\$ 98,375	\$ 53	\$	131,825
	Grounding System	0	LF		5.93		\$ 32.58		\$ 40		-
	Strain Bus Insulators - 345kV	38	EA						\$ 3,050		115,900
	Strain Bus Insulators - 230kV	0	EA		400	\$ -	\$ 750		\$ 2,150	\$	-
	Strain Bus Insulators - 115kV	0	EA		000		\$ 550		\$ 1,550		-
	Low Voltage AC Station Service	0	LS		000		\$ 75,000		\$ 125,000		-
	SSVT Service Control Conduits from Trench to Equipment	0	LS LS		000 500		\$ 45,000 \$ 75,000		\$ 90,000 \$ 137,500		137,500
	Misc. Materials (Above and Below Ground)	1	LS		000		\$ 108,000	\$ 108,000	\$ 198,000	\$	198,000
7.12	ivisc. Iviaterials (Above and below Ground)	τ_	LJ	, J	000	3 30,000	ÿ 100,000	3 108,000	3 138,000	,	138,000
7.13					\neg						
7.14											
7.15											
7.16											
7.17											
7.18											
7.19											
7.20											
7.21 7.22											
7.22					\dashv						
7.24											
7.25					\dashv						
TOTAL - MISC	TEMS					\$ 409,950		\$ 457,275		\$	867,225
	nt Valley Substation - Install					\$ 1,647,952		\$ 1,150,000		\$	2,797,952
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										,,
	Contractor Mobilization / Demobilization										
	Mob / Demob	1	LS	Ś	-	\$ -	\$ 27,980	\$ 27,980	\$ 27,980	Ś	27,980
	Project Management, Material Handling & Amenities					•					
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 172,691	\$ 172,691	\$ 172,691	\$	172,691
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 27,980	\$ 27,980	\$ 27,980	\$	27,980
	Site Accommodation, Facilities, Storage	1	LS	\$		\$ -	\$ 27,980				27,980
	Engineering										
	Design Engineering	1	LS			\$ -	\$ 223,836				223,836
	LiDAR	-	LS			\$ -	•	\$ -	\$ -	\$	-
	Geotech Co. 1: (C. 1:	4					\$ 3,500				14,000
	Surveying/Staking	1	Site	\$	-	\$ -	\$ 19,586	\$ 19,586	\$ 19,586	Ş	19,586
	Testing & Commissioning			l						l	age 44 of 60

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply F	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 69,949	\$ 69,949	\$ 69,949	\$ 69,949
	Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 8,394	\$ 8,394	\$ 8,394	\$ 8,394
8.13	Real Estate Costs (New)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 131	,836	\$ 131,836	\$ -	\$ -	\$ 131,836	\$ 131,836
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 2,798	\$ 2,798	\$ 2,798	\$ 2,798
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 131,836		\$ 595,192		\$ 727,028

Page 45 of 60

J. SS Pleasant Valley-Install

NAT - NYPA - T029 - (Segment B) Total: \$ 804,582

Estimate Revision:	7		Total:	\$	804,582		
	NAT - NYPA - T029 - (Se	gment B)					
			Supply	Installation			Total
	N. Interconnection Milan Station						
	1. CLEARING & ACCESS	\$	-	\$	121,100	\$	121,100
	2. FOUNDATIONS	\$	84,375	\$	135,279	\$	219,654
	3. STRUCTURES	\$	130,328	\$	140,393	\$	270,721
	4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$	-
	5. INSULATORS, FITTINGS, HARDWARE	\$	45,200	\$	18,480	\$	63,680
	6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	20,792	\$	108,635	\$	129,428
	CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
	SUBTOTAL:	\$	280,695	\$	523,887	\$	804,582
	CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
	TOTAL:	\$	280,695	\$	523,887	\$	804,582

Description	of Work:								
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
N. Inter	connection Milan Station								
1. CLEARING	& ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	1.0	Acre	\$ -	\$ -	\$ 5,000	,		
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45		\$ 45	
1.4	Silt Fence	500.0	LF	\$ -	\$ -		\$ 2,000		\$ 2,000
1.5	Matting - Access and ROW	500.0	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	525.0	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800		\$ 516,800	
1.8	ROW Restoration	0.5	Mile	\$ -	\$ -	\$ 10,000		\$ 10,000	
1.9	Work Pads	10,000.0	SF	\$ -	\$ -		\$ 35,200		\$ 35,200
1.10	Restoration for Work Pad areas	2,000.0	SF	\$ -	\$ -	\$ 0.2			\$ 300
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580		\$ 4,580	
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130		\$ 4,130	\$ -
1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18					\$ -		\$ -		\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEA	IRING & ACCESS				\$ -		\$ 121,100		\$ 121,100
2. FOUNDAT	IONS								
2.1	Drilled Pier - 115kV Single Circuit Single Pole Angle/DE	2	EA	\$ 42,187	\$ 84,375	\$ 42,639	\$ 85,279	\$ 84,827	\$ 169,654
2.2									
2.3									
2.4									
2.5	Rock Excavation Adder	25	СУ	\$ -		\$ 2,000		\$ 2,000	
2.6					\$ -		\$ -		\$ -
2.7					\$ -		\$ -		\$ -
2.8					\$ -		\$ -		\$ -
2.9					\$ -		\$ -		\$ -
2 10					ė -		ė -		¢ .

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ - \$ -		\$ - \$ -		\$ - \$ -
TOTAL - FOUN	DATIONS				\$ 84,375		\$ 135,279		\$ - \$ 219,654
3. STRUCTURE					Ų 01,373		Ų 100,275		213,031
3.1	115kV Single Circuit Single Pole Angle/DE	2	Structure	\$ 64,658	\$ 129,316	\$ 64,658	\$ 129,316	\$ 129,316	\$ 258,632
3.2									
3.3					\$ -		\$ -		\$ -
3.4	Install Grounding and Grounding Accessories	2	Pole	\$ 506	т	\$ 5,539	\$ -		\$ - \$ 12,089
3.6	install drounding and drounding Accessories	2	role	3 300	\$ 1,012	3,339	\$ 11,077		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ - \$ -		\$ - \$ -		\$ - \$ -
3.13					\$ - \$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUC					\$ 130,328		\$ 140,393		\$ 270,721
	R, SHIELDWIRE, OPGW						-	4	
4.1	345kV - (2) 954kcmil 54/7 ACSS "Cardinal"	-	LF.	\$ 1.90		\$ 5.00			\$ -
4.2	(1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-	LF LF	\$ 1.35 \$ 0.47		\$ 5.00 \$ 5.00	\$ - \$ -	-	\$ - \$ -
	Remove Existing 115kV Cable From Existing Structures	-	Mile	\$ -	\$ -	\$ 30,000	\$ -		\$ -
4.6	Remove Existing OPGW Cable	-	Mile	\$ -	\$ -	\$ 12,000	\$ -	,	\$ -
4.7	Remove Existing EH7	-	Mile	\$ -	\$ -	\$ 12,000	\$ -	\$ 12,000.00	\$ -
	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90	\$ -	\$ 5.00	\$ -	\$ 6.90	\$ -
4.9		-			,				
	Rider Poles - Relocated Rider Poles	-	Set EA	\$ - \$ 1,750	\$ - \$ -	\$ 3,500 \$ 3,500		7 0,000.00	\$ - \$ -
4.11 TOTAL: CONDU	ICTOR, SHIELDWIRE, OPGW:	-	LA	\$ 1,750	\$ -	\$ 3,500	\$ -		\$ -
	FITTINGS, HARDWARE				,		J.		_
	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900		\$ 560	\$ -	, ,	\$ -
	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	24	Assembly	\$ 1,800		\$ 720	\$ 17,280		\$ 60,480
	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900		\$ 560	\$ -	,	\$ -
5.5 5.6	OPGW Assembly - Tangent	-	Assembly Assembly	\$ 200	\$ - \$ -	\$ 150	\$ -		\$ - \$ -
	OPGW Assembly - Intigent OPGW Assembly - Angle / DE	4	Assembly	\$ 250		\$ 150	\$ 600		\$ 1,600
	OHSW Assembly - Tangent	-	Assembly	\$ 200		\$ 150	\$ -		\$ -
5.9	OHSW Assembly - Angle / DE	4	Assembly	\$ 250		\$ 150	\$ 600		\$ 1,600
	OPGW Splice Boxes	-	Set	\$ 1,750		\$ 1,746			\$ -
5.11	OPGW Splice & Test	-	EA	\$ 1,400 \$ 50		\$ 2,520	\$ -	-,	\$ -
5.12 5.13	Spacer - Conductor Vibration Dampers - Conductor	-	EA EA	\$ 50 \$ 35		\$ 35 \$ 35			\$ - \$ -
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$ 27		\$ 35			\$ -
5.15	Guys, Anchors, and Accessories	-	EA	\$ 720		\$ 885	\$ -		\$ -
5.16	Misc. materials (Signs and Markers)	-	Mile	\$ 770	\$ -	\$ 1,006	\$ -		\$ -
5.17									
5.18				-					
5.19 5.20									
	ATOR, FITTINGS, HARDWARE				\$ 45,200		\$ 18,480		\$ 63,680
	· · · · · · ·								
	onnection Milan Station				\$ 259,903		\$ 415,251		\$ 675,154
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization Mob / Demob	1	LS	\$ -	\$ -	\$ 6,752	\$ 6,752	\$ 6,752	\$ 6,752
	Project Management, Material Handling & Amenities	1	L3	<u> </u>		y 0,732	y 0,/32	y 0,732	9 0,732
	-yg	1		1	1	1			

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 41,671	\$ 41,671	\$ 41,671	\$ 41,671
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 6,752	\$ 6,752	\$ 6,752	\$ 6,752
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 6,752	\$ 6,752	\$ 6,752	\$ 6,752
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 33,758	\$ 33,758	\$ 33,758	\$ 33,758
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 2,025	\$ 2,025	\$ 2,025	\$ 2,025
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 4,726	\$ 4,726	\$ 4,726	\$ 4,726
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 2,025	\$ 2,025	\$ 2,025	\$ 2,025
6.13	Real Estate Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17	Sales Tax on Materials	1	LS	\$ 20,792	\$ 20,792	\$ -	\$ -	\$ 20,792	\$ 20,792
6.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 675	\$ 675	\$ 675	\$ 675
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 20,792		\$ 108,635		\$ 129,428

Page 48 of 60

NAT - NYPA - T029 - (Segment B)

Interconnection Knickerbocker Station

Estimate Revision: 7 Total: \$ 1,424,781

NAT - NYPA - T029 - (Segment B)										
		Supply	Ins	stallation		Total				
L. Interconnection Knickerbocker Station										
1. CLEARING & ACCESS	\$	-	\$	482,850	\$	482,850				
2. FOUNDATIONS	\$	87,988	\$	184,454	\$	272,441				
3. STRUCTURES	\$	222,873	\$	180,838	\$	403,710				
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$	-				
5. INSULATORS, FITTINGS, HARDWARE	\$	29,466	\$	17,754	\$	47,220				
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	27,226	\$	191,333	\$	218,560				
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-				
SUBTOTAL:	\$	367,553	\$	1,057,229	\$	1,424,781				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-				
TOTAL:	\$	367,553	\$	1,057,229	\$	1,424,781				

	of Wor	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
L. Interc	onnection Knickerbocker Station								
1. CLEARING 8	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$ -	\$ -	\$ 5,000		-	
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45		\$ 45	
1.4	Silt Fence	3,500.0	LF	\$ -	\$ -	\$ 4			\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$ -	\$ -	\$ 70			\$ 245,000
1.6	Matting - To Work Area	675.0	LF	\$ -	\$ -	\$ 70			\$ 47,250
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800		\$ 516,800	
1.8	ROW Restoration	0.5	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	45,000.0	SF	\$ -	\$ -	\$ 4		\$ 4	\$ 158,400
1.10	Restoration for Work Pad areas	9,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 1,350	\$ 0	\$ 1,350
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$ 750		\$ 1,250	\$ -	\$ 2,000	
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850			
1.18					\$ -		\$ -	,	\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 27		\$ 75	\$ -	\$ 102	\$ -
	RING & ACCESS		-	•	\$ -		\$ 482,850		\$ 482,850
					<u> </u>		ψ 102,030		Ç 102,030
2. FOUNDATIO	DNS								
2.1	1-CKT 115KV 3-POLE TANGENT DEADEND (0°-5°)	6	EA	\$ 2,750	\$ 16,500	\$ 18,700	\$ 112,200	\$ 21,450	\$ 128,700
2.2	1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	3	EA	\$ 23,829	\$ 71,488	\$ 24,085	\$ 72,254	\$ 47,914	\$ 143,741
2.3	Rock Excavation Adder	-	CY	\$ -	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.4									
2.5									
2.6									
2.7									
2.8									
	1				1	1			1

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.9									
2.10									
2.11									
2.12									
2.13									
2.15									
TOTAL - FOUN	DATIONS				\$ 87,988		\$ 184,454		\$ 272,441
3. STRUCTURE	S								
3.1	1-CKT 115KV 3-POLE TANGENT DEADEND (0°-5°)	2	Structure	\$ 67,803		\$ 40,682	\$ 81,363		\$ 216,968
3.2	1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	1	Structure	\$ 82,714		\$ 49,628	\$ 49,628		\$ 132,342
3.3	Install Grounding and Grounding Accessories	9	Pole	\$ 506	\$ 4,554	\$ 5,539	\$ 49,847 \$ -		\$ 54,401 \$ -
3.5					-		ş -		\$ -
3.6					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11				-	\$ -		\$ -		\$ -
3.12 3.13				-	\$ - \$ -		\$ - \$ -		\$ - \$ -
					1		,		
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUC	TURES				\$ 222,873		\$ 180,838		\$ 403,710
4. CONDUCTO	R, SHIELDWIRE, OPGW								
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90		\$ 5.00			\$ -
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$ 1.35		\$ 5.00	\$ -		\$ -
4.3	(1) 3/8" EHS7 Steel	-	LF Nail-	\$ 0.47	' \$ - S -	\$ 5.00			\$ - \$ -
4.5	Remove Existing 115kV Cable From Existing Structures Remove Existing OPGW Cable	-	Mile Mile	\$ -	\$ -	\$ 30,000 \$ 12,000	\$ - \$ -	,	\$ - \$ -
4.7	Remove Existing Grow Cable Remove Existing EH7	-	Mile	\$ -	\$ -	\$ 12,000	\$ -		\$ -
4.8	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90	т	\$ 5.00	•		\$ -
4.9	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-			T.		,	,	
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -		\$ -
4.11	Rider Poles	-	EA	\$ 1,750		\$ 3,500		\$ 5,250.00	
	JCTOR, SHIELDWIRE, OPGW:				\$ -		\$ -		\$ -
	FITTINGS, HARDWARE		Annuality	\$ 1,800	· S -	\$ 720	\$ -	\$ 2,520	\$ -
5.1 5.2	345kV Tangent (1-Group of 18-Bells Each Assembly) 115kV Tangent (1-Group of 9-Bells Each Assembly)	12	Assembly Assembly	\$ 1,800			т		\$ - \$ 17,520
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	7	Assembly	\$ 1,800					\$ 17,640
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)		Assembly	\$ 900		\$ 560			\$ -
5.5			Assembly		\$ -		\$ -		\$ -
5.6	OPGW Assembly - Tangent	2	Assembly	\$ 200			\$ 300		\$ 700
5.7	OPGW Assembly - Angle / DE	2	Assembly	\$ 250					\$ 800
5.8	OHSW Assembly - Tangent	2	Assembly	\$ 200			\$ 300		\$ 700
5.9 5.10	OHSW Assembly - Angle / DE OPGW Splice Boxes	2	Assembly Set	\$ 250 \$ 1,746		\$ 150 \$ 2,274	\$ 300 \$ 2,274		\$ 800 \$ 4,020
5.10	OPGW Splice & Test	1	EA	\$ 2,520					\$ 5,040
5.12	Spacer - Conductor	-	EA	\$ 50		\$ 35	\$ -		\$ -
5.13	Vibration Dampers - Conductor	-	EA	\$ 35		\$ 35			\$ -
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$ 27		\$ 35			\$ -
5.15	Guys, Anchors, and Accessories	-	EA	\$ 720		\$ 885		9 1,005	\$ -
5.16	Misc. materials (Signs and Markers)	-	Mile	\$ 770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$ -
5.17					1				
5.18 5.19				-	+				
5.19				 	+				
	ATOR, FITTINGS, HARDWARE				\$ 29,466		\$ 17,754		\$ 47,220
	onnection Knickerbocker Station				\$ 340,327		\$ 865,895		\$ 1,206,222
					9 340,327		9 803,833		1,200,222
6. MOR/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization								
	Some actor in contraction / Democratical	1			1				D 50 -5 (0

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supp	ly Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 12,062	\$ 12,062	\$ 12,062	\$ 12,062
	Project Management, Material Handling & Amenities									
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 74,449	\$ 74,449	\$ 74,449	\$ 74,449
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 12,062	\$ 12,062	\$ 12,062	\$ 12,062
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 12,062	\$ 12,062	\$ 12,062	\$ 12,062
	Engineering									
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 60,311	\$ 60,311	\$ 60,311	\$ 60,311
6.6	LiDAR	1	LS	\$	-	\$ -	\$ 3,619	\$ 3,619	\$ 3,619	\$ 3,619
6.7	Geotech	1	Location	\$	-	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 8,444	\$ 8,444	\$ 8,444	\$ 8,444
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$	-	\$ -	\$ 40,000	\$ -	\$ 40,000	\$ -
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 3,619	\$ 3,619	\$ 3,619	\$ 3,619
6.13	Real Estate Costs (New ROW)	1	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	1	LS	\$		\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$	27,226	\$ 27,226	\$ -	\$ -	\$ 27,226	\$ 27,226
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 1,206	\$ 1,206	\$ 1,206	\$ 1,206
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 27,226		\$ 191,333		\$ 218,560

Page 51 of 60

NAT - NYPA - T029 - (Segment B) M. Interconnection Churchtown Station

7		Total:	\$ 2,105,005	
NAT - NYPA - T029 - (Segm	ent B)			
		Supply	Installation	Total
M. Interconnection Churchtown Station				
1. CLEARING & ACCESS	\$	-	\$ 551,850	\$ 551,850
2. FOUNDATIONS	\$	216,929	\$ 319,252	\$ 536,181
3. STRUCTURES	\$	336,926	\$ 264,974	\$ 601,900
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$ -	\$ -
5. INSULATORS, FITTINGS, HARDWARE	\$	58,666	\$ 27,354	\$ 86,020
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	49,002	\$ 280,052	\$ 329,054
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	\$ -
SUBTOTAL:	\$	661,523	\$ 1,443,482	\$ 2,105,005
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	661,523	\$ 1,443,482	\$ 2,105,005

	TOTAL:	\$ 661,523	\$ 1,443,482	\$ 2,105,005					
Description	of Work:								
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
M. Inter	connection Churchtown Station								
1. CLEARING 8	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$ -	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	3,500.0	LF	\$ -	\$ -	\$ 4	\$ 14,000	\$ 4	\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$ -	\$ -	\$ 70	\$ 245,000	\$ 70	\$ 245,000
1.6	Matting - To Work Area	900.0	LF	\$ -	\$ -	\$ 70	\$ 63,000	\$ 70	\$ 63,000
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	\$ -	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.9	Work Pads	60,000.0	SF	\$ -	\$ -	\$ 4	\$ 211,200	\$ 4	\$ 211,200
1.10	Restoration for Work Pad areas	12,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 1,800	\$ 0	\$ 1,800
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18					\$ -		\$ -		\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEAR	RING & ACCESS				\$ -		\$ 551,850		\$ 551,850
2. FOUNDATIO	DNS								
2.1	1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	6	EA	\$ 18,077	\$ 108,464	\$ 18,271	\$ 109,626	\$ 36,348	\$ 218,090
2.2	2x 1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	6	EA	\$ 18,077	\$ 108,464	\$ 18,271	\$ 109,626	\$ 36,348	\$ 218,090
2.3	Rock Excavation Adder	50	СУ	\$ -	\$ -	\$ 2,000	\$ 100,000	\$ 2,000	\$ 100,000
2.4									
2.5									
2.6									I
2.7									
2.8									H
2.9							-		
2.10									1
2.11				 			 		i
			1						

Page 52 of 60

Estimate

Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supp	ly Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
2.13											
2.14											
2.15 TOTAL - FOUN	IDATIONS				\$ 2:	16,929		\$ 319,252		\$	536,181
3. STRUCTURE					γ <u>Σ</u> .	10,323		3 313,232		۲	330,181
3.1	1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	2	Structure	\$ 82,71	\$ 10	65,427	\$ 49,628	\$ 99,256	\$ 132,342	\$	264,683
3.2	2x 1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	2	Structure	\$ 82,71		65,427		\$ 99,256			264,683
3.3	Install Grounding and Grounding Accessories	12	Pole	\$ 50	\$	6,072	\$ 5,539	\$ 66,462	\$ 6,045		72,534
3.4					\$	-		\$ -		\$	-
3.5											
3.5					+						
3.8											
3.9											
3.10											
3.11							<u> </u>				
3.12				1							
3.13											
3.14											
3.15											
TOTAL - STRU					\$ 3	36,926		\$ 264,974		\$	601,900
	DR, SHIELDWIRE, OPGW	_		4			4 5.00	ć	¢ 600	^	_
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571	-	LF LF		\$ \$	-	\$ 5.00 \$ 5.00		\$ 6.90 \$ 6.35		
4.3	(1) 3/8" EHS7 Steel	-	LF		7 \$		\$ 5.00		\$ 5.47		-
4.5	Remove Existing 115kV Cable From Existing Structures	-	Mile		\$		\$ 30,000	\$ -	\$ 30,000.00		-
4.6	Remove Existing OPGW Cable	-	Mile		\$		\$ 12,000	\$ -	\$ 12,000.00		-
4.7	Remove Existing EH7	-	Mile	\$ -	\$	-	\$ 12,000	\$ -	\$ 12,000.00	\$	-
4.8	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.9	\$	-	\$ 5.00	\$ -	\$ 6.90	\$	-
4.9		-			1.						
4.10	Rider Poles - Relocated Rider Poles	-	Set EA	\$ - \$ 1.75	\$	-	\$ 3,500 \$ 3,500	\$ - \$ -	\$ 3,500.00 \$ 5,250.00		-
4.11	UCTOR, SHIELDWIRE, OPGW:	-	EA	\$ 1,75	Ś	-	\$ 3,500	\$ -	\$ 5,250.00	\$	-
	R, FITTINGS, HARDWARE				7	_		, -		7	
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)		Assembly	\$ 1,80) \$	-	\$ 720	\$ -	\$ 2,520	\$	-
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 90	\$	-	\$ 560	\$ -	\$ 1,460		-
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	28	Assembly	\$ 1,80) \$!	50,400	\$ 720	\$ 20,160	\$ 2,520	\$	70,560
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 90	 	-	\$ 560	· .	\$ 1,460		-
5.5			Assembly		\$	-	4	\$ -	\$ -	\$	-
5.6 5.7	OPGW Assembly - Tangent OPGW Assembly - Angle / DE	- 8	Assembly Assembly) \$) \$	2,000	\$ 150 \$ 150		\$ 350 \$ 400		3,200
5.8	OHSW Assembly - Tangent		Assembly) \$		\$ 150		\$ 350		- 3,200
5.9	OHSW Assembly - Angle / DE	8	Assembly) \$		\$ 150				3,200
5.10	OPGW Splice Boxes	1	Set	\$ 1,74		1,746	\$ 2,274				4,020
5.11	OPGW Splice & Test	1	EA	\$ 2,52		2,520	\$ 2,520				5,040
5.12	Spacer - Conductor	-	EA		\$	-	\$ 35		\$ 85		-
5.13	Vibration Dampers - Conductor	-	EA		\$ \$		\$ 35		\$ 70	_	-
5.14 5.15	Shieldwire / OPGW Dampers, Misc. Fittings Guys, Anchors, and Accessories	-	EA EA		7 \$) \$	-	\$ 35 \$ 885	\$ - \$ -	\$ 62 \$ 1,605		-
5.16	Misc. materials (Signs and Markers)	-	Mile) \$	-	\$ 1,006	\$ -	\$ 1,776		-
5.17			ic	ļ , , , , , , , , , , , , , , , , , , ,	Ť		- 1,000	-	1,770	Ť	
5.18											
5.19					1.					ļ.,	
5.20					\$	-		\$ -		\$	-
	LATOR, FITTINGS, HARDWARE					58,666 12,521		\$ 27,354 \$ 1,163,430		\$	86,020 1,775,951
					9 0.	12,321		7 1,103,430		ې	1,773,351
6. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS: Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	Ś -	Ś	-	\$ 17,760	\$ 17,760	\$ 17,760	Ś	17,760
0.1	Project Management, Material Handling & Amenities	1	LJ		,	-	7 17,700	7 17,760	17,760	,	17,760
	, and a second s	-1							1		

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supp	oly Rate	Material Su	ipply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS					\$ 109,613	\$ 109,613	\$ 109,613	\$ 109,613
6.3	Utility PM and Project Oversite	1	LS			\$	-	\$ 17,760	\$ 17,760	\$ 17,760	\$ 17,760
6.4	Site Accommodation, Facilities, Storage	1	LS	\$		\$	-	\$ 17,760	\$ 17,760	\$ 17,760	\$ 17,760
	Engineering										
6.5	Design Engineering	1	LS	\$	-	\$	-	\$ 88,798	\$ 88,798	\$ 88,798	\$ 88,798
6.6	LiDAR	1	LS	\$	-	\$	-	\$ 5,328	\$ 5,328	\$ 5,328	\$ 5,328
6.7	Geotech	1	Location	\$	-	\$	-	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$	-	\$	-	\$ 12,432	\$ 12,432	\$ 12,432	\$ 12,432
	Testing & Commissioning										
6.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$	-	\$	-	\$ 40,000	\$ -	\$ 40,000	\$ -
	Permitting and Additional Costs										
6.10	Environmental Licensing & Permitting Costs		LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$	-	\$ 5,328	\$ 5,328	\$ 5,328	\$ 5,328
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	1	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$	49,002	\$	49,002	\$ -	\$ -	\$ 49,002	\$ 49,002
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$	-	\$ 1,776		\$ 1,776	\$ 1,776
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$	49,002		\$ 280,052		\$ 329,054

Page 54 of 60
M. In. Churchtown SS

NAT - NYPA - T029 - (Segment B)

M. Interconnection Churchtown Station

Estimate Revision: 7 Total: \$ 2,165,267

NAT - NYPA - T029 - (Segm	ent B)			
		Supply	Installation	Total
M. Interconnection Churchtown Station				
1. CLEARING & ACCESS	\$	-	\$ 620,850	\$ 620,850
2. FOUNDATIONS	\$	16,088	\$ 415,395	\$ 431,483
3. STRUCTURES	\$	346,603	\$ 286,485	\$ 633,088
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$ -	\$ -
5. INSULATORS, FITTINGS, HARDWARE	\$	105,566	\$ 47,094	\$ 152,660
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	37,460	\$ 289,727	\$ 327,187
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	505,717	\$ 1,659,551	\$ 2,165,267
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	505,717	\$ 1,659,551	2,165,267

escr		

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
M. Inter	connection Churchtown Station								
1. CLEARING 8									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$ -	\$ -	\$ 5,000			· 1
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45		\$ 45	
1.4	Silt Fence	3,500.0	LF	\$ -	\$ -	\$ 4			\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	1,125.0	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	\$ -	\$ -	\$ 10,000			\$ 5,000
1.9	Work Pads	75,000.0	SF	\$ -	\$ -	\$ 4	1 . ,		\$ 264,000
1.10	Restoration for Work Pad areas	15,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 2,250		\$ 2,250
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	\$ -			\$ 14,445	
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$ 2,000		\$ 2,500		\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$ 750		\$ 1,250		\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18					\$ -		\$ -		\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	СҮ	\$ 27	•	\$ 75		\$ 102	\$ -
	RING & ACCESS				\$ -		\$ 620,850		\$ 620,850
2. FOUNDATION	DNS								
2.1	1-CKT 115KV 3-POLE TANGENT DEADEND (0°-5°)	15	EA	\$ 1,073	\$ 16,088	\$ 7,293	\$ 109,395	\$ 8,366	\$ 125,483
2.5	Rock Excavation Adder	153	CY	\$ -	\$ -	\$ 2,000	\$ 306,000	\$ 2,000	\$ 306,000
2.3									
2.4									
2.5									
2.6									
2.7									
2.8									
2.9									
2.10									
2.11									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	e Material Su	upply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	т	OTAL
2.12											
2.13											
2.14											
2.15 TOTAL - FOUN	DATIONS				\$	16,088		\$ 415,395		Ś	431,483
3. STRUCTURE					7	10,000		\$ 413,333		,	431,463
3.1	1-CKT 115KV 3-POLE TANGENT DEADEND (0°-5°)	5	Structure	\$ 67,80	3 \$	339,013	\$ 40,682	\$ 203,408	\$ 108,484	\$	542,420
3.2	Install Grounding and Grounding Accessories	15	Pole		6 \$	7,590	\$ 5,539	\$ 83,078		\$	90,668
3.3											
3.4											
3.5											
3.6											
3.7											
3.8											
3.9											
3.10										-	
3.11											
3.13											
3.14											-
3.15											
TOTAL - STRU	CTURES				\$	346,603		\$ 286,485		\$	633,088
4. CONDUCTO	R, SHIELDWIRE, OPGW										
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF		0 \$	-	\$ 5.00	\$ -	\$ 6.90	\$	-
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF		5 \$	-	\$ 5.00	\$ -	\$ 6.35	\$	-
4.3	(1) 3/8" EHS7 Steel	-	LF		7 \$	-	\$ 5.00		\$ 5.47		•
4.5	Remove Existing 115kV Cable From Existing Structures	-	Mile	+	\$	-	\$ 30,000	\$ -	\$ 30,000.00		-
4.6	Remove Existing OPGW Cable	-	Mile		\$	-	\$ 12,000	\$ -	\$ 12,000.00		-
4.7	Remove Existing EH7	-	Mile		\$	-	\$ 12,000	\$ -	\$ 12,000.00		-
4.8	115kV - (1) 795kcmil 26/7 ACSS "Drake"	-	LF	\$ 1.	2 \$	-	\$ 5.00	\$ -	\$ 6.72	\$	-
4.9 4.10	Rider Poles - Relocated	-	Set	\$	\$		\$ 3,500	\$ -	\$ 3,500.00	Ś	
4.10	Rider Poles	-	EA		50 \$		\$ 3,500		\$ 5,250.00	\$	
	UCTOR, SHIELDWIRE, OPGW:	_	LA	2 1,7	\$	-	3,300	\$ -	3,230.00	Ś	-
	, FITTINGS, HARDWARE				Ť			Ţ		Ť	
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,80	0 \$	-	\$ 720	\$ -	\$ 2,520	\$	
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 90	0 \$	-	\$ 560	\$ -	\$ 1,460	\$	-
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,80	0 \$	-	\$ 720	\$ -	\$ 2,520	\$	-
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	105	Assembly		0 \$	94,500	\$ 360	\$ 37,800	\$ 1,260	\$	132,300
5.5			Assembly		0 \$	-	\$ 360		\$ 1,260	\$	-
5.6	OPGW Assembly - Tangent	14	Assembly		0 \$	2,800	\$ 150			\$	4,900
5.7	OPGW Assembly - Angle / DE	1	Assembly		0 \$	250	\$ 150			\$	400
5.8	OHSW Assembly - Tangent	-	Assembly		0 \$	- 2.750	\$ 150		\$ 350		-
5.9 5.10	OHSW Assembly - Angle / DE	15 1	Assembly Set		0 \$ 6 \$	3,750 1,746	\$ 150 \$ 2.274				6,000 4,020
5.10	OPGW Splice Boxes OPGW Splice & Test	1	Set EA		0 \$	2,520		,			5,040
5.11	Spacer - Conductor		EA EA		0 \$	2,520	\$ 2,520		\$ 5,040		5,040
5.13	Vibration Dampers - Conductor	-	EA		5 \$		\$ 35	\$ -	\$ 70		
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA		7 \$	-	\$ 35	\$ -	\$ 62	\$	
5.15	Guys, Anchors, and Accessories	_	EA		0 \$	-	\$ 885	\$ -	\$ 1,605	\$	
5.16	Misc. materials (Signs and Markers)	-	Mile		0 \$		\$ 1,006	\$ -	\$ 1,776		
5.17	and the state of t			†	· +		. 2,300		2,770	T	
5.18											
5.19					\$	-		\$ -		\$	-
5.20											
TOTAL - INSUL	ATOR, FITTINGS, HARDWARE				\$	105,566		\$ 47,094		\$	152,660
M. Inter	connection Churchtown Station				\$	468,256		\$ 1,369,824		\$	1,838,080
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					,					, 2,230
O. IVIOB/DEIVIO	Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	\$ -	Ś		\$ 18,381	\$ 18,381	\$ 18,381	Ś	18,381
5.1	Project Management, Material Handling & Amenities		2.5	T	-		- 10,301	10,361	- 10,361	Ť	10,331
	-y	-		-				1	I .	1	

ltem	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	ate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 113,447	\$ 113,447	\$ 113,447	\$ 113,447
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 18,381	\$ 18,381	\$ 18,381	\$ 18,381
6.4	Site Accommodation, Facilities, Storage	1	LS	\$.	-	\$ -	\$ 18,381	\$ 18,381	\$ 18,381	\$ 18,381
	Engineering									
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 91,904	\$ 91,904	\$ 91,904	\$ 91,904
6.6	LiDAR	1	LS	\$	-	\$ -	\$ 5,514	\$ 5,514	\$ 5,514	\$ 5,514
6.7	Geotech	1	Location	\$	-	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 12,867	\$ 12,867	\$ 12,867	\$ 12,867
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$	-	\$ -	\$ 40,000	\$ -	\$ 40,000	\$ -
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 5,514	\$ 5,514	\$ 5,514	\$ 5,514
6.13	Real Estate Costs (New ROW)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 37,4	160	\$ 37,460		\$ -	\$ 37,460	\$ 37,460
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 1,838	\$ 1,838	\$ 1,838	\$ 1,838
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 37,460		\$ 289,727		\$ 327,187

Page 57 of 60 N. In. Pleasant Valley SS

NAT & NYPA - T029 - (Segment B)

O. System Upgrade Facilities (Middletown to Shoemakerrner line and Cricket Valley to Long Mt. Line)

Estimate Revision: Total: \$ 4,413,551

SYSTEM UPGF	RADE FACILITIES	Estimated Quantity	Unit of Measure	Materi	ial Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
SUF 1	Transmission Line Upgrade Middletown to Shoemaker SS (0.88 Miles)									
1.1	138kV - (1) 1113kcmil 45/7 ACSS "Bluejay" Conductor	29,272.32	LF	\$	4.00	\$ 117,089	\$ 5.00	\$ 146,362	\$ 9	\$ 263,451
1.2	Remove Existing 1033.5kmil ACSR "Ortalon" Conductor and Accessories	0.88	Mile	\$	-	\$ -	\$ 30,000.00	\$ 26,400	\$ 30,000	\$ 26,400
1.3	Rider Poles	3.00	Sets	\$	1,750.00	\$ 5,250	\$ 3,500.00	\$ 10,500	\$ 5,250	\$ 15,750
1.4	138kV Vertical Tangent Insulator Assembly	18.00	Assembly	\$	900.00	\$ 16,200	\$ 560.00	\$ 10,080	\$ 1,460	\$ 26,280
1.5	138kV Deadend Insulator Assembly	30.00	Assembly	\$	900.00	\$ 27,000	\$ 560.00	\$ 16,800	\$ 1,460	\$ 43,800
	Subtotal SUF 1 Direct Cost					\$ 165,539		\$ 210,142		\$ 375,681
SUF 2	Transmission Line Upgrade Cricket Valley - Connecticut Border to Long Mountain (3.3 + 6.0 = 9.3 Miles)									
2.1	345kV - (1) 954kcmil 45/7 ACSS "Rail" Conductor (Cricket Vly to Conn Border)	109,771.20	LF	\$	2.50	\$ 274,428	\$ 5.00	\$ 548,856	\$ 8	\$ 823,284
2.2	345kV - (1) 2312kcmil 76/19 ACSS "Thrasher" Conductor (Conn Border to Long Mtn.)	99,792.00	LF	\$	8.00	\$ 798,336	\$ 5.00	\$ 498,960	\$ 13	\$ 1,297,296
2.3	Remove Existing 795 ACSS Conductor and Accessories (Cricket Vly to Conn Border)	3.30	Mile	\$	-	\$ -	\$ 30,000.00	\$ 99,000	\$ 30,000	\$ 99,000
2.4	Remove Existing 2156kmil ACSS Conductor and Accessories (Conn Border to Long Mtn.)	6.00	Mile	\$	-	\$ -	\$ 30,000.00	\$ 180,000	\$ 30,000	\$ 180,000
2.5	Rider Poles	10.00	Sets	\$	1,750.00	\$ 17,500	\$ 3,500.00	\$ 35,000	\$ 5,250	\$ 52,500
2.6	345kV Vertical Tangent Insulator Assembly	147.00	Assembly	\$	1,800.00	\$ 264,600	\$ 720.00	\$ 105,840	\$ 2,520	\$ 370,440
2.7	345kV Deadend Insulator Assembly	132.00	Assembly	\$	1,800.00	\$ 237,600	\$ 720.00	\$ 95,040	\$ 2,520	\$ 332,640
	Subtotal SUF 2 Direct Cost		·			\$ 1,592,464		\$ 1,562,696		\$ 3,155,160
	Total Direct Cost (SUF 1 + SUF 2)		•			\$ 1,758,003		\$ 1,772,838		\$ 3,530,841
3.0	Indirect Cost (25% of Direct Cost)					\$ 439,501		\$ 443,209		\$ 882,710
	TOTAL:					\$ 2,197,504		\$ 2,216,047		\$ 4,413,551

Page 58 of 60

NAT - NYPA - T029 - (Segment B)

System Upgrade Facilities (Various Stations for Knickerbocker to Pleasant Valley

Estimate Revision: 7 Total: \$ 14,049,000

SYSTEM UPGF	ADE FACILITIES	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
SUF SS1	Middletown Tap Transformer Replacement	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 10,878,348	\$ 10,879,00
SUF SS1	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 360,000	\$ 360,00
SUF SS1	Engineering, T&C, PM, Indirects (25%)		LS %						\$ 2,810,00
SUF SS1	SUF SS1 - TOTAL:				\$ -		\$ -		\$ 14,049,00
SUF SS2	Blank	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUF SS2	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUF SS2	Engineering, T&C, PM, Indirects (15%)		LS %						\$ -
SUF SS2	SUFSS 2 - TOTAL:				\$ -		\$ -		\$ -
SUF SS3	Blank	1	LS					\$ -	\$ -
SUF SS3	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUF SS3	Engineering, T&C, PM, Indirects (15%)		LS %						\$ -
SUF SS3	SUF SS3 - TOTAL:				\$ -		\$ -		\$ -
SUF SS4		-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
SUF SS4	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUF SS4	Engineering, T&C, PM, Indirects (15%)		LS %						\$ -
SUF SS4	SUF SS4 - TOTAL:				\$ -		\$ -		\$ -
SUF SS5		-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
SUF SS5	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUF SS5	Engineering, T&C, PM, Indirects (15%)		LS %						\$ -
SUF SS5	SUF SS5 - TOTAL:				\$ -		\$ -		\$ -
	STATIONS SUF DIRECT TOTAL:								\$ 11,239,000
	STATIONS SUF INDIRECT TOTAL:								\$ 2,810,000
	STATIONS SUF TOTAL								\$ 14,049,000

	NAT - NYPA - T029 - (Segment B)
	ESTIMATE ASSUMPTIONS & CLARIFICATIONS
1	Cost Estimate is based on 2017 rates.
2	Construction schedule is in accordance with proposed schedule - we have assumed continuous working with no breaks in the schedule. Six months have been added to the construction schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.).
3	We have assumed a typical work week of five-(5) days per week at ten-(10) hours per day (5 x 10 hour days).
4	All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017.
5	We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type. 20% of the total length of the line is assumed to use Type 1 Gravel road and 80% of the line length access to be used wood matting. In addition 75 feet of wood matting is included from the access matting to the work pad area matting. The estimate also include 5,000 square feet of wood matting for each structure work area within the ROW. For the ground restoration (seed, straw and woven mat), 20% of the work pad area included.
6	Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not enough information to provide a quantified estimate for this item, allowance is included in the contingency monies.
7	Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for formal quotes.
8	Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing.
9	A Contractor Mark-Up (OH&P) of 15% has been included in the Total section.
10	We have assumed that all project details provided are accurate unless noted otherwise.
11	Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%)
12	A contractor allowance of 1% for mobilization and demobilization has been included in the total section.
13	A contractor allowance of 5.367% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safety inspector, compliance inspector, environmental inspector, and SWPP inspector.
14	An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section.
15	A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section.
16	An allowance of 5% for transmission design and engineering has been included in the total section.
17	An allowance of 8% for substation design and engineering has been included in the total section.
18	An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section.
19	An allowance of 0.3% for LIDAR of the transmission line has been included in the total section.
20	An allowance of 3.75% for substation testing and commissioning has been included in the total section.
21	An allowance of \$20,000.00 per circuit for transmission line testing and commissioning has been included in the total section.
22	New York state sales tax of 8% is included in all material pricing.
23	An allowance of 1.5% for insurance is included in the DPS sheet.
24	Knickerbocker to Churchtown substation; 0.4 miles of 345kV conductor from the junction have been added.
25	An additional Quantity of 5% have been added to conductors, OPGW, & OHSW for sag and jumpers.
26	Rock excavation depth in Foundation data provided in the proposal.
	Middletown to Shoemaker Line upgrade: The length of the line segment is 0.88 miles
27	-The re-conductor will remove the existing 2 bundle 1033.5 ACSR conductor and install new 2 bundle Bluejay 1113 ACSS conductor
27	-The Insulators and associated conductor hardware will be replaced The opinion of the base and associated conductor hardware will be replaced.
	-The existing structures are assumed to have adequate strength to support the new conductors
	-The estimate is a rough order of magnitude estimate as no engineering was performed and SECo did not have access to record drawings. Cricket Valley to Long Mountain line upgrade: The length of the re-conductor between Cricket Valley and the NY/CT border is 3.3 miles and will remove the existing (to be installed on CV
	project) 2 bundle 795 ACSS conductor and install new 2 bundle Rail 954 ACSS conductor.
	-The length of the re-conductor between the NY/CT border and Long Mountain is 6 miles and will remove the existing single 2156 ACSS conductor and install new single Thrasher 2312
28	ACSS conductor.
20	-The Insulators and associated conductor hardware will be replaced.
	-The existing structures are assumed to have adequate strength to support the new conductors.
	-The estimate is a rough order of magnitude estimate as no engineering was performed and SECo did not have access to record drawings.
29	The SUF estimates for the stations are rough order of magnitude estimates. No engineering was performed and SECo did not have access to record drawings.
	10. I I I I I I I I I I I I I I I I I I I



		NY Power Authority and North American Transmission (T030)	
		Description	Total Amount (In thousand \$)
	1	Transmission Lines	
	1.1	Clearing & Access	\$34,378
	1.2	Foundations	\$18,131
	1.3	Structures	\$56,775
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$35,969
	1.5	Insulators, Fitting and Hardwares	\$11,553
		Subtotal (1)	\$156,807
_{tz}	2	Substations	
Direct Cost	2.1	Knickerbocker Substation	\$14,982
irect	2.2	East Greenbush Substation	\$61
	2.3	Schodack Substation	\$2,226
	2.4	Churchtown Substation	\$16,010
	2.5	Pleasant Valley Substation	\$2,778
	2.6	Substation Interconnections	\$6,312
		Subtotal (2)	\$42,369
		Total (1+2)	\$199,176
		Contractors Mark-up (15% of Total 1+2)	\$29,876
		Total Direct Cost (A)	\$229,052
	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$1,992
st	3.2	Project Management, Material Handling & Amenities	\$15,576
Indirect Cost	3.3	Engineering	\$13,164
Jirec	3.4	Testing & Commissioning	\$972
<u> </u>	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$14,389
	3.6	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,628
		Total Indirect Cost (3)	\$53,721
		Subtotal Project Cost (B=A+3) 2017 \$	\$282,773
	4	Network Upgrade Facilities (NUF)	
	4.1	NUF proposed as element of the Project (Middletown Line and Terminal)	\$16,261
	4.2	NUF identified by System Impact Study (Cricket Valley Line Upgrade)	\$4,417
		Subtotal NUF Cost (C)	\$20,678
		Total Project Cost (B+C) 2017 \$	\$303,451
		Total Project Cost 2018 \$	\$312,555

5/22/2018 Page 1 of 60

NAT - NYPA - T030 - (Segment B Enhanced)

Estimate Revision: 5

	NAT - NYPA - T030 - (Segment B Enhanced) - Direct Costs	Total Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 57,825,407
Direct Labor, Material & Equipment Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 94,235,274
Direct Labor, Material & Equipment Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 4,746,361
Direct Labor, Material & Equipment Costs	D. Knickerbocker 345kV Substation - Install	\$ 14,982,000
Direct Labor, Material & Equipment Costs	E. Greenbush Substation - Removal	\$ 61,200
Direct Labor, Material & Equipment Costs	F. Schodack Substation - Install	\$ 2,089,357
Direct Labor, Material & Equipment Costs	G. Schodack Substation - Removal	\$ 136,200
Direct Labor, Material & Equipment Costs	H. Churchtown Substation - Install	\$ 15,046,621
Direct Labor, Material & Equipment Costs	I.Churchtown Substation - Removal	\$ 963,678
Direct Labor, Material & Equipment Costs	J. Pleasant Valley Substation - Install	\$ 2,777,841
Direct Labor, Material & Equipment Costs	K. Interconnection Milan Station	\$ 623,428
Direct Labor, Material & Equipment Costs	L. Interconnection Knickerbocker Station	\$ 1,262,237
Direct Labor, Material & Equipment Costs	M. Interconnection Churchtown Station	\$ 2,142,195
Direct Labor, Material & Equipment Costs	N. Interconnection Pleasant Valley Station	\$ 2,284,222
Direct Labor, Material & Equipment Costs	O. System Upgrade Facilities (Middletown Tap and Cricket Valley Line Upgrade)	\$ 3,530,841
Direct Labor, Material & Equipment Costs	P. System Upgrade Facilities (Middletown Substation)	\$ 11,239,000
	SUBTOTAL:	\$ 213,945,861
	CONTRACTOR MARK-UP (OH&P)	\$ 32,091,879
	CONTINGENCY ON ENTIRE PROJECT	\$ -
	TOTAL DIRECT:	\$ 246,037,741

	NAT - NYPA - T030 - (Segment B Enhanced) - Indirect Costs	Tot	al Each Segment
Indirect Costs	A. Transmission Line Knickerbocker to Churchtown	\$	13,461,432
Indirect Costs	B. Transmission Line Churchtown to Pleasant Valley	\$	21,467,279
Indirect Costs	C. Blue Stores Junction to Blue Stores Substation	\$	984,454
Indirect Costs	D. Knickerbocker 345kV Substation - Install	\$	3,909,529
Indirect Costs	E. Greenbush Substation - Removal	\$	10,478
Indirect Costs	F. Schodack Substation - Install	\$	508,425
Indirect Costs	G. Schodack Substation - Removal	\$	23,318
Indirect Costs	H. Churchtown Substation - Install	\$	3,712,994
Indirect Costs	I.Churchtown Substation - Removal	\$	164,983
Indirect Costs	J. Pleasant Valley Substation - Install	\$	712,299
Indirect Costs	K. Interconnection Milan Station	\$	119,179
Indirect Costs	L. Interconnection Knickerbocker Station	\$	225,130
Indirect Costs	M. Interconnection Churchtown Station	\$	397,868
Indirect Costs	N. Interconnection Pleasant Valley Station	\$	395,636
Indirect Costs	O. System Upgrade Facilities (Middletown and Cricket Valley Line Upgrade)	\$	882,710
Indirect Costs	P. System Upgrade Facilities (Middletown Substation)	\$	2,810,000
Indirect Costs	Legal and Permitting (Includes Legal, Envir. Lisc. & Permit., and Envir. Mitigation)	\$	7,627,609
	TOTAL INDIREC	CT: \$	57,413,321

TOTAL ESTIMATED COST: \$

303,451,061

A. Transmission Line Knickerbocker to Churchtown

NAT - NYPA - T030 - (Segment B Enhanced)

Estimate Revision: Total: \$ 71,286,839

NAT - NYPA - T030 - (Segme	NAT - NYPA - T030 - (Segment B Enhanced)											
		Supply		Installation		Total						
A. Transmission Line Knickerbocker to Churchtown												
1. CLEARING & ACCESS	\$	11,500	\$	13,264,953	\$	13,276,453						
2. FOUNDATIONS	\$	1,216,320	\$	5,964,195	\$	7,180,515						
3. STRUCTURES	\$	8,858,578	\$	10,543,966	\$	19,402,544						
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	2,905,216	\$	10,613,935	\$	13,519,151						
5. INSULATORS, FITTINGS, HARDWARE	\$	2,937,361	\$	1,509,383	\$	4,446,745						
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,274,318	\$	12,187,114	\$	13,461,432						
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-						
SUBTOTAL:	\$	17,203,293	\$	54,083,546	\$	71,286,839						
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-						
TOTAL:	\$	17,203,293	\$	54,083,546	\$	71,286,839						

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	то	OTAL
A. Transr	nission Line Knickerbocker to Churchtown									
1. CLEARING &	ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	19	Acre		\$ -	\$ 15,000	\$ 285,000	\$ 15,000	\$	285,000
1.2	Clearing the ROW - Light (mowing)	63	Acre		\$ -	\$ 5,000	\$ 315,000	\$ 5,000	\$	315,000
	Permanent Access Road	23,126	LF		\$ -	\$ 45.00		\$ 45		1,040,688
	Silt Fence	115,632	LF		\$ -	\$ 4.00	\$ 462,528		\$	462,528
	Matting - Access and ROW	92,506	LF		\$ -	\$ 70.00		\$ 70		6,475,392
	Matting - To Work Area	12,075	LF		\$ -	\$ 70.00	· , , , , , , , , , , , , , , , , , , ,	\$ 70	-	845,250
	Snow Removal ROW Restoration	21.9 21.9	Mile Mile		\$ - \$ -	\$ 16,000 \$ 10,000		\$ 16,000 \$ 10,000	\$	350,400 219,000
	Work Pads	805,000	SF		\$ -	\$ 10,000			\$	2,833,600
	Restoration for Work Pad areas	161.000	SF		\$ -	\$ 0.15	, ,	T .	Ś	24,150
	Temporary Access Bridge	9	EA		\$ -	\$ 20,035	. ,	\$ 20,035		180,315
	Air Bridge	-	EA		\$ -	\$ 14,445	· , , , , , , , , , , , , , , , , , , ,	\$ 14,445	\$	-
1.13	Stabilized Construction Entrance	4	EA		\$ -	\$ 4,580	\$ 18,320	\$ 4,580	\$	18,320
1.14	Maintenance and Protection of Traffic on Public Roads	47	EA		\$ -	\$ 4,130		\$ 4,130	\$	194,110
	Culverts / Misc. Access	10	EA	\$ 750		\$ 1,250		\$ 2,000	\$	20,000
	Gates	2	EA	\$ 2,000		\$ 2,500	\$ 5,000	\$ 4,500	\$	9,000
	Concrete Washout Station	2	EA		\$ -	\$ 1,850	. ,	\$ 1,850	\$	3,700
TOTAL - CLEARI					\$ 11,500		\$ 13,264,953		\$	13,276,453
2. FOUNDATIO	NS .									
	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	1	EA	\$ 3,575	,	,	,	\$ 27,885	\$	27,885
2.2	1-CKT 345KV VERTICAL TANGENT (0°-1°)	1	EA	\$ 2,888	,	,			\$	22,523
	2-CKT 115KV/345KV DELTA SMALL ANGLE (1°-15°)	7	EA	\$ 3,713	,	,			\$	202,703
2.4	2-CKT 115KV/345KV DELTA TANGENT (0°-1°)	129	EA	\$ 2,750	\$ 354,750	\$ 18,700	\$ 2,412,300	\$ 21,450	\$	2,767,050
2.5	2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD	3	EA	\$ 2,888	\$ 8,663	\$ 19,635	\$ 58,905	\$ 22,523	\$	67,568
2.6	2-CKT 115KV/345KV DELTA TANGENT DEADEND (0°-5°)	10	EA	\$ 3,163	\$ 31,625	\$ 21,505	\$ 215,050	\$ 24,668	\$	246,675
2.7	1-CKT 345KV VERTICAL LARGE ANGLE DEADEND (60°-90°)	1	EA	\$ 118,325	\$ 118,325	\$ 119,592	\$ 119,592	\$ 237,917	\$	237,917
2.8	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	1	EA	\$ 92,030	\$ 92,030	\$ 93,016	\$ 93,016	\$ 185,046	\$	185,046
	2-CKT 115KV/345KV DELTA MEDIUM ANGLE DEADEND (15°-60°)	8	EA	\$ 72,310	\$ 578,477	\$ 73,084	\$ 584,672	\$ 145,394	\$	1,163,149
2.10										
2.11										
2.12										
2.13	Rock Excavation Adder	1,130.0	CY	\$ -	\$ -	\$ 2,000	\$ 2,260,000	\$ 2,000	\$	2,260,000
2.14										

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
2.15									
2.16									
2.17									
2.18									
TOTAL - FOUND	DATIONS:				\$ 1,216,320		\$ 5,964,195		\$ 7,180,515
3. STRUCTURES									
3.1	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	1	Structure	\$ 115,897	\$ 115,897	\$ 69,538	\$ 69,538	\$ 185,435	\$ 185,435
3.2	1-CKT 345KV VERTICAL TANGENT (0°-1°)	1	Structure	\$ 56,203	\$ 56,203	\$ 33,722	\$ 33,722	\$ 89,925	\$ 89,925
3.3	2-CKT 115KV/345KV DELTA SMALL ANGLE (1°-15°)	7	Structure	\$ 82,929	\$ 580,502	\$ 49,757	\$ 348,301	\$ 132,686	\$ 928,804
3.4	2-CKT 115KV/345KV DELTA TANGENT (0°-1°)	129	Structure	\$ 43,936	\$ 5,667,734	\$ 26,362	\$ 3,400,640	\$ 70,297	\$ 9,068,374
3.5	2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD	3	Structure	\$ 60,948	\$ 182,845	\$ 36,569	\$ 109,707	\$ 97,517	\$ 292,552
3.6	2-CKT 115KV/345KV DELTA TANGENT DEADEND (0°-5°)	10	Structure	\$ 64,662	\$ 646,619	\$ 38,797	\$ 387,972	\$ 103,459	\$ 1,034,591
3.7	1-CKT 345KV VERTICAL LARGE ANGLE DEADEND (60°-90°)	1	Structure	\$ 269,373	\$ 269,373	\$ 161,624	\$ 161,624	\$ 430,997	\$ 430,997
3.8	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	1	Structure	\$ 130,695	\$ 130,695	\$ 78,417	\$ 78,417	\$ 209,112	\$ 209,112
3.9	2-CKT 115KV/345KV DELTA MEDIUM ANGLE DEADEND (15°-60°)	8	Structure	\$ 140,905	\$ 1,127,244	\$ 84,543	\$ 676,346	\$ 225,449	\$ 1,803,590
3.10								•	
3.11									
3.12	Remove Existing Foundation	688	EA	\$ -	\$ -	\$ 3,250	\$ 2,236,000	\$ 3,250	\$ 2,236,000
3.13	Remove Existing Structure and Accessories	172	EA	\$ -	\$ -	\$ 12,500	\$ 2,150,000	\$ 12,500	\$ 2,150,000
3.14	Install Grounding and Grounding Accessories	161	Pole	\$ 506	\$ 81,466	\$ 5,539	\$ 891,699	\$ 6,045	\$ 973,165
3.15									
TOTAL - STRUC	TURES:				\$ 8,858,578		\$ 10,543,966		\$ 19,402,544
4. CONDUCTOR	R, SHIELDWIRE, OPGW								
4.1	345kV - (1) 477kcmil 26/7 ACSS "Hawk"	1,112,681	LF	\$ 1.75	\$ 1,947,192	\$ 5.00	\$ 5,563,405	\$ 6.75	\$ 7,510,597
4.2	(1) OPGW 36 Fiber AC-33/38/571	123,631	LF	\$ 1.35	\$ 166,902	\$ 5.00	\$ 618,155	\$ 6.35	\$ 785,057
4.3	(1) 3/8" EHS7 Steel	121,414	LF	\$ 0.47	\$ 57,065	\$ 5.00	\$ 607,070	\$ 5.47	\$ 664,135
4.4	Remove Existing 115kV Cable From Existing Structures	43.8	Mile	\$ -	\$ -	\$ 30,000	\$ 1,314,000	\$ 30,000.00	\$ 1,314,000
4.5	Remove Existing OPGW Cable and Accessories	21.9	Mile	\$ -	\$ -	\$ 12,000	\$ 262,800	\$ 12,000.00	\$ 262,800
4.6	Remove Existing OHSW and Accessories	21.9	Mile	\$ -	\$ -	\$ 12,000	\$ 262,800	\$ 12,000.00	\$ 262,800
4.7	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	364,241	LF	\$ 1.90	\$ 692,058	\$ 5.00	\$ 1,821,205	\$ 6.90	\$ 2,513,263
4.8	Rider Poles (47 Locations)	24	Set	\$ 1,750	\$ 42,000	\$ 3,500	\$ 84,000	\$ 5,250.00	\$ 126,000
4.9	Rider Poles - Relocated	23	Set	\$ -	\$ -	\$ 3,500	\$ 80,500	\$ 3,500.00	\$ 80,500
4.10									
4.11									
4.12									
4.13									
4.14									
4.15									•
4.16									
4.17									
TOTAL: CONDU	ICTOR, SHIELDWIRE, OPGW:				\$ 2,905,216		\$ 10,613,935		\$ 13,519,151
5. INSULATOR,	FITTINGS, HARDWARE								
	345kV Tangent (1-Group of 18-Bells Each Assembly)	705	Assembly	\$ 1,800	\$ 1,269,000	\$ 720	\$ 507,600	\$ 2,520	\$ 1,776,600
	115kV Tangent (1-Group of 9-Bells Each Assembly)	695	Assembly	\$ 900	\$ 625,500	\$ 560	\$ 389,200	\$ 1,460	\$ 1,014,700
	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	300	Assembly	\$ 1,800	\$ 540,000	\$ 720	\$ 216,000	\$ 2,520	\$ 756,000
	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	126	Assembly	\$ 900			\$ 70,560	\$ 1,460	\$ 183,960
5.5	•		Assembly	\$ 900				\$ 1,260	\$ -
	OPGW Assembly - Tangent	141	Assembly	\$ 200					49,350
	OPGW Assembly - Angle / DE	40	Assembly	\$ 250					 16,000
	OHSW Assembly - Tangent	139	Assembly	\$ 200				\$ 350	 48,650
	OHSW Assembly - Angle / DE	36	Assembly	\$ 250					14,400
	OPGW Splice Boxes	8	Set	\$ 1,746					32,161

ltem	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate		TOTAL
5.12	Spacer - Conductor	3,651	EA	\$ 50	\$ 182,550	\$ 35	\$ 127,785	\$ 85	\$	310,335
5.13	Vibration Dampers - Conductor	1,971	EA	\$ 35	\$ 68,985	\$ 35	\$ 68,985	\$ 70	\$	137,970
5.14	Shield wire / OPGW Dampers, Misc. Fittings	442	EA	\$ 27	\$ 11,934	\$ 35	\$ 15,470	\$ 62	\$	27,404
5.15										
5.16	Replace - Mono Pole Vertical Tangent - V-String	-	Set	\$ 1,800	\$ -	\$ 1,080	\$ -	\$ 2,880		-
5.17	Replace - Dead-end & Angle Insulators	-	Set	\$ 2,540	\$ -	\$ 2,025	\$ -	\$ 4,565	\$	-
5.18									 	
	Guys, Anchors, and Accessories	-	EA	\$ 720		\$ 885		\$ 1,605	<u> </u>	-
	Misc. materials (Signs and Markers)	21.9	Mile	\$ 770		\$ 1,006	\$ 22,031	\$ 1,776	_	38,894
5.21		-		\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
5.22 5.23									├	
	ATORS, FITTINGS, HARDWARE:				\$ 2,937,361		\$ 1,509,383		Ś	4,446,745
							, , , , , , , ,		-	
	nission Line Knickerbocker to Churchtown				\$ 15,928,975		\$ 41,896,432		\$	57,825,407
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization									
	Mob / Demob	1	LS	\$ -	\$ -	\$ 578,254	\$ 578,254	\$ 578,254	\$	578,254
	Project Management, Material Handling & Amenities								-	
1 6/ 1	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 3,365,525	\$ 3,365,525	\$ 3,365,525	\$	3,365,525
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 578,254	\$ 578,254	\$ 578,254	\$	578,254
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 578,254	\$ 578,254	\$ 578,254	\$	578,254
	Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,891,270	\$ 2,891,270	\$ 2,891,270	\$	2,891,270
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 173,476	\$ 173,476	\$ 173,476	\$	173,476
6.7	Geotech	22	Location	\$ -	\$ -	\$ 3,500	\$ 77,000	\$ 3,500	\$	77,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 404,778	\$ 404,778	\$ 404,778	\$	404,778
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$	40,000
	Permitting and Additional Costs								↓	
	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 173,476	\$ 173,476	\$ 173,476	\$	173,476
	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 3,269,000	\$ 3,269,000	\$ 3,269,000	\$	3,269,000
	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
	Sales Tax on Materials	1	LS	\$ 1,274,318	\$ 1,274,318	\$ -	\$ -	\$ 1,274,318	+	1,274,318
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 57,825	\$ 57,825	\$ 57,825	\$	57,825
TOTAL - MOB/I	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 1,274,318		\$ 12,187,114		\$	13,461,432

NAT - NYPA - T030 - (Segment B Enhanced)

B. Transmission Line Churchtown to Pleasant Valley

Estimate Revision: 5 Total: \$ 115,702,553

NAT - NYPA - T030 - (Segment B Enhanced)											
		Supply		Installation		Total					
B. Transmission Line Churchtown to Pleasant Valley											
1. CLEARING & ACCESS	\$	14,000	\$	19,683,466	\$	19,697,466					
2. FOUNDATIONS	\$	830,338	\$	8,957,307	\$	9,787,645					
3. STRUCTURES	\$	13,291,751	\$	22,537,866	\$	35,829,617					
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	4,293,840	\$	17,684,415	\$	21,978,255					
5. INSULATORS, FITTINGS, HARDWARE	\$	4,595,434	\$	2,346,857	\$	6,942,291					
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	1,842,029	\$	19,625,250	\$	21,467,279					
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-					
SUBTOTAL:	\$	24,867,392	\$	90,835,161	\$	115,702,553					
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-					
TOTAL:	\$	24,867,392	\$	90,835,161	\$	115,702,553					

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
B. Trans	mission Line Churchtown to Pleasant Valley								
1. CLEARING 8	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	15.0	Acre	\$ -	\$ -	\$ 15,000	\$ 225,000	\$ 15,000	\$ 225,000
1.2	Clearing the ROW - Light (mowing)	102.0	Acre	\$ -	\$ -	\$ 5,000	\$ 510,000	\$ 5,000	\$ 510,000
1.3	Permanent Access Road	34,109	LF	\$ -	\$ -	\$ 45			
1.4	Silt Fence	170,544.0	LF	\$ -	\$ -		\$ 682,176		\$ 682,176
1.5	Matting - Access and ROW	136,435	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	18,300.0	LF	\$ -	\$ -	\$ 70			
1.7	Snow Removal	32.3	Mile	\$ -	\$ -	\$ 16,000			
1.8	ROW Restoration	32.3	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	1,220,000.0	SF	\$ -	\$ -	·	\$ 4,294,400		\$ 4,294,400
1.10	Restoration for Work Pad areas	244,000.0	SF	\$ -	\$ -	\$ 0.2			\$ 36,600
1.11	Temporary Access Bridge	14	EA	\$ -	\$ -	\$ 20,035			
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance	12	EA	\$ -	\$ -	\$ 4,580			
1.14	Maintenance and Protection of Traffic on Public Roads	86	EA	\$ -	\$ -	\$ 4,130			
1.15	Gates	4	EA	\$ 2,000					
1.16	Culverts / Misc. Access	8	EA	\$ 750					
1.17	Concrete Washout Station	10	EA	\$ -	\$ -	\$ 1,850		\$ 1,850	
	RING & ACCESS:				\$ 14,000		\$ 19,683,466		\$ 19,697,466
2. FOUNDATIO	ONS								
2.1	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	1	EA	\$ 3,575	\$ 3,575	\$ 24,310	\$ 24,310	\$ 27,885	\$ 27,885
2.2	1-CKT 345KV VERTICAL TANGENT (0°-1°)	1	EA	\$ 2,063	\$ 2,063	\$ 14,025	\$ 14,025	\$ 16,088	\$ 16,088
2.3	2-CKT 115KV/345KV DELTA SMALL ANGLE (1°-15°)	14	EA	\$ 3,163	\$ 44,275	\$ 21,505	\$ 301,070	\$ 24,668	\$ 345,345
2.4	2-CKT 115KV/345KV DELTA TANGENT (0°-1°)	187	EA	\$ 1,925	\$ 359,975	\$ 13,090	\$ 2,447,830	\$ 15,015	\$ 2,807,805
2.5	2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD	4	EA	\$ 2,063	\$ 8,250	\$ 14,025	\$ 56,100	\$ 16,088	\$ 64,350
2.6	2-CKT 115KV/345KV DELTA TANGENT DEADEND (0°-5°)	29	EA	\$ 2,200	\$ 63,800	\$ 14,960	\$ 433,840	\$ 17,160	\$ 497,640
2.7	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	1	EA	\$ 32,046	\$ 32,046	\$ 32,390	\$ 32,390	\$ 64,436	\$ 64,436
2.8	2-CKT 115KV/345KV DELTA MEDIUM ANGLE DEADEND (15°-60°)	7	EA	\$ 45,194	\$ 316,355	\$ 45,678	\$ 319,743	\$ 90,871	\$ 636,097

Item	Item Description	Estimated Quantity	Unit of Measure	Ma	terial Supply Rate	Ma	aterial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.9	Rock Excavation Adder	2,664.0	CY	\$	-	\$	-	\$ 2,000	\$ 5,328,000	\$ 2,000	\$ 5,328,000
2.10											
2.11											
2.12											
TOTAL - FOUN	IDATIONS:					\$	830,338		\$ 8,957,307		\$ 9,787,645
3. STRUCTURI	S						, i				
3.1	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	1	Structure	\$	115,897	\$	115,897	\$ 69,538	\$ 69,538	\$ 185,435	\$ 185,435
3.2	1-CKT 345KV VERTICAL TANGENT (0°-1°)	1	Structure	\$	82,122	\$	82,122	\$ 49,273	\$ 49,273	\$ 131,394	\$ 131,394
3.3	2-CKT 115KV/345KV DELTA SMALL ANGLE (1°-15°)	14	Structure	\$	88,655	\$	1,241,174	\$ 53,193	\$ 744,705	\$ 141,848	\$ 1,985,879
3.4	2-CKT 115KV/345KV DELTA TANGENT (0°-1°)	187	Structure	\$	44,674	\$	8,354,097	\$ 26,805	\$ 5,012,458	\$ 71,479	\$ 13,366,555
3.5	2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD	4	Structure	\$	57,554	\$	230,214	\$ 34,532	\$ 138,128	\$ 92,086	\$ 368,342
3.6	2-CKT 115KV/345KV DELTA TANGENT DEADEND (0°-5°)	29	Structure	\$	67,219	\$	1,949,354	\$ 40,331	\$ 1,169,613	\$ 107,551	\$ 3,118,967
3.7	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	1	Structure	\$	143,312	\$	143,312	\$ 85,987	\$ 85,987	\$ 229,299	\$ 229,299
3.8	2-CKT 115KV/345KV DELTA MEDIUM ANGLE DEADEND (15°-60°)	7	Structure	\$	150,302	\$	1,052,117	\$ 90,181	\$ 631,270	\$ 240,484	\$ 1,683,388
3.9	Remove Existing Foundation	2,084	EA	\$	-	\$	-	\$ 3,250	\$ 6,773,000	\$ 3,250	\$ 6,773,000
3.10	Remove Existing Structure and Accessories	521	EA	\$	-	\$	-	\$ 12,500	\$ 6,512,500	\$ 12,500	\$ 6,512,500
3.11											
3.12	Install Grounding and Grounding Accessories	244	Pole	\$	506	\$	123,464	\$ 5,539	\$ 1,351,394	\$ 6,045	\$ 1,474,858
3.13											
3.14											
3.15				-							
3.16											
3.17	CTURES PRINCTOWN TO NEW SCOTLAND:					\$	13,291,751		\$ 22,537,866		\$ 35,829,617
	R, SHIELDWIRE, OPGW					<u> </u>	13,231,731		22,557,600		33,023,017
4.1	345kV - (1) 477kcmil 26/7 ACSS "Hawk"	1,631,599	LF	\$	1.75	\$	2,855,298	\$ 5.00	\$ 8,157,995	\$ 6.75	\$ 11,013,293
4.2	(1) OPGW 36 Fiber AC-33/38/571	181,289	LF	\$	1.35		244,740				\$ 1,151,185
4.3	(1) 3/8" EHS7 Steel	181,289	LF	\$		_	85,206	\$ 5.00			\$ 991,651
4.5	Remove Existing 115kV Cable From Existing Structures	130.4	Mile	\$		\$	-	\$ 30,000	\$ 3,912,000		\$ 3,912,000
4.6	Remove Existing OPGW Cable and Accessories Remove Existing OHSW and Accessories	32.6 32.6	Mile Mile	\$		\$	-	\$ 12,000 \$ 12,000	\$ 390,600 \$ 390,600	\$ 12,000.00 \$ 12,000.00	\$ 390,600 \$ 390,600
4.7	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	543,866	LF	Ś	1.90	+	1,033,345	\$ 5.00			\$ 3,752,675
4.9	113KV - (1) 334KCHIII 34/1 ACSS Caldillal	343,000	Li	1	1.50	,	1,033,343	3.00	2,713,330	ŷ 0.50	3,732,073
4.10	Rider Poles - Relocated	43	Set	\$	-	\$	-	\$ 3,500	\$ 150,500	\$ 3,500.00	\$ 150,500
4.11	Rider Poles (86 Total)	43	EA	\$	1,750	\$	75,250	\$ 3,500			\$ 225,750
	UCTOR, SHIELDWIRE, OPGW:					\$	4,293,840		\$ 17,684,415		\$ 21,978,255
-	, FITTINGS, HARDWARE										
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	1,035	Assembly	\$	· · · · ·	_	1,863,000				\$ 2,608,200
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	1,025	Assembly	\$		_	,				\$ 1,496,500
5.3 5.4	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	555 252	Assembly	Ś		+	999,000 226,800	\$ 720 \$ 560			\$ 1,398,600 \$ 367,920
5.5	213K4 Dead end & Angle Insulators (1-droup of 3-bells Editi Assembly)	232	Assembly Assembly	+	500	\$	220,800	\$ 360		\$ 1,460	\$ 367,920
5.6	OPGW Assembly - Tangent	207	Assembly	\$	200	<u> </u>	41,400			-	·
5.7	OPGW Assembly - Angle / DE	74	Assembly	\$	250	_	18,500				\$ 29,600
5.8	OHSW Assembly - Tangent	205	Assembly	\$	200	_	41,000				\$ 71,750
5.9	OHSW Assembly - Angle / DE	72	Assembly	\$	250	\$	18,000				\$ 28,800
5.10	OPGW Splice Boxes	12	Set	\$	1,746	\$	20,954	\$ 2,274	\$ 27,288	\$ 4,020	\$ 48,242
5.11	OPGW Splice & Test	12	EA	\$	2,520	\$	30,240	\$ 2,520	\$ 30,240	\$ 5,040	\$ 60,480
5.12	Spacer - Conductor	5,414	EA	\$	50	+	270,700				\$ 460,190
5.13	Vibration Dampers - Conductor	2,878	EA	\$	35	_	100,730				\$ 201,460
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	657	EA	\$	27	\$	17,739	\$ 35	\$ 22,995	\$ 62	\$ 40,734

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
5.14	Guys, Anchors, and Accessories	-	EA	\$	720	\$ -	\$ 885	\$ -	\$ 1,605	\$	-
5.15	Misc. materials (Signs and Markers)	32.3	Mile	\$	770	\$ 24,871	\$ 1,006	\$ 32,494	\$ 1,776	\$	57,365
TOTAL - INSUL	ATORS, FITTINGS, HARDWARE:					\$ 4,595,434		\$ 2,346,857		\$	6,942,291
B. Transi	mission Line Churchtown to Pleasant Valley					\$ 23,025,363		\$ 71,209,911		\$	94,235,274
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS										
	Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	\$	-	\$ -	\$ 942,353	\$ 942,353	\$ 942,353	\$	942,353
	Project Management, Material Handling & Amenities										
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 5,484,634	\$ 5,484,634	\$ 5,484,634	\$	5,484,634
6.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 942,353	\$ 942,353	\$ 942,353	\$	942,353
6.4	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 942,353	\$ 942,353	\$ 942,353	\$	942,353
	Engineering										
6.5	Design Engineering	1	LS	\$	-	\$ -	\$ 4,711,764	\$ 4,711,764	\$ 4,711,764	\$	4,711,764
6.6	Lidar	1	LS	\$	-	\$ -	\$ 282,706	\$ 282,706	\$ 282,706	\$	282,706
6.7	Geotech	33	Location	\$	-	\$ -	\$ 3,500	\$ 115,500	\$ 3,500	\$	115,500
6.8	Surveying/Staking	1	LS	\$	-	\$ -	\$ 659,647	\$ 659,647	\$ 659,647	\$	659,647
	Testing & Commissioning										
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 40,000	\$ 40,000	\$ 40,000	\$	40,000
	Permitting and Additional Costs										
	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 282,706		\$ 282,706	_	282,706
6.13	Real Estate Costs (New ROW)	1	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$	-	\$ -	\$ 5,127,000	, , ,	\$ 5,127,000		5,127,000
6.15	Legal Fees	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.17		-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
	Sales Tax on Materials	1	LS	\$	1,842,029	\$ 1,842,029		\$ -	\$ 1,842,029		1,842,029
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ -	\$ 94,235	. ,	\$ 94,235	_	94,235
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,842,029		\$ 19,625,250		\$	21,467,279

Page 8 of 60

NAT - NYPA - T030 - (Segment B Enhanced)

C. Blue Stores Junction to Blue Stores Substation

Estimate Revision: 5 Total: \$ 5,730,815

NAT - NYPA - T030 - (Segment B Enha	anced)			
		Supply	Installation	Total
C. Blue Stores Junction to Blue Stores Substation				
1. CLEARING & ACCESS	\$	-	\$ 1,404,512	\$ 1,404,512
2. FOUNDATIONS	\$	236,848	\$ 925,954	\$ 1,162,802
3. STRUCTURES	\$	596,484	\$ 946,665	\$ 1,543,149
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	84,763	\$ 387,095	\$ 471,858
5. INSULATORS, FITTINGS, HARDWARE	\$	107,544	\$ 56,496	\$ 164,040
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	82,051	\$ 902,403	\$ 984,454
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	1,107,690	\$ 4,623,125	\$ 5,730,815
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	1,107,690	\$ 4,623,125	\$ 5,730,815

escription of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
C. Blue S	tores Junction to Blue Stores Substation								
1. CLEARING 8									
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	4.0	Acre	\$ -	\$ -	\$ 5,000			· ·
1.3	Permanent Access Road	2,218	LF	\$ -	\$ -	\$ 45			\$ 99,792
1.4	Silt Fence	11,088.0	LF	\$ -	\$ -	\$ 4			\$ 44,352
1.5	Matting - Access and ROW	8,870	LF	\$ -	7	\$ 70			
1.6	Matting - To Work Area	1,800.0	LF	\$ -	'	\$ 70			
1.7	Snow Removal	2.1	Mile	\$ -	\$ -	\$ 16,000			
1.8	ROW Restoration	2.1	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	120,000.0	SF	\$ -	\$ -	\$ 4			\$ 422,400
1.10	Restoration for Work Pad areas	24,000.0	SF	\$ -	\$ -	\$ 0.2			\$ 3,600
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035		\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance	1		\$ -	\$ -	\$ 4,580			
1.14	Maintenance and Protection of Traffic on Public Roads	2		\$ -	\$ -	\$ 4,130			
1.15	Gates	-	EA	\$ 2,000		\$ 2,500		7 .,	
1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250		\$ 2,000	
1.17	Concrete Washout Station	-	EA	\$ -	\$ -	\$ 1,850		\$ 1,850	\$ -
	ING & ACCESS:				\$ -		\$ 1,404,512		\$ 1,404,512
2. FOUNDATIO	NS .								
2.1	Drilled Pier - 115kV Single Circuit H- Pole Angle/ DE	6	EA	\$ 31,225	\$ 187,348	\$ 31,559	\$ 189,354	\$ 62,784	\$ 376,702
2.2	Direct Embed - 115kV Single Circuit H- Pole Tangent	18	EA	\$ 2,750	\$ 49,500	\$ 18,700	\$ 336,600	\$ 21,450	\$ 386,100
2.3	Rock Excavation Adder	200	СУ	\$ -	\$ -	\$ 2,000	\$ 400,000	\$ 2,000	\$ 400,000
2.4									
2.5									
2.6									
2.7									
2.8									
2.9									
2.10									
2.11									
2.12									
2.13									
2.14									
2.15									
	·			•	•				D 0 C(0

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
TOTAL - FOUND					\$ 236,848		\$ 925,954		\$ 1,162,802
3. STRUCTURES									
	115kV Single Circuit H- Pole Angle/ DE	6	Structure	\$ 39,822	\$ 238,929		\$ 143,358		
3.2	115kV Single Circuit H- Pole Tangent	18	Structure	\$ 18,515	\$ 333,266	\$ 11,109	\$ 199,960	\$ 29,624	\$ 533,226
3.3	Remove Existing Foundation	-	EA	\$ -	\$ -	\$ 7,500	\$ -	\$ 7,500	\$ -
	Remove Existing Structure and Accessories	27	EA	\$ -	\$ -	\$ 12,500	\$ 337,500	\$ 12,500	\$ 337,500
3.5									
	Install Grounding and Grounding Accessories	48	Pole	\$ 506	\$ 24,288	\$ 5,539	\$ 265,848	\$ 6,045	\$ 290,136
3.7									
3.9									
3.10									
3.11									
3.12									
3.13									
3.14									
3.15									
TOTAL - STRUCT					\$ 596,484		\$ 946,665		\$ 1,543,149
	, SHIELDWIRE, OPGW PARIM (1) OF Alcomil E A / 7 A CSS "Condinal"		15	ė	ć	ė roo	ė	ć F00	ć
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571	-	LF LF	\$ -	·	\$ 5.00 \$ 5.00		-	\$ - \$ -
4.3	(1) 3/8" EHS7 Steel	-	LF	\$ -		\$ 5.00			\$ -
	115kV - (1) 795kcmil 26/7 ACSR "Drake"	34,927.0	LF	\$ 1.72	·			-	•
4.5	(1) OPGW 36 Fiber AC-33/38/571	11,642.0	LF	\$ 1.35					\$ 73,927
4.6	(1) 3/8" EHS7 Steel	11,642.0	LF	\$ 0.47	\$ 5,472	\$ 5.00	\$ 58,210	\$ 5.47	\$ 63,682
	Remove Existing Cable	2.1	Mile	\$ 0.47		\$ 30,000	\$ 63,600	\$ 30,000.00	\$ 63,600
4.8	Remove Existing OPGW Cable and Accessories	-	Mile	\$ -	·	\$ 12,000	\$ -		\$ -
4.9	Remove Existing OHSW and Accessories	2.1	Mile	\$ -		\$ 12,000	\$ 25,440		\$ 25,440
4.10		-							
4.11		-							
4.12	Rider Poles (Locations)	2.0	EA	\$ 1,750	\$ 3,500	\$ 3,500	\$ 7,000	\$ 5,250.00	\$ 10,500
4.13									
TOTAL - CONDU	ICTOR, SHIELDWIRE, OPGW:				\$ 84,763		\$ 387,095		\$ 471,858
	FITTINGS, HARDWARE								
	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720			\$ -
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	54	Assembly	\$ 900	\$ 48,600	\$ 360	\$ 19,440	\$ 1,260	\$ 68,040
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	36	Assembly	\$ 900	\$ 32,400	\$ 360	\$ 12,960	\$ 1,260	\$ 45,360
5.5			Assembly		\$ -		\$ -	\$ -	\$ -
5.6	OPGW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
5.7	OPGW Assembly - Angle / DE	12	Assembly	\$ 250	\$ 3,000	\$ 150	\$ 1,800	\$ 400	\$ 4,800
5.8	OHSW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
	OHSW Assembly - Tangent OHSW Assembly - Angle / DE	12	Assembly	\$ 250					\$ 4,800
	OPGW Splice Boxes	2	Set				\$ 4,548	 	\$ 8,040
	OPGW Splice & Test	2	EA		·				\$ 10,080
	Spacer - Conductor	-	EA		\$ 3,040	\$ 2,320		\$ 3,040	\$ -
	Vibration Dampers - Conductor	72	EA		\$ 2,520				\$ 5,040
	Shieldwire / OPGW Dampers, Misc. Fittings	25	EA	\$ 27			+		
	Guys, Anchors, and Accessories	-	EA	\$ 720		\$ 885		\$ 1,605	
	Misc. materials (Signs and Markers)	2.1	Mile	\$ 770					
5.17	and the second s	2.1			. 1,317	. 2,300	. 2,113	2,770	. 5,,,50
TOTAL - INSULA	TORS, FITTINGS, HARDWARE:				\$ 107,544		\$ 56,496		\$ 164,040
	ores Junction to Blue Stores Substation				\$ 1,025,639		\$ 3,720,722		\$ 4,746,361
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 276,245	\$ 276,245	\$ 276,245	\$ 276,245
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 237,318	\$ 237,318	\$ 237,318	\$ 237,318
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 14,239	\$ 14,239	\$ 14,239	\$ 14,239
6.7	Geotech	2	Location	\$ -	\$ -	\$ 3,500	\$ 7,000	\$ 3,500	\$ 7,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 33,225	\$ 33,225	\$ 33,225	\$ 33,225
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	,	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 14,239	\$ 14,239	\$ 14,239	\$ 14,239
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 153,000	\$ 153,000	\$ 153,000	\$ 153,000
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 82,051	\$ 82,051		\$ -	\$ 82,051	\$ 82,051
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 4,746		\$ 4,746	
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 82,051		\$ 902,403		\$ 984,454

Page 11 of 60 C. TL BS Junc.-Blue Stores SS

NAT - NYPA - T030 - (Segment B Enhanced)

D. Knickerbocker 345kV Substation - Install

Estimate Revision: 5 Total: \$ 18,891,529

NAT - NYPA - T030 - (Segmen	it B Enh	anced)		
		Supply	Installation	Total
D. Knickerbocker 345kV Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	277,200	\$ 1,745,500	\$ 2,022,700
2. SUBSTATION FOUNDATIONS	\$	1,467,421	\$ 1,581,150	\$ 3,048,571
3. SUBSTATION STRUCTURES	\$	710,400	\$ 710,400	\$ 1,420,800
4. MAJOR EQUIPTMENT	\$	600,000	\$ 240,000	\$ 840,000
5. SMALL EQUIPTMENT / MATERIALS	\$	1,191,500	\$ 542,000	\$ 1,733,500
6. CONTROL HOUSE / PANELS	\$	1,678,925	\$ 1,232,275	\$ 2,911,200
7. MISC ITEMS	\$	1,114,327	\$ 1,890,902	\$ 3,005,229
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	563,182	\$ 3,346,347	\$ 3,909,529
CONTRACTOR MARK-UP (OH&P)	\$		\$ -	\$ -
SUBTOTAL:	\$	7,602,955	\$ 11,288,574	\$ 18,891,529
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	7,602,955	\$ 11,288,574	\$ 18,891,529

Description of Work:

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply I	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
D. Knick	erbocker 345kV Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	4.75	ACRES	\$	-	\$ -	\$ 230,000	\$ 1,092,500	\$ 230,000	\$ 1,092,500
1.2	Station stone within substation fence.	2,100	CY	\$	27	\$ 56,700	\$ 75	\$ 157,500	\$ 102	\$ 214,200
1.3	Substation Fence	1,820	LF	\$	100	\$ 182,000	\$ 100	\$ 182,000	\$ 200	\$ 364,000
1.4										
1.5										
1.6	Permanent Access Road - 20'-Wide	1,100	LF	\$	35	\$ 38,500	\$ 285	\$ 313,500	\$ 320	\$ 352,000
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 277,200		\$ 1,745,500		\$ 2,022,700
2. SUBSTATIO	N FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	3	EA	\$ 14	,940	\$ 44,820	\$ 16,000	\$ 48,000	\$ 30,940	\$ 92,820
2.1b	Capacitor Bank Foundations	0	EA	\$ 56	,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$ 26	,145	\$ 104,580	\$ 28,000	\$ 112,000	\$ 54,145	\$ 216,580
2.1d	Caisson DE Foundations (for DE A frame str shared column)	6	EA	\$ 26	,145	\$ 156,870	\$ 28,000	\$ 168,000	\$ 54,145	\$ 324,870
2.1e	Switch Stand Foundations	96	EA	\$ 4	,482	\$ 430,272	\$ 4,800	\$ 460,800	\$ 9,282	\$ 891,072
2.1f	Station Service Transformer Stand Foundation	4	EA	\$ 4	,482	\$ 17,928	\$ 4,800	\$ 19,200	\$ 9,282	\$ 37,128
2.1g	Bus Support 3ph Foundations	0	EA	\$		\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	63	EA	\$ 4	,482	\$ 282,366	\$ 4,800	\$ 302,400	\$ 9,282	\$ 584,766
2.1j	Instrument Transformer Stand Foundations	27	EA	\$ 4	,482	\$ 121,014	\$ 4,800	\$ 129,600	\$ 9,282	\$ 250,614
2.1k	Arrester Stand Foundations	9	EA	\$ 4	,482	\$ 40,338	\$ 4,800	\$ 43,200	\$ 9,282	\$ 83,538
2.1m	Wave Trap Stand Foundations	3	EA	\$ 4	,482	\$ 13,446	\$ 4,800	\$ 14,400	\$ 9,282	\$ 27,846
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.1p	Reactor Foundations	0	EA	\$ 7,470	\$ -	\$ 8,000	\$ -	\$ 15,470	\$ -
2.1q									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	8	EA	\$ 16,434	\$ 131,472	\$ 17,600	\$ 140,800	\$ 34,034	\$ 272,272
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3h	Bus Support 1 Ph Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3j	Instrument Transformer Stand Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3k	Arrester Stand Foundations	6	EA	\$ 2,988	\$ 17,928	\$ 3,200	\$ 19,200	\$ 6,188	\$ 37,128
2.3m	Wave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ 33,615	\$ 33,615	\$ 36,000	\$ 36,000	\$ 69,615	\$ 69,615
2.5b	Generator Foundation	1	EA	\$ 16,000	\$ 16,000	\$ 17,000	\$ 17,000	\$ 33,000	\$ 33,000
2.5c	Station Service Distributuion Line - 3ph.	1	LS	\$ -	\$ -	\$ 9,750	\$ 9,750	\$ 9,750	\$ 9,750
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	4	EA	\$ 5,229	\$ 20,916	\$ 5,600	\$ 22,400	\$ 10,829	\$ 43,316
2.6b				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c	_			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBS	TATION FOUNDATIONS				\$ 1,467,421		\$ 1,581,150		\$ 3,048,571
	N STRUCTURES								
3.1	345kV								

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rat	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.1a	Substation A-Frame Structures - Stand alone	1	EA	\$ 37,00	37,000	\$ 37,000	\$ 37,000	\$ 74,000	\$ 74,000
3.1b	Substation A-Frame Structures - Shared Column	2	EA	\$ 37,00	0 \$ 74,000	\$ 37,000	\$ 74,000	\$ 74,000	\$ 148,000
3.1c	Switch Stands	16	EA	\$ 14,80	3 \$ 236,800	\$ 14,800	\$ 236,800	\$ 29,600	\$ 473,600
3.1d	Station Service Transformer Stand	1	EA	\$ 14,80	0 \$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600	\$ 29,600
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	63	EA	\$ 3,70	3 \$ 233,100	\$ 3,700	\$ 233,100	\$ 7,400	\$ 466,200
3.1g	Instrument Transformer Stand	27	EA	\$ 1,85	9,950	\$ 1,850	\$ 49,950	\$ 3,700	\$ 99,900
3.1h	Arrester Stand	9	EA	\$ 1,85) \$ 16,650	\$ 1,850	\$ 16,650	\$ 3,700	\$ 33,300
3.1j	Wave Trap Stand	3	EA	\$ 7,40	22,200	\$ 7,400	\$ 22,200	\$ 14,800	\$ 44,400
3.1k	Misc. Structures	4	EA	\$ 6,47	5 \$ 25,900	\$ 6,475	\$ 25,900	\$ 12,950	\$ 51,800
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ 33,30) \$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$ 33,30	0 \$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2c	Switch Stands	0	EA	\$ 12,02	5 \$ -	\$ 12,025		\$ 24,050	\$ -
3.2d	Station Service Transformer Stand	0	EA	\$ 12,02	5 \$ -	\$ 12,025	\$ -	\$ 24,050	\$ -
3.2e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2f	Bus Support 1 Ph	0	EA	\$ 2,77	5 \$ -	\$ 2,775	\$ -	\$ 5,550	\$ -
3.2g	Instrument Transformer Stand	0	EA	\$ 1,29	5 \$ -	\$ 1,295	\$ -	\$ 2,590	\$ -
3.2h	Arrester Stand	0	EA	\$ 1,29	5 \$ -	\$ 1,295	\$ -	\$ 2,590	\$ -
3.2j	Wave Trap Stand	0	EA	\$ 5,55	o \$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
3.2k	Misc. Structures	0	EA	\$ 6,47		\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,50	o \$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,50	o \$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	0	EA	\$ 7,95		\$ 7,955	\$ -	\$ 15,910	\$ -
3.3d	Fuse Stand	0	EA	\$ 7,95	5 \$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3e	Bus Support 3ph	0	EA	\$ 3,33	+	\$ 3,330	\$ -	\$ 6,660	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ 1,85		\$ 1,850			\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ 74	_	\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0	EA	\$ 74		\$ 740	\$ -	\$ 1,480	\$ -
3.3j	Wave Trap Stand	0	EA	\$ 3,70	0 \$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$ 6,47	5 \$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
		-						,	
TOTAL - SUBS	TATION STRUCTURES				\$ 710,400		\$ 710,400		\$ 1,420,800
4. MAJOR EQU					710,100		Ţ 710,100		2,120,000
4.1	345kV								
4.1a	Circuit Breakers	3	EA	\$ 200,00	5 \$ 600,000	\$ 80,000	\$ 240,000	\$ 280,000	\$ 840,000
4.1b	Capacitor Banks with Reactors	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA			\$ 750,000	\$ -	\$ 750,000	\$ -
4.1e		-				,,,,,,			
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ 115,00	o \$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.2b	Capacitor Banks	0	EA	\$ -		\$ 80,000		\$ 80,000	
		-				1,111		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	115kV								
4.3									
4.3 4.3a	Circuit Breakers	0	EA	\$ 52,00	o \$ -	\$ 60,000	\$ -	\$ 112,000	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
TOTAL BANK	OR FOUNDTMENT				\$ 600,000		\$ 340,000		<u> </u>	040.000
	DR EQUIPTMENT				\$ 600,000		\$ 240,000		\$	840,000
	JIPTMENT / MATERIALS 345kV									
5.1		2	F.A.	\$ 40,000	\$ 120,000	\$ 15.000	\$ 45,000	\$ 55.000		165.000
5.1a 5.1b	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	3 9	EA EA	\$ 40,000 \$ 35,000	\$ 120,000 \$ 315,000	\$ 15,000 \$ 17,500	\$ 45,000 \$ 157,500	\$ 55,000 \$ 52,500	\$	165,000 472,500
	VT'S	9	EA					,	· .	
5.1c 5.1d	CT'S	9	EA	\$ 25,000 \$ 13,000	\$ 225,000 \$ 117,000		\$ 108,000 \$ 72,000	\$ 37,000 \$ 21,000	\$	333,000 189,000
		9	EA	\$ 13,000	\$ 117,000		\$ 72,000	\$ 21,000	Ś	
5.1e	CCVT'S	9		7,			· · · · · · · · · · · · · · · · · · ·	,		189,000
5.1f	Arresters	3	EA EA	,	\$ 58,500	\$ 1,500	\$ 13,500 \$ 24,000	,	\$	72,000
5.1g	Wave Traps			,	\$ 39,000	\$ 8,000	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,	· .	63,000
5.1h 5.1j	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000	\$ 50,000	\$ 50,000	\$ 250,000	\$	250,000
5.1,										
5.2	230kV									
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$	-
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,000	\$ -	\$ 17,500	\$ -	\$ 47,500	\$	-
5.2c	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	-
5.2d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	-
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -	\$ 6,000	\$ -	\$ 16,000	\$	-
5.2f	Arresters	0	EA	\$ 5,000	\$ -	\$ 6,000	\$ -	\$ 11,000	\$	-
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$	
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	
5.2j										
	and the second s									
5.3	115kV		F.A.	ć 22.000	¢.	ć 45.000	ć	¢ 40,000		
5.3a	Line Switches - 3ph w/ motor operator	0	EA EA	\$ 33,000 \$ 28,000	\$ - \$ -	\$ 15,000 \$ 17,500	\$ -	\$ 48,000 \$ 45,500	\$	-
5.3b	Disconnect Switches - 3ph w/ manual operator VT'S	0	EA	\$ 28,000 \$ 13,000	\$ - \$ -	-	\$ - \$ -	\$ 43,300	<u> </u>	-
5.3c 5.3d	CT'S	0	EA	\$ 13,000	\$ - \$ -	\$ 8,000 \$ 8,000	\$ - \$ -	\$ 21,000	Ś	
5.3e	CCVT'S	0	EA	\$ 13,000	\$ - \$ -	\$ 8,000	\$ -	\$ 21,000	, ,	
5.3f		0	EA	\$ 3,420	\$ -		\$ -	,	\$	
5.3g	Arresters Wave Traps	0	EA	\$ 3,420	\$ - \$ -	\$ 6,000	\$ -	\$ 9,420 \$ -	\$	-
5.3h		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	Ś	-
5.3j	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	
5.3]	Fuses	0	EA	, -	- -	ş -	-	÷ -	,	
TOTAL - SMAL	LL EQUIPTMENT / MATERIALS				\$ 1,191,500		\$ 542,000		\$	1,733,500
	HOUSE / PANELS / GENERATOR				7 2,222,232		7 0.2,000		7	2): 30):33
6.1	CONTROL HOUSE	1	EA	\$ 286,650	\$ 286,650	\$ 85,000	\$ 85,000	\$ 371,650	\$	371,650
6.2	Protection and Telecom Equipment Panels	15	EA	\$ 35,000	\$ 525,000	\$ 10,000	\$ 150,000	\$ 45,000	\$	675,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$	200,000
6.4	Control Cables	1	LS	\$ 352,275	\$ 352,275	\$ 352,275	\$ 352,275	\$ 704,550	\$	704,550
6.5	SCADA and Communications	1	EA	\$ 50,000	\$ 50,000			\$ 150,000		150,000
6.6	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$	300,000
6.7	DC Distribution System	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$	300,000
6.8	Security	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	\$	15,000
		1		1			4 7.500	45.000	<u>,</u>	15,000
6.9	Fire Alarm	1	EA	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	\$ 15,000	>	13,000
	Fire Alarm Generator	1	EA EA	\$ 7,500 \$ 100,000	\$ 7,500		\$ 7,500	\$ 15,000		180,000

Item	Item Description	Estimated Quantity	Unit of Measure	Material :	Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
	OL HOUSE / PANELS / GENERATOR					\$ 1,678,925		\$ 1,232,275		\$	2,911,200
7. MISC ITEMS 7.1	Conduit & Cable Trench System	1,200.0	LF	\$	185.00	\$ 222,000	\$ 170.00	\$ 204,000	\$ 355	\$	426,000
	Rigid Bus, Fittings & Insulators	3,000.0	LF	Ś	125.07	\$ 375,210	\$ 237.10	\$ 711,300	\$ 362	\$	1,086,510
	Strain Bus, Connectors & Insulators	0.0	LF	Ś		\$ -	\$ 53.35			\$	-,,
	Grounding System	16,900.0	LF	Ś		\$ 117,117			\$ 40		667,719
		·		<u> </u>		,				1	
7.5	Strain Bus Insulators - 345kV	0	EA	\$	2,000	\$ -	\$ 1,050		\$ 3,050	+	-
	Strain Bus Insulators - 230kV	0	EA .	\$	1,400		\$ 750		\$ 2,150	_	-
	Strain Bus Insulators - 115kV	0	EA	\$	1,000	\$ -	\$ 550		\$ 1,550	_	
	Low Voltage AC Station Service	1	LS	\$	50,000				\$ 125,000	+	125,000
	SSVT Service	1	LS	\$	45,000	\$ 45,000	\$ 45,000		\$ 90,000	_	90,000
7.10	Control Conduits from Trench to Equipment	1	LS	\$	125,000	\$ 125,000	\$ 125,000		\$ 250,000	+	250,000
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$	180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$	360,000
7.12											
7.13											
7.14											
7.15											
7.16											
7.17											
7.18											
7.19											
7.20											
7.21											
7.22											
7.23											
7.24											
7.25											
TOTAL - MISC	TEMS					\$ 1,114,327		\$ 1,890,902		\$	3,005,229
D. Knicke	rbocker 345kV Substation - Install					\$ 7,039,773		\$ 7,942,227		\$	14,982,000
8. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
8.1	Mob / Demob	1.0	LS	\$	-	\$ -	\$ 149,820	\$ 149,820	\$ 149,820	\$	149,820
	Project Management, Material Handling & Amenities										
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 871,975	\$ 871,975	\$ 871,975	\$	871,975
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 149,820	\$ 149,820	\$ 149,820	\$	149,820
	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 149,820		\$ 149,820	+	149,820
	Engineering	1	LJ	7	-	-	7 143,020	7 143,020	7 145,820	+	143,020
	Design Engineering	1	LS	Ś	_	\$ -	\$ 1,198,560	\$ 1,198,560	\$ 1,198,560	\$	1,198,560
	LiDAR		Mile	\$		\$ -	\$ 1,198,360	\$ 1,198,560	\$ 1,198,560	\$	1,190,500
	Geotech	2	EA	\$		\$ -	\$ 3,500	<u> </u>		+ -	7,000
	Surveying/Staking	1	Site	\$	-	\$ -	\$ 3,500				104,874
	Testing & Commissioning	1	Site	۶	-	-	104,874	7 104,874	پ 104,874	+	104,874
		1	1.5	\$		\$ -	\$ 374,550	¢ 274.550	\$ 374,550		274 550
	Testing & Commissioning of T-Line and Equipment	1	LS	13	-	\$ -	φ 3/4,550	\$ 374,550	φ 3/4,550	+	374,550
	Permitting and Additional Costs		1.5	-		¢.	Ć.			-	
	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
	Environmental Mitigation	-	LS	\$		\$ -	\$ -	\$ -	\$ -	\$	-
8.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 44,946	\$ 44,946	\$ 44,946	Ş	44,946

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.13	Real Estate Costs (New)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -	\$ 280,000	\$ 280,000	\$ 280,000	\$ 280,000
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 563,182	\$ 563,182	\$ -	\$ -	\$ 563,182	\$ 563,182
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 14,982	\$ 14,982	\$ 14,982	\$ 14,982
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 563,182		\$ 3,346,347		\$ 3,909,529

Page 17 of 60

D. SS Knickerbocker - Install

NAT - NYPA - T030 - (Segment B Enhanced) Total: \$ 71,678

NAT - NYPA - T030 - (Segmen	gment B Enhanced)								
	Supply		Installation		Total				
E. Greenbush Substation - Removal									
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$ -	\$	-				
2. SUBSTATION FOUNDATIONS	\$		\$ 12,000	\$	12,000				
3. SUBSTATION STRUCTURES	\$	-	\$ -	\$	-				
4. MAJOR EQUIPTMENT	\$		\$ 7,000	\$	7,000				
5. SMALL EQUIPTMENT / MATERIALS	\$		\$ 35,000	\$	35,000				
6. CONTROL HOUSE / PANELS	\$	-	\$ 7,200	\$	7,200				
7. MISC ITEMS	\$		\$ -	\$	-				
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$		\$ 10,478	\$	10,478				
CONTRACTOR MARK-UP (OH&P)	\$		\$ -	\$	-				
SUBTOTAL:	\$	-	\$ 71,678	\$	71,678				
CONTINGENCY ON ENTIRE PROJECT	\$		\$ -	\$	-				
TOTAL:	\$	-	\$ 71,678	\$	71,678				

Description of Work:	

Estimate Revision:

5

E. Greenbush Substation - Removal 1. SITE PREP/ GRADING/ FENCING / CIVIL 1.1 Site Works including clearing, sediment controls, rough gradients of the station stone within substation fence. 1.3 Substation Fence 1.4 1.5 1.6 1.7 1.8 1.9 1.10	ding, and final grading.	0 0 0	ACRES									
1.1 Site Works including clearing, sediment controls, rough gra 1.2 Station stone within substation fence. 1.3 Substation Fence 1.4 1.5 1.6 1.7 1.8 1.9	ding, and final grading.	0										
1.2 Station stone within substation fence. 1.3 Substation Fence 1.4 1.5 1.6 1.7 1.8 1.9	ding, and final grading.	0										
1.3 Substation Fence 1.4 1.5 1.6 1.7 1.8 1.9				\$ -	\$	-	\$ 203,000	\$ -	\$	203,000		-
1.4 1.5 1.6 1.7 1.8 1.9		^	CY	\$ -	\$	-	\$ 75	\$ -	\$	75	\$	-
1.5 1.6 1.7 1.8 1.9		U	LF	\$ -	\$	-	\$ 150	\$ -	\$	150	\$	-
1.6 1.7 1.8 1.9												
1.7 1.8 1.9												
1.8 1.9												
1.9												
1.10												
1.10												
1.11												
1.12												
1.13												
1.14												
1.15												
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$	-		\$ -			\$	-
2. SUBSTATION FOUNDATIONS												
2.1 345kV												
2.1a Circuit Breaker Foundations		0	EA	\$ -	\$	-	\$ 14,200	\$ -	\$	14,200	\$	
2.1b Capacitor Bank Foundations		0	EA	\$ -	\$	-	\$ -	\$ -	\$	-	\$	-
2.1c Caisson DE Foundations (for DE A frame str stand alone)		0	EA	\$ -	\$	-	\$ -	\$ -	\$	-	\$	-
2.1d Caisson DE Foundations (for DE A frame str shared colur	nn)	0	EA	\$ -	\$	-	\$ -	\$ -	\$	-	\$	-
2.1e Switch Stand Foundations	,	0	EA	\$ -	\$	-	\$ -	\$ -	\$	-	\$	-
2.1f Station Service Transformer Stand Foundation		0	EA	\$ -	Ś	-	\$ -	\$ -	Ś	-	Ś	-
2.1g Bus Support 3ph Foundations		0	EA	\$ -	\$	-	\$ -	\$ -	\$	-	\$	
2.1h Bus Support 1 Ph Foundations		0	EA	\$ -	Ś	-	\$ 2,400	\$ -	Ś	2,400	Ś	-
2.1j Instrument Transformer Stand Foundations		0	EA	\$ -	\$	-	\$ -	\$ -	\$	-	\$	-
2.1k Arrester Stand Foundations		0	EA	\$ -	Ś	-	\$ -	\$ -	Ś	-	Ś	-
2.1m Wave Trap Stand Foundations		0	EA	\$ -	\$	-	\$ -	\$ -	\$	-	\$	-
2.1n Misc. Structure Foundations		0	EA	\$ -	\$	-	\$ -	\$ -	Ś	-	Ś	-
2.1p				•								
·												
2.2 230kV												
2.2a Circuit Breaker Foundations		0	EA	\$ -	\$	-	\$ 7,200	\$ -	\$	7,200	\$	-
2.2b Capacitor Bank Foundations		0	EA	\$ -	\$	-	\$ 32,000	\$ -	\$	32,000	\$	-
2.2c Caisson DE Foundations (for DE A frame str stand alone)		0	EA	\$ -	\$	-	\$ 22,000	\$ -	\$	22,000	\$	-
2.2d Caisson DE Foundations (for DE A frame str shared colur	nn)	0	EA	\$ -	\$	-	\$ 11,000	\$ -	\$	11,000	\$	-
2.2e Switch Stand Foundations		0	EA	\$ -	\$	-	\$ 5,200	\$ -	\$	5,200	\$	-
2.2f Station Service Transformer Stand Foundation		0	EA	\$ -	\$	-	\$ -	\$ -	\$	-	\$	-
2.2g Bus Support 3ph Foundations		0	EA	\$ -	\$	-	\$ -	\$ -	\$	-	\$	-
2.2h Bus Support 1 Ph Foundations		0	EA	\$ -	Ś	-	\$ 2,400	¢ -	Ś	2,400	Ś	-

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	'	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.2	aarlar								
2.3 2.3a	115kV Circuit Breaker Foundations	1	EA	\$ -	\$ -	\$ 7,200	\$ 7,200	\$ 7,200	\$ 7,200
2.3a 2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 7,200		\$ 7,200	\$ 7,200
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	Š -		\$ -	\$ -
2.3e	Switch Stand Foundations	0		\$ -	\$ -	\$ 5,200	'	\$ 5,200	
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	2	EA	\$ -	\$ -	\$ 2,400	\$ 4,800	\$ 2,400	\$ 4,800
2.3k	Arrester Stand Foundations	0		\$ -	\$ -	\$ -		\$ -	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
2.3n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	•	\$ -	\$ -
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations							•	
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0		\$ -	\$ -	\$ -		\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0		\$ -	\$ -	\$ 42,000		\$ 42,000	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
2.55	Contract Foundation			<u> </u>	<u> </u>	<u> </u>	Ť	Ÿ	Ť
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TATION FOUNDATIONS				\$ -		\$ 12,000		\$ 12,000
	N STRUCTURES								
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	'	\$ -	\$ -
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	•	\$ -	\$ -
3.1d	Station Service Transformer Stand	0	EA	\$ -	\$ -	\$ -		\$ -	\$ - \$ -
3.1e 3.1f	Bus Support 3ph Bus Support 1 Ph	0	EA EA	\$ -	\$ - \$ -	\$ -		\$ - \$ 2,250	\$ - \$ -
3.1g	Instrument Transformer Stand	0		\$ -	\$ -	\$ 2,230		\$ 2,250	\$ -
3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	· .	\$ -	\$ -
3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -		\$ -	\$ -
3.1k	Misc. Structures	0		\$ -	\$ -	\$ -		\$ -	\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -			\$ 27,000	
3.2c	Switch Stands	0		\$ -		\$ 9,750		\$ 9,750	
	Station Service Transformer Stand	0		\$ -	\$ -			\$ -	
3.2e	Bus Support 3ph	0		\$ -	\$ -			\$ -	
3.2f	Bus Support 1 Ph	0		\$ -	\$ -			\$ 2,250	
3.2g	Instrument Transformer Stand	0		\$ -	\$ -			\$ 1,050	
3.2h	Arrester Stand	0		\$ -		\$ 1,050		\$ 1,050	
3.2j 3.2k	Wave Trap Stand	0		\$ -	\$ -			\$ 4,500	\$ - \$ -
3.2K	Misc. Structures	0	EA	, -	, -	\$ -	\$ -	\$ -	, -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
3.30	Statistics State State and a s		LA.	1 *	, ·	2 13,000	-	2 15,000	Page 10 of 60

ltem	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3b	Substation A-Frame Structures - Shared Column	0		\$ -	\$ -	\$ -	\$ -		\$ -
3.3c	Switch Stands	0	EA	\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TATION CERUITA						4		4
	TATION STRUCTURES				\$ -		\$ -		\$ -
4. MAJOR EQU									
4.1	345kV	0	EA.	\$ -	\$ -	\$ -	\$ -	\$ -	^
4.1a 4.1b	Circuit Breakers	0	EA EA	-	7	-			\$ - \$ -
4.1b 4.1c	Capacitor Banks	0	EA	\$ -				\$ - \$ -	\$ -
4.1c 4.1d			ĽA	\$ -	\$ -	\$ -	\$ -	\$ -	-
4.10	230kV								
4.2a	Circuit Breakers	0	EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
4.2a 4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	
7.20	Capacitor Sanita	0			· ·	7 42,000	Y	42,000	-
4.3	115kV								
4.3a	Circuit Breakers	1	EA	\$ -	\$ -	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Capacitor Barins		2,	,	,	,	Ŷ	· ·	*
TOTAL - MAJO	R EQUIPTMENT				\$ -		\$ 7,000		\$ 7,000
	PTMENT / MATERIALS				,		,,,,,,		7 1,000
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -		\$ -	\$ 5,500	
5.1c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Arresters	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.1g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0		\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -		\$ -	\$ 5,500	
5.2c	VT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.2f	Arresters Mayor Trans	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	
5.2g	Wave Traps	0	EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ -	\$ -		\$ -	\$ 5,500	
5.3c	VT'S	0	EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.3d	CT'S	0	EA	\$ -	š -	\$ -	\$ -	\$ -	\$ -
5.3e	CCVT'S	2	EA	\$ -	·	\$ 17,500			•
	Arresters	0		\$ -	\$ -			\$ 1,500	
	Wave Traps	0		\$ -	\$ -		\$ -		\$ -
	Station Service Transformers	0		\$ -	\$ -		\$ -		\$ -
	Fuses	0		\$ -			\$ -		\$ -
,,				·	1				
TOTAL - SMAL	L EQUIPTMENT / MATERIALS				\$ -		\$ 35,000		\$ 35,000
	OUSE / PANELS / GENERATOR						22,200		22,200
	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
	·		•	•					

EMOB/DEMOS, ENCINEERING, PRAINTING, T&C, PM & INDIRECTS:	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
4	6.2	Protection and Telecom Equipment Panels	2	EA	\$ -	\$ -	\$ 3,600	\$ 7,200	\$ 3,600	\$ 7,200
SCADA and Communications	6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.0 Cent Violage AC Destrotion	6.4	Control Cables	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Contribution Solven	6.5	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6 Security	6.6	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Solid Pink Alame	6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Contraction Contraction	6.8	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL-COMPOUNDUS / FANTEX / GENERATOR	6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL-CONTOL HOUSE / PANES / GENERATOR			0	EA		\$ -	\$ -	Ś -	\$ -	\$ -
Total Tota										·
Total Tota	TOTAL - CONTR	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ 7,200		\$ 7,200
7.1 Conduit & Cable French System								, , , , ,		, , , , ,
7.2 Rigid Bus Pittings & Hosilators		Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000,00	\$ -	\$ 42,000	\$ -
7.7 Strain Buy, Connecter & Insulators 0 15 5 5 5 5 2,1000 5 5 2,000 5 5 5 5 5 5 5 5 5					·	s -				
7.4 Grounding System 0 6A S S \$ 4,2000 S \$ 4,2000 S						7				
7.5						т		·		•
7.6		or ownering officerin	0	LA.			42,000.00	¥ -	7 42,000	-
7.70										
7.8										
7.9										
7.10										
7.11										
7.12										
7.13										
Total										
TOTAL - MISC ITEMS										
S										
E. Greenbush Substation - Removal S - S 61,200 S										
R. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	TOTAL - MISC	TEMS				\$ -		\$ -		\$ -
Contractor Mobilization / Demobilization / Demobilizati	E. Green	bush Substation - Removal				\$ -		\$ 61,200		\$ 61,200
Contractor Mobilization / Demobilization / Demobilizati	8 MOR/DEMO	B ENGINEERING PERMITTING T&C PM & INDIRECTS:								
S.1 Mob / Demob 1.0 LS S S S S S S S S		, , ,								
Project Management, Material Handling & Amenities		· · · · · · · · · · · · · · · · · · ·	1.0	15	Ġ -	Ġ -	\$ 612	¢ 612	¢ 612	\$ 612
8.2 Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff) 8.3 Utility PM and Project Oversite 1 1 15 \$ \$ \$ \$ \$ 612 \$ 6			1.0		-	-	y 012	Ş 012	ÿ 012	3 012
8.2 and Cost Manager, SHEQ Staff, and Admin Staff) 8.3 Utility PM and Project Oversite 1 LS S - S 612 S 612 S 612 S 6		Project Wanagement, Waterial Handling & Amenices								
Site Accommodation, Facilities, Storage	8.2		1	LS			\$ 3,562	\$ 3,562	\$ 3,562	\$ 3,562
Site Accommodation, Facilities, Storage	8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 612	Ś 612	Ś 612	\$ 612
Engineering					\$ -	'				
S.5 Design Engineering			_		7	7	7	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	7	7
8.6 LiDAR			1	LS	\$ -	\$ -	\$ 4.896	\$ 4.896	\$ 4.896	\$ 4,896
8.7 Geotech - Site S - S						š -				
8.8 Surveying/Staking - Site \$ - \$ - \$ 428 \$ - \$ 428 \$ \$ \$ \$ \$ \$ \$ \$ \$			-					1	-	
Testing & Commissioning Section & Commissioning of T-Line and Equipment Section & Section			_				'	'		
Section Sect				Site	,	,	, .20	*	, .20	*
Permitting and Additional Costs			_	ıç	ė -	ė .	¢ 1.520	ė .	¢ 1.520	\$ -
8.10 Environmental Licensing & Permitting Costs			_		-	-	ý 1,550	, -	7 1,550	-
8.11 Environmental Mitigation - LS \$ -				10	ė	ė	ė	ċ	ċ	\$ -
8.12 Warranties / LOC's 1 LS \$ - \$ - \$ 184 \$ 184 \$ 8.13 Real Estate Costs (New) 1 LS \$ -						7	<u>'</u>		т	
8.13 Real Estate Costs (New) 1 LS \$ - \$							•			·
8.14 Real Estate Costs (incumbent Utility) 1 LS \$ - \$ </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>										
8.15 Legal Fees - LS \$ -										
8.16 Allowance for Funds Used During Construction (AFUDC) - LS \$ - <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td>						-				
8.17 - LS \$ - <td></td> <td><u> </u></td> <td></td> <td></td> <td></td> <td>т</td> <td></td> <td></td> <td>•</td> <td></td>		<u> </u>				т			•	
8.18 Sales Tax on Materials 1 LS \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 61 \$ - \$ 61 \$		Allowance for Funds Used During Construction (AFUDC)								
8.19 Fees for permits, including roadway, railroad, building or other local permits - LS \$ - \$ 61 \$ - \$ 61 \$						т			т	
					\$ -	т	7		т	
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:			-	LS			\$ 61		\$ 61	
10,410	TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 10,478		\$ 10,478

NAT - NYPA - T030 - (Segment B Enhanced) F. Schodack Substation - Install

Total: \$ 2,597,782

NAT - NYPA - T030 - (Segmen	nt B Enl	hanced)		
		Supply	Installation	Total
F. Schodack Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	4,050	\$ 11,250	\$ 15,300
2. SUBSTATION FOUNDATIONS	\$	201,690	\$ 216,000	\$ 417,690
3. SUBSTATION STRUCTURES	\$	60,680	\$ 60,680	\$ 121,360
4. MAJOR EQUIPTMENT	\$	104,000	\$ 120,000	\$ 224,000
5. SMALL EQUIPTMENT / MATERIALS	\$	316,520	\$ 226,000	\$ 542,520
6. CONTROL HOUSE / PANELS	\$	192,815	\$ 147,815	\$ 340,630
7. MISC ITEMS	\$	168,552	\$ 259,305	\$ 427,857
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	83,865	\$ 424,560	\$ 508,425
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	1,132,172	\$ 1,465,610	\$ 2,597,782
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	1,132,172	\$ 1,465,610	\$ 2,597,782

esc			

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material	Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
F. Schod	ack Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$	-	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	150	CY	\$	27		\$ 75	\$ 11,250	\$ 102	\$ 15,300
1.3	Substation Fence	0	LF	\$	100	\$ -	\$ 100	\$ -	\$ 200	\$ -
1.4	Permanent Access Road - 20'-Wide	0	LF	\$	35	\$ -	\$ 285	\$ -	\$ 320	\$ -
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 4,050		\$ 11,250		\$ 15,300
2. SUBSTATIO	N FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	0	EA	\$	14,940	\$ -	\$ 16,000	\$ -	\$ 30,940	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p										
	230kV									
2.2a	Circuit Breaker Foundations	0	EA	\$	11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -

2-22 martin Sour Immediates	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment	Labor & Equipment	Total Unit Rate	TOTAL
2.20 Stock Foreign Fame Foreign Fame Foreign Fame Foreign Fame Foreign Fame Foreign Fame Foreign Fame Foreign Fame Foreign Fame Foreign Fame Fame Fame Fame Fame Fame Fame Fame	item	item bescription	Estimated Quantity	Onit of Weasure	Waterial Supply Nate	Material Supply Cost	Supply Rate	Cost	Total Olin Nate	TOTAL
2.72 10 10 10 10 10 10 10 1	2.2e	Switch Stand Foundations			,	\$ -		\$ -	. ,	
2-20										
2.23 West American State Foundations 0 EA 5 A773 5 5 4,000 5 5 7,781 5							•		·	
2.28					,	-	. ,		, , , , , ,	
2.20						•				
2.70 Mix. Source Foundations										
2.50						т				
2.3 Circuit President Fearbrichtons 2 FA 5 \$1.20 5 \$1.000 5 \$1.000 5 \$2.20 2.3 \$1.000 5 \$3		Misc. Structure Foundations	Ū.	LA	7	,	Ÿ	,	-	7
2.3 Circuit President Fearbrichtons 2 FA 5 \$1.20 5 \$1.000 5 \$1.000 5 \$2.20 2.3 \$1.000 5 \$3	2.2	115W								
2.28 Cappetine Pain Foundations 0 UA 5 32,62 5 5 36,000 5 6,000 5			2	FA	\$ 5,229	\$ 10.458	\$ 5,600	\$ 11,200	\$ 10.829	\$ 21,658
2.5. (Calsoon FF Soundations (FO FF A Sine May 1. 17, 200 5 MA,						\$ -				
2.36 Canson Bit Soundations (for U.A. A form est s.*-shared column)						\$ 131,472	1,	_	,	
2-26 Switch Sand Foundations 0 EA 5 2,588 5 5 3,200 5 5 6,188 5		· · · · · · · · · · · · · · · · · · ·								
2.38 Bos Support 3 Pri connectores						•				
2.3h Rus Support I Ph FavorAntinon	2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -			\$ 6,188	\$ -
2.38	2.3g	Bus Support 3ph Foundations				\$ 11,952				
2.3						т				
2.3m									, , , , , , , , , , , , , , , , , , , ,	· · · · · · · · · · · · · · · · · · ·
2.39					, , , , , , , , , , , , , , , , , , , ,					
2.3					. ,					·
2.4 Tandformer Foundations						т				
2.4a 345-238V Transformer foundation wy Oil Containment 0 EA S 97,110 S S 201,100 S S 201,110 S	2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.48 345-328NT transformer Foundation wy Oil Containment	2.4	Transformer Foundations								
2.46			0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.48 155K-96W transformer Foundation w/ Oil Containment 0 EA S S S S S S S S S	2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.5 Control House Foundations / Pad	2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2-5	2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2-58 Central House Pad 0 EA 5 76,194 5 - 5 15,7794 5										
2.5b Generator Foundation		·								
2.6 Lightning Mast Foundations						•		т		·
2.6a 70 Lightning Mast Foundation 0 EA \$ \$ \$ \$ \$ \$ \$ \$ \$	2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6b 60 \(\text{lighting Mast Foundation} \\	2.6	Lightning Mast Foundations								
2.66 SO' Lightning Mast Foundation Color Society	2.6a		0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
TOTAL - SUBSTATION FOUNDATIONS \$ 201,690 \$ 216,000 \$ 417	2.6b	60' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.10 345KY	2.6c	50' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.10 345KY	TOTAL - SUBST	TATION FOLINDATIONS				\$ 201 690		\$ 216,000		\$ 417,690
3.1. Substation A-Frame Structures - Stand alone 0 EA S 37,000 S - S 574,000 S 3.1.						201,030		\$ 210,000		\$ 417,030
3.1a Substation A-Frame Structures - Stand alone 0 EA S 37,000 S - S 74,000 S 3.1b Substation A-Frame Structures - Shared Column 0 EA S 37,000 S - S 74,000 S 3.1c Substation A-Frame Structures - Shared Column 0 EA S 37,000 S - S 74,000 S 3.1d Station Service Transformer Stand 0 EA S 14,800 S - S 14,800 S - S 29,600 S 3.1d Station Service Transformer Stand 0 EA S 14,800 S - S 14,800 S - S 29,600 S 3.1d Bus Support 3ph 0 EA S 3,700 S - S - S - S - S 3.1f Bus Support 1Ph 0 EA S 3,700 S - S 3,700 S - S 7,400 S 3.1g Instrument Transformer Stand 0 EA S 1,850 S - S 1,850 S - S 3,700 S 3.1g Instrument Transformer Stand 0 EA S 1,850 S - S 1,850 S - S 3,700 S 3.1h Arrester Stand 0 EA S 1,850 S - S 1,850 S - S 3,700 S 3.1h Arrester Stand 0 EA S 1,850 S - S 1,850 S - S 1,850 S 3.1k Misc. Structures 0 EA S 6,475 S - S 6,600 S 3.2b Substation A-Frame Structures - Shared Column 0 EA S 33,300 S - S 33,300 S - S 66,600 S 3.2c Switch Stands 0 EA S 12,025 S - S 12,025 S - S 24,050 S 3.2d Substation A-Frame Structures - Shared Column 0 EA S 12,025 S - S 12,025 S - S 5,550 S 3.2f Bus Support 1Ph 0 EA S 1,295 S - S 1,295 S - S 5,550 S 3.2g Instrument Transformer Stand 0 EA S 1,295 S - S 1,295 S - S 2,590 S 3.2h Arrester Stand 0 EA S 1,295 S - S 1,295 S - S 2,590 S 3.2h Arrester Stand 0 EA S 1,295 S - S 1,295 S - S 2,590 S 3.2h Arrester Stand 0 EA S 1,295 S - S 1,295 S - S 2,590 S 3.2h Arrester Stand 0 EA S 1,295 S - S										
3.1b Substation A-Frame Structures - Shared Column 0 EA \$ 37,000 \$ -			0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1d Station Service Transformer Stand 0 EA \$ 14,800 \$ -	3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ 5 - \$ 5 - \$ \$ \$ \$ \$ \$ \$ \$ \$	3.1c	Switch Stands	0	EA	\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
3.1f Bus Support 1Ph		Station Service Transformer Stand			\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
3.1g Instrument Transformer Stand 0 EA \$ 1,850 \$ - \$ 1,850 \$ - \$ 3,700 \$ \$ 3.1h Arrester Stand 0 EA \$ 1,850 \$ - \$ 3,700 \$ \$ 3.1h Arrester Stand 0 EA \$ 1,850 \$ - \$ 3,700 \$ \$ \$ \$ \$ \$ \$ \$ \$						т				
3.1h Arrester Stand 0 EA \$ 1,850 \$ - \$ 1,850 \$ - \$ 3,700 \$ 3.1j Wave Trap Stand 0 EA \$ 7,400 \$ - \$ 7,400 \$ - \$ 14,800 \$ 3.1k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$ 3.2 230kV		- 1.1				•				·
3.1j Wave Trap Stand 0 EA \$ 7,400 \$ - \$ 7,400 \$ - \$ 14,800 \$ 3.1k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$ 3.2k 230kV										
3.1k Misc. Structures 0 EA \$ 6,475 \$ - \$ 6,475 \$ - \$ 12,950 \$ 3.2 230kV 3.2 33kV 3.2 33kV 3.2 Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ - \$ 66,600 \$ 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ 3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2f Bus Support 1 Ph 0 EA \$ 2,775 \$ - \$ 5 - \$ 5 5,50 \$ 3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$,	
3.2 230kV 3.2 Substation A-Frame Structures - Stand alone 3.2 Substation A-Frame Structures - Shared Column 5. Substation A-Frame Structures - Shared Column 6. Column 7. Column 8. Co						т	. ,			<u> </u>
3.2a Substation A-Frame Structures - Stand alone 0 EA \$ 33,300 \$ - \$ 66,600 \$ 3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ 3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 24,050 \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ -	3.1K	INISC. Structures	0	EA	φ 6,4/5	· -	<i>φ</i> 6,4/5	· -	<i>⇒</i> 12,950	, -
3.2b Substation A-Frame Structures - Shared Column 0 EA \$ 33,300 \$ - \$ 33,300 \$ - \$ 66,600 \$ 3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 24,050 \$ 3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ - </td <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td>*</td> <td></td> <td>•</td> <td></td>						-	*		•	
3.2c Switch Stands 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 12,025 \$ - \$ 12,025 \$ - \$ 12,025 \$ - \$ 12,025 \$ - \$ 12,025 \$ - \$ 12,025 \$ - \$ 12,025 \$ - \$ 12,025 \$ - \$ 12,025 \$ - \$ 12,025 \$ - \$ 12,025 \$ - \$ 12,025 \$ - \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ 2,775 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -										
3.2d Station Service Transformer Stand 0 EA \$ 12,025 \$ - \$ 12,025 \$ - \$ 24,050 \$ 3.2e Bus Support 3ph 0 EA \$ - \$										
3.2e Bus Support 3ph 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5,550 \$ 3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 2,590 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 2,590 \$										
3.2f Bus Support 1 Ph 0 EA \$ 2,775 \$ - \$ 2,775 \$ - \$ 5,550 \$ 3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$										
3.2g Instrument Transformer Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$ 3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$		***								
3.2h Arrester Stand 0 EA \$ 1,295 \$ - \$ 1,295 \$ - \$ 2,590 \$						T .				
						т				
1 - 0.21 [volute map states	3.2j	Wave Trap Stand	0		\$ 5,550				\$ 11,100	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	2	EA	\$ 18,500	\$ 37,000	\$ 18,500	\$ 37,000	\$ 37,000	\$ 74,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -		\$ -	\$ 37,000	
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -	\$ 7,955		\$ 15,910	
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -		\$ -	\$ 15,910	
3.3e	Bus Support 3ph	0	EA	\$ 3,330	\$ -	\$ 3,330		\$ 6,660	
3.3f	Bus Support 1 Ph	4	EA	\$ 1,850	\$ 7,400		\$ 7,400		\$ 14,800
3.3g	Instrument Transformer Stand	6	EA	\$ 740	\$ 4,440		\$ 4,440	\$ 1,480	
3.3h	Arrester Stand	6	EA	\$ 740	\$ 4,440		\$ 4,440	\$ 1,480	
3.3j	Wave Trap Stand	2	EA	\$ 3,700			\$ 7,400	\$ 7,400	
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475		\$ 12,950	
5.5.0	Initial Structures	Ů		0,	Ÿ	ψ 0,5	,	Ų 12,550	*
TOTAL - SUBS	TATION STRUCTURES				\$ 60,680		\$ 60,680		\$ 121,360
4. MAJOR EQU					ψ 00,000		\$ 00,000		-
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ 200,000	\$ -	\$ 80,000	\$ -	\$ 280,000	\$ -
4.1a 4.1b	Capacitor Banks	0	EA	\$ 200,000	\$ - \$ -		\$ -	\$ 280,000	
4.10 4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -		\$ -	\$ 750,000	•
		0	EA	\$ -	\$ -	. , , , , , , , , , , , , , , , , , , ,	·		•
4.1d	345 kV - 115 kV Auto Transformer	U	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	, -
4.2	230kV	0	ΕΔ.	ć 445.000	\$ -	ć 00.000	ć	ć 405.000	^
4.2a	Circuit Breakers	0	EA	\$ 115,000	Ÿ	\$ 80,000	\$ -	\$ 195,000	
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	2	EA	\$ 52,000	\$ 104,000	\$ 60,000	\$ 120,000	\$ 112,000	
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
	DR EQUIPTMENT				\$ 104,000		\$ 120,000		\$ 224,000
	JIPTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ 40,000	\$ -		\$ -	\$ 55,000	
5.1b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 35,000	\$ -	\$ 17,500	\$ -	\$ 52,500	
5.1c	VT'S	0	EA	\$ 25,000	\$ -		\$ -	\$ 37,000	
5.1d	CT'S	0	EA	\$ 13,000	\$ -		\$ -	\$ 21,000	
5.1e	CCVT'S	0	EA	\$ 13,000			\$ -	\$ 21,000	
5.1f	Arresters	0	EA	\$ 6,500	\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 8,000	·
5.1g	Wave Traps	0	EA	\$ 13,000			\$ -	\$ 21,000	
5.1h	Station Service Transformers	0	EA	\$ 200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -		\$ -	\$ 50,000	
5.2b	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,000	\$ -	\$ 17,500	\$ -	\$ 47,500	\$ -
5.2b 5.2c	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S	0	EA EA	\$ 30,000 \$ 13,000	\$ - \$ -	\$ 17,500 \$ 8,000	\$ - \$ -	\$ 47,500 \$ 21,000	\$ - \$ -
5.2b 5.2c 5.2d	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S	0 0 0	EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000	\$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000	\$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S	0 0 0	EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000	\$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000	\$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000	\$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters	0 0 0 0	EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000	\$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000	\$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000	\$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S	0 0 0	EA EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 13,000	\$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000	\$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters	0 0 0 0	EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000	\$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000	\$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000	\$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0	EA EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0 0 0	EA EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0 0 0	EA EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ -	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator	0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 13,000 \$ -	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 7 \$ 7 \$ 7 \$ 7 \$ 7	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$ - \$ - \$ 5 48,000 \$ 45,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator	0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ - \$ 28,000 \$ 28,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ - \$ 15,000 \$ 17,500 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$ - \$ - \$ 48,000 \$ 45,500 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3a 5.3c 5.3d	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCT'S	0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ - \$ 28,000 \$ 33,000 \$ 28,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ 7 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$ - \$ - \$ 48,000 \$ 45,500 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3c 5.3c 5.3d 5.3e	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CC'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S	0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 13,000 \$ - \$ 33,000 \$ 28,000 \$ 13,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ 7,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 16,000 \$ 16,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ - \$ 21,000 \$ 48,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3a 5.3c 5.3d	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCT'S	0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ - \$ 28,000 \$ 33,000 \$ 28,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ 7,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ 21,000 \$ 45,500 \$ 21,000 \$ 21,000 \$ 9,420	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3c 5.3c 5.3d 5.3e	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S	0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ 5,000 \$ 28,000 \$ 33,000 \$ 28,000 \$ 13,000 \$ 3,420	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 7 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$ - \$ 21,000 \$ - \$ 21,000 \$ 21,000 \$ 45,500 \$ 21,000 \$ 21,000 \$ 9,420	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3c 5.3d 5.3c 5.3d 5.3e 5.3f	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCT'S CCT'S CCT'S CCYT'S Arresters	0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ 5,000 \$ 28,000 \$ 33,000 \$ 28,000 \$ 13,000 \$ 34,20	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 16,000 \$ 11,000 \$ 12,000 \$ 12,000 \$ - \$ - \$ 48,000 \$ 45,500 \$ 21,000 \$ 21,000 \$ 9,420	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.2b 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3 5.3a 5.3a 5.3c 5.3d 5.3e 5.3d 5.3e 5.3d 5.3e 5.3f 5.3g	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CC'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 30,000 \$ 13,000 \$ 13,000 \$ 10,000 \$ 5,000 \$ 5,000 \$ 5,000 \$ 13,000 \$ 28,000 \$ 13,000 \$ 13,000 \$ 3,420 \$ 3,420 \$ 3,420 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 47,500 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$ 21,000 \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

							Labor & Equipment	Labor & Equipment			
Item	Item Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Supply Rate	Cost	Total Unit Rate	то	OTAL
	L EQUIPTMENT / MATERIALS					\$ 316,520		\$ 226,000		\$	542,520
6. CONTROL H	OUSE / PANELS / GENERATOR										
6.1	CONTROL HOUSE	0	EA	\$	551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$	-
6.2	Protection and Telecom Equipment Panels	2	EA	\$	35,000	\$ 70,000	\$ 12,500	\$ 25,000	\$ 47,500	\$	95,000
6.3	125VDC Batteries	0	EA	\$	75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$	-
6.4	Control Cables	1	LS	\$	122,815	\$ 122,815	\$ 122,815	\$ 122,815	\$ 245,630	\$	245,630
6.5	SCADA and Communications	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
6.6	Low Voltage AC Distribution	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$	-
6.7	DC Distribution System	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000		-
6.8	Security	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$	-
6.9	Fire Alarm	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$	-
6.10	Generator	0	EA	\$	100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$	-
	ROL HOUSE / PANELS / GENERATOR					\$ 192,815		\$ 147,815		\$	340,630
7. MISC ITEMS		F30.0	I.E.	4	105.00	ć 00.0F0	ć 170.00	ć 00.100	ė ore	<u> </u>	100 150
7.1	Conduit & Cable Trench System	530.0	LF LF	\$	185.00	\$ 98,050 \$ -	\$ 170.00 \$ -	\$ 90,100 \$ -	\$ 355 \$ -	\$	188,150
7.2	Rigid Bus, Fittings & Insulators Strain Bus, Connectors & Insulators	300.0	LF	\$		•	т	•	\$ -		27,795
7.4		800.0	LF	\$	- 39.30	\$ 11,790	\$ 55.55	\$ 16,005	\$ 95	Ś	- 27,795
7.5	Grounding System Strain Bus Insulators - 345kV	0	EA	\$	2,000		\$ 1,050	т	\$ 3,050		
7.6	Strain Bus Insulators - 230kV	0	EA	\$	1,400		\$ 750		\$ 2,150		
7.7	Strain Bus Insulators - 115kV	24	EA	\$	1,000			\$ 13,200	\$ 1,550		37,200
7.8	Low Voltage AC Station Service	0	LS	\$	50,000		\$ 75,000		\$ 125,000		-
7.9	SSVT Service	0	LS	\$	45,000				\$ 90,000		-
7.10	Control Conduits from Trench to Equipment	1	LS	\$	14,000		\$ 70,000		\$ 84,000		84,000
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$	20,712		\$ 70,000	\$ 70,000	\$ 90,712		90,712
7.12					,		,	,	,	-	
7.13											
7.14											
7.15											
7.16											
7.17											
7.18											
7.19											
7.20											
7.21											
7.22											
7.24											
7.25											
TOTAL - MISC	ITEMS					\$ 168,552		\$ 259,305		\$	427,857
										Ś	
	ack Substation - Install					\$ 1,048,307		\$ 1,041,050		Y	2,089,357
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
<u> </u>	Contractor Mobilization / Demobilization		10	,		<u></u>	¢ 20.000	ć 20.55:	¢ 20.55	<u> </u>	20.00
8.1	Mob / Demob	1.0	LS	\$	-	\$ -	\$ 20,894	\$ 20,894	\$ 20,894	\$	20,894
-	Project Management, Material Handling & Amenities			-							
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 121,604	\$ 121,604	\$ 121,604	\$	121,604
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 20,894	\$ 20,894	\$ 20,894	Ś	20,894
		1	LS	\$		•	,		\$ 20,894	•	20,894
8.4	Site Accommodation, Facilities, Storage	1	LS	>	-	\$ -	\$ 20,894	ş 20,894	> 20,894	>	20,894
8.5	Engineering Design Engineering	1	LS	\$	-	\$ -	\$ 167,149	\$ 167,149	\$ 167,149	¢	167,149
8.6	LiDAR	-	Mile	\$				\$ 107,149		\$	107,149
8.7	Geotech	-	Site	\$				\$ -	\$ -	\$	
8.8	Surveying/Staking	1	Site	\$			\$ 14,625				14,625
	Testing & Commissioning			+			1,023		1,025	•	
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 52,234	\$ 52,234	\$ 52,234	\$	52,234
	Permitting and Additional Costs	_		Ť.			- ,	- ,	,		
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
	Environmental Mitigation	-	LS	\$	-			\$ -		\$	-
		•		•	-				•		25 -5 (0

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	l Supply Rate	Mate	erial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.12	Warranties / LOC's	1	LS	\$	-	\$	-	\$ 6,268	\$ 6,26	3 \$ 6,268	\$ 6,268
8.13	Real Estate Costs (New)	1	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	83,865	\$	83,865	\$ -	\$ -	\$ 83,865	\$ 83,865
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS			\$	-	\$ -	\$ -	\$ -	\$ -
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$	83,865		\$ 424,56		\$ 508,425

Page 26 of 60
F. SS Schodack-Install

NAT - NYPA - T030 - (Segment B Enhanced) G. Schodack Substation - Removal

NAT - NYPA - T030 - (S	NAT - NYPA - T030 - (Segment B Enhanced)									
		Supply		Installation		Total				
G. Schodack Substation - Removal										
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	-	\$	-	\$					
2. SUBSTATION FOUNDATIONS	\$	-	\$	62,400	\$	6				
3. SUBSTATION STRUCTURES	\$	-	\$	73,800	\$	7				
4. MAJOR EQUIPTMENT	\$	-	\$	-	\$					
5. SMALL EQUIPTMENT / MATERIALS	\$	-	\$	-	\$					
6. CONTROL HOUSE / PANELS	\$	-	\$	-	\$					
7. MISC ITEMS	\$	-	\$	-	\$					
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$	2				
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$					
SUBTOTAL:	\$	-	\$	136,200	\$	15				
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$					
TOTAL:	\$		\$	136,200	\$	15				

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
G. School	lack Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$ -	\$ -	\$ 203,000	\$ -	\$ 203,000	\$
1.2	Station stone within substation fence.	0	CY	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$
1.4									
1.5									
1.6									

Total: \$ 159,518

	Station stone within substation fence.	0		\$ -	\$ -	\$ 75		\$ 75	
1.3	Substation Fence	0	LF	\$ -	\$ -	\$ 150	\$ -	\$ 150	\$ -
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
	REP/ GRADING/ FENCING / CIVIL				\$ -		\$ -		\$ -
2. SUBSTATION	FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 14,200	\$ -	\$ 14,200	\$ -
2.1b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.1j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ 7,200		\$ 7,200	
2.2b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ 32,000		\$ 32,000	
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ 22,000		\$ 22,000	
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ 11,000		\$ 11,000	
	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	
	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
	Circuit Breaker Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e	Switch Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p	Steele Transmission Pole Dead Ends (1ph.) Foundations	6	EA	\$ -	\$ -	\$ 10,400	\$ 62,400	\$ 10,400	\$ 62,400
2.4	Transformer Foundations								
	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	,								
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad (40'x125')	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5b	Generator Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.0									
2.6	Lightning Mast Foundations	0	FA.	ć	ć	ć	ć	ć	*
	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b 2.6c		0	EA EA	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
2.00		0	LA	· -	· -	, -	, -	· -	-
TOTAL - SUBST	ATION FOUNDATIONS				\$ -		\$ 62,400		\$ 62,400
3. SUBSTATION									
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1c	Switch Stands	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d	Station Service Transformer Stand	0		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 3ph	0	EA	\$ -	\$ -			\$ 2,250	
	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Wave Trap Stand	0	EA EA	\$ - \$ -	\$ - \$ -	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -
3.1k	Misc. Structures	0	EA	\$ -	, -	\$ -	\$ -	> -	\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -			\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	
3.2c	Switch Stands	0	EA	\$ -	\$ -			\$ 9,750	
	Station Service Transformer Stand	0		\$ -			\$ -	\$ -	
	Bus Support 3ph	0		\$ -	\$ -		\$ -	\$ -	
	Bus Support 1 Ph	0		\$ -		\$ 2,250		\$ 2,250	
	Instrument Transformer Stand	0		\$ -		\$ 1,050		\$ 1,050	
	Arrester Stand	0		\$ -	\$ -			\$ 1,050	
	Wave Trap Stand	0		\$ -	\$ -	\$ 4,500		\$ 4,500	
3.2k	Misc. Structures	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
3.3	11JAN								D 20 -£ (0

3.15 Substitution A Frame Workshore 0 FA 5 5 5 5 5 5 5 5 5	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.26 Sentin Stands	3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
2 Ad 1 1 1 1 1 1 1 1 1	3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.26 Box Support 2 Ph	3.3c	Switch Stands	0	EA	\$ -	\$ -	\$ 6,450	\$ -	\$ 6,450	\$ -
3.36 microspent in	3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.38 moturement Transformerd Stand	3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3 33) Avester Stand	3.3f	Bus Support 1 Ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3 Wave Trap Stand	3.3g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
33.8 Misc. Structures					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL SUBSTATION STRUCTURES	3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
ALADOR COUNTMENT	3.3k	Misc. Structures	6	EA	\$ -	\$ -	\$ 12,300	\$ 73,800	\$ 12,300	\$ 73,800
ALL SASV										
## 4.10 SASSAN ## 4.10 Capacitor Benks ## 5						\$ -		\$ 73,800		\$ 73,800
4.18 Capacito Breakers 0 EA S S S S S S										
4.1b										<u> </u>
4.1c					·	<u>'</u>				\$ -
4.18		Capacitor Banks							•	\$ -
4.2 236W			0	EA	\$ -	Ş -	\$ -	\$ -	\$ -	\$ -
4.2 Circuit Breakers 0 EA S S S 7,000 S S		9901 V								
4.3 15kV					4	A	A		A =	
4.3 1154V						т				
4.3b Capactor Banks	4.2b	Capacitor BankS	0	EA	> -	> -	\$ 42,000	> -	\$ 42,000	\$ -
4.3b Capactor Banks	4.2	14Fla/								
A						A	4	A	<u> </u>	A
TOTAL - MADR EQUIPMENT						'			•	\$ -
SAMAL EQUIPMENT (MATERIALS S.1 SAW S.1 S	4.30	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SAMAL EQUIPMENT (MATERIALS S.1 SAW S.1 S	TOTAL MANO	PECHIPTRAFAIT				<i>*</i>		<u> </u>		\$ -
S.11 MESWITCHES - 3ph w/ motor operator 0 EA S S S S S S S S S		•				\$ -		\$ -		\$ -
S.1a Line Switches - 3ph w/ manual operator 0 EA S - S - S 5,500 S - S 5,510 S 5,510 S 5,510 S S 5,510 S S S S S S S S S										
S.1b Disconnect Switches - 3ph w/ manual operator 0 EA S - S - S 5,500 S - S			0	ГА	ċ	ċ	ć	ć	\$ 5,500	\$ -
S1.de CTS										
S.1d CTS 0 EA S S S S S S S S S						_			,	\$ -
S.1e CCVTS										\$ -
S.1f Arresters									•	\$ -
S.1g Wave Traps 0 EA S - S 2,500 S - S S 5.1h Station Service Transformers 0 EA S - S - S - S S - S S	3.1e	CCV13	0	EA	, -	· -	\$ 2,300	· -	\$ 2,300	-
S.1h Station Service Transformers 0 EA \$ -	5.1f	Arresters	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
S.1h Station Service Transformers 0 EA \$ - \$ - \$ - \$ 5 - \$ 5 5 5 5 5 5 5 5 5	5.1α	Waya Trans	0	FΛ	ė -	¢ .	\$ 2500	¢ .	\$ 2,500	\$ -
S.1 Solv							, , , , , , , , , , , , , , , , , , , ,	•		\$ -
5.2 230kV Company of the company of the		Station Service Hunstonners	•	LA.	7	7	7	7	7	·
5.2a Line Switches - 3ph w/ motor operator 0 EA \$ - \$ \$ 5,500 \$ - \$ \$ 5,2b Disconnect Switches - 3ph w/ manual operator 0 EA \$ - \$ 5 5,500 \$ - \$ \$ 5,2c VT'S 0 EA \$ - \$ 5 - \$ 5 5,500 \$ - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ - \$ 5 - \$	5.1,									
5.2a Line Switches - 3ph w/ motor operator 0 EA \$ - \$ \$ 5,500 \$ - \$ \$ 5,2b Disconnect Switches - 3ph w/ manual operator 0 EA \$ - \$ 5 5,500 \$ - \$ \$ 5,2c VT'S 0 EA \$ - \$ 5 - \$ 5 5,500 \$ - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ 5 - \$ 5 - \$ 5 - \$ 5 5,2d CT'S 0 EA \$ - \$ - \$ 5 - \$	5.2	230kV								
5.2b Disconnect Switches - 3ph w/ manual operator 0 EA \$ -			n	FA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2c						·				\$ -
5.2d CT'S 0 EA \$ - \$ - \$ - \$ 5 - \$ 5 5 5 5 5 5 5 5 5						-				\$ -
5.2e CCVT'S 0 EA \$ -										\$ -
S.2f Arresters 0 EA \$ - \$ \$ 2,500 \$ - \$ \$ 5.2g Wave Traps 0 EA \$ - \$ \$ - \$ \$ 2,500 \$ - \$ \$ 5.2h \$ \$ \$ \$ \$ \$ \$ \$ \$										
5.2g Wave Traps 0 EA \$ - \$ - \$ 2,500 \$ - \$ \$ 5.2h \$ \$ \$ \$ \$ \$ \$ \$ \$										
5.2h Station Service Transformers 0 EA \$ - \$								•		
5.2j 5.3 115kV 5.3a Line Switches - 3ph w/ motor operator 0 EA \$ - \$										\$ -
5.3 115kV EA \$<										
5.3a Line Switches - 3ph w/ motor operator 0 EA \$ - \$,									
5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ - \$ 5,500 \$ - \$ 5.3c VT'S 0 EA \$ -	5.3	115kV								
5.3b Disconnect Switches - 3ph w/ manual operator 0 EA \$ - \$ 5,500 \$ - \$ 5.3c VT'S 0 EA \$ -			0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3c VT'S 0 EA \$ - \$<			0			\$ -	\$ 5,500	\$ -	\$ 5,500	
5.3d CT'S 0 EA \$ - \$<			0	EA	\$ -			\$ -		\$ -
5.3e CCVT'S 0 EA \$ -										\$ -
5.3f Arresters 0 EA \$ - \$ - \$ - \$ 5.3g Wave Traps 0 EA \$ - </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>\$ -</td>										\$ -
5.3g Wave Traps 0 EA \$ - \$ - \$ - \$										
						\$ -				\$ -
5.3h Station Service Transformers 0 EA \$ - \$ - \$ - \$		Station Service Transformers	0							\$ -
5.3j Fuses 0 EA \$ - \$ - \$ - \$										\$ -
TOTAL - SMALL EQUIPTMENT / MATERIALS \$ - \$ -						\$ -		\$ -		\$ -
6. CONTROL HOUSE / PANELS / GENERATOR	6. CONTROL HO	DUSE / PANELS / GENERATOR								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
6.2	Protection and Telecom Equipment Panels	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cable	0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	SCADA and Communications	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Low Voltage AC Distribution	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Security	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
0.10	Generator	0	LA	, -	, -	, -	, -	, -	•
TOTAL CONTE	ROL HOUSE / PANELS / GENERATOR				\$ -		\$ -		\$ -
					\$ -		\$ -		\$ -
7. MISC ITEMS				_		4	4		
	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	
	Rigid Bus, Fittings & Insulators	0	LS	\$ -	\$ -	\$ 10,500.00		\$ 10,500	
	Strain Bus, Connectors & Insulators	0	EA	\$ -	\$ -		\$ -	\$ 39	
	Grounding System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.13									
7.15									
TOTAL - MISC	ITEMS				\$ -		\$ -		\$ -
	ack Substation - Removal				\$ -		\$ 136,200		\$ 136,200
8. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 1,362	\$ 1,362	\$ 1,362	\$ 1,362
	Project Management, Material Handling & Amenities					,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,	, , , , , ,
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 7,927	\$ 7,927	\$ 7,927	\$ 7,927
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 1,362	\$ 1,362	\$ 1,362	\$ 1,362
	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -		\$ 1,362	\$ 1,362	
	Engineering		-			,,,==	,,,,=	,	,
	Design Engineering	1	LS	\$ -	\$ -	\$ 10,896	\$ 10,896	\$ 10,896	\$ 10,896
	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Surveying/Staking	-	Site	\$ -	\$ -	\$ 953	\$ -	\$ 953	
	Testing & Commissioning		JILC	-	-	7 333	-	7 333	-
	Testing & Commissioning Testing & Commissioning of T-Line and Equipment		LS	\$ -	\$ -	\$ 3,405	ė	\$ 3,405	\$ -
		-	LS	\$ -	· -	3,405 و	\$ -	3,405 ډ	- د
	Permitting and Additional Costs		1.6						_
	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 409	\$ 409	\$ 409	
	Real Estate Costs (New)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17	·		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits		LS		\$ -	\$ 136	\$ -	\$ 136	\$ -
	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ -		\$ 23,318		\$ 23,318
					7		25,510		- 20,010

NAT - NYPA - T030 - (Segment B Enhanced)

H. Churchtown Substation - Install

Estimate Revision:	5	Total:	\$ 18,759,615

NAT - NYPA - T030 - (S	egment B Enh	anced)		
		Supply	Installation	Total
H. Churchtown Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	133,850	\$ 2,459,550	\$ 2,593,400
2. SUBSTATION FOUNDATIONS	\$	964,690	\$ 1,039,500	\$ 2,004,190
3. SUBSTATION STRUCTURES	\$	416,000	\$ 433,085	\$ 866,170
4. MAJOR EQUIPTMENT	\$	416,000	\$ 480,000	\$ 896,000
5. SMALL EQUIPTMENT / MATERIALS	\$	1,384,800	\$ 938,800	\$ 2,323,600
6. CONTROL HOUSE / PANELS	\$	2,344,525	\$ 1,517,025	\$ 3,861,550
7. MISC ITEMS	\$	1,013,691	\$ 1,488,020	\$ 2,501,711
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	535,251	\$ 3,177,743	\$ 3,712,994
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	7,208,807	\$ 11,533,723	\$ 18,759,615
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	7,208,807	\$ 11,533,723	\$ 18,759,615

		on		

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
H. Churc	htown Substation - Install										
1. SITE PREP/	GRADING/ FENCING / CIVIL										
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	2.0	ACRES	\$	-	\$ -	\$ 1,125,000	\$ 2,250,000			2,250,000
1.2	Station stone within substation fence.	900	CY	\$	27	\$ 24,300	\$ 75	\$ 67,500		2 \$	91,800
1.3	Substation Fence	1,050	LF	\$	100	\$ 105,000			\$ 200) \$	210,000
1.4	Permanent Access Road - 20'-Wide	130	LF	\$	35	\$ 4,550	\$ 285	\$ 37,050	\$ 320	\$	41,600
1.5											
1.6											
1.7											
1.8											
1.9											
1.10											
1.11											
1.12											
1.13											
1.14											
1.15											
	REP/ GRADING/ FENCING / CIVIL					\$ 133,850		\$ 2,459,550		\$	2,593,400
2. SUBSTATIO	N FOUNDATIONS										
2.1	345kV										
2.1a	Circuit Breaker Foundations	0	EA	\$	14,940		\$ 16,000		\$ 30,940		-
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025		\$ 60,000	'	\$ 116,025		-
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	26,145	\$ -	\$ 28,000		\$ 54,145	\$	-
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	-, -	\$ -	\$ 28,000		\$ 54,145		-
2.1e	Switch Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800		\$ 9,282		-
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	2 \$	-
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.1h	Bus Support 1 Ph Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	2 \$	-
2.1j	Instrument Transformer Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800		\$ 9,282		-
2.1k	Arrester Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	2 \$	-
2.1m	Wave Trap Stand Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	2 \$	-
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.1p				\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.2	230kV										
2.2a	Circuit Breaker Foundations	0	EA	Ś	11,952	\$ -	\$ 12,800	s -	\$ 24,752	5	-
2.2b	Capacitor Bank Foundations	0	EA	Ś	44.820		\$ 48.000		\$ 92.820		_
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	Ś	22,410		\$ 24,000		\$ 46,410		
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	Ś	22,410		\$ 24,000		\$ 46,410		
2.2e	Switch Stand Foundations	0	EA	5	3,735		\$ 4,000		\$ 7,735		
2.2f	Station Service Transformer Stand Foundation	0	EA	3		\$ -	\$ 4,000		\$ 7,735		
2.2g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ 4,000	\$ -	\$ 7,75.	\$	
	Dus Support Spiri outilidations	<u> </u>	EM	۲	-	- ب	-		-		21 560

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
	Circuit Breaker Foundations	8	EA	\$ 5,229	\$ 41,832	\$ 5,600	\$ 44,800	\$ 10,829	\$ 86,632
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -		\$ -	\$ 69,615	
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	20	EA	\$ 16,434	\$ 328,680		\$ 352,000	\$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e	Switch Stand Foundations	32	EA	\$ 2,988	\$ 95,616	\$ 3,200	\$ 102,400	\$ 6,188	\$ 198,016
2.3f	Fuse Stand Foundations	2	EA	\$ 2,988	\$ 5,976			\$ 6,188	
	Bus Support 3ph Foundations	40	EA	\$ 2,988	\$ 119,520		\$ 128,000	\$ 6,188	
	Bus Support 1 Ph Foundations	24	EA	\$ 2,988	\$ 71,712		\$ 76,800	\$ 6,188	
2.3j	Instrument Transformer Stand Foundations	51	EA	\$ 2,988	\$ 152,388		\$ 163,200	\$ 6,188	
2.3k	Arrester Stand Foundations	15	EA	\$ 2,988	\$ 44,820		\$ 48,000	\$ 6,188	
2.3m 2.3n	Wave Trap Stand Foundations	10	EA EA	\$ 2,988 \$ 3,735	\$ 29,880 \$ 3,735		\$ 32,000 \$ 4,000	\$ 6,188 \$ 7,735	
	Station Service Foundations Miss. Structure Foundations	0	EA EA	\$ 3,735	\$ 3,/35	\$ 4,000	\$ 4,000	\$ 7,735 \$ -	\$ 7,735
2.3p	Misc. Structure Foundations	0	EA	-	- -	- -	-	· -	-
2.4	Transformer Foundations								
	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								4
2.5a	Control House / Pad	1	EA	\$ 33,615	\$ 33,615		\$ 36,000	\$ 69,615	
2.5b 2.5c	Generator Foundation Station Service Distributuion Line - 1ph.	1	EA LS	\$ 16,000	\$ 16,000 \$ -	\$ 17,000 \$ 6,500	\$ 17,000 \$ 6,500	\$ 33,000 \$ 6,500	\$ 33,000 \$ 6,500
2.6	Lightning Mast Foundations	1	LS	5 -	, -	\$ 0,500	\$ 0,500	\$ 0,500	\$ 6,500
2.6a	70' Lightning Mast Foundation	4	EA	\$ 5,229	\$ 20,916	\$ 5,600	\$ 22,400	\$ 10,829	\$ 43,316
2.6b	70 Eightimig Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
	ATION FOUNDATIONS				\$ 964,690		\$ 1,039,500		\$ 2,004,190
3. SUBSTATION									
	345kV				·			·	
	Substation A-Frame Structures - Stand alone	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	
	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1c 3.1d	Switch Stands Station Service Transformer Stand	0	EA EA	\$ 14,800 \$ 14,800	\$ - \$ -		\$ - \$ -	\$ 29,600 \$ 29,600	
	Bus Support 3ph	0	EA EA	\$ 14,800	·		\$ -	\$ 29,600	\$ -
	Bus Support 1 Ph	0	EA	\$ 3,700	\$ -		\$ -	\$ 7,400	•
3.1g	Instrument Transformer Stand	0	EA	\$ 1,850			\$ -	\$ 3,700	
	Arrester Stand	0	EA	\$ 1,850	\$ -		\$ -	\$ 3,700	
	Wave Trap Stand	0	EA	\$ 7,400	\$ -	\$ 7,400	\$ -	\$ 14,800	\$ -
3.1k	Lightning Masts - 70'	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
	22211								
3.2 3.2a	230kV Substation A-Frame Structures - Stand alone	0	EA	\$ 33,300	Š -	\$ 33,300	\$ -	\$ 66,600	\$ -
	Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0	EA EA	\$ 33,300	\$ - \$ -		\$ - \$ -	\$ 66,600	•
	Switch Stands	0		\$ 33,300	т			\$ 24,050	
	Station Service Transformer Stand	0	EA	\$ 12,025		\$ 12,025		\$ 24,050	
	Bus Support 3ph	0		\$ -	\$ -		\$ -	\$ -	
	Bus Support 1 Ph	0	EA	\$ 2,775		\$ 2,775		\$ 5,550	
	Instrument Transformer Stand	0		\$ 1,295	\$ -			\$ 2,590	
	Arrester Stand	0	EA	\$ 1,295		\$ 1,295		\$ 2,590	
3.2j	Wave Trap Stand	0	EA	\$ 5,550			\$ -	\$ 11,100	
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								

3.10	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
1.3 Miles Sacce 1	3.3a	Substation A-Frame Structures - Stand alone	5	EA	\$ 18,50	92,500	\$ 18,500	\$ 92,500	\$ 37,000	\$ 185,000
1	3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,50) \$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.15 Markinger bar 2.25 TA 5 1.00 5 6.600 5 4.600 5 4.600 5 1.000	3.3c	Switch Stands	16	EA		5 \$ 127,280	\$ 7,955	\$ 127,280	\$ 15,910	\$ 254,560
3. M. Authorite Transformer Standard 3. M. 5		Fuse Stand			<u> </u>			· ,		
2.2 Mathematic Transformed started 22 EA 5 760 5 27,700 5 27,700 5 2,000 5										
3										
3.3 Wave Trap Stater										
3.3									,	
3.1 Sates Service Transformer's Injector Service Transformer's										
STATE STAT					<u> </u>			· ,		
MADE CONTINUED: Material Properties Ma			1	EA	\$ 1,11		\$ 1,110	. ,	\$ 2,220	
4.13						\$ 455,065		\$ 455,065		\$ 800,170
4.1 Corport Densis										
4.10 Add Capacitir feaks 0 1.4 5 5 5 5 5 5 5 5 5			0	FA	\$ 200.00) \$ -	\$ 80,000	\$ -	\$ 280,000	\$ -
Act Select 2-Day Not presented D EA S S PAGE PAGE S PAGE								T .		
4-10 Service						7		7		
A2 3384						-				
4.20 Capacid Revolvers 0 GA S 115,000 S S 80,000 S S \$185,000 S S 4.20 Capacidor Ranks 0 GA S \$15,000 S S 4.31 Capacidor Ranks 0 GA S \$2,000 S \$10,000 S 4.32 Capacidor Ranks 0 GA S \$2,000 S \$10,000 S 4.33 Capacidor Ranks 0 GA S \$2,000 S \$10,000 S 4.35 Capacidor Ranks 0 GA S \$2,000 S \$10,000 S 5.30 Capacidor Ranks 0 GA S \$2,000 S \$10,000 S 5.30 Capacidor Ranks 0 GA S \$2,000 S \$10,000 S 5.30 Capacidor Ranks 0 GA S \$2,000 S \$10,000 S 5.30 Capacidor Ranks 0 GA S \$2,000 S \$10,000 S 5.30 Capacidor Ranks 0 GA S \$2,000 S \$10,000 S 5.30 Capacidor Ranks 0 GA S \$2,000 S \$10,000 S 5.30 Capacidor Ranks 0 GA S \$2,000 S \$10,000 S 5.30 Capacidor Ranks 0 GA S \$2,000 S \$10,000 S 5.30 Capacidor Ranks 0 GA S \$2,000 S \$10,000 S \$10,000 S 5.30 Capacidor Ranks 0 GA S \$3,000 S S \$10,000 S \$10,000 S 5.30 Capacidor Ranks 0 GA S \$3,000 S S \$10,000 S \$10,000 S \$10,000 S 5.30 Capacidor Ranks 0 GA S \$3,000 S S \$10,000 S S \$10,000 S \$10,00						İ				
4.30 Capactor Banks			0	EA	\$ 115,00) \$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
A3 1549			0	EA			\$ 80,000	\$ -		
4.3 Carcul Breakers 8 EA 5 5,000 5 416,000 5 5 6,000 5 112,000 5 886,000										
4.3 Capacter Banks	4.3	115kV								
TOTAL-MADE SQUPTMENT MATERIALS	4.3a	Circuit Breakers	8	EA	\$ 52,00	\$ 416,000	\$ 60,000	\$ 480,000	\$ 112,000	\$ 896,000
S.MAIL EQUIPMENT / Marker S.1	4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
S.MAIL EQUIPMENT / Marker S.1										
S-1 345V						\$ 416,000		\$ 480,000		\$ 896,000
5.1										
Solit Disconnect Switches - 3ph w/ manual operator								_		1
Site VTS								7		
5.1d CTS										
Site CCVTS								T .		
S.1 Aresters										
Sign Sign								7		
Sation Service Transformers Color EA S 200,000 S S S 250,000 S S S 250,000 S S S S S S S S S					<u> </u>					•
S.2 Salve					· · · · · · · · · · · · · · · · · · ·			7	, , , , , , , , , , , , , , , , , , , ,	
S.2 Salow S.2 Line Switches - 3ph w/ motor operator 0 EA S 35,000 S - S 15,000 S - S 47,500 S - S 5,200 S - S		Station Service Transformers		1.	200,00	, , ,	у 30,000	Ť	250,000	*
5.2a Line Switches - 3ph w/ motor operator 0 EA 5 35,000 5 - 5 5,000 5 - 5	,									
S.2b Disconnect Switches - 3ph w/ manual operator 0 EA \$ 30,000 \$ - \$ 47,500 \$ - 5 5,20 \$ 5	5.2	230kV								
S2C	5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,00) \$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
S.2d CTS 0 EA S 13,000 S - S 8,000 S - S 21,000 S -	5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,00) \$ -	\$ 17,500	\$ -	\$ 47,500	\$ -
S.2e CCVT'S CVT'S CVT'	5.2c		0				\$ 8,000	\$ -	\$ 21,000	\$ -
S.2f								\$ -		
S.2g Wave Traps								'		•
S.2h Station Service Transformers 0 EA \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$										
5.2j 115kV 5.3a Line Switches - 3ph w/ motor operator 5 EA \$ 33,000 \$ 165,000 \$ 15,000 \$ 75,000 \$ 48,000 \$ 240,000 5.3b Disconnect Switches - 3ph w/ manual operator 16 EA \$ 28,000 \$ 448,000 \$ 17,500 \$ 280,000 \$ 45,500 \$ 728,000 5.3c VT'S 15 EA \$ 13,000 \$ 195,000 \$ 8,000 \$ 120,000 \$ 21,000 \$ 315,000 5.3e CT'S 15 EA \$ 13,000 \$ 195,000 \$ 8,000 \$ 120,000 \$ 21,000 \$ 315,000 5.3e CCVT'S 21 EA \$ 8,000 \$ 168,000 \$ 168,000 \$ 168,000 \$ 168,000 \$ 168,000 \$ 168,000 \$ 94,000 \$ 336,000 5.3f Arresters 15 EA \$ 3,420 \$ 51,300 \$ 90,000 \$ 94,200 \$ 144,300 \$ 168,000 \$ 90,000 \$ 94,200 \$ 316,000 \$ 316,000 \$ 168,000 \$ 90,000 \$ 94,20 \$ 144,300 \$ 10,000 \$ 10,000 \$ 10,00							7	т		
S.3 115kV		Station Service Transformers	0	EA	> -	-	> -	> -	\$ -	> -
5.3a Line Switches - 3ph w/ motor operator 5 EA \$ 33,000 \$ 165,000 \$ 75,000 \$ 48,000 \$ 240,000 5.3b Disconnect Switches - 3ph w/ manual operator 16 EA \$ 28,000 \$ 448,000 \$ 280,000 \$ 45,500 \$ 728,000 5.3c VT'S 15 EA \$ 13,000 \$ 195,000 \$ 8,000 \$ 210,000 \$ 315,000 5.3d CT'S 15 EA \$ 13,000 \$ 195,000 \$ 8,000 \$ 120,000 \$ 315,000 5.3d CCVT'S 21 EA \$ 8,000 \$ 168,000 \$ 168,000 \$ 169,000 \$ 336,000 \$ 114,000 \$ 336,000 \$ 90,000 \$ 90,000 \$ 90,000 \$ 90,000 \$ 90,000 \$ 114,300 \$	5.2J				-					
5.3a Line Switches - 3ph w/ motor operator 5 EA \$ 33,000 \$ 165,000 \$ 75,000 \$ 48,000 \$ 240,000 5.3b Disconnect Switches - 3ph w/ manual operator 16 EA \$ 28,000 \$ 448,000 \$ 280,000 \$ 45,500 \$ 728,000 5.3c VT'S 15 EA \$ 13,000 \$ 195,000 \$ 8,000 \$ 210,000 \$ 315,000 5.3d CT'S 15 EA \$ 13,000 \$ 195,000 \$ 8,000 \$ 120,000 \$ 315,000 5.3d CCVT'S 21 EA \$ 8,000 \$ 168,000 \$ 168,000 \$ 169,000 \$ 336,000 \$ 114,000 \$ 336,000 \$ 90,000 \$ 90,000 \$ 90,000 \$ 90,000 \$ 90,000 \$ 114,300 \$	F 2	115bV								
5.3b Disconnect Switches - 3ph w/ manual operator 16 EA \$ 28,000 \$ 448,000 \$ 17,500 \$ 280,000 \$ 45,500 \$ 728,000 5.3c VT'S 15 EA \$ 13,000 \$ 195,000 \$ 8,000 \$ 120,000 \$ 21,000 \$ 315,000 5.3d CT'S 15 EA \$ 13,000 \$ 195,000 \$ 8,000 \$ 120,000 \$ 21,000 \$ 315,000 5.3e CCVT'S 21 EA \$ 8,000 \$ 168,000 \$ 168,000 \$ 168,000 \$ 168,000 \$ 90,000 \$ 9,420 \$ 141,300 5.3f Arresters 15 EA \$ 3,420 \$ 51,300 \$ 60,000 \$ 90,000 \$ 9,420 \$ 141,300 5.3g Wave Traps 5 EA \$ 13,000 \$ 65,000 \$ 8,000 \$ 10,000 \$ 10,000 \$ 10,000 \$ 10,000 \$ 10,000 \$ 110,000 \$ 110,000 \$ 110,000 \$ 10,000 \$ 10,000 \$ 11,000 \$ 110,000 \$ 10,000 \$ 10,000 \$ 10,000 \$ 10,000 \$ 10,000 \$ 10,000			ς	FΔ	\$ 33.00	165,000	\$ 15,000	\$ 75,000	\$ 48,000	\$ 240,000
5.3c VT'S 15 EA \$ 13,000 \$ 195,000 \$ 8,000 \$ 120,000 \$ 21,000 \$ 315,000 5.3d CT'S 15 EA \$ 13,000 \$ 195,000 \$ 8,000 \$ 120,000 \$ 21,000 \$ 315,000 5.3e CCVT'S 21 EA \$ 8,000 \$ 168,000 \$ 8,000 \$ 16,000 \$ 336,000 5.3f Arresters 15 EA \$ 3,420 \$ 51,300 \$ 6,000 \$ 90,000 \$ 9,420 \$ 141,300 5.3g Wave Traps 5 EA \$ 13,000 \$ 65,000 \$ 8,000 \$ 10,000 \$ 110,000 \$ 110,000 \$ 110,000 \$ 110,000 \$ 110,000 \$ 110,000 \$ 110,000 \$ 110,000 \$										
5.3d CT'S 15 EA \$ 13,000 \$ 195,000 \$ 8,000 \$ 120,000 \$ 21,000 \$ 315,000 5.3e CCVT'S 21 EA \$ 8,000 \$ 168,000 \$ 168,000 \$ 168,000 \$ 9,000 \$ 94,000 \$ 336,000 \$ 313,000 \$ 6,000 \$ 90,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 9,000 \$ 11,000 \$ 11,000 \$ 11,000 \$ 11,000 \$ 11,000 \$ 11,000 \$ 11,000 \$ 11,000						- '		. ,		
5.3e CCVT'S 21 EA \$ 8,000 \$ 168,000 \$ 168,000 \$ 16,000 \$ 336,000 5.3f Arresters 15 EA \$ 3,420 \$ 51,300 \$ 60,000 \$ 90,000 \$ 9,420 \$ 141,300 5.3g Wave Traps 5 EA \$ 13,000 \$ 65,000 \$ 40,000 \$ 21,000 \$ 105,000 5.3h Station Service Transformers 1 EA \$ 75,000 \$ 35,000 \$ 110,000 \$ 110,000 5.3j Fuses 3 EA \$ 7,500 \$ 22,500 \$ 3,600 \$ 11,100 \$ 33,300										
5.3f Arresters 15 EA \$ 3,420 \$ 51,300 \$ 6,000 \$ 90,000 \$ 9,420 \$ 141,300 5.3g Wave Traps 5 EA \$ 13,000 \$ 65,000 \$ 8,000 \$ 40,000 \$ 21,000 \$ 105,000 5.3h Station Service Transformers 1 EA \$ 75,000 \$ 35,000 \$ 35,000 \$ 110,000 \$ 110,000 5.3j Fuses 3 EA \$ 7,500 \$ 22,500 \$ 3,600 \$ 10,800 \$ 11,100 \$ 33,300										
5.3g Wave Traps 5 EA \$ 13,000 \$ 65,000 \$ 8,000 \$ 40,000 \$ 105,000 5.3h Station Service Transformers 1 EA \$ 75,000 \$ 35,000 \$ 110,000 \$ 110,000 \$ 110,000 \$ 110,000 \$ 110,000 \$ 33,300 \$ 10,800 \$ 11,100 \$ 33,300 \$ 10,800 \$ 11,100 \$ 33,300 \$ 10,800 \$ 11,100 \$ 33,300 \$ 10,800 \$ 11,100 \$ 33,300 \$ 10,800 \$ 11,100 \$ 33,300 \$ 10,800 \$ 11,100 \$ 33,300 \$ 10,800 \$ 11,100 \$ 33,300 \$ 10,800 \$ 11,100 \$ 33,300 \$ 10,800 \$ 11,100 \$ 33,300 \$ 10,800 \$ 11,100 <										
5.3h Station Service Transformers 1 EA \$ 75,000 \$ 35,000 \$ 35,000 \$ 110,000 \$ 110,000 5.3j Fuses 3 EA \$ 7,500 \$ 22,500 \$ 3600 \$ 10,800 \$ 11,100 \$ 33,300	5.3g			EA				\$ 40,000		
	5.3h	Station Service Transformers	1	EA	\$ 75,00	5 75,000	\$ 35,000	\$ 35,000	\$ 110,000	\$ 110,000
	5.3j	Fuses	3	EA	\$ 7,50) \$ 22,500	\$ 3,600	\$ 10,800	\$ 11,100	\$ 33,300
TOTAL - SMALL EQUIPTMENT / MATERIALS \$ 938,800 \$ 2,323,600										
	TOTAL - SMAL	. EQUIPTMENT / MATERIALS				\$ 1,384,800		\$ 938,800		\$ 2,323,600

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6. CONTROL H	OUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	1	EA	\$ 292,500	\$ 292,500	\$ 85,000	\$ 85,000	\$ 377,500	\$ 377,500
6.2	Protection and Telecom Equipment Panels	30	EA	\$ 35,000	\$ 1,050,000	\$ 10,000	\$ 300,000	\$ 45,000	\$ 1,350,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000			\$ 100,000	\$ 200,000
	Control Cables	1	LS	\$ 487,025	\$ 487,025			\$ 974,050	\$ 974,050
6.5	SCADA and Communications	1	EA	\$ 50,000	\$ 50,000	\$ 100,000	\$ 100,000	\$ 150,000	\$ 150,000
6.6	Low Voltage AC Distribution	2	EA	\$ 50,000	\$ 100,000	\$ 100,000	\$ 200,000	\$ 150,000	\$ 300,000
	DC Distribution System	2	EA	\$ 50,000	\$ 100,000		·	\$ 150,000	
	Security	1	EA	\$ 7,500	\$ 7,500		\$ 7,500	\$ 15,000	\$ 15,000
	Fire Alarm	1	EA EA	\$ 7,500	\$ 7,500		\$ 7,500	\$ 15,000 \$ 180.000	\$ 15,000
6.10	Generator	1	EA	\$ 100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$ 180,000
TOTAL - CONT	 ROL HOUSE / PANELS / GENERATOR				\$ 2,344,525		\$ 1,517,025		\$ 3,861,550
7. MISC ITEMS					2,344,323		1,517,025		Ç 3,001,330
	Conduit & Cable Trench System	1,300.0	LF	\$ 185.00	\$ 240,500	\$ 170.00	\$ 221,000	\$ 355	\$ 461,500
	Rigid Bus, Fittings & Insulators	1,800.0	LF	\$ 125.07	\$ 225,126			\$ 362	\$ 651,906
7.3	Strain Bus, Connectors & Insulators	1,000.0	LF	\$ 39.30	\$ 39,300	\$ 53.35	\$ 53,350	\$ 93	\$ 92,650
	Grounding System	10,500.0	LF	\$ 6.93	\$ 72,765			\$ 40	
	Strain Bus Insulators - 345kV	0	EA	\$ 2,000	\$ -			\$ 3,050	
	Strain Bus Insulators - 230kV	0	EA	\$ 1,400	\$ -			\$ 2,150	
	Strain Bus Insulators - 115kV	36	EA	\$ 1,000	\$ 36,000			\$ 1,550	
	Low Voltage AC Station Service	1	LS	\$ 50,000	\$ 50,000		\$ 75,000	\$ 125,000	
	SSVT Service	1	LS	\$ 45,000	\$ 45,000			\$ 90,000	
	Control Conduits from Trench to Equipment	1	LS	\$ 125,000	\$ 125,000		\$ 125,000	\$ 250,000	
	Misc. Materials (Above and Below Ground)	1	LS	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$ 360,000
7.12 7.13									
7.13									
7.15									
7.16									
7.17									
7.18									
7.19									
7.20									
7.21									
7.22									
7.23									
7.24									
7.25	 TEMS				ć 1012.001		ć 4.400.000		ć 2504.744
					\$ 1,013,691		\$ 1,488,020		\$ 2,501,711
H. Churc	htown Substation - Install				\$ 6,690,641		\$ 8,355,980		\$ 15,046,621
8. MOB/DEMC	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 150,466	\$ 150,466	\$ 150,466	\$ 150,466
	Project Management, Material Handling & Amenities								
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 875,736	\$ 875,736	\$ 875,736	\$ 875,736
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 150,466	\$ 150,466	\$ 150,466	\$ 150,466
	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 150,466			
	Engineering	_	-			,.00	, ••	, -, -	,
	Design Engineering	1	LS	\$ -	\$ -	\$ 1,203,730	\$ 1,203,730	\$ 1,203,730	\$ 1,203,730
8.6	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Geotech	4	Site	\$ -	\$ -				
	Surveying/Staking	1	Site	\$ -	- \$	\$ 105,326	\$ 105,326	\$ 105,326	\$ 105,326

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rat	e Ma	1aterial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ 376,166	\$ 376,166	\$ 376,166	\$ 376,166
	Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation		LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 45,140	\$ 45,140	\$ 45,140	\$ 45,140
8.13	Real Estate Costs (New)	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$	-	\$ 91,200	\$ 91,200	\$ 91,200	\$ 91,200
8.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 535,25	1 \$	535,251	\$ -	\$ -	\$ 535,251	\$ 535,251
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 15,047	\$ 15,047	\$ 15,047	\$ 15,047
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	535,251		\$ 3,177,743		\$ 3,712,994

Page 35 of 60

NAT - NYPA - T030 - (Segment B Enhanced)

I. Churchtown Substation - Removal

Estimate Revision: 5 Total: \$ 1,128,661

NAT - NYPA - T030 - (Segmen	nt B Enhanced)		
	Supply	Installation	Total
I. Churchtown Substation - Removal			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ -	\$ 111,000	\$ 111,000
2. SUBSTATION FOUNDATIONS	\$ -	\$ 340,400	\$ 340,400
3. SUBSTATION STRUCTURES	\$ -	\$ 252,600	\$ 252,600
4. MAJOR EQUIPTMENT	\$ -	\$ 24,600	\$ 24,600
5. SMALL EQUIPTMENT / MATERIALS	\$ -	\$ 60,000	\$ 60,000
6. CONTROL HOUSE / PANELS	\$ -	\$ 150,000	\$ 150,000
7. MISC ITEMS	\$ -	\$ 25,078	\$ 25,078
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ -	\$ 164,983	\$ 164,983
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ -	\$ 1,128,661	\$ 1,128,661
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ -	\$ 1,128,661	\$ 1,128,661

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
I. Church	ntown Substation - Removal								
1. SITE PREP/	GRADING/ FENCING / CIVIL								
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.		ACRES	\$ -	\$ -	\$ 250,000	\$ -	\$ 250,000	\$ -
1.2	Station stone within substation fence.		СУ	\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	740	LF	\$ -	\$ -	\$ 150	\$ 111,000	\$ 150	\$ 111,000
1.4									
1.5									
1.6									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE F	PREP/ GRADING/ FENCING / CIVIL				\$ -		\$ 111,000		\$ 111,000
2. SUBSTATIO	N FOUNDATIONS								
2.1	345kV								
2.1a	Circuit Breaker Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1b	Capacitor Bank Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1e	Switch Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1f	Station Service Transformer Stand Foundation		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1g	Bus Support 3ph Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1j	Instrument Transformer Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1k	Arrester Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1m	Wave Trap Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1n	Reactor Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2	230kV								
2.2a	Circuit Breaker Foundations		EA	\$ -	\$ -	\$ 7,200	\$ -	\$ 7,200	\$ -
2.2b	Capacitor Bank Foundations		EA	\$ -	\$ -		\$ -	\$ 32,000	
2.2c	Caisson DE Foundations (for DE A frame str stand alone)		EA	\$ -	\$ -	\$ 22,000	\$ -	\$ 22,000	\$ -
2.2d	Caisson DE Foundations (for DE A frame str stand alone)		EA	\$ -	\$ -	\$ 11,000	\$ -	\$ 22,000	•
2.2u 2.2e	Switch Stand Foundations		EA	\$ -	\$ -	\$ 5,200	\$ -	\$ 5,200	\$ -
2.2f	Station Service Transformer Stand Foundation		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
			EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2g 2.2h	Bus Support 3ph Foundations		EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
	Bus Support 1 Ph Foundations		EA	\$ - \$ -	\$ -	,	\$ -	\$ 2,400	\$ -
2.2j 2.2k	Instrument Transformer Stand Foundations		EA	\$ -	\$ - \$ -	\$ 2,400 \$ 2,400	\$ -	\$ 2,400	\$ - \$ -
	Arrester Stand Foundations		EA	1	·	, , , , , ,	'	,	•
2.2m	Wave Trap Stand Foundations				T			'	\$ -
2.2n 2.2p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2μ									
2.3	115kV								
2.3a	Circuit Breaker Foundations	2	EA	\$ -	\$ -	\$ 15,000	\$ 30,000	\$ 15,000	\$ 30,000
2.3b	Capacitor Bank Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3e	Switch Stand Foundations	18	EA	\$ -	\$ -	\$ 5,200	\$ 93,600	\$ 5,200	\$ 93,600
2.3f	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3g 2.3h	Bus Support 1 Ph Foundations	6	EA	\$ -	\$ -	\$ 5,200	\$ 31,200	\$ 5,200	\$ 31,200
2.3j	Instrument Transformer Stand Foundations	3	EA	\$ -	\$ -	\$ 5,200	\$ 15,600	\$ 5,200	\$ 15,600
2.3k	Arrester Stand Foundations	0	EA	\$ -	\$ -	\$ 5,200	\$ 15,000	\$ -	\$ -
2.3m	Wave Trap Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3m	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3n	Steel Transmission Pole Deadend Fnds (1Ph)	9	EA	\$ -	\$ -	\$ 15,000	\$ 135,000	\$ 15,000	\$ 135,000
2.56	Section and Sectio		271	<u> </u>	·	Ų 13,000	ψ 155,000	7 13,000	Ţ 155,600
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment		EA	\$ -	\$ -	\$ 67,500	\$ -	\$ 67,500	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	·								
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ -	\$ -	\$ 14,200	\$ 14,200	\$ 14,200	\$ 14,200
2.5b	Generator Foundation		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	4	EA	\$ -	\$ -	\$ 5,200	\$ 20,800	\$ 5,200	\$ 20,800
2.6b				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TATION FOUNDATIONS				\$ -		\$ 340,400		\$ 340,400
	N STRUCTURES								
3.1	345kV							·	
3.1a	Substation A-Frame Structures - Stand alone		EA	\$ -	\$ -	*	\$ -		\$ -
3.1b	Substation A-Frame Structures - Shared Column		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.1c	Switch Stands		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1d	Station Service Transformer Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 3ph		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g	Instrument Transformer Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1h	Arrester Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1j	Wave Trap Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1k	Misc. Structures		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2	230kV								
3.2a	Substation A-Frame Structures - Stand alone		EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Shared Column		EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2c	Switch Stands		EA	\$ -	\$ -	\$ 9,750	\$ -	\$ 9,750	\$ -
3.2d	Station Service Transformer Stand		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.2e	Bus Support 3ph		EA	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	\$ -
3.2f	Bus Support 1 Ph		EA	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	
3.2g	Instrument Transformer Stand		EA	\$ -	\$ -	\$ 1,050	\$ -	\$ 1,050	\$ -
3.2h	Arrester Stand		EA	\$ -	\$ -	\$ 1,050	\$ -	\$ 1,050	\$ -
3.2j	Wave Trap Stand		EA	\$ -	\$ -	\$ 4,500	\$ -	\$ 4,500	
3.2k	Misc. Structures		EA	\$ -	\$ -	\$ 4,300	\$ -	\$ -	\$ -
3.2K	IVISC. Structures		EA	-	, -	-	-	-	-
3.3	115kV								
		0	EA.	ć	ć	\$ 15,000	ć	\$ 15,000	
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -		\$ -		\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3c	Switch Stands	9	EA	\$ -	\$ -	\$ 6,450	\$ 58,050	\$ 6,450	\$ 58,050
3.3d	Fuse Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3f	Bus Support 1 Ph	6	EA	\$ -	\$ -	\$ 6,450	\$ 38,700	\$ 6,450	\$ 38,700
3.3g	Instrument Transformer Stand	3	EA	\$ -	\$ -	\$ 6,450	\$ 19,350	\$ 6,450	
3.3h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3k	Steel Transmission Pole Deadend (1Ph)	9	EA	\$ -	\$ -	\$ 12,300	\$ 110,700	\$ 12,300	\$ 110,700
3.41	Lightning Mast	4	EA	\$ -	\$ -	\$ 6,450	\$ 25,800	\$ 6,450	\$ 25,800
TOTAL - SUBST	TATION STRUCTURES				\$ -		\$ 252,600		\$ 252,600
4. MAJOR EQU	IPTMENT								
4.1	345kV								
4.1a	Circuit Breakers		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1b	Capacitor Banks		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c			EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1d									
4.2	230kV								
4.2a	Circuit Breakers		EA	\$ -	\$ -	\$ 7,000	\$ -	\$ 7,000	\$ -
4.2b	Capacitor Banks		EA	\$ -	\$ -	\$ 42,000	\$ -	\$ 42,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	2	EA	\$ -	\$ -	\$ 12,300	\$ 24,600	\$ 12,300	\$ 24,600
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAIO	I R EQUIPTMENT				\$ -		\$ 24,600		\$ 24,600
	IPTMENT / MATERIALS						- 24,300		24,300
	345kV								

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.1a	Line Switches - 3ph w/ motor operator		EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator		EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.1c	VT'S		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1d	CT'S		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1e	CCVT'S		EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1f	Arresters		EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.1g	Wave Traps		EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.1h	Station Service Transformers		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator		EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator		EA	\$ -	\$ -	\$ 5,500	\$ -	\$ 5,500	\$ -
5.2c	VT'S		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2d	CT'S		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2e	CCVT'S		EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.2f	Arresters		EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2g	Wave Traps		EA	\$ -	\$ -	\$ 2,500	\$ -	\$ 2,500	\$ -
5.2h	Station Service Transformers		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,50
5.3b	Disconnect Switches - 3ph w/ manual operator	3	EA	\$ -	\$ -	\$ 5,500	\$ 16,500	\$ 5,500	\$ 16,50
5.3c	VT'S	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,50
5.3d	CT'S	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,50
5.3e	CCVT'S	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,50
5.3f	Arresters	9	EA	\$ -	\$ -	\$ 1,500	\$ 13,500	\$ 1,500	\$ 13,50
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMAL	I L EQUIPTMENT / MATERIALS				\$ -		\$ 60,000		\$ 60,00
6. CONTROL H	OUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE	1	EA	\$ -	\$ -	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,00
6.2	Protection and Telecom Equipment Panels		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.3	125VDC Batteries		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.4	Control Cables		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.5	SCADA and Communications		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.8	Security		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.9	Fire Alarm		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONT	I ROL HOUSE / PANELS / GENERATOR				\$ -		\$ 150,000		\$ 150,00
7.1	Conduit & Cable Trench System		LS	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.2	Rigid Bus, Fittings & Insulators	535.0	LF	\$ -	\$ -	\$ 46.88	\$ 25,078	\$ 47	\$ 25,07

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
7.3	Strain Bus, Connectors & Insulators		LF	\$ -	\$ -	\$ 39.35	\$ -	\$ 39	\$ -
7.4	Grounding System		LS	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.5									
7.6									
7.7									
7.8									
7.9									
7.10									
7.11									
7.12									
7.13									
7.14									
7.15									
TOTAL - MISC	ITEMS				\$ -		\$ 25,078		\$ 25,078
I. Church	ntown Substation - Removal				\$ -		\$ 963,678		\$ 963,678
8. MOB/DEMO	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 9,637	\$ 9,637	\$ 9,637	\$ 9,637
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 56,088	\$ 56,088	\$ 56,088	\$ 56,088
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 9,637	\$ 9,637	\$ 9,637	\$ 9,637
8.4	Site Accommodation, Facilities, Storage	1.0	LS	\$ -	\$ -	\$ 9,637	\$ 9,637	\$ 9,637	\$ 9,637
	Engineering								
8.5	Design Engineering	1.0	LS	\$ -	\$ -	\$ 77,094	\$ 77,094	\$ 77,094	\$ 77,094
8.6	LIDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 6,746	\$ -	\$ 6,746	\$ -
	Testing & Commissioning							-	
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 24,092	\$ -	\$ 24,092	\$ -
	Permitting and Additional Costs					,		,	-
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 2,891	<u> </u>	\$ 2,891	-
8.13	Real Estate Costs (New)		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17	monarios (or cares osca burning construction (Art obe)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1.0	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	\$ 964		\$ 964	\$ -
	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				s -		\$ 164,983		\$ 164,983

NAT - NYPA - T030 - (Segment B Enhanced) J. Pleasant Valley Substation - Install

Total: \$ 3,490,140

NAT - NYPA - T030 - (Segment B Enh	anced)			
		Supply	Installation		Total
J. Pleasant Valley Substation - Install					
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	11,025	\$ 14,625	\$	25,650
2. SUBSTATION FOUNDATIONS	\$	151,466	\$ 160,900	\$	312,366
3. SUBSTATION STRUCTURES	\$	44,400	\$ 44,400	\$	88,800
4. MAJOR EQUIPTMENT	\$	200,000	\$ 80,000	\$	280,000
5. SMALL EQUIPTMENT / MATERIALS	\$	260,500	\$ 129,000	\$	389,500
6. CONTROL HOUSE / PANELS	\$	560,900	\$ 253,400	\$	814,300
7. MISC ITEMS	\$	409,950	\$ 457,275	\$	867,225
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	131,059	\$ 581,239	\$	712,299
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-
SUBTOTAL:	\$	1,769,300	\$ 1,720,839	\$	3,490,140
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-
TOTAL:	Ś	1.769.300	\$ 1.720.839	Ś	3.490.140

Description of Work:	

Estimate Revision:

Item	ltem Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
J. Pleasa	nt Valley Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$	-	\$ -	\$ 203,000	\$ -	\$ 203,000	\$ -
1.2	Station stone within substation fence.	75	CY	\$	27	\$ 2,025	\$ 75	\$ 5,625	\$ 102	\$ 7,650
1.3	Substation Fence	90	LF	\$	100	\$ 9,000	\$ 100	\$ 9,000	\$ 200	\$ 18,000
1.4	Permanent Access Road - 20'-Wide	0	LF	\$	35		\$ 285		\$ 320	
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 11,025		\$ 14,625		\$ 25,650
2. SUBSTATIO	FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$	14,940	\$ 14,940	\$ 16,000	\$ 16,000	\$ 30,940	\$ 30,940
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	6	EA	\$	4,482	\$ 26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$ 55,692
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1j	Instrument Transformer Stand Foundations	9	EA	\$	4,482	\$ 40,338	\$ 4,800	\$ 43,200	\$ 9,282	\$ 83,538
2.1k	Arrester Stand Foundations	3	EA	\$	4,482	\$ 13,446	\$ 4,800	\$ 14,400	\$ 9,282	\$ 27,846
2.1m	Wave Trap Stand Foundations	1	EA	\$	4,482	\$ 4,482	\$ 4,800	\$ 4,800	\$ 9,282	\$ 9,282
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p										
2.2	230kV									
2.2a	Circuit Breaker Foundations	0	EA	\$	11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
	•	-		•				•		Page 41 of 60

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -		\$ -	\$ 7,735	
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -		\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2n 2.2p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3	115kV								
2.3a	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -		\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	·
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600		\$ 34,034	
2.3e	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
2.3g	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3h	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3j	Instrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -		\$ -
2.3k	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3m 2.3n	Wave Trap Stand Foundations Station Service Foundations	0	EA EA	\$ 2,988	\$ - \$ -		\$ - \$ -		\$ - \$ -
2.3n	Misc. Structure Foundations	0	EA EA	\$ -	\$ - \$ -	\$ -	\$ -		\$ -
2.5μ	INISC. Structure i ouridations	0	LA	7	, -	,	, -	, -	-
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -		\$ -	\$ 154,700	
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5	Control House Foundations / Pad								
2.5a	Control House Addition Foundation (25-ft x 50-ft)	1	EA	,	\$ 51,368	,	\$ 53,700	\$ 105,068	
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBS	TATION FOUNDATIONS				\$ 151,466		\$ 160,900		\$ 312,366
	N STRUCTURES				+ ===,:==		7 200,000		*,
3.1	345kV								
3.1a								1	
5.10	Substation A-Frame Structures - Stand alone	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.1b 3.1c	Substation A-Frame Structures - Shared Column Switch Stands	0	EA EA	\$ 37,000 \$ 14,800	\$ - \$ 14,800	\$ 37,000 \$ 14,800	\$ - \$ 14,800	\$ 74,000 \$ 29,600	\$ - \$ 29,600
3.1b 3.1c 3.1d	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 1 0	EA EA EA	\$ 37,000 \$ 14,800 \$ 14,800	\$ - \$ 14,800 \$ -	\$ 37,000 \$ 14,800 \$ 14,800	\$ - \$ 14,800 \$ -	\$ 74,000 \$ 29,600 \$ 29,600	\$ - \$ 29,600 \$ -
3.1b 3.1c 3.1d 3.1e	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	0 1 0 0	EA EA EA	\$ 37,000 \$ 14,800 \$ 14,800 \$ -	\$ - \$ 14,800 \$ - \$ -	\$ 37,000 \$ 14,800 \$ 14,800 \$ -	\$ - \$ 14,800 \$ - \$ -	\$ 74,000 \$ 29,600 \$ 29,600 \$ -	\$ - \$ 29,600 \$ - \$ -
3.1b 3.1c 3.1d 3.1e 3.1f	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph	0 1 0 0	EA EA EA EA	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700	\$ - \$ 14,800 \$ - \$ - \$ -	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700	\$ - \$ 14,800 \$ - \$ - \$ -	\$ 74,000 \$ 29,600 \$ 29,600 \$ - \$ 7,400	\$ - \$ 29,600 \$ - \$ - \$ -
3.1b 3.1c 3.1d 3.1e 3.1f 3.1g	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand	0 1 0 0 0 0 9	EA EA EA EA EA	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850	\$ - \$ 14,800 \$ - \$ - \$ - \$ 5 \$ 16,650	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850	\$ - \$ 14,800 \$ - \$ - \$ - \$ 5 \$ 16,650	\$ 74,000 \$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700	\$ - \$ 29,600 \$ - \$ - \$ - \$ 5
3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 1 0 0 0 9 9	EA EA EA EA EA EA	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850	\$ - \$ 14,800 \$ - \$ - \$ - \$ 16,650 \$ 5,550	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850	\$ - \$ 14,800 \$ - \$ - \$ - \$ 5 \$ 5 \$ 5 \$ 5,550	\$ 74,000 \$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700	\$ - \$ 29,600 \$ - \$ - \$ - \$ - \$ 11,100
3.1b 3.1c 3.1d 3.1e 3.1f 3.1g	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand	0 1 0 0 0 0 9	EA EA EA EA EA EA EA	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850	\$ - \$ 14,800 \$ - \$ - \$ - \$ 5 \$ 5,550 \$ 7,400	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ 14,800 \$ - \$ - \$ - \$ 5 \$ 5 \$ 16,650 \$ 5,550 \$ 7,400	\$ 74,000 \$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700	\$ - \$ 29,600 \$ - \$ - \$ - \$ 5 \$ 11,100 \$ 14,800
3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures	0 1 0 0 0 9 9 3 1	EA EA EA EA EA EA EA	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ 14,800 \$ - \$ - \$ - \$ 5 \$ 5 \$ 5,550 \$ 7,400	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ 14,800 \$ - \$ - \$ - \$ 5 \$ 5 \$ 16,650 \$ 5,550 \$ 7,400	\$ 74,000 \$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800	\$ 29,600 \$ - \$ - \$ - \$ - \$ 5 \$ 11,100 \$ 14,800
3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures	0 1 0 0 0 9 9 3 1 0	EA EA EA EA EA EA EA	\$ 37,000 \$ 14,800 \$ 14,800 \$ \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475	\$ - \$ 14,800 \$ - \$ - \$ - \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 7,400 \$ 5 \$ 7,400	\$ 37,000 \$ 14,800 \$ 14,800 \$ \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475	\$ - \$ 14,800 \$ - \$ - \$ - \$ 5 \$ 5 \$ 5 \$ 5 \$ 7,400 \$ 5 \$ 7,400	\$ 74,000 \$ 29,600 \$ 29,600 \$ - \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950	\$ -9,600 \$ -2,600 \$ -2,500 \$ -3,300 \$ 11,100 \$ 14,800 \$ -
3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3 ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone	0 1 0 0 0 0 9 3 3 1 0	EA EA EA EA EA EA EA EA EA EA EA	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475	\$ - \$ 14,800 \$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ -	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475	\$ - \$ 14,800 \$ - \$ - \$ 5 \$ 16,650 \$ 5,550 \$ 7,400 \$ -	\$ 74,000 \$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950	\$ - \$ 29,600 \$ - \$ - \$ - \$ 33,300 \$ 11,100 \$ 14,800 \$ -
3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0 1 0 0 0 0 9 9 3 1 1 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300	\$ - \$ 14,800 \$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ -	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300	\$ - \$ 14,800 \$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ -	\$ 74,000 \$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600	\$ -9,600 \$ -5 \$ -5 \$ -5 \$ -33,300 \$ 11,100 \$ 14,800 \$ -
3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands	0 1 0 0 0 9 3 1 1 0	EA	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025	\$ - \$ 14,800 \$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ 5 - \$ 5 - \$ 16,650 \$ 5,550 \$ 7,400 \$ 5 - \$ 7,400 \$ 5 - \$ 7,400	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025	\$ - \$ 14,800 \$ - \$ - \$ - \$ 16,650 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 74,000 \$ 29,600 \$ 29,600 \$ 7,400 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 24,050	\$ -9,600 \$ -9,600 \$ -9 \$ -9 \$ -1,100 \$ 11,100 \$ 14,800 \$ -1
3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0 1 0 0 0 0 9 9 3 1 1 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300	\$ - \$ 14,800 \$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025	\$ - \$ 14,800 \$ - \$ - \$ - \$ 16,650 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 74,000 \$ 29,600 \$ 29,600 \$	\$ -9,600 \$ -9,600 \$ -9 \$ -9 \$ -1,100 \$ 11,100 \$ 14,800 \$ -1
3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d	Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Misc. Structures 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 1 0 0 0 9 9 3 3 1 1 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025	\$ - \$ 14,800 \$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025 \$ 12,025	\$ - \$ 14,800 \$ - \$ - \$ - \$ 16,650 \$ 5,550 \$ 7,400 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 74,000 \$ 29,600 \$ 29,600 \$	\$ - \$ 29,600 \$ - \$ - \$ - \$ 33,300 \$ 11,100 \$ 14,800 \$ - -

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2h	Arrester Stand	0	EA	\$ 1,295		\$ 1,295	\$ -	\$ 2,590	\$ -
3.2j	Wave Trap Stand	0	EA	\$ 5,550		\$ 5,550	\$ -		\$ -
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,500		\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	0	EA	\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3d	Fuse Stand	0	EA	\$ 7,955			\$ -		\$ -
3.3e	Bus Support 3ph	0	EA	\$ 3,330			\$ -		\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ 1,850			\$ -		\$ -
3.3g	Instrument Transformer Stand	0	EA	\$ 740		\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0	EA	\$ 740		\$ 740	\$ -	\$ 1,480	\$ -
3.3j	Wave Trap Stand	0	EA	\$ 3,700		\$ 3,700		\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
	TATION STRUCTURES				\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQU									
4.1	345kV								
4.1a	Circuit Breakers	1	EA	\$ 200,000	\$ 200,000	\$ 80,000	\$ 80,000		\$ 280,000
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ 115,000	· · · · · · · · · · · · · · · · · · ·	\$ 80,000	\$ -	\$ 195,000	
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 52,000	\$ -	\$ 60,000	\$ -	,	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
	R EQUIPTMENT				\$ 200,000		\$ 80,000		\$ 280,000
	IPTMENT / MATERIALS								
5.1	345kV					4			
5.1a	Line Switches - 3ph w/ motor operator	1	EA	\$ 40,000					
5.1b	Disconnect Switches - 3ph w/ manual operator	1	EA	\$ 35,000			\$ 17,500		
5.1c	VT'S	3	EA	\$ 25,000		\$ 12,000	\$ 36,000	\$ 37,000	\$ 111,000
5.1d	CT'S	3	EA	\$ 13,000 \$ 13,000		\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1e 5.1f	CCVT'S	3	EA EA	\$ 13,000 \$ 6,500		\$ 8,000 \$ 1,500		\$ 21,000 \$ 8,000	\$ 63,000 \$ 24,000
5.1g	Arresters Wave Traps	1	EA	\$ 13,000		\$ 1,500	\$ 4,500	\$ 21,000	\$ 21,000
5.1g 5.1h	Station Service Transformers	0	EA	\$ 200,000		\$ 50,000	. ,	\$ 250,000	
5.1j	Station Service Hansionners	0	EA	3 200,000	, -	3 30,000	, -	\$ 230,000	· -
3.11									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,000			\$ -	1,	\$ -
5.2c	VT'S	0	EA	\$ 13,000		\$ 8,000	•	\$ 21,000	\$ -
5.2d	CT'S	0	EA	\$ 13,000		\$ 8,000		\$ 21,000	
5.2e	CCVT'S	0	EA	\$ 10,000			•		\$ -
5.2f	Arresters	0	EA	\$ 5,000			\$ -	\$ 11,000	
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2h	Station Service Transformers	0	EA	\$ -	Š -	\$ -	Š -	\$ -	\$ -
5.2j				Ι΄.					·
3.2,									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ 33,000	\$ -	\$ 15,000	\$ -	\$ 48,000	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0		\$ 28,000		\$ 17,500		\$ 45,500	
5.3c	VT'S	0		\$ 13,000		\$ 8,000		\$ 21,000	•
5.3d	CT'S	0		\$ 13,000		\$ 8,000		\$ 21,000	
5.3e	CCVT'S	0		\$ 8,000		\$ 8,000		\$ 16,000	
5.3f	Arresters	0		\$ 3,420		\$ 6,000		\$ 9,420	
5.3g	Wave Traps	0	EA	\$ -	\$ -	,			\$ -
5.3h	Station Service Transformers	0		\$ -		\$ -			\$ -
									D 12 -£(0

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	L EQUIPTMENT / MATERIALS				\$ 260,500		\$ 129,000		\$ 389,500
6. CONTROL H	OUSE / PANELS / GENERATOR								
6.1	CONTROL HOUSE Addition (25-ft x 50-ft)	1	EA	\$ 325,000	\$ 325,000	\$ 85,000	\$ 85,000	\$ 410,000	\$ 410,000
6.2	Protection and Telecom Equipment Panels	3	EA	\$ 35,000	\$ 105,000	·		\$ 47,500	
6.3	125VDC Batteries	0	EA	\$ 75,000	\$ -		\$ -	\$ 100,000	
6.4	Control Cables	1	LS	\$ 130,900	\$ 130,900		\$ 130,900	\$ 261,800	
6.5	SCADA and Communications	0	EA	\$ -	\$ -		\$ -	\$ -	\$ -
6.6	Low Voltage AC Distribution	0	EA	\$ 50,000 \$ 50,000	\$ -		\$ -	\$ 150,000	
6.7	DC Distribution System	0	EA		\$ -		\$ -	\$ 150,000	
6.8	Security Fire Alarm	0	EA EA	\$ 7,500 \$ 7,500	\$ - \$ -		\$ - \$ -	\$ 15,000 \$ 15,000	
6.10	Generator	0	EA	\$ 7,500	\$ -	\$ 7,500		\$ 180,000	
6.10	Generator	U	EA	\$ 100,000	ş -	\$ 80,000	ş -	\$ 180,000	\$ -
TOTAL - CONT	 ROL HOUSE / PANELS / GENERATOR				\$ 560,900		\$ 253,400		\$ 814,300
7. MISC ITEMS					\$ 300,500		\$ 233,400		3 814,300
7.1	Conduit & Cable Trench System	800	LF	\$ 185.00	\$ 148,000	\$ 170.00	\$ 136,000	\$ 355	\$ 284,000
7.2	Rigid Bus, Fittings & Insulators	0	LS	\$ 15,008.40	\$ -	\$ 56,904.00		\$ 71,912	
7.3	Strain Bus, Connectors & Insulators	2,500	LF	\$ 13.38	\$ 33,450		\$ 98,375	\$ 53	
7.4	Grounding System	0	LF	\$ 6.93	\$ -	\$ 32.58	\$ -	\$ 40	\$ -
7.5	Charles Book Landaharan 245144	38	EA	\$ 2,000	\$ 76,000	\$ 1,050	\$ 39,900	\$ 3,050	\$ 115,900
7.6	Strain Bus Insulators - 345kV Strain Bus Insulators - 230kV	0	EA EA	\$ 2,000				\$ 3,030	
7.7	Strain Bus Insulators - 250kV	0	EA	\$ 1,400	\$ - \$ -		\$ - \$ -	\$ 2,150	
7.7	Low Voltage AC Station Service	0	LS	\$ 50,000	\$ -	\$ 75,000		\$ 125,000	
7.9	SSVT Service	0	LS	\$ 45,000	\$ -		\$ -	\$ 90,000	
7.10	Control Conduits from Trench to Equipment	1	LS	\$ 62,500	\$ 62,500	1 -7	\$ 75,000	\$ 137,500	
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$ 90,000	\$ 90,000			\$ 198,000	
7.12	imisc. Materials (Above and below Ground)			30,000	30,000	7 100,000	7 100,000	7 150,000	7 130,000
7.13									
7.14									
7.15									
7.16									
7.17									
7.18									
7.19									
7.20									
7.21									
7.22									
7.23									
7.24									
7.25									
TOTAL - MISC					\$ 409,950		\$ 457,275		\$ 867,225
J. Pleasa	nt Valley Substation - Install				\$ 1,638,241		\$ 1,139,600		\$ 2,777,841
8. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 27,778	\$ 27,778	\$ 27,778	\$ 27,778
	Project Management, Material Handling & Amenities								
8.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 161,675	\$ 161,675	\$ 161,675	\$ 161,675
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 27,778	\$ 27,778	\$ 27,778	\$ 27,778
8.4	Site Accommodation, Facilities, Storage	1		\$ -	\$ -	\$ 27,778			
J	Engineering			1.		. 2.,.70	. 2.,	. 2.,	. 2.,.70
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 222,227	\$ 222,227	\$ 222,227	\$ 222,227
8.6	LiDAR	-	LS	\$ -	_		\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -		\$ 3,500			
8.8	Surveying/Staking	1	Site	\$ -	\$ -				
	Testing & Commissioning								
									D 44 -£(0

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 69,446	\$ 69,446	\$ 69,446	\$ 69,446
	Permitting and Additional Costs								
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 8,334	\$ 8,334	\$ 8,334	\$ 8,334
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 131,059	\$ 131,059	\$ -	\$ -	\$ 131,059	\$ 131,059
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 2,778	\$ 2,778	\$ 2,778	\$ 2,778
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 131,059		\$ 581,239		\$ 712,299

Page 45 of 60

J. SS Pleasant Valley-Install

NAT - NYPA - T030 - (Segment B Enhanced) N. Interconnection Milan Station

Estimate Revision:	5		Total:	\$ 742,607	
	NAT - NYPA - T030 - (Segm	ent B Enhai	nced)		
			Supply	Installation	Total
	N. Interconnection Milan Station				
	1. CLEARING & ACCESS	\$	-	\$ 121,100	\$ 121,100
	2. FOUNDATIONS	\$	84,375	\$ 135,279	\$ 219,654
	3. STRUCTURES	\$	130,328	\$ 88,667	\$ 218,994
	4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$ -	\$ -
	5. INSULATORS, FITTINGS, HARDWARE	\$	45,200	\$ 18,480	\$ 63,680
	6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	20,792	\$ 98,387	\$ 119,179
	CONTRACTOR MARK-UP (OH&P)	\$	•	\$ -	\$ -
	SUBTOTAL:	\$	280,695	\$ 461,912	\$ 742,607
1	CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
	TOTAL:	\$	280,695	\$ 461,912	\$ 742,607

Description of Work:											
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate		Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
N. Interconnection Milan Station											
1. CLEARING	1. CLEARING & ACCESS										
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$ -	\$ 15,000	\$ -	\$ 15,000	\$	-
1.2	Clearing the ROW - Light (mowing)	1.0	Acre	\$	-	\$ -	\$ 5,000		\$ 5,000	\$	5,000
1.3	Access Road	-	LF	\$		\$ -	\$ 45		\$ 45		-
1.4	Silt Fence	500.0	LF	\$		\$ -	\$ 4		\$ 4		2,000
1.5	Matting - Access and ROW	500.0	LF	\$		\$ -	\$ 70				35,000
1.6	Matting - To Work Area	525.0	LF	\$		\$ -	\$ 70				36,750
1.7	Snow Removal	-	LS	\$		\$ -	\$ 516,800		\$ 516,800		-
1.8	ROW Restoration	0.5	Mile	\$	-	\$ -	\$ 10,000				5,000
1.9	Work Pads	10,000.0	SF	\$		\$ -	\$ 4			\$	35,200
1.10	Restoration for Work Pad areas	2,000.0	SF	\$		\$ -	\$ 0.2			\$	300
1.11	Temporary Access Bridge	-	EA	\$		\$ -	\$ 20,035		\$ 20,035		-
1.12	Air Bridge	-	EA	\$		\$ -	\$ 14,445		\$ 14,445		-
1.13	Stabilized Construction Entrance	-	EA	\$		\$ -	\$ 4,580	<u> </u>			-
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$		\$ -	\$ 4,130		\$ 4,130		-
1.15	Gates	-	EA	\$	2,000		\$ 2,500		\$ 4,500		-
1.16	Culverts / Misc. Access	-	EA	\$	750		\$ 1,250		\$ 2,000		-
1.17	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850		\$ 1,850		1,850
1.18						\$ -		\$ -		\$	-
1.19 1.20	Course of Book	0	CV			\$ -	ć 75	\$ -	ć 103	\$	-
	Crushed Rock	0	СҮ	\$	27		\$ 75		\$ 102	\$	121 100
	TOTAL - CLEARING & ACCESS 2. FOUNDATIONS					\$ -		\$ 121,100		\$	121,100
Z. FOUNDATI	UNS										
2.1	Drilled Pier - 115kV Single Circuit Single Pole Angle/DE	2	EA	\$	42,187	\$ 84,375	\$ 42,639	\$ 85,279	\$ 84,827	\$	169,654
2.2											
2.3											
2.4											
2.5	Rock Excavation Adder	25	CY	\$	-	\$ -	\$ 2,000	\$ 50,000	\$ 2,000	\$	50,000
2.6						\$ -		\$ -		\$	-
2.7						\$ -		\$ -		\$	-
2.8						\$ -		\$ -		\$	-
2.9						\$ -		\$ -		\$	-
2.10						\$ -		\$ -		\$	-
2.11						\$ -		\$ -		\$	-
2.12						\$ -		\$ -		\$	-
2.13						\$ -		\$ -		\$	-
2.14						\$ -		\$ -		\$	-
2.15						\$ -		\$ -		\$	-
TOTAL - FOU	NDATIONS					\$ 84,375		\$ 135,279		\$	219,654

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3. STRUCTURES									
	115kV Single Circuit Single Pole Angle/DE	2	Structure	\$ 64,658	\$ 129,316	\$ 38,795	\$ 77,590	\$ 103,453	\$ 206,905
3.2									
3.3					\$ -		\$ -		\$ -
3.4	Install Grounding and Grounding Accessories	2	Pole	\$ 506	7	\$ 5,539	\$ -		\$ 12,089
3.6	mistall drouhums and drouhums recessories		1010	, S00	\$ -	ý 3,555	\$ -	9 0,013	\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9 3.10					\$ - \$ -		\$ - \$ -		\$ - \$ -
3.10					\$ -		\$ -		\$ - \$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15 TOTAL - STRUC	TUDEC				\$ - \$ 130.328		\$ - \$ 88.667		\$ -
	R, SHIELDWIRE, OPGW				\$ 130,328		\$ 88,667		\$ 218,994
	345kV - (2) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90	\$ -	\$ 5.00	\$ -	\$ 6.90	\$ -
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$ 1.35		\$ 5.00			\$ -
4.3	(1) 3/8" EHS7 Steel	-	LF	\$ 0.47		\$ 5.00	\$ -	\$ 5.47	\$ -
	Remove Existing 115kV Cable From Existing Structures	-	Mile	\$ -	\$ -	\$ 30,000	\$ -		\$ -
4.6	Remove Existing OPGW Cable	-	Mile	\$ -	\$ -	\$ 12,000	\$ -	,	\$ -
4.7	Remove Existing EH7 115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	Mile LF	\$ - \$ 1.90	\$ -	\$ 12,000 \$ 5.00	\$ -	,	\$ - \$ -
4.8	113KV - (1) 534KCIIII 34/7 AC33 Caldillal	-	LF	3 1.90	,	3.00	,	Ş 0.30	· -
	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
	CTOR, SHIELDWIRE, OPGW:				\$ -		\$ -		\$ -
	FITTINGS, HARDWARE		A no name la la c	ć 1,000	ć	ć 720	ć	ć 2.520	^
	345kV Tangent (1-Group of 18-Bells Each Assembly) 115kV Tangent (1-Group of 9-Bells Each Assembly)		Assembly Assembly	\$ 1,800 \$ 900	\$ - \$ -	\$ 720 \$ 560	\$ -	, ,	\$ - \$ -
	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	24	Assembly	\$ 1,800	\$ 43,200	\$ 720	l 7		\$ 60,480
	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 560			\$ -
5.5		-	Assembly		\$ -		\$ -		\$ -
	OPGW Assembly - Tangent	-	Assembly	\$ 200		\$ 150			\$ -
	OPGW Assembly - Angle / DE OHSW Assembly - Tangent	- 4	Assembly Assembly	\$ 250 \$ 200	\$ 1,000 \$ -	\$ 150 \$ 150	\$ 600 \$ -	7	\$ 1,600 \$ -
	OHSW Assembly - Tangent OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
	OPGW Splice Boxes	-	Set	\$ 1,746		\$ 2,274		-	\$ -
	OPGW Splice & Test	-	EA	\$ 2,520		\$ 2,520			\$ -
	Spacer - Conductor	-	EA	\$ 50		\$ 35			\$ -
	Vibration Dampers - Conductor	-	EA	\$ 35		\$ 35 \$ 35			\$ -
	Shieldwire / OPGW Dampers, Misc. Fittings Guys, Anchors, and Accessories	-	EA EA	\$ 27 \$ 720		\$ 35 \$ 885	\$ - \$ -		\$ - \$ -
	Misc. materials (Signs and Markers)	-	Mile	\$ 770	\$ -	\$ 1,006	7	, , , , , , , , , , , , , , , , , , , ,	\$ -
5.17	· · · · · · · · · · · · · · · · · · ·								
5.18									
5.19									
5.20	ATOR, FITTINGS, HARDWARE				\$ 45,200		\$ 18,480		\$ 63,680
	onnection Milan Station				\$ 259,903		\$ 363,525		\$ 623,428
6. MOB/DEMO	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
	Mob / Demob	1	LS	\$ -	\$ -	\$ 6,234	\$ 6,234	\$ 6,234	\$ 6,234
	Project Management, Material Handling & Amenities								
1 62 1	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 36,284	\$ 36,284	\$ 36,284	\$ 36,284
	Utility PM and Project Oversite	1	LS		\$ -	\$ 6,234			
	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 6,234	\$ 6,234	\$ 6,234	\$ 6,234
	Engineering				_	A 24 :=:	4 24:=:	4 24:-:	A 04:
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 31,171	\$ 31,171	\$ 31,171	\$ 31,171

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.6	Lidar	1	LS	\$ -	\$ -	\$ 1,870	\$ 1,870	\$ 1,870	\$ 1,870
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 4,364	\$ 4,364	\$ 4,364	\$ 4,364
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 1,870	\$ 1,870	\$ 1,870	\$ 1,870
6.13	Real Estate Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17	Sales Tax on Materials	1	LS	\$ 20,792	\$ 20,792	\$ -	\$ -	\$ 20,792	\$ 20,792
6.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 623	\$ 623	\$ 623	\$ 623
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 20,792		\$ 98,387		\$ 119,179

Page 48 of 60 K. In. Milan SS

NAT - NYPA - T030 - (Segment B Enhanced) L. Interconnection Knickerbocker Station

Estimate Revision: 5 Total: \$ 1,487,366

NAT - NYPA - T030 - (Segment B Enhanced)											
		Supply		Installation		Total					
L. Interconnection Knickerbocker Station											
1. CLEARING & ACCESS	\$	-	\$	482,850	\$	482,850					
2. FOUNDATIONS	\$	89,638	\$	195,674	\$	285,311					
3. STRUCTURES	\$	249,838	\$	197,017	\$	446,855					
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$	-					
5. INSULATORS, FITTINGS, HARDWARE	\$	29,466	\$	17,754	\$	47,220					
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	29,515	\$	195,614	\$	225,130					
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-					
SUBTOTAL:	\$	398,458	\$	1,088,909	\$	1,487,366					
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-					
TOTAL:	\$	398,458	\$	1,088,909	\$	1,487,366					

	TOTAL:	\$ 398,458	\$ 1,088,909	\$ 1,487,366					
Description	of Work:								
ltem	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
L. Interc	onnection Knickerbocker Station								
1. CLEARING 8	& ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$ -	\$ -	\$ 5,000		\$ 5,000	\$ 10,000
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	3,500.0	LF	\$ -	\$ -		\$ 14,000	\$ 4	\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$ -	\$ -	\$ 70	\$ 245,000	\$ 70	\$ 245,000
1.6	Matting - To Work Area	675.0	LF	\$ -	\$ -	\$ 70	\$ 47,250	\$ 70	\$ 47,250
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	\$ -	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.9	Work Pads	45,000.0	SF	\$ -	\$ -	\$ 4	\$ 158,400	\$ 4	\$ 158,400
1.10	Restoration for Work Pad areas	9,000.0	SF	\$ -	\$ -	\$ 0.2			\$ 1,350
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035		\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580		\$ 4,580	
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130		\$ 4,130	
1.15	Gates	-	EA	\$ 2,000		\$ 2,500		\$ 4,500	
1.16	Culverts / Misc. Access	_	EA	\$ 750		\$ 1,250		\$ 2,000	
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850			
1.18		_		_	\$ -	7 2,000	\$ -	7,000	\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	
	RING & ACCESS		4.		\$ -		\$ 482,850	T	\$ 482,850
2. FOUNDATIO									
2.1	1-CKT 115KV 3-POLE TANGENT DEADEND (0°-5°)	6	EA	\$ 3,025	\$ 18,150	\$ 20,570	\$ 123,420	\$ 23,595	\$ 141,570
2.2	1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	3	EA	\$ 23,829	\$ 71,488	\$ 24,085	\$ 72,254	\$ 47,914	\$ 143,741
2.3									
2.4									
2.5	Rock Excavation Adder	-	СҮ	\$ -	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.6					\$ -		\$ -		\$ -
2.7				1	\$ -		\$ -		\$ -
2.8					\$ -	<u> </u>	\$ -		\$ -
	1				1.	l	1.		

Itom	Itom Description	Estimated Quantity	Unit of Measure	Matarial Cumby Pate	Material Supply Cost	Labor & Equipment	Labor & Equipment	Total Unit Rate	TOTAL
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Supply Rate	Cost	Total Onit Rate	IOIAL
2.9					\$ -		\$ -		\$ -
2.10					\$ -		\$ -		\$ -
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -
2.15 TOTAL - FOUN	DATIONS				\$ -		\$ - \$ 195,674		\$ - \$ 285,311
3. STRUCTURE					\$ 65,036		3 193,074		\$ 203,311
3.1	1-CKT 115KV 3-POLE TANGENT DEADEND (0°-5°)	2	Structure	\$ 76,17	\$ 152,355	\$ 45,706	\$ 91,413	\$ 121,884	\$ 243,768
3.2	1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	1	Structure	\$ 92,929			\$ 55,758		
3.3									
3.4					\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	9	Pole	\$ 500	\$ 4,554	\$ 5,539	\$ 49,847	\$ 6,045	\$ 54,401
3.6					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ - \$ -		\$ - \$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
	CTUDES				, and and		<u> </u>		•
TOTAL - STRUC					\$ 249,838		\$ 197,017		\$ 446,855
	R, SHIELDWIRE, OPGW						•		
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.9		7	\$ -	\$ 6.90	\$ -
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF		5 \$ -		\$ -	\$ 6.35	\$ -
4.3	(1) 3/8" EHS7 Steel	-	LF Mile	\$ 0.4	' \$ - \$ -	\$ 5.00 \$ 30,000	\$ - \$ -	\$ 5.47 \$ 30,000.00	\$ - \$ -
4.5	Remove Existing 115kV Cable From Existing Structures Remove Existing OPGW Cable	-	Mile	\$ -	+:		\$ -	\$ 12,000.00	\$ -
4.7	Remove Existing 61 GW Cable Remove Existing EH7	-	Mile		\$ -	, , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 12,000.00	
4.8	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF) \$ -		\$ -	\$ 6.90	
4.9	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-							
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,75) \$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
	UCTOR, SHIELDWIRE, OPGW:				\$ -		\$ -		\$ -
	, FITTINGS, HARDWARE								
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800		,	\$ -	\$ 2,520	\$ -
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	12	Assembly	\$ 900		7	\$ 6,720		\$ 17,520
5.3 5.4	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	7	Assembly	\$ 1,800	\$ 12,600	\$ 720	\$ 5,040 \$ -	\$ 2,520	\$ 17,640 \$ -
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)		Assembly Assembly	\$ 900) \$ -	\$ 360	\$ -	\$ 1,260	
5.6	OPGW Assembly - Tangent	2	Assembly		\$ 400		<u>'</u>		
5.7	OPGW Assembly - Angle / DE	2	Assembly		\$ 500		\$ 300		\$ 800
5.8	OHSW Assembly - Tangent	2	Assembly		\$ 400		\$ 300		\$ 700
5.9	OHSW Assembly - Angle / DE	2	Assembly		\$ 500	\$ 150	\$ 300		\$ 800
5.10	OPGW Splice Boxes	1	Set	\$ 1,746		\$ 2,274			\$ 4,020
5.11	OPGW Splice & Test	1	EA	\$ 2,520					
5.12	Spacer - Conductor	-	EA) \$ -		\$ -	\$ 85	\$ -
5.13	Vibration Dampers - Conductor	-	EA	\$ 3!	1		\$ -	\$ 70	\$ -
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA		' \$ -		\$ -	\$ 62	
	Guys, Anchors, and Accessories	-	EA			\$ 885		\$ 1,605	
5.16 5.17	Misc. materials (Signs and Markers)	-	Mile	\$ 770) \$ -	\$ 1,006	\$ -	\$ 1,776	\$ -
5.18									
5.19									
5.20									
TOTAL - INSUL	ATOR, FITTINGS, HARDWARE				\$ 29,466		\$ 17,754		\$ 47,220
L. Interc	onnection Knickerbocker Station				\$ 368,942		\$ 893,294		\$ 1,262,237
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								
	•				•			•	Page 50 of 60

ltem	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 12,622	\$ 12,622	\$ 12,622	\$ 12,622
	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 73,464	\$ 73,464	\$ 73,464	\$ 73,464
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 12,622	\$ 12,622	\$ 12,622	\$ 12,622
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 12,622	\$ 12,622	\$ 12,622	\$ 12,622
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 63,112	\$ 63,112	\$ 63,112	\$ 63,112
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 3,787	\$ 3,787	\$ 3,787	\$ 3,787
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 8,836	\$ 8,836	\$ 8,836	\$ 8,836
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 3,787	\$ 3,787	\$ 3,787	\$ 3,787
6.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 29,51	\$ 29,515		\$ -	\$ 29,515	
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 1,262	· · · · · · · · · · · · · · · · · · ·	\$ 1,262	
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 29,515		\$ 195,614		\$ 225,130

NAT - NYPA - T030 - (Segment B Enhanced)

M. Interconnection Churchtown Station

Estimate Revision: 5 Total: \$ 2,540,063

NAT - NYPA - T030 - (Segment B Enhanced)											
		Supply	Installation		Total						
M. Interconnection Churchtown Station											
1. CLEARING & ACCESS	\$	-	\$ 525,600	\$	525,600						
2. FOUNDATIONS	\$	231,719	\$ 334,201	\$	565,920						
3. STRUCTURES	\$	563,647	\$ 401,007	\$	964,654						
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$ -	\$	-						
5. INSULATORS, FITTINGS, HARDWARE	\$	58,666	\$ 27,354	\$	86,020						
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	68,323	\$ 329,545	\$	397,868						
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-						
SUBTOTAL:	\$	922,355	\$ 1,617,707	\$	2,540,063						
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-						
TOTAL:	\$	922,355	\$ 1,617,707	\$	2,540,063						

D	escri	pt	ion o	f Wor	k:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
M. Inter	1. Interconnection Churchtown Station								
1. CLEARING 8	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$ -	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	3,500.0	LF	\$ -	\$ -	\$ 4	\$ 14,000	\$ 4	\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$ -	\$ -	\$ 70	\$ 245,000	\$ 70	\$ 245,000
1.6	Matting - To Work Area	525.0	LF	\$ -	\$ -	\$ 70	\$ 36,750	\$ 70	\$ 36,750
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	\$ -	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.9	Work Pads	60,000.0	SF	\$ -	\$ -	\$ 4	\$ 211,200	\$ 4	\$ 211,200
1.10	Restoration for Work Pad areas	12,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 1,800	\$ 0	\$ 1,800
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18					\$ -		\$ -		\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEAR	RING & ACCESS				\$ -		\$ 525,600		\$ 525,600
2. FOUNDATIO	DNS								
2.1	1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	6	EA	\$ 18,077	\$ 108,464	\$ 18,271	\$ 109,626	\$ 36,348	\$ 218,090
2.2	2x 1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	6	EA	\$ 20,543	\$ 123,255	\$ 20,763	\$ 124,575	\$ 41,305	\$ 247,830
2.3									
2.4									
2.5	Rock Excavation Adder	50	CY	\$ -	\$ -	\$ 2,000	\$ 100,000	\$ 2,000	\$ 100,000
2.6					\$ -		\$ -		\$ -
2.7					\$ -		\$ -		\$ -
2.8					\$ -		\$ -		\$ -
2.9					\$ -		\$ -		\$ -
2.10					\$ -		\$ - \$ -		\$ - \$ -
2.11					\$ -		\$ -		\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Materia	Il Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
2.13						\$ -		\$ -		\$	-
2.14						\$ -		\$ -		\$	-
2.15						\$ -		\$ -		\$	-
TOTAL - FOUN						\$ 231,719		\$ 334,201		\$	565,920
3. STRUCTURE											
3.1	1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	2	Structure	\$		\$ 185,858	\$ 55,758	\$ 111,515	\$ 148,687	\$	297,373
3.2	2x 1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	2	Structure	\$	185,858	\$ 371,717	\$ 111,515	\$ 223,030	\$ 297,373	\$	594,747
3.3						_					
3.4		- 12		\$	505	\$ - \$ 6.072	A 5.500	\$ -	\$ 6.045	\$	
3.5 3.6	Install Grounding and Grounding Accessories	12	Pole	\$	506	\$ 6,072 \$ -	\$ 5,539	\$ 66,462 \$ -	\$ 6,045	\$	72,534
3.7						\$ -		\$ - \$ -		Ś	-
3.8						\$ -		\$ -		\$	-
3.9						\$ -		\$ -		\$	-
3.10						\$ -		Š -		\$	
3.11						\$ -		\$ -		\$	-
3.12						\$ -		\$ -		Ś	_
3.13						\$ -		\$ -		\$	-
3.14						\$ -		\$ -		\$	-
3.15						\$ -		Ś -		\$	_
TOTAL - STRUC						\$ 563,647		\$ 401,007		\$	964,654
	R, SHIELDWIRE, OPGW										
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$	1.90		\$ 5.00		\$ 6.90		-
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$	1.35		\$ 5.00		\$ 6.35		-
4.3	(1) 3/8" EHS7 Steel	-	LF	\$	0.47		\$ 5.00		\$ 5.47		-
4.5	Remove Existing 115kV Cable From Existing Structures	-	Mile	\$		\$ -	\$ 30,000		\$ 30,000.00	\$	-
4.6	Remove Existing OPGW Cable Remove Existing EH7	-	Mile Mile	\$		\$ - \$ -	\$ 12,000 \$ 12,000		\$ 12,000.00 \$ 12,000.00		-
4.7	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$	1.90	\$ -	\$ 12,000 \$ 5.00	\$ - \$ -	\$ 12,000.00		
4.8	113KV - (1) 934KCIIII 34/ / AC33 Caldillal	-	LF	,	1.50	· -	3.00	· -	ξ 0.50	J.	
4.10	Rider Poles - Relocated	-	Set	\$	-	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$	-
4.11	Rider Poles	-	EA	Ś	1,750		\$ 3,500	'	\$ 5,250.00		-
	JCTOR, SHIELDWIRE, OPGW:			Ť	2,7.50	\$ -	5,500	\$ -	7 0,200.00	Ś	-
5. INSULATOR	FITTINGS, HARDWARE										
5.1	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$	1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$	-
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$	900	\$ -	\$ 560	\$ -	\$ 1,460	\$	-
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	28	Assembly	\$	1,800	\$ 50,400	\$ 720	\$ 20,160	\$ 2,520	\$	70,560
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$	900	\$ -	\$ 560	\$ -	\$ 1,460	\$	-
5.5			Assembly			\$ -	\$ 360		\$ 360		-
5.6	OPGW Assembly - Tangent	-	Assembly	\$	200	•	\$ 150	·	\$ 350		-
5.7	OPGW Assembly - Angle / DE	8	Assembly	\$	250		\$ 150		\$ 400		3,200
5.8	OHSW Assembly - Tangent	-	Assembly	\$	200		\$ 150		\$ 350		-
5.9	OHSW Assembly - Angle / DE	8	Assembly	\$		\$ 2,000	\$ 150		\$ 400	\$	3,200
5.10	OPGW Splice Boxes	1	Set	\$	-/	\$ 1,746	\$ 2,274		\$ 4,020	\$	4,020
5.11	OPGW Splice & Test	- 1	EA EA	<u> </u>	2,520 50	\$ 2,520 \$ -	\$ 2,520 \$ 35		\$ 5,040 \$ 85	Y	5,040
5.12	Spacer - Conductor		EA	\$							
5.13	Vibration Dampers - Conductor	-	EA	\$	35	\$ -	\$ 35	\$ -	\$ 70	\$	-
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$	27	\$ -	\$ 35	\$ -	\$ 62	\$	-
5.15	Guys, Anchors, and Accessories	-	EA	\$	720	\$ -	\$ 885	\$ -	\$ 1,605	Ś	-
5.16	Misc. materials (Signs and Markers)	-	Mile	\$	770		\$ 1,006	7	\$ 1,776	Y	-
5.17	, ,		-	1			,		,		
5.18											
5.19											
5.20											
TOTAL - INSUL	ATOR, FITTINGS, HARDWARE					\$ 58,666		\$ 27,354		\$	86,020
M. Inter	connection Churchtown Station					\$ 854,033		\$ 1,288,162		\$	2,142,195
	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, ,			
J. IVIOB/DEIVIC	Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	Ś	-	\$ -	\$ 21,422	\$ 21,422	\$ 21,422	Ś	21,422
3.2	Project Management, Material Handling & Amenities	<u> </u>		†			. 22,722	. 22, .22	. 22,722	-	,
		1									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material	Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 124,679	\$ 124,679	\$ 124,679	\$ 124,67
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 21,422	\$ 21,422	\$ 21,422	\$ 21,42
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 21,422	\$ 21,422	\$ 21,422	\$ 21,42
	Engineering									
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 107,110	\$ 107,110	\$ 107,110	\$ 107,11
6.6	LiDAR	1	LS	\$ -	\$	-	\$ 6,427	\$ 6,427	\$ 6,427	\$ 6,42
6.7	Geotech	1	Location	\$ -	\$	-	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,50
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 14,995	\$ 14,995	\$ 14,995	\$ 14,99
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 6,427	\$ 6,427	\$ 6,427	\$ 6,42
6.13	Real Estate Costs (New)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 68,323	\$	68,323		\$ -	\$ 68,323	\$ 68,32
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 2,142		\$ 2,142	
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	68,323		\$ 329,545		\$ 397,86

Page 54 of 60

NAT - NYPA - T030 - (Segment B Enhanced)

N. Interconnection Pleasant Valley

Estimate Revision: 5 Total: \$ 2,679,858

NAT - NYPA - T030 - (Seg	ment B Enhar	iced)			
		Supply		Installation	Total
N. Interconnection Pleasant Valley					
1. CLEARING & ACCESS	\$	-	\$	578,850	\$ 578
2. FOUNDATIONS	\$	61,875	\$	790,750	\$ 852
3. STRUCTURES	\$	388,477	\$	311,610	\$ 700
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$	-	\$
5. INSULATORS, FITTINGS, HARDWARE	\$	105,566	\$	47,094	\$ 15
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	44,473	\$	351,162	\$ 39
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$
SUBTOTAL:	\$	600,392	\$	2,079,466	\$ 2,679
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$
TOTAL:	\$	600,392	Ś	2,079,466	\$ 2,679

Rem	Description	of Work:								
1. Clearing the ROW-Heavy (movinite & clearing)	Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost			Total Unit Rate	TOTAL
11 Clearing the ROW - Heavy (mowing & Glearing)	N. Inter	N. Interconnection Pleasant Valley								
1.2 Carring the ROW - Light (moving)	1. CLEARING	1. CLEARING & ACCESS								
1.3 Access Road	1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.4	1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$ -	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000
1.5	1.3	Access Road	-	LF	\$ -	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.6 Matting-ToWork Area	1.4	Silt Fence	3,500.0	LF	\$ -	\$ -	\$ 4	\$ 14,000	\$ 4	\$ 14,000
1.7 Sinow Nemoval . LS S . S 518,800 S . S 518,800 S . S 518,800 S . .	1.5	Matting - Access and ROW	3,500.0	LF	\$ -	\$ -	\$ 70	\$ 245,000	\$ 70	\$ 245,000
1.8 ROW Restraction 0.5 Mile 5	1.6	Matting - To Work Area	525.0	LF	\$ -	\$ -	\$ 70	\$ 36,750	\$ 70	\$ 36,750
1-9 Work Pads	1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.10	1.8	ROW Restoration	0.5	Mile	\$ -	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.11 Temporary Access Bridge	1.9	Work Pads	75,000.0	SF	\$ -	\$ -	\$ 4	\$ 264,000	\$ 4	\$ 264,000
1.12 Alf Bridge	1.10	Restoration for Work Pad areas	15,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 2,250	\$ 0	\$ 2,250
1.12 Air Bridge	1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.14 Maintenance and Protection of Traffic on Public Roads	1.12		-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.15 Gates EA \$ 2,000 \$ \$ 2,500 \$ \$ 4,500 \$ \$ 1.16 Culverts / Misc. Access EA \$ 750 \$ \$ 1,250 \$ \$ 2,000 \$ \$ 1.17 Concrete Washout Station 1 EA \$ \$. \$. \$. \$. \$ 1,850 \$ 1,8	1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.15 Gates	1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.17 Concrete Washout Station 1 EA S . S . S . 1,850 S	1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500	\$ -		\$ -
1.17 Concrete Washout Station 1 EA S - S 1,850 S		Culverts / Misc. Access	-	EA	-			\$ -		\$ -
1.18	1.17		1	EA	\$ -	\$ -				\$ 1,850
1.19	1.18					\$ -		\$ -	,	
1.20 Crushed Rock						\$ -		\$ -		\$ -
2.1 1-CKT 115KV 3-POLE TANGENT DEADEND (0"-5") 15 EA \$ 4,125 \$ 61,875 \$ 28,050 \$ 420,750 \$ 32,175 \$ 482,625 2.2 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1.20	Crushed Rock	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	\$ -
2.1 1-CKT 115KV 3-POLE TANGENT DEADEND (0"-5") 15 EA \$ 4,125 \$ 61,875 \$ 28,050 \$ 420,750 \$ 32,175 \$ 482,625 2.2 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	TOTAL - CLEA	RING & ACCESS				\$ -		\$ 578,850		\$ 578,850
2.2 2.3 3 3 4 <td>2. FOUNDATI</td> <td>ons</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	2. FOUNDATI	ons								
2.3 2.4 185 CY \$ - \$ 2,000 \$ 370,000 \$ \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	2.1	1-CKT 115KV 3-POLE TANGENT DEADEND (0°-5°)	15	EA	\$ 4,125	\$ 61,875	\$ 28,050	\$ 420,750	\$ 32,175	\$ 482,625
2.4 185 CY \$ - \$ 2,000 \$ 370,000 \$ 2,000 \$ 370,000 \$ \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - - \$ - - \$ - \$ - - \$ - - \$ - -<	2.2									
2.5 Rock Excavation Adder 185 CY \$ - \$ 2,000 \$ 370,000 \$ 370,000 2.6 \$ - \$ - \$ - \$ - \$ - 2.7 \$ - \$ - \$ - \$ - 2.8 \$ 5 - \$ - \$ - \$ - 2.9 \$ \$ - \$ - \$ - \$ - 2.10 \$ - \$ - \$ - \$ - \$ -	2.3									
2.6 \$ - \$ - \$ - 2.7 \$ - \$ - \$ - 2.8 \$ - \$ - \$ - 2.9 \$ \$ - \$ - \$ - 2.10 \$ - \$ - \$ -	2.4									
2.7 \$ - \$ - \$ - 2.8 \$ - \$ - \$ - 2.9 \$ 5 - \$ - \$ - 2.10 \$ - \$ - \$ -	2.5	Rock Excavation Adder	185	CY	\$ -	\$ -	\$ 2,000	\$ 370,000	\$ 2,000	\$ 370,000
2.8 \$ - <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>\$ -</td>										\$ -
2.9 \$ - \$ - 2.10 \$ - \$ -						+'		7		•
2.10						7		'		<u> </u>
					-	'		1		
						т		т		<u> </u>

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -
2.15					\$ -		\$ -		\$ -
TOTAL - FOUN					\$ 61,875		\$ 790,750		\$ 852,625
3. STRUCTUR	115kV Single Circuit Single Pole Angle/DE	5	Structure	\$ 76,177	\$ 380,887	\$ 45,706	\$ 228,532	\$ 121,884	\$ 609,420
3.2	113KV Shigle Circuit Shigle Fole Angle/ DE	3	Structure	70,177	300,007	3 43,700	220,332	7 121,004	3 003,420
3.3									
3.4					\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	15	Pole	\$ 506	\$ 7,590	\$ 5,539	\$ 83,078	\$ 6,045	\$ 90,668
3.6					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ - \$ -		\$ - \$ -
3.10					\$ -		\$ -		\$ - \$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRU	CTUDES						\$ 311,610		\$ 700.087
					\$ 388,477		\$ 311,610		\$ 700,087
	DR, SHIELDWIRE, OPGW			4.00	<u> </u>	.	<u> </u>	4 500	•
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571	-	LF LF	\$ 1.90 \$ 1.35		\$ 5.00 \$ 5.00	\$ - \$ -	\$ 6.90 \$ 6.35	\$ - \$ -
4.2	(1) 3/8" EHS7 Steel	-	LF	\$ 1.35			\$ -	\$ 5.47	\$ -
4.5	Remove Existing 115kV Cable From Existing Structures	-	Mile		\$ -		\$ -	\$ 30,000.00	\$ -
4.6	Remove Existing OPGW Cable	-	Mile	\$ -	\$ -		\$ -	\$ 12,000.00	\$ -
4.7	Remove Existing EH7	-	Mile	\$ -	\$ -		\$ -	\$ 12,000.00	\$ -
4.8	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.90	\$ -	\$ 5.00	\$ -	\$ 6.90	\$ -
4.9		-							
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles UCTOR, SHIELDWIRE, OPGW:	-	EA	\$ 1,750		7	\$ -	\$ 5,250.00	\$ -
	R, FITTINGS, HARDWARE				\$ -		\$ -		\$ -
5.1N30LATOR	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 1,800		\$ 720		\$ 2,520	\$ -
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800		\$ 720		\$ 2,520	\$ -
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	105	Assembly	\$ 900	\$ 94,500	\$ 360	\$ 37,800	\$ 1,260	\$ 132,300
5.5			Assembly		\$ -		\$ -	\$ -	\$ -
5.6	OPGW Assembly - Tangent	14	Assembly	\$ 200		\$ 150	\$ 2,100		\$ 4,900
5.7	OPGW Assembly - Angle / DE	1	Assembly	\$ 250		\$ 150			\$ 400
5.8 5.9	OHSW Assembly - Tangent	- 15	Assembly	\$ 200 \$ 250		\$ 150 \$ 150	\$ - \$ 2,250	\$ 350 \$ 400	\$ - \$ 6,000
5.9	OHSW Assembly - Angle / DE OPGW Splice Boxes	15	Assembly Set	\$ 250 \$ 1,746			\$ 2,250		\$ 6,000 \$ 4,020
5.10	OPGW Splice & Test	1	EA EA	\$ 1,746				. ,	\$ 5,040
5.12	Spacer - Conductor	-	EA		\$ -		\$ -	\$ 85	\$ -
5.13	Vibration Dampers - Conductor	-	EA	-	\$ -		\$ -	\$ 70	\$ -
				·	1		•		
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA		\$ -	*	\$ -	\$ 62	\$ -
5.15	Guys, Anchors, and Accessories	-	EA	\$ 720		\$ 885	\$ -	\$ 1,605	\$ -
5.16	Misc. materials (Signs and Markers)	-	Mile	\$ 770	\$ -	\$ 1,006	\$ -	\$ 1,776	\$ -
5.17 5.18					 				
5.18									
5.20									
	LATOR, FITTINGS, HARDWARE				\$ 105,566		\$ 47,094		\$ 152,660
N. Inter	connection Pleasant Valley				\$ 555,918		\$ 1,728,304		\$ 2,284,222
	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				. 333,310		2,7,20,004		
6. IVIOB/DEIVI	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 22,842	\$ 22,842	\$ 22,842	\$ 22,842
	Project Management, Material Handling & Amenities					,- 12	,512	,	,512
	·			•	•				

ltem	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Materia	al Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 132,945	\$ 132,945	\$ 132,945	\$ 132,945
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 22,842	\$ 22,842	\$ 22,842	\$ 22,842
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 22,842	\$ 22,842	\$ 22,842	\$ 22,842
	Engineering									
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 114,211	\$ 114,211	\$ 114,211	\$ 114,211
6.6	LiDAR	1	LS	\$ -	\$	-	\$ 6,853	\$ 6,853	\$ 6,853	\$ 6,853
6.7	Geotech	1	Location	\$ -	\$	-	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 15,990	\$ 15,990	\$ 15,990	\$ 15,990
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 6,853	\$ 6,853	\$ 6,853	\$ 6,853
6.13	Real Estate Costs (New)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 44,473	\$	44,473		\$ -	\$ 44,473	\$ 44,473
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 2,284	\$ 2,284	\$ 2,284	\$ 2,284
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	44,473		\$ 351,162		\$ 395,636

Page 57 of 60
N. In. Pleasant Valley SS

NAT & NYPA - T030 - (Segment B)

O. System Upgrade Facilities (Middletown Tap to Shoemaker Line and Cricket Valley to Long Mt. Line)

Estimate Revision: 5 Total: \$ 4,413,551

SYSTEM UPGI	RADE FACILITIES	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate		TOTAL
SUF 1	Transmission Line Upgrade Middletown to Shoemaker SS (0.88 Miles)										
1.1	138kV - (1) 1113kcmil 45/7 ACSS "Bluejay" Conductor	29,272.32	LF	\$	4.00	\$ 117,089			\$ 9	\$	263,451
1.2	Remove Existing 1033.5kmil ACSR "Ortalon" Conductor and Accessories	0.88	Mile	\$	-	\$ -	\$ 30,000.00	\$ 26,400	\$ 30,000	\$	26,400
1.3	Rider Poles	3.00	Sets	\$	1,750.00	\$ 5,250	\$ 3,500.00	\$ 10,500	\$ 5,250	\$	15,750
1.4	138kV Vertical Tangent Insulator Assembly	18.00	Assembly	\$	900.00	\$ 16,200	\$ 560.00	\$ 10,080	\$ 1,460	\$	26,280
1.5	138kV Deadend Insulator Assembly	30.00	Assembly	\$	900.00	\$ 27,000	\$ 560.00	\$ 16,800	\$ 1,460	\$	43,800
	Subtotal SUG 1 Direct Cost					\$ 165,539		\$ 210,142		\$	375,681
SUF 2	Transmission Line Upgrade Cricket Valley - Connecticut Border to Long Mountain (3.3 + 6.0 = 9.3 Miles)										
2.1	345kV - (1) 954kcmil 45/7 ACSS "Rail" Conductor (Cricket Vly to Conn Border)	109,771.20	LF	\$	2.50	\$ 274,428	\$ 5.00	\$ 548,856	\$ 8	\$	823,284
2.2	345kV - (1) 2312kcmil 76/19 ACSS "Thrasher" Conductor (Conn Border to Long Mtn.)	99,792.00	LF	\$	8.00	\$ 798,336	\$ 5.00	\$ 498,960	\$ 13	. \$	1,297,296
2.3	Remove Existing 795 ACSS Conductor and Accessories (Cricket VIy to Conn Border)	3.30	Mile	\$	-	\$ -	\$ 30,000.00	\$ 99,000	\$ 30,000	\$	99,000
2.4	Remove Existing 2156kmil ACSS Conductor and Accessories (Conn Border to Long Mtn.)	6.00	Mile	\$	-	\$ -	\$ 30,000.00	\$ 180,000	\$ 30,000	\$	180,000
2.5	Rider Poles	10.00	Sets	\$	1,750.00	\$ 17,500	\$ 3,500.00	\$ 35,000	\$ 5,250	\$	52,500
2.6	345kV Vertical Tangent Insulator Assembly	147.00	Assembly	\$	1,800.00	\$ 264,600	\$ 720.00	\$ 105,840	\$ 2,520	\$	370,440
2.7	345kV Deadend Insulator Assembly	132.00	Assembly	\$	1,800.00	\$ 237,600	\$ 720.00	\$ 95,040	\$ 2,520	\$	332,640
	Subtotal SUG 2 Direct Cost					\$ 1,592,464		\$ 1,562,696		\$	3,155,160
	Total Direct Cost (SUF 1 + SUG 2)		_			\$ 1,758,003		\$ 1,772,838		\$	3,530,841
3	Indirect Cost (25% of Direct Cost)					\$ 439,501		\$ 443,209		\$	882,710
	TOTAL:					\$ 2,197,504		\$ 2,216,047		\$	4,413,551

NAT - NYPA - T029 - (Segment B Enhanced)

System Upgrade Facilities (Various Stations for Knickerbocker to Pleasant Valley

Estimate Prevision: 5 Total: \$ 14,049,000

SYSTEM UPGI	RADE FACILITIES	Estimated Quantity	Unit of Measure Material Supply Rate N		Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
SUF SS1	Middletown Tap Transformer Replacement	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 10,878,348	\$ 10,879,000
SUF SS1	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 360,000	\$ 360,000
SUF SS1	Engineering, T&C, PM, Indirects (25%)		LS %						\$ 2,810,000
SUF SS1	SUF SS1 - TOTAL:				\$ -		\$ -		\$ 14,049,000
SUF SS2	Blank	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUF SS2	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUF SS2	Engineering, T&C, PM, Indirects (15%)		LS %						\$ -
SUF SS2	SUFSS 2 - TOTAL:				\$ -		\$ -		\$ -
SUF SS3	Blank	1	LS					\$ -	\$ -
SUF SS3	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUF SS3	Engineering, T&C, PM, Indirects (15%)		LS %						\$ -
SUF SS3	SUF SS3 - TOTAL:				\$ -		\$ -		\$ -
SUF SS4		-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
SUF SS4	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUF SS4	Engineering, T&C, PM, Indirects (15%)		LS %						\$ -
SUF SS4	SUF SS4 - TOTAL:				\$ -		\$ -		\$ -
SUF SS5		-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
SUF SS5	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUF SS5	Engineering, T&C, PM, Indirects (15%)		LS %						\$ -
SUF SS5	SUF SS5 - TOTAL:				\$ -		\$ -		\$ -
	STATIONS SUF DIRECT TOTAL:								\$ 11,239,000
	STATIONS SUF INDIRECT TOTAL:								\$ 2,810,000
	STATIONS SUF TOTAL								\$ 14,049,000

	NAT - NYPA - T030 - (Segment B Enhanced)
	ESTIMATE ASSUMPTIONS & CLARIFICATIONS
1	Cost Estimate is based on 2017 rates.
	Construction schedule is in accordance with proposed schedule - we have assumed continuous working with no breaks in the schedule. Six months have been added to the construction
2	schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.).
3	We have assumed a typical work week of five-(5) days per week at ten-(10) hours per day (5 x 10 hour days).
4	All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017.
5	We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type. 20% of the total length of the line is assumed to use Type 1 Gravel road and 80% of the line length access to be used wood matting. In addition 75 feet of wood matting is included from the access matting to the work pad area matting. The estimate also include 5,000 square feet of wood matting for each structure work area within the ROW. For the ground restoration (seed, straw and woven mat), 20% of the work pad area included.
6	Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not enough information to provide a quantified estimate for this item, allowance is included in the contingency monies.
7	Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for formal quotes.
8	Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing.
9	A Contractor Mark-Up (OH&P) of 15% has been included in the Total section.
10	We have assumed that all project details provided are accurate unless noted otherwise.
11	Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%)
12	A contractor allowance of 1% for mobilization and demobilization has been included in the total section.
13	A contractor allowance of 5.061% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safety inspector, compliance inspector, environmental inspector, and SWPP inspector.
14	An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section.
15	A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section.
16	An allowance of 5% for transmission design and engineering has been included in the total section.
17	An allowance of 8% for substation design and engineering has been included in the total section.
18	An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section.
19	An allowance of 0.3% for LIDAR of the transmission line has been included in the total section.
20	An allowance of 3.75% for substation testing and commissioning has been included in the total section.
21	An allowance of \$20,000.00 per circuit for transmission line testing and commissioning has been included in the total section.
22	New York state sales tax of 8% is included in all material pricing.
23	An allowance of 1.5% for insurance is included in the DPS sheet.
24	Knickerbocker to Churchtown substation; 0.4 miles of 345kV conductor from the junction have been added.
25	An additional Quantity of 5% have been added to conductors, OPGW, & OHSW for sag and jumpers.
26	Rock excavation depth in Foundation data provided in the proposal.
	Middletown to Shoemaker Line upgrade: The length of the line segment is 0.88 miles
	-The re-conductor will remove the existing 2 bundle 1033.5 ACSR conductor and install new 2 bundle Bluejay 1113 ACSS conductor
27	-The Insulators and associated conductor hardware will be replaced
	-The existing structures are assumed to have adequate strength to support the new conductors
	-The estimate is a rough order of magnitude estimate as no engineering was performed and SECo did not have access to record drawings.
	Cricket Valley to Long Mountain line upgrade: The length of the re-conductor between Cricket Valley and the NY/CT border is 3.3 miles and will remove the existing (to be installed on CV project) 2 bundle 795 ACSS conductor and install new 2 bundle Rail 954 ACSS conductor.
	The length of the re-conductor between the NY/CT border and Long Mountain is 6 miles and will remove the existing single 2156 ACSS conductor and install new single Thrasher 2312
28	ACSS conductor.
	-The Insulators and associated conductor hardware will be replaced.
	-The existing structures are assumed to have adequate strength to support the new conductors.
	-The estimate is a rough order of magnitude estimate as no engineering was performed and SECo did not have access to record drawings.
29	The SUF estimates for the stations are rough order of magnitude estimates. No engineering was performed and SECo did not have access to record drawings.



		ITC (T032)	
		Description	Total Amount (In thousand \$)
	1	Transmission Lines	
	1.1	Clearing & Access	\$35,253
	1.2	Foundations	\$82,888
	1.3	Structures	\$67,205
	1.4	Conductor, Shiedwire and Optical Ground Wire	\$33,769
	1.5	Insulators, Fitting and Hardwares	\$16,154
		Subtotal (1)	\$235,269
ost	2	Substations	
Direct Cost	2.1	Knickerbocker Substation	\$21,112
rect	2.2	East Greenbush Substation	\$0
<u>=</u>	2.3	Schodack Substation	\$0
	2.4	Churchtown Substation	\$1,977
	2.5	Pleasant Valley Substation	\$3,101
	2.6	Substation Interconnections	\$5,764
		Subtotal (2)	\$31,954
		Total (1+2)	\$267,224
		Contractors Mark-up (15% of Total 1+2)	\$40,084
		Total Direct Cost (A)	\$307,307
	3	Technical Services Costs	
l	3.1	Contractor Mobilization / Demobilization	\$2,672
ost	3.2	Project Management, Material Handling & Amenities	\$18,202
Indirect Cost	3.3	Engineering	\$16,986
ire	3.4	Testing & Commissioning	\$755
lud	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$16,833
	3.6	Legal, Environmental Licensing & Permitting and Environmental Mitigation	\$7,628
		Total Indirect Cost (3)	\$63,075
		Subtotal Project Cost (B=A+3) 2017 \$	\$370,382
	4	Network Upgrade Facilities (NUF)	
	4.1	NUF proposed as element of the Project	\$0
	4.2	NUF identified by System Impact Study (Cricket Valley Line Upgrade)	\$4,417
		Subtotal NUF Cost (C)	\$4,417
		Total Project Cost (B+C) 2017 \$	\$374,799
		Total Project Cost 2018 \$	\$386,043

5/22/2018 Page 1 of 38

ITC T032 (Segment B)

Estimate Revision: 5

	ITC T032 (Segment B) Direct Costs	Total Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 78,044,105
Direct Labor, Material & Equipment Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 152,478,922
Direct Labor, Material & Equipment Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 4,746,361
Direct Labor, Material & Equipment Costs	D. Knickerbocker 345kV Substation - Install	\$ 21,112,147
Direct Labor, Material & Equipment Costs	E. Greenbush Substation - Removal	\$ -
Direct Labor, Material & Equipment Costs	F.	\$ -
Direct Labor, Material & Equipment Costs	G.	\$ -
Direct Labor, Material & Equipment Costs	H. Churchtown Substation - Install	\$ 1,977,418
Direct Labor, Material & Equipment Costs	I. Churchtown Substation - Removal	\$ -
Direct Labor, Material & Equipment Costs	J. Pleasant Valley Substation - Install	\$ 3,101,141
Direct Labor, Material & Equipment Costs	K. Interconnection Knickerbocker Station	\$ 3,068,229
Direct Labor, Material & Equipment Costs	L. Interconnection Churchtown Station	\$ 2,061,784
Direct Labor, Material & Equipment Costs	M. Interconnection Milan Station	\$ 633,514
Direct Labor, Material & Equipment Costs	N. System Upgrade Facilities (Cricket Valley Line Upgrade)	\$ 3,155,160
Direct Labor, Material & Equipment Costs	O. System Upgrade Facilities (Various Stations Knickerbocker to Pleasant Valley)	\$ -
	SUBTOTAL:	\$ 270,378,781
	CONTRACTOR MARK-UP (OH&P)	\$ 40,556,817
	CONTINGENCY ON ENTIRE PROJECT	\$ -
	TOTAL DIRECT:	\$ 310,935,598

	ITC T032 (Segment B) Indirect Costs		Total Each Segment
Indirect Costs	A. Transmission Line Knickerbocker to Churchtown	\$	16,685,500
Indirect Costs	B. Transmission Line Churchtown to Pleasant Valley	\$	30,319,058
Indirect Costs	C. Blue Stores Junction to Blue Stores Substation	\$	936,585
Indirect Costs	D. Knickerbocker 345kV Substation - Install	\$	5,266,744
Indirect Costs	E. Greenbush Substation - Removal	\$	-
Indirect Costs	F.	\$	-
Indirect Costs	G.	\$	-
Indirect Costs	H. Churchtown Substation - Install	\$	475,504
Indirect Costs	I. Churchtown Substation - Removal	\$	-
Indirect Costs	J. Pleasant Valley Substation - Install	\$	754,800
Indirect Costs	K. Interconnection Knickerbocker Station	\$	554,805
Indirect Costs	L. Interconnection Churchtown Station	\$	342,513
Indirect Costs	M. Interconnection Milan Station	\$	111,797
Indirect Costs	N. System Upgrade Facilities (Cricket Valley Line Upgrade)	\$	788,790
Indirect Costs	O. System Upgrade Facilities (Various Stations Knickerbocker to Pleasant Valley)	\$	-
Indirect Costs	Legal and Permitting (Includes Legal, Envir. Lisc. & Permit., and Envir. Mitigation)	\$	7,627,609
	TOTAL INDIR	ECT: \$	63,863,706

TOTAL ESTIMATED COST: \$

A. Transmission Line Knickerbocker to Churchtown

Total: \$ 94,729,605

ITC T032 (Segment B)			
	Supply	Installation	Total
A. Transmission Line Knickerbocker to Churchtown			
1. CLEARING & ACCESS	\$ 11,500	\$ 13,507,953	\$ 13,519,453
2. FOUNDATIONS	\$ 12,695,824	\$ 13,995,790	\$ 26,691,613
3. STRUCTURES	\$ 10,287,616	\$ 11,532,261	\$ 21,819,877
4. CONDUCTOR, SHIELDWIRE, OPGW	\$ 2,339,147	\$ 8,681,855	\$ 11,021,002
5. INSULATORS, FITTINGS, HARDWARE	\$ 3,305,711	\$ 1,686,448	\$ 4,992,160
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 2,291,184	\$ 14,394,316	\$ 16,685,500
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 30,930,982	\$ 63,798,623	\$ 94,729,605
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 30,930,982	\$ 63,798,623	\$ 94,729,605

ITC T032 (Segment B)

Description of Work:

Estimate

Revision:

5

Item	item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
A. Trans	mission Line Knickerbocker to Churchtown								
1. CLEARING	& ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	19.0	Acre	\$ -	\$ -	\$ 15,000	\$ 285,000	\$ 15,000	\$ 285,000
1.2	Clearing the ROW - Light (mowing)	61.0	Acre		\$ -	\$ 5,000	\$ 305,000	\$ 5,000	\$ 305,000
1.3	Permanent Access Road	23,126	LF	\$ -	\$ -	\$ 45.00			
1.4	Silt Fence	115,632	LF	\$ -	\$ -	\$ 4.00			\$ 462,528
1.5	Matting - Access and ROW	92,506	LF	\$ -	\$ -	\$ 70.00			
1.6	Matting - To Work Area	12,900	LF	\$ -	\$ -	\$ 70.00			
1.7	Snow Removal	21.9	Mile	\$ -	\$ -	\$ 16,000			
1.8	ROW Restoration	21.9	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	860,000	SF	\$ -	\$ -	\$ 3.52			\$ 3,027,200
1.10	Restoration for Work Pad areas	172,000	SF	\$ -	\$ -	\$ 0.15			
1.11	Temporary Access Bridge	9	EA	\$ -	\$ -	\$ 20,035	\$ 180,315	\$ 20,035	\$ 180,315
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance	4	EA	\$ -	\$ -	\$ 4,580	\$ 18,320	\$ 4,580	\$ 18,320
1.14	Maintenance and Protection of Traffic on Public Roads	47	EA	\$ -	\$ -	\$ 4,130			
1.15	Culverts / Misc. Access	10	EA	\$ 750	\$ 7,500	\$ 1,250	\$ 12,500	\$ 2,000	\$ 20,000
1.16	Gates	2	EA	\$ 2,000	\$ 4,000	\$ 2,500	\$ 5,000	\$ 4,500	\$ 9,000
1.17	Concrete Washout Station	2	EA	\$ -	\$ -	\$ 1,850	\$ 3,700	\$ 1,850	\$ 3,700
TOTAL - CLEA	RING & ACCESS:				\$ 11,500		\$ 13,507,953		\$ 13,519,453
2. FOUNDATI	ONS								
2.1	Drilled Pier - 345/115kV D/C Single Pole Delta V-String Tangent Steel 80'	158	EA	\$ 62,926	\$ 9,942,274	\$ 63,600	\$ 10,048,751	\$ 126,525	\$ 19,991,025
2.2	Drilled Pier - 345/115kV D/C Two-Pole Dead End Delta Steel (Dead End) 80'	8	EA	\$ 172,097	\$ 1,376,775	\$ 173,940	\$ 1,391,519	\$ 346,037	\$ 2,768,294
2.3	Drilled Pier - 345/115kV D/C Two-Pole Dead End Delta Steel (Storm Dead End) 80'	8	EA	\$ 172,097	\$ 1,376,775	\$ 173,940	\$ 1,391,519	\$ 346,037	\$ 2,768,294
2.4	Rock Excavation Adder	582.0	СУ	\$ -	\$ -	\$ 2,000	\$ 1,164,000	\$ 2,000	\$ 1,164,000
2.5									
2.6									
2.7									
2.8									
2.9									Page 3 of 38

							Labor & Equipment	Labor & Equipment		
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	te	Material Supply Sum	Supply Rate	Sum	Total Unit Rate	TOTAL
2.10										
2.11										
2.12										
2.13										
2.14										
2.15										
2.16										
2.17										
TOTAL - FOUN	DATIONS:				\$	12,695,824		\$ 13,995,790		\$ 26,691,613
3. STRUCTURE					Ť	12,033,024		13,333,730		20,031,013
3.1	345/115kV D/C Single Pole Delta V-String Tangent Steel 80'	158	Structure	\$ 56,7	95 \$	8,973,610	\$ 34,077	\$ 5,384,166	\$ 90,872	\$ 14,357,776
3.2	345/115kV D/C Two-Pole Dead End Delta Steel (Dead End) 80'	8	Structure	\$ 87,1	35 \$	697,080	\$ 52,281	\$ 418,248	\$ 139,416	\$ 1,115,328
3.3	345/115kV D/C Two-Pole Dead End Delta Steel (Storm Dead End) 80'	6	Structure	\$ 87,1	35 \$	522,810	\$ 52,281	\$ 313,686	\$ 139,416	\$ 836,496
3.4	Remove Existing Foundation	688	EA	\$ -	\$	-	\$ 3,250	\$ 2,236,000	\$ 3,250	\$ 2,236,000
3.5	Remove Existing Structure and Accessories	172	EA	\$ -	\$	-	\$ 12,500	\$ 2,150,000	\$ 12,500	\$ 2,150,000
3.6	Install Grounding and Grounding Accessories	186	Pole	\$ 5	06 \$	94,116	\$ 5,539	\$ 1,030,161		\$ 1,124,277
3.7										
3.8										
3.9										
3.10										
3.11										
3.12										
3.13										
3.14 3.15										
TOTAL - STRU	CTURES:				\$	10,287,616		\$ 11,532,261		\$ 21,819,877
	R, SHIELDWIRE, OPGW				Ť	10,207,010		ψ 11/552/201		22,023,077
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	728,482	LF	\$ 1.	90 \$	1,384,116	\$ 5.00	\$ 3,642,410	\$ 6.90	\$ 5,026,526
4.2	(1) OPGW 36 Fiber AC-33/38/571	121,414	LF	\$ 1.	35 \$	163,909	\$ 5.00	\$ 607,070	\$ 6.35	\$ 770,979
4.3	(1) 3/8" EHS7 Steel	121,414	LF		47 \$	57,065	\$ 5.00	\$ 607,070		\$ 664,135
4.4	Remove Existing Cable From Existing Structures	43.8	Mile	-	- \$	-	\$ 30,000	\$ 1,314,000		\$ 1,314,000
4.5	Remove Existing OPGW Cable and Accessories	21.9	Mile		- \$		\$ 12,000	\$ 262,800		\$ 262,800
4.6	Remove Existing OHSW and Accessories	21.9	Mile		- \$		\$ 12,000 \$ 5.00	\$ 262,800		\$ 262,800
4.7	115kV - (1) 954kcmil 54/7 ACSS "Cardinal" Rider Poles (47 Locations)	364,241 24	LF Set	\$ 1,7	90 \$	692,058 42,000	\$ 5.00 \$ 3,500	\$ 1,821,205 \$ 84,000	-	\$ 2,513,263 \$ 126,000
4.8	Rider Poles - Relocated	23	Set	7 -7:	- Ś		\$ 3,500	\$ 80,500	\$ 3,500.00	\$ 80,500
4.10		25			Ť		, 3,500	. 23,300	. 2,220.00	. 23,000
4.11										
4.12										
4.13										
4.14					_					
4.15 4.16										
4.16					-					
	LUCTOR, SHIELDWIRE, OPGW:				\$	2,339,147		\$ 8,681,855		\$ 11,021,002
	, FITTINGS, HARDWARE									, ,,,,,
5.1	345kV Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	948	Assembly	\$ 1,8	00 \$	1,706,400	\$ 720	\$ 682,560	\$ 2,520	\$ 2,388,960
5.2	115kV Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	948	Assembly	\$ 9	00 \$	853,200	\$ 560	\$ 530,880	\$ 1,460	\$ 1,384,080
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	168	Assembly	\$ 1,8	00 \$	302,400	\$ 720	\$ 120,960	\$ 2,520	\$ 423,360
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	84	Assembly	\$ 9	00 \$	75,600	\$ 560	\$ 47,040	\$ 1,460	\$ 122,640
5.5					\$			\$ -		\$ -
5.6			Assembly	\$ 1,8	00 \$	-	\$ 720	\$ -	\$ 2,520	\$ -

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Su	Labor & Equipm Supply Rate		Labor & Equipment Sum	Total Unit Rate		TOTAL
5.7			Assembly	\$ 3,600	\$ -	\$ 1	,440	\$ -	\$ 5,040	\$	-
5.8	OPGW Assembly - Tangent	158	Assembly	\$ 200			150	\$ 23,700	\$ 350		55,300
5.9	OPGW Assembly - Angle / DE	28	Assembly	\$ 250	\$ 7,00	0 \$	150	\$ 4,200	\$ 400	\$	11,200
5.10	OHSW Assembly - Tangent	158	Assembly	\$ 200	\$ 31,60	0 \$	150	\$ 23,700	\$ 350	\$	55,300
5.11	OHSW Assembly - Angle / DE	28	Assembly	\$ 250	\$ 7,00	0 \$	150	\$ 4,200	\$ 400	\$	11,200
5.12	OPGW Splice Boxes	8	Set	\$ 1,746	\$ 13,96	9 \$ 2	.,274	\$ 18,192	\$ 4,020	\$	32,161
5.13	OPGW Splice & Test	8	EA	\$ 2,520	\$ 20,16	0 \$ 2	,520	\$ 20,160	\$ 5,040	\$	40,320
5.14	Spacer - Conductor	3,642	EA	\$ 50	\$ 182,10	0 \$	35	\$ 127,470	\$ 85	\$	309,570
5.15	Vibration Dampers - Conductor	1,311	EA	\$ 35	\$ 45,88	5 \$	35	\$ 45,885	\$ 70	\$	91,770
5.16	Shield wire / OPGW Dampers, Misc. Fittings	442	EA	\$ 27	\$ 11,93	4 \$	35	\$ 15,470	\$ 62	\$	27,404
5.17											
5.18											
5.19											
5.20											
5.21	Guys, Anchors, and Accessories	-	EA	\$ 720	\$ -	\$	885	\$ -	\$ 1,605	\$	-
5.22	Misc. materials (Signs and Markers)	21.9	Mile	\$ 770	\$ 16,86	3 \$ 1	,006	\$ 22,031	\$ 1,776	\$	38,894
5.23		-		\$ -	\$ -	\$	-	\$ -	\$ -	\$	-
TOTAL - INSUI	ATORS, FITTINGS, HARDWARE:				\$ 3,305,71	1		\$ 1,686,448		\$	4,992,160
A. Trans	mission Line Knickerbocker to Churchtown				\$ 28,639,79	8		\$ 49,404,307		\$	78,044,105
6. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
•	Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 780	,441	\$ 780,441	\$ 780,441	\$	780,441
	Project Management, Material Handling & Amenities										
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 3,755	,170	\$ 3,755,170	\$ 3,755,170	\$	3,755,170
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 780	,441	\$ 780,441	\$ 780,441	\$	780,441
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -		,441	\$ 780,441	\$ 780,441	\$	780,441
	Engineering	-	25	*	Ť	700	,,	7 700,111	700,111	<u> </u>	700,112
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,902	205	\$ 3,902,205	\$ 3,902,205	\$	3,902,205
6.6	LiDAR	1	LS	\$ -	\$ -		,132	\$ 234,132	\$ 234,132	\$	234,132
6.7	Geotech	22	Location	\$ -	\$ -		,500	\$ 77,000	\$ 3,500	\$	77,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	-	,309	\$ 546,309	\$ 546,309	\$	546,309
	Testing & Commissioning		-				,				
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 40	,000	\$ 40,000	\$ 40,000	\$	40,000
	Permitting and Additional Costs					1	_	· · · · · · · · · · · · · · · · · · ·	,		· · · · · · · · · · · · · · · · · · ·
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$	-	\$ -	\$ -	\$	-
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$	-	\$ -	\$ -	\$	-
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 234	,132	\$ 234,132	\$ 234,132	\$	234,132
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$	-	\$ -	\$ -	\$	-
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 3,186	,000	\$ 3,186,000	\$ 3,186,000	\$	3,186,000
6.15	Legal Fees	÷	LS	\$ -	\$ -	\$	-	\$ -	\$ -	\$	-
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$	-	\$ -	\$ -	\$	-
6.17		-	LS	\$ -	\$ -	\$	-	\$ -	\$ -	\$	-
6.18	Sales Tax on Materials	1	LS	\$ 2,291,184	\$ 2,291,18	4 \$	-	\$ -	\$ 2,291,184	\$	2,291,184
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	, , ,	\$ -		,044	\$ 78,044	\$ 78,044	\$	78,044

ITC T032 (Segment B) B. Transmission Line Churchtown to Pleasant Valley

Estimate Revision: 5 Total: \$ 182,797,981

ITC T032 (Segment B)			
	Supply	Installation	Total
B. Transmission Line Churchtown to Pleasant Valley			
1. CLEARING & ACCESS	\$ 14,000	\$ 20,315,402	\$ 20,329,402
2. FOUNDATIONS	\$ 21,569,255	\$ 33,464,251	\$ 55,033,507
3. STRUCTURES	\$ 17,229,070	\$ 26,612,906	\$ 43,841,976
4. CONDUCTOR, SHIELDWIRE, OPGW	\$ 4,553,240	\$ 17,722,775	\$ 22,276,015
5. INSULATORS, FITTINGS, HARDWARE	\$ 7,182,734	\$ 3,815,288	\$ 10,998,023
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 4,043,864	\$ 26,275,194	\$ 30,319,058
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 54,592,164	\$ 128,205,817	\$ 182,797,981
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 54,592,164	\$ 128,205,817	\$ 182,797,981

Description of Work:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
B. Transı	mission Line Churchtown to Pleasant Valley								
1. CLEARING &	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	91.0	Acre	\$ -	\$ -	\$ 5,000	\$ 455,000	\$ 5,000	\$ 455,000
1.3	Permanent Access Road	33,897.6	LF	\$ -	\$ -	\$ 45			\$ 1,525,392
1.4	Silt Fence	169,488.0	LF	\$ -	\$ -	\$ 4			\$ 677,952
1.5	Matting - Access and ROW	135,590.4	LF	\$ -	\$ -	\$ 70			
1.6	Matting - To Work Area	18,750.0	LF	\$ -	\$ -	\$ 70			, , , , , , , , , , , , , , , , , , , ,
1.7	Snow Removal	32.1	Mile	\$ -	\$ -	\$ 16,000			\$ 513,600
1.8	ROW Restoration	32.1	Mile	\$ -	\$ -	\$ 10,000			\$ 321,000
1.9	Work Pads	1,490,000.0	SF	\$ -	\$ -	\$ 4			\$ 5,244,800
1.10	Restoration for Work Pad areas	298,000.0	SF	\$ -	\$ -	\$ 0.2			\$ 44,700
1.11	Temporary Access Bridge	14	EA	\$ -	\$ -	\$ 20,035			\$ 280,490
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	12	EA	\$ -	\$ -	\$ 4,580			\$ 54,960
1.14	Maintenance and Protection of Traffic on Public Roads	86	EA	\$ -	\$ -	\$ 4,130			\$ 355,180
1.15	Gates	4	EA	\$ 2,000		\$ 2,500			\$ 18,000
1.16	Culverts / Misc. Access	8	EA	\$ 750		\$ 1,250			\$ 16,000
1.17	Concrete Washout Station	10	EA	\$ -	\$ -	\$ 1,850		\$ 1,850	\$ 18,500
	ING & ACCESS:				\$ 14,000		\$ 20,315,402		\$ 20,329,402
2. FOUNDATIO	NS								
2.1	Drilled Pier - 345/115kV Triple Circuit Two-Pole V-String Frame Tangent Steel 85'	279	EA	\$ 59,729	\$ 16,664,495	\$ 60,369	\$ 16,842,964	\$ 120,098	\$ 33,507,459
2.2	Drilled Pier - 345/115kV Triple Circuit Three-Pole Dead End Delta Steel (Dead End) 85'	12	EA	\$ 258,145	\$ 3,097,743	\$ 260,910	\$ 3,130,919	\$ 519,055	\$ 6,228,662
2.3	Drilled Pier - 345/115kV Triple Circuit Three-Pole Dead End Delta Steel(Storm Dead End)85'	7	EA	\$ 258,145	\$ 1,807,017	\$ 260,910	\$ 1,826,369	\$ 519,055	\$ 3,633,386
2.4									
2.5	Rock Excavation Adder	5,832.0	СУ	\$ -	\$ -	\$ 2,000	\$ 11,664,000	\$ 2,000	\$ 11,664,000
2.6									
2.7									
2.8									
2.9					 				
2.3					1				D (C20

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	тота	IL
2.10										
2.11										
2.12 TOTAL - FOUN	DATIONS				ć 21 FCO 2FF		\$ 33.464.251		\$ 55,0	022 507
3. STRUCTURE					\$ 21,569,255		\$ 33,464,251		\$ 33,I	,033,507
3.1	345/115kV Triple Circuit Two-Pole V-String Frame Tangent Steel 85'	279	Structure	\$ 53,280	\$ 14,865,120	\$ 31,968	\$ 8,919,072	\$ 85,248	\$ 23.7	,784,192
3.2	345/115kV Triple Circuit Three-Pole Dead End Delta Steel (Dead End) 85'	12	Structure	\$ 108,040	\$ 1,296,480	\$ 64,824	\$ 777,888	\$ 172,864		,074,368
3.3	345/115kV Triple Circuit Three-Pole Dead End Delta Steel (Storm Dead End) 85'	7	Structure	\$ 108,040	\$ 756,280	\$ 64,824	\$ 453,768	, , , , , , , , , , , , , , , , , , , ,		,210,048
3.4	Remove Existing Foundation	2,048	EA	\$ -	\$ -	\$ 3,250				,656,000
3.5	Remove Existing Structure and Accessories	512	EA	\$ -	\$ -	\$ 12,500	\$ 6,400,000	\$ 12,500	\$ 6,4	,400,000
3.6	Install Grounding and Grounding Accessories	615	Pole	\$ 506	\$ 311,190	, , , , , , , , , , , , , , , , , , , ,	\$ 3,406,178			,717,368
3.7	instance of our and of our amp recessories	013	1 0.0	Ţ 300	ÿ 511,130	ÿ 3,333	\$ 3,100,270	φ 0,0.13	Ψ 3,	117,000
3.8										
3.9										
-										-
3.10				-						
3.11				-						
3.12										
3.13										
3.14										
3.15										
3.16										
3.17										
TOTAL - STRU	CTURES PRINCTOWN TO NEW SCOTLAND:				\$ 17,229,070		\$ 26,612,906		\$ 43,8	,841,976
4. CONDUCTO	R, SHIELDWIRE, OPGW									
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	1,094,386	LF.	\$ 1.90			\$ 5,471,930			,551,263
4.2	(1) OPGW 36 Fiber AC-33/38/571	182,398	LF LF	\$ 1.35			\$ 911,990			,158,227
4.3	(1) 3/8" EHS7 Steel	182,398 130.4	Mile	\$ 0.47	\$ 85,727 \$ -	\$ 5.00 \$ 30.000	\$ 911,990	\$ 5.47 \$ 30,000.00		997,717
4.5	Remove Existing 115kV Cable From Existing Structures Remove Existing OPGW Cable and Accessories	32.3	Mile	+	\$ -	\$ 30,000 \$ 12,000	\$ 3,912,000 \$ 387,600			,912,000 387,600
4.7	Remove Existing OHSW and Accessories	32.3	Mile	•	\$ -	\$ 12,000	\$ 387,600			387,600
4.8	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	1,087,733	LF	\$ 1.90	·		\$ 5,438,665			,505,358
4.9		2,001,100		7	7 2,000,000	7 0.00	7 2,100,000	7	7	
4.10	Rider Poles - Relocated	43	Set	\$ -	\$ -	\$ 3,500	\$ 150,500	\$ 3,500.00	\$:	150,500
4.11	Rider Poles (86 Total)	43	EA	\$ 1,750						225,750
TOTAL: COND	UCTOR, SHIELDWIRE, OPGW:				\$ 4,553,240		\$ 17,722,775		\$ 22,2	,276,015
5. INSULATOR	, FITTINGS, HARDWARE									
5.1	345kV Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	1,674	Assembly	\$ 1,800	\$ 3,013,200		\$ 1,205,280	\$ 2,520		,218,480
5.2	115kV Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	3,348	Assembly	\$ 900	\$ 3,013,200	\$ 560	\$ 1,874,880	\$ 1,460	\$ 4,8	,888,080
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	228	Assembly	\$ 1,800	·					574,560
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	228	Assembly	\$ 900	\$ 205,200	\$ 560	\$ 127,680	\$ 1,460	\$:	332,880
5.5	OPGW Assembly - Tangent	279	Assembly	\$ 200	\$ 55,800	\$ 150	\$ 41,850	\$ 350	\$	97,650
5.6	OPGW Assembly - Angle / DE	38	Assembly	\$ 250	\$ 9,500	\$ 150	\$ 5,700	\$ 400	\$	15,200
5.7	OHSW Assembly - Tangent	279	Assembly	\$ 200	\$ 55,800		\$ 41,850			97,650
5.8	OHSW Assembly - Angle / DE	38	Assembly	\$ 250						15,200
5.9	OPGW Splice Boxes	12	Set	\$ 1,746						48,242
5.10	OPGW Splice & Test	12	EA	\$ 2,520						60,480
5.11	Spacer - Conductor	5,414	EA	\$ 50						460,190
5.12	Vibration Dampers - Conductor Shieldwire / ORGW Dampers - Mice Fittings	1,299	EA EA	\$ 35						90,930
5.13 5.14	Shieldwire / OPGW Dampers, Misc. Fittings Guys, Anchors, and Accessories	656	EA EA	\$ 27 \$ 720		\$ 35 \$ 885		\$ 62 \$ 1,605		40,672
5.14	Misc. materials (Signs and Markers)	32.6	Mile	\$ 720						57,809
	ATORS, FITTINGS, HARDWARE:	32.6	iville		\$ 7,182,734	1,006	\$ 32,745	1,//6		,998,023
					7,102,/34		7 3,013,200		J 10,3	530,023

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Mate	erial Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
B. Trans	mission Line Churchtown to Pleasant Valley				\$	50,548,300		\$ 101,930,622		\$	152,478,922
6. MOB/DEMO	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS										
	Contractor Mobilization / Demobilization										
6.1	Mob / Demob	1	LS	\$ -	\$	-	\$ 1,524,789	\$ 1,524,789	\$ 1,524,789	\$	1,524,789
	Project Management, Material Handling & Amenities										
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 7,336,676	\$ 7,336,676	\$ 7,336,676	\$	7,336,676
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 1,524,789	\$ 1,524,789	\$ 1,524,789	\$	1,524,789
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 1,524,789	\$ 1,524,789	\$ 1,524,789	\$	1,524,789
	Engineering										
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 7,623,946	\$ 7,623,946	\$ 7,623,946	\$	7,623,946
6.6	Lidar	1	LS	\$ -	\$	-	\$ 457,437	\$ 457,437	\$ 457,437	\$	457,437
6.7	Geotech	33	Location	\$ -	\$	-	\$ 3,500	\$ 115,500	\$ 3,500	\$	115,500
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 1,067,352	\$ 1,067,352	\$ 1,067,352	\$	1,067,352
	Testing & Commissioning										
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ 40,000	\$ 40,000	\$ 40,000	\$	40,000
	Permitting and Additional Costs										
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 457,437	\$ 457,437	\$ 457,437	\$	457,437
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$	-	\$ 4,450,000	\$ 4,450,000	\$ 4,450,000	\$	4,450,000
6.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	-
6.17		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$	
6.18	Sales Tax on Materials	1	LS	\$ 4,043,864	\$	4,043,864	\$ -	\$ -	\$ 4,043,864	\$	4,043,864
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	, ,	\$	-	\$ 152,479	\$ 152,479	\$ 152,479	\$	152,479
TOTAL - MOB	/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				Ś	4,043,864	,	\$ 26,275,194	,	Ś	30,319,058

ITC T032 (Segment B) C. Blue Stores Junction to Blue Stores Substation

Estimate Revision: 5 Total: \$ 5,682,945

ITC T032 (Segment B)					
	Supply			Installation	Total
C. Blue Stores Junction to Blue Stores Substation					
1. CLEARING & ACCESS	\$	-	\$	1,404,512	\$ 1,404,512
2. FOUNDATIONS	\$	236,848	\$	925,954	\$ 1,162,802
3. STRUCTURES	\$	596,484	\$	946,665	\$ 1,543,149
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	84,763	\$	387,095	\$ 471,858
5. INSULATORS, FITTINGS, HARDWARE	\$	107,544	\$	56,496	\$ 164,040
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	82,051	\$	854,534	\$ 936,585
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$ -
SUBTOTAL:	\$	1,107,690	\$	4,575,256	\$ 5,682,945
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$ -
TOTAL:	\$	1,107,690	\$	4,575,256	\$ 5,682,945

Description of Work:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
C. Blue S	tores Junction to Blue Stores Substation								
1. CLEARING &	ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
	Clearing the ROW - Light (mowing)	4.0	Acre	\$ -	\$ -	\$ 5,000	-		·
1.3	Permanent Access Road	2,218	LF	\$ -	\$ -	\$ 45			
1.4	Silt Fence	11,088.0	LF	\$ -	\$ -	\$ 4			, , , , , , , , , , , , , , , , , , , ,
	Matting - Access and ROW	8,870	LF	\$ -	\$ -	\$ 70			
	Matting - To Work Area	1,800.0	LF	\$ -		\$ 70			
	Snow Removal	2.1	Mile	\$ -	\$ -	\$ 16,000			
1.8	ROW Restoration	2.1	Mile	\$ -	\$ -	\$ 10,000			
	Work Pads	120,000.0	SF	\$ -	\$ -	\$ 4			
	Restoration for Work Pad areas	24,000.0	SF	\$ -	\$ -	\$ 0.2			
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035		\$ 20,035	
	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
	Stabilized Construction Entrance	1		\$ -	\$ -	\$ 4,580			
	Maintenance and Protection of Traffic on Public Roads	2		\$ -	\$ -	\$ 4,130			
	Gates	-	EA	\$ 2,000		\$ 2,500		\$ 4,500	
	Culverts / Misc. Access	-	EA	\$ 750	t .	\$ 1,250		\$ 2,000	
1.17 TOTAL - CLEAR	Concrete Washout Station	-	EA	\$ -	\$ -	\$ 1,850		\$ 1,850	
					\$ -		\$ 1,404,512		\$ 1,404,512
2. FOUNDATIO	NS								
2.1	Drilled Pier - 115kV Single Circuit H- Pole Angle/ DE	6	EA	\$ 31,225	\$ 187,348	\$ 31,559	\$ 189,354	\$ 62,784	\$ 376,702
2.2	Direct Embed - 115kV Single Circuit H- Pole Tangent	18	EA	\$ 2,750	\$ 49,500	\$ 18,700	\$ 336,600	\$ 21,450	\$ 386,100
2.3	Rock Excavation Adder	200.0	СУ	\$ -	\$ -	\$ 2,000	\$ 400,000	\$ 2,000	\$ 400,000
2.4									
2.5									
2.6									
2.7									
2.8									
2.9									
2.10									
2.11									
2.12									
2.13									Page 0 of 29

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.14									
2.15 TOTAL - FOUN	DATIONS.				4 225.040		4 005.054		4 452 000
3. STRUCTURE					\$ 236,848		\$ 925,954		\$ 1,162,802
3.1	115kV Single Circuit H- Pole Angle/ DE	6	Structure	\$ 39,822	\$ 238,929	\$ 23,893	\$ 143,358	\$ 63,714	\$ 382,287
3.2	115kV Single Circuit H- Pole Tangent	18	Structure	\$ 18,515	\$ 333,266	\$ 11,109		. ,	\$ 533,226
3.3	Remove Existing Foundation	-	EA	\$ -	\$ -	\$ 7,500	\$ -	\$ 7,500	\$ -
3.4 3.5	Remove Existing Structure and Accessories	27	EA	\$ -	\$ -	\$ 12,500	\$ 337,500	\$ 12,500	\$ 337,500
3.6	Install Grounding and Grounding Accessories	48	Pole	\$ 506	\$ 24,288	\$ 5,539	\$ 265,848	\$ 6,045	\$ 290,136
3.7									
3.8									
3.9 3.10									
3.10									
3.12									
3.13									
3.14									
3.15									
TOTAL - STRUC					\$ 596,484		\$ 946,665		\$ 1,543,149
4. CONDUCTO	R, SHIELDWIRE, OPGW 345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ -	\$ -	\$ 5.00	\$ -	\$ 5.00	\$ -
								,	
4.2	(1) OPGW 36 Fiber AC-33/38/571	-	LF	\$ -	\$ -	\$ 5.00		·	\$ -
4.3	(1) 3/8" EHS7 Steel	-	LF	\$ -	\$ -	\$ 5.00			\$ -
4.4	115kV - (1) 795kcmil 26/7 ACSR "Drake"	34,927.0	LF	\$ 1.72	\$ 60,074	\$ 5.00	\$ 174,635	\$ 6.72	\$ 234,709
4.5	(1) OPGW 36 Fiber AC-33/38/571	11,642.0	LF	\$ 1.35	\$ 15,717	\$ 5.00	\$ 58,210	\$ 6.35	\$ 73,927
4.6	(1) 3/8" EHS7 Steel	11,642.0	LF	\$ 0.47	\$ 5,472	\$ 5.00	\$ 58,210	\$ 5.47	\$ 63,682
4.7	Remove Existing Cable	2.1	Mile	\$ -	\$ -	\$ 30,000	\$ 63,600	\$ 30,000.00	\$ 63,600
4.8	Remove Existing OPGW Cable and Accessories	-	Mile	\$ -	\$ -	\$ 12,000	\$ -		\$ -
4.9	Remove Existing OHSW and Accessories	2.1	Mile	\$ -	\$ -	\$ 12,000	\$ 25,440	\$ 12,000.00	\$ 25,440
4.10		-							
4.11		-							
4.12	Rider Poles (Locations)	2.0	EA	\$ 1,750	\$ 3,500	\$ 3,500	\$ 7,000	\$ 5,250.00	\$ 10,500
4.13	HICTOR CHIEFDWIRE ORGAN				4 04.750		A 207.005		4 474 070
	UCTOR, SHIELDWIRE, OPGW: FITTINGS, HARDWARE				\$ 84,763		\$ 387,095		\$ 471,858
	345kV Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	115kV Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	54	Assembly	\$ 900	<u> </u>				
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	36	Assembly	\$ 900		\$ 360			\$ 45,360
5.5	ODCW Assembly Toward		Assembly		\$ -		\$ -	\$ -	\$ -
5.6 5.7	OPGW Assembly - Tangent OPGW Assembly - Angle / DE	18 12	Assembly Assembly	\$ 200 \$ 250					\$ 6,300 \$ 4,800
5.8	OHSW Assembly - Tangent	18	Assembly	\$ 250	\$ 3,600			-	\$ 6,300
5.9	OHSW Assembly - Tangent OHSW Assembly - Angle / DE	12	Assembly	\$ 250					\$ 4,800
5.10	OPGW Splice Boxes	2	Set	\$ 1,746	\$ 3,492				\$ 8,040
5.11	OPGW Splice & Test	2	EA	\$ 2,520	\$ 5,040	\$ 2,520	\$ 5,040	\$ 5,040	\$ 10,080
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35		\$ 85	\$ -
	Vibration Dampers - Conductor	72	EA	\$ 35					
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	25	EA	\$ 27					
5.15	Guys, Anchors, and Accessories	-	EA	\$ 720		\$ 885		\$ 1,605	
	Misc. materials (Signs and Markers)	2.1	Mile	\$ 770	\$ 1,617	\$ 1,006	\$ 2,113	\$ 1,776	\$ 3,730
5.17	ATORS, FITTINGS, HARDWARE:				6 407.544		ć 55.105		¢ 454.000
					\$ 107,544		\$ 56,496		\$ 164,040
	tores Junction to Blue Stores Substation				\$ 1,025,639		\$ 3,720,722		\$ 4,746,361
6. MOB/DEMO	DB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:								
	Contractor Mobilization / Demobilization								Page 10 of 38

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464
	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 228,376	\$ 228,376	\$ 228,376	\$ 228,376
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 47,464	\$ 47,464	\$ 47,464	\$ 47,464
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 237,318	\$ 237,318	\$ 237,318	\$ 237,318
6.6	Lidar	1	LS	\$ -	\$ -	\$ 14,239	\$ 14,239	\$ 14,239	\$ 14,239
6.7	Geotech	2	Location	\$ -	\$ -	\$ 3,500	\$ 7,000	\$ 3,500	\$ 7,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 33,225	\$ 33,225	\$ 33,225	\$ 33,225
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 14,239	\$ 14,239	\$ 14,239	\$ 14,239
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 153,000	\$ 153,000	\$ 153,000	\$ 153,000
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 82,051	\$ 82,051		\$ -	\$ 82,051	\$ 82,051
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 4,746	\$ 4,746	\$ 4,746	\$ 4,746
TOTAL - MOB,	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 82,051		\$ 854,534		\$ 936,585

ITC T032 (Segment B) D. Knickerbocker 345kV Substation - Install

	1				
ITC T032 (Segmen	it B)				
	Supply			Installation	Total
D. Knickerbocker 345kV Substation - Install					
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	307,450	\$	3,237,850	\$ 3,545,300
2. SUBSTATION FOUNDATIONS	\$	1,648,569	\$	1,775,150	\$ 3,423,719
3. SUBSTATION STRUCTURES	\$	846,190	\$	846,190	\$ 1,692,380
4. MAJOR EQUIPTMENT	\$	756,000	\$	420,000	\$ 1,176,000
5. SMALL EQUIPTMENT / MATERIALS	\$	1,802,280	\$	973,500	\$ 2,775,780
6. CONTROL HOUSE / PANELS	\$	2,534,025	\$	1,641,025	\$ 4,175,050
7. MISC ITEMS	\$	1,537,224	\$	2,786,694	\$ 4,323,918
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	754,539	\$	4,512,205	\$ 5,266,744
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$ -
SUBTOTAL:	\$	10,186,277	\$	16,192,614	\$ 26,378,891
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$ -
TOTAL:	\$	10,186,277	\$	16,192,614	\$ 26,378,891

Description of Work:

Estimate

Revision:

Item	ltem Description	Estimated Quantity	Unit of Measure	Material Supply	Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
D. Knick	erbocker 345kV Substation - Install										
1. SITE PREP/	GRADING/ FENCING / CIVIL										
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	7.4	ACRES	\$	-	\$ -	\$ 355,000	\$ 2,627,000	\$ 355,000	\$	2,627,000
1.2	Station stone within substation fence.	2,400	СУ	\$	27	\$ 64,800	\$ 75	\$ 180,000	\$ 102	\$	244,800
1.3	Substation Fence	2,200	LF	\$	100	\$ 220,000	\$ 100	\$ 220,000	\$ 200	\$	440,000
1.4											
1.5											
1.6	Permanent Access Road - 20'-Wide	490	LF	\$	35	\$ 17,150	\$ 285	\$ 139,650	\$ 320	\$	156,800
1.7	Pavement	0	SY	\$	-	\$ -	\$ 55	\$ -	\$ 55	\$	-
1.8	Gates	2	EA	\$	2,000	\$ 4,000	\$ 2,500	\$ 5,000	\$ 4,500	\$	9,000
1.9	Culverts / Misc. Access	2	EA	\$	750	\$ 1,500	\$ 1,250	\$ 2,500	\$ 2,000	\$	4,000
1.10	Concrete Washout Station	2	EA	\$	-	\$ -	\$ 1,850	\$ 3,700	\$ 1,850	\$	3,700
1.11	Remove Existing Concrete Foundation	3	EA	\$	-	\$ -	\$ 7,500	\$ 22,500	\$ 7,500	\$	22,500
1.12	Remove Existing 3-Pole Structure	3	EA	\$	-	\$ -	\$ 12,500	\$ 37,500	\$ 12,500	\$	37,500
1.13										<u> </u>	
1.14											
1.15											
TOTAL - SITE F	PREP/ GRADING/ FENCING / CIVIL					\$ 307,450		\$ 3,237,850		\$	3,545,300
2. SUBSTATIO	N FOUNDATIONS										
2.1	345kV										
2.1a	Circuit Breaker Foundations	3	EA	\$ 1	4,940	\$ 44,820	\$ 16,000	\$ 48,000	\$ 30,940	\$	92,820
2.1b	Capacitor Bank Foundations	0	EA	\$ 5	6,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$	-
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	12	EA	\$ 2	6,145	\$ 313,740	\$ 28,000	\$ 336,000	\$ 54,145	\$	649,740
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 2	6,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$	-
2.1e	Switch Stand Foundations	36	EA		4,482	\$ 161,352	\$ 4,800	\$ 172,800	\$ 9,282		334,152
2.1f	Station Service Transformer Stand Foundation	4	EA	\$	4,482	\$ 17,928	\$ 4,800	\$ 19,200	\$ 9,282	\$	37,128
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.1h	Bus Support 1 Ph Foundations	66	EA	\$	4,482	\$ 295,812		\$ 316,800	\$ 9,282	\$	612,612
2.1j	Instrument Transformer Stand Foundations	27	EA	<u> </u>	4,482	\$ 121,014		\$ 129,600	\$ 9,282	-	250,614
2.1k	Arrester Stand Foundations	9	EA	-	4,482	\$ 40,338	\$ 4,800	\$ 43,200	\$ 9,282	\$	83,538
2.1m	Wave Trap Stand Foundations	3	EA	-	4,482	\$ 13,446		\$ 14,400		_	27,846
2.1n	Station Service Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
2.1p	Reactor Foundations	0	EA	\$	7,470	\$ -	\$ 8,000	\$ -	\$ 15,470		- 12 of 38

Total: \$ 26,378,891

Page 12 of 38

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.1q									
2.2	230kV								
2.2a	Circuit Breaker Foundations	0	EA	\$ 11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$ 44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2f	Fuse Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	3	EA	\$ 5,229	\$ 15,687		\$ 16,800	\$ 10,829	\$ 32,487
2.3b	Capacitor Bank Foundations	0	EA	\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	\$ -
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	12	EA	\$ 16,434	\$ 197,208	\$ 17,600	\$ 211,200	\$ 34,034	\$ 408,408
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3e	Switch Stand Foundations	14	EA	\$ 2,988	\$ 41,832			\$ 6,188	
2.3f	Fuse Stand Foundations	2	EA	\$ 2,988	\$ 5,976		\$ 6,400	\$ 6,188	\$ 12,376
2.3g	Bus Support 3ph Foundations	30	EA	\$ 2,988	\$ 89,640		\$ 96,000	\$ 6,188	\$ 185,640
2.3h	Bus Support 1 Ph Foundations	15	EA	\$ 2,988	\$ 44,820	\$ 3,200	\$ 48,000	\$ 6,188	\$ 92,820
2.3j	Instrument Transformer Stand Foundations	27	EA	\$ 2,988	\$ 80,676		\$ 86,400	\$ 6,188	\$ 167,076
2.3k	Arrester Stand Foundations	9	EA	\$ 2,988	\$ 26,892	\$ 3,200	\$ 28,800	\$ 6,188	\$ 55,692
2.3m	Wave Trap Stand Foundations	3	EA	\$ 2,988	\$ 8,964	\$ 3,200	\$ 9,600	\$ 6,188	\$ 18,564
2.3n	Station Service Foundations	1	EA	\$ 1,121	\$ 1,121	\$ 1,200	\$ 1,200	\$ 2,321	\$ 2,321
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations								
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	\$ -
2.4b	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -	\$ 80,000	\$ -	\$ 154,700	\$ -
2.4c	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				*	-	-	T	*	*
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ 48,555	\$ 48,555	\$ 52,000	\$ 52,000	\$ 100,555	\$ 100,555
2.5b	Generator Foundation	1	EA	\$ 16,000	\$ 16,000	\$ 17,000	\$ 17,000	\$ 33,000	\$ 33,000
2.5c	Station Service Distribution Line - 3ph.	1	LS	\$ -	\$ -	\$ 9,750	\$ 9,750	\$ 9,750	\$ 9,750
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	12	EA	\$ 5,229	\$ 62,748	\$ 5,600	\$ 67,200	\$ 10,829	\$ 129,948
2.6b				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	FATION FOUNDATIONS				\$ 1,648,569		\$ 1,775,150		\$ 3,423,719
	N STRUCTURES								
3.1	345kV	_	F.	A 27.555	6	6 27.555	A	A 71.555	A 222.555
3.1a	Substation A-Frame Structures - Stand alone	3	EA	\$ 37,000	\$ 111,000	\$ 37,000	\$ 111,000	\$ 74,000	\$ 222,000

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
3.1b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$	-
3.1c	Switch Stands	6	EA	\$ 14,800	\$ 88,800	\$ 14,800	\$ 88,800	\$ 29,600	\$	177,600
3.1d	Station Service Transformer Stand	0	EA	\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$	-
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.1f	Bus Support 1 Ph	66	EA	\$ 3,700	\$ 244,200	\$ 3,700	\$ 244,200	\$ 7,400	\$	488,400
3.1g	Instrument Transformer Stand	27	EA	\$ 1,850	\$ 49,950	\$ 1,850	\$ 49,950	\$ 3,700	\$	99,900
3.1h	Arrester Stand	9	EA	\$ 1,850	\$ 16,650	\$ 1,850	\$ 16,650	\$ 3,700	\$	33,300
3.1j	Wave Trap Stand	3	EA	\$ 7,400	\$ 22,200	\$ 7,400	\$ 22,200	\$ 14,800	\$	44,400
3.1k	Lightning Mast - 70'	6	EA	\$ 6,475	\$ 38,850	\$ 6,475	\$ 38,850	\$ 12,950	\$	77,700
3.2	230kV									
3.2a	Substation A-Frame Structures - Stand alone	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$	-
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$	-
3.2c	Switch Stands	0	EA	\$ 12,025	\$ -	\$ 12,025	\$ -	\$ 24,050	\$	-
3.2d	Station Service Transformer Stand	0	EA	\$ 12,025	\$ -	\$ 12,025	\$ -	\$ 24,050	\$	-
3.2e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$	-
3.2f	Bus Support 1 Ph	0	EA	\$ 2,775	\$ -	\$ 2,775	\$ -	\$ 5,550	\$	-
3.2g	Instrument Transformer Stand	0	EA	\$ 1,295	\$ -	\$ 1,295	\$ -	\$ 2,590	\$	-
3.2h	Arrester Stand	0	EA	\$ 1,295	\$ -	\$ 1,295	\$ -	\$ 2,590	\$	-
3.2j	Wave Trap Stand	0	EA	\$ 5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$	-
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$	-
3.3	115kV									
3.3a	Substation A-Frame Structures - Stand alone	3	EA	\$ 18,500	\$ 55,500	\$ 18,500	\$ 55,500	\$ 37,000	\$	111,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$	-
3.3c	Switch Stands	7	EA	\$ 7,955	\$ 55,685	\$ 7,955	\$ 55,685	\$ 15,910	\$	111,370
3.3d	Fuse Stand	1	EA	\$ 7,955	\$ 7,955	\$ 7,955	\$ 7,955	\$ 15,910	\$	15,910
3.3e	Bus Support 3ph	15	EA	\$ 3,330	\$ 49,950	\$ 3,330	\$ 49,950	\$ 6,660	\$	99,900
3.3f	Bus Support 1 Ph	15	EA	\$ 1,850	\$ 27,750	\$ 1,850	\$ 27,750	\$ 3,700	\$	55,500
3.3g	Instrument Transformer Stand	27	EA	\$ 740	\$ 19,980	\$ 740	\$ 19,980	\$ 1,480	\$	39,960
3.3h	Arrester Stand	9	EA	\$ 740	\$ 6,660	\$ 740	\$ 6,660	\$ 1,480	\$	13,320
3.3j	Wave Trap Stand	3	EA	\$ 3,700	\$ 11,100	\$ 3,700	\$ 11,100	\$ 7,400	\$	22,200
3.3k	Lightning Mast - 70'	6	EA	\$ 6,475	\$ 38,850	\$ 6,475	\$ 38,850	\$ 12,950	\$	77,700
3.31	Station Service Transformer Support Stand	1	EA	\$ 1,110	\$ 1,110	\$ 1,110	\$ 1,110	\$ 2,220	\$	2,220
TOTAL - SUBST	TATION STRUCTURES				\$ 846,190		\$ 846,190		\$	1,692,380
4. MAJOR EQU	IIPTMENT									
4.1	345kV									
4.1a	Circuit Breakers	3	EA	\$ 200,000	\$ 600,000	\$ 80,000	\$ 240,000	\$ 280,000	\$	840,000
4.1b	Capacitor Banks with Reactors	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$	-
4.1c					1					
4.1d										
4.1e					1					
4.2	230kV									
	Circuit Breakers	0	EA	\$ 115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	Ś	
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000		\$ 80,000		
					·	22,300		. 22,300	Ė	
4.3	115kV									
4.3a	Circuit Breakers	3	EA	\$ 52,000	\$ 156,000	\$ 60,000	\$ 180,000	\$ 112,000	\$	336,000
4.3b	Capacitor Banks	0	EA	\$ -	 	\$ 60,000		\$ 60,000		-
					<u> </u>				i -	
TOTAL - MAIO	R EQUIPTMENT				\$ 756,000		\$ 420,000		\$	1,176,000
	**				750,000		420,000		Ÿ	1,170,000

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5. SMALL EQU	JIPTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	3	EA	\$ 40,000	\$ 120,000	\$ 15,000	\$ 45,000	\$ 55,000	\$ 165,000
5.1b	Disconnect Switches - 3ph w/ manual operator	6	EA	\$ 35,000	\$ 210,000	\$ 17,500	\$ 105,000	\$ 52,500	\$ 315,000
5.1c	VT'S	9	EA	\$ 25,000	\$ 225,000	\$ 12,000	\$ 108,000	\$ 37,000	\$ 333,000
5.1d	CT'S	9	EA	\$ 13,000	\$ 117,000	\$ 8,000	\$ 72,000	\$ 21,000	\$ 189,000
5.1e	CCVT'S	9	EA	\$ 13,000	\$ 117,000	\$ 8,000	\$ 72,000	\$ 21,000	\$ 189,000
5.1f	Arresters	9	EA	\$ 6,500	\$ 58,500	\$ 1,500	\$ 13,500	\$ 8,000	\$ 72,000
5.1g	Wave Traps	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1h	Station Service Transformers	0	EA	\$ 200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator	0	EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator	0	EA	\$ 30,000	\$ -	\$ 17,500	\$ -	\$ 47,500	\$ -
5.2c	VT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2d	CT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2e	CCVT'S	0	EA	\$ 10,000	\$ -	\$ 6,000	\$ -	\$ 16,000	\$ -
5.2f	Arresters	0	EA	\$ 5,000	\$ -	\$ 6,000	\$ -	\$ 11,000	\$ -
5.2g	Wave Traps	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.2j									
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	3	EA	\$ 33,000	\$ 99,000	\$ 15,000	\$ 45,000	\$ 48,000	\$ 144,000
5.3b	Disconnect Switches - 3ph w/ manual operator	7	EA	\$ 28,000	\$ 196,000		\$ 122,500	\$ 45,500	\$ 318,500
5.3c	VT'S	9	EA	\$ 13,000	\$ 117,000		\$ 72,000	\$ 21,000	
5.3d	CT'S	9	EA	\$ 13,000	\$ 117,000	\$ 8,000	\$ 72,000	\$ 21,000	\$ 189,000
5.3e	CCVT'S	9	EA	\$ 8,000	\$ 72,000	\$ 8,000	\$ 72,000	\$ 16,000	\$ 144,000
5.3f	Arresters	9	EA	\$ 3,420	\$ 30,780	\$ 6,000	\$ 54,000	\$ 9,420	\$ 84,780
5.3g	Wave Traps	3	EA .	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.3h	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000		\$ 50,000	\$ 250,000	
5.3j	Fuses	3	EA	\$ 15,000	\$ 45,000	\$ 7,500	\$ 22,500	\$ 22,500	\$ 67,500
TOTAL - SMAL	LL EQUIPTMENT / MATERIALS				\$ 1,802,280		\$ 973,500		\$ 2,775,780
	HOUSE / PANELS / GENERATOR				7 -/		7 0.0,000		,::=,:==
6.1	CONTROL HOUSE	1	EA	\$ 468,000	\$ 468,000	\$ 95,000	\$ 95,000	\$ 563,000	\$ 563,000
6.2	Protection and Telecom Equipment Panels	26	EA	\$ 35,000	\$ 910,000		\$ 260,000	\$ 45,000	
6.3	125VDC Batteries	1	EA LS	\$ 75,000 \$ 641,025	\$ 150,000 \$ 641,025	\$ 25,000 \$ 641.025	\$ 50,000 \$ 641.025	\$ 100,000 \$ 1,282,050	
	Control Cables SCADA and Communications			7	· · · · · · · · · · · · · · · · · · ·	7 0.1.,020		, ,	7 -,,
6.5	Low Voltage AC Distribution	1 2	EA EA	\$ 50,000 \$ 50,000	\$ 50,000 \$ 100,000			\$ 150,000	
6.7	DC Distribution System	2	EA	\$ 50,000	\$ 100,000			\$ 150,000	
6.8	Security Security	1	EA	\$ 7,500					
6.9	Fire Alarm	1	EA EA	\$ 7,500	\$ 7,500			\$ 15,000	
6.10	Generator	1	EA	\$ 100,000	\$ 100,000			\$ 180,000	
			- In	- 100,000		50,000		- 130,000	
TOTAL CONT	TROL HOUSE / PANELS / GENERATOR				\$ 2,534,025		\$ 1,641,025		\$ 4,175,050

Item	Item Description	Estimated Quantity	Unit of Measure	Mater	al Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
7. MISC ITEMS											
7.1	Conduit & Cable Trench System	1,540.0	LF	\$	185.00	\$ 284,900	\$ 170.00	\$ 261,800	\$ 355	\$	546,700
7.2	Rigid Bus, Fittings & Insulators	5,000.0	LF	\$	125.07	\$ 625,350	\$ 237.10	\$ 1,185,500	\$ 362	\$	1,810,850
7.3	Strain Bus, Connectors & Insulators	0.0	LF	\$	39.30	\$ -	\$ 53.35	\$ -	\$ 93	\$	-
7.4	Grounding System	26,800.0	LF	\$	6.93	\$ 185,724	\$ 32.58	\$ 873,144	\$ 40	\$	1,058,868
7.5	Strain Bus Insulators - 345kV	0	EA	\$	2,000	\$ -	\$ 1,050	\$ -	\$ 3,050	\$	-
7.6	Strain Bus Insulators - 230kV	0	EA	\$	1,400	\$ -	\$ 750	\$ -	\$ 2,150	\$	-
7.7	Strain Bus Insulators - 115kV	0	EA	\$	1,000	\$ -	\$ 550	\$ -	\$ 1,550	\$	-
7.8	Low Voltage AC Station Service	1	LS	\$	50,000	\$ 50,000	\$ 75,000	\$ 75,000	\$ 125,000	\$	125,000
7.9	SSVT Service	1	LS	\$	45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 90,000	\$	90,000
7.10	Control Conduits from Trench to Equipment	1	LS	\$	166,250	\$ 166,250	\$ 166,250	\$ 166,250	\$ 332,500	\$	332,500
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$	180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$	360,000
7.12											
7.13											
7.14											
7.15											
7.16											
7.17											
7.18											
7.19											
7.20											
7.21											
7.22											
7.23											
7.24											
7.25											
TOTAL - MISC I						\$ 1,537,224		\$ 2,786,694		\$	4,323,918
D. Knicke	rbocker 345kV Substation - Install					\$ 9,431,738		\$ 11,680,409		\$	21,112,147
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization									<u> </u>	
8.1	Mob / Demob	1.0	LS	\$	-	\$ -	\$ 211,121	\$ 211,121	\$ 211,121	\$	211,121
	Project Management, Material Handling & Amenities										
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 1,015,832	\$ 1,015,832	\$ 1,015,832	\$	1,015,832
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 211,121	\$ 211,121	\$ 211,121	\$	211,121
	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 211,121	\$ 211,121	\$ 211,121	\$	211,121
	Engineering										
8.5	Design Engineering	1	LS	\$	-	\$ -	\$ 1,688,972	\$ 1,688,972	\$ 1,688,972	\$	1,688,972
8.6	LiDAR	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.7	Geotech	4	EA	\$	-	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$	14,000
8.8	Surveying/Staking	1	Site	\$	-	\$ -	\$ 147,785	\$ 147,785	\$ 147,785	\$	147,785
	Testing & Commissioning										
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$	-	\$ -	\$ 527,804	\$ 527,804	\$ 527,804	\$	527,804
	Permitting and Additional Costs										
8.10	Environmental Licensing & Permitting Costs	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.11	Environmental Mitigation	-	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-
8.12	Warranties / LOC's	1	LS	\$	-	\$ -	\$ 63,336	\$ 63,336	\$ 63,336	\$	63,336
8.13	Real Estate Costs (New)	=	LS	\$	-	\$ -	\$ -	\$ -	\$ -	\$	-

Item	ltem Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Suppl	/ Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$	-	\$	-	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000
8.15	Legal Fees		LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)		LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$	-	\$	-	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$	754,539	\$ 75	4,539	\$ -	\$ -	\$ 754,539	\$ 754,539
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$	-	\$ 21,112	\$ 21,112	\$ 21,112	\$ 21,112
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 75	4,539		\$ 4,512,205		\$ 5,266,744

Page 17 of 38

ITC T032 (Segment B) H. Churchtown Substation - Install

5		Total:	\$	2,452,922		
ITC T032 (Se	gment B)					
		Supply		Installation		Total
H. Churchtown Substation - Install						
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	30,835	\$	95,225	\$	126,060
2. SUBSTATION FOUNDATIONS	\$	150,147	\$	160,800	\$	310,947
3. SUBSTATION STRUCTURES	\$	52,000	\$	60,865	\$	121,730
4. MAJOR EQUIPTMENT	\$	52,000	\$	60,000	\$	112,000
5. SMALL EQUIPTMENT / MATERIALS	\$	186,260	\$	130,500	\$	316,760
6. CONTROL HOUSE / PANELS	\$	253,795	\$	178,795	\$	432,590
7. MISC ITEMS	\$	206,790	\$	350,542	\$	557,331
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	75,255	\$	400,249	\$	475,504
CONTRACTOR MARK-UP (OH&P)	\$	-	\$	-	\$	-
SUBTOTAL:	\$	1,007,082	\$	1,436,975	\$	2,452,922
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$	-	\$	-
TOTAL	ć	1 007 003	ć	1 426 075	ć	2 452 022

escri			

Estimate Revision:

Item	Item Description	Estimated Quantity	Unit of Measure	Mate	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
H. Churc	htown Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0.25	ACRES	\$	-	\$ -	\$ 230,000	\$ 57,500	\$ 230,000	\$ 57,500
1.2	Station stone within substation fence.	105	CY	\$	27					
1.3	Substation Fence	280	LF	\$	100	\$ 28,000	\$ 100	\$ 28,000	\$ 200	\$ 56,000
1.4	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE F	PREP/ GRADING/ FENCING / CIVIL					\$ 30,835		\$ 95,225		\$ 126,060
	N FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	0	EA	\$	14,940		\$ 16,000		\$ 30,940	
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025		\$ 60,000		\$ 116,025	
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	26,145		\$ 28,000		\$ 54,145	
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145		\$ 28,000		\$ 54,145	
2.1e	Switch Stand Foundations	0	EA	\$	4,482		\$ 4,800		\$ 9,282	
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482		\$ 4,800	-	\$ 9,282	
2.1g	Bus Support 3ph Foundations	0	EA	\$		\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$	4,482		\$ 4,800		\$ 9,282	
2.1j	Instrument Transformer Stand Foundations	0	EA	\$	4,482		\$ 4,800		\$ 9,282	
2.1k	Arrester Stand Foundations	0	EA	\$	4,482		\$ 4,800		\$ 9,282	
2.1m	Wave Trap Stand Foundations	0	EA	\$	4,482		\$ 4,800	\$ -	\$ 9,282	
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p				-						
	20011/									
2.2	230kV	0	FA.		11.053	<u>^</u>	ć 42.000	<u>^</u>	ć 24.7F2	
2.2a	Circuit Breaker Foundations	0	EA	\$	11,952		\$ 12,800 \$ 48.000		\$ 24,752 \$ 92.820	
2.2b	Capacitor Bank Foundations Caisson DE Foundations (for DE A frame str stand alone)	0	EA EA	\$	44,820 22,410		7 .0,000		. ,	
2.2c		0		\$						
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA EA	\$	22,410 3,735		\$ 24,000 \$ 4,000		\$ 46,410 \$ 7,735	
2.2e	Switch Stand Foundations	0	EA	>	3,/35	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -

						Johan O Carriannant	Labar & Farriannant		
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2f	Station Service Transformer Stand Foundation	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2g	Bus Support 3ph Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations	0	EA	\$ 3,735	\$ -		\$ -	\$ 7,735	
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2k	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2m	Wave Trap Stand Foundations	0	EA	\$ 3,735	\$ -		\$ -	\$ 7,735	
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
2.3	115kV								
2.3a	Circuit Breaker Foundations	1	EA	\$ 5,229	\$ 5,229	\$ 5,600	\$ 5,600	\$ 10,829	\$ 10,829
2.3b	Capacitor Bank Foundations	0		\$ 33,615	\$ -	\$ 36,000	\$ -	\$ 69,615	
2.3c	Caisson DE Foundations (for DE A frame str stand alone)	4	EA	\$ 16,434	\$ 65,736		\$ 70,400	\$ 34,034	
2.3d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -	\$ 17,600	\$ -	\$ 34,034	
2.3e	Switch Stand Foundations	2	EA	\$ 2,988	\$ 5,976			\$ 6,188	
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
2.3g	Bus Support 3ph Foundations	2	EA	\$ 2,988	\$ 5,976			\$ 6,188	
2.3h	Bus Support 1 Ph Foundations	3	EA	\$ 2,988	\$ 8,964	\$ 3,200	\$ 9,600	\$ 6,188	\$ 18,564
2.3j	Instrument Transformer Stand Foundations	9	EA	\$ 2,988	\$ 26,892	\$ 3,200	\$ 28,800	\$ 6,188	\$ 55,692
2.3k	Arrester Stand Foundations	3	EA	\$ 2,988	\$ 8,964		\$ 9,600	\$ 6,188	
2.3m	Wave Trap Stand Foundations	1		\$ 2,988	\$ 2,988		\$ 3,200	\$ 6,188	
2.3n	Station Service Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.3p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4	Transformer Foundations			4 4	_		_		_
2.4a	345-230kV Transformer Foundation w/ Oil Containment	0		\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	
2.4b 2.4c	345-115kV Transformer Foundation w/ Oil Containment	0	EA EA	\$ 74,700 \$ -	\$ -	\$ 80,000	\$ - \$ -	\$ 154,700 \$ -	\$ - \$ -
2.4c 2.4d	230kV-115kV Transformer Foundation w/ Oil Containment 115kV-69kV Transformer Foundation w/ Oil Containment	0	EA EA	\$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ - \$ -	\$ -
2.40	113KV-05KV Transformer Foundation Wy On Containment	0	LA	· -	÷ -	, -	· -	· -	-
2.5	Control House Foundations / Pad								
2.5a	Control House / Pad	1	EA	\$ 8,964	\$ 8,964	\$ 9,600	\$ 9,600	\$ 18,564	\$ 18,564
	, , , , , , , , , , , , , , , , , , ,			,					
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.5b 2.5c	Generator Foundation Station Service Distribution Line - 1ph.			\$ 16,000	\$ -		\$ -		\$ -
2.5b 2.5c 2.6	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations	0	EA LS	\$ 16,000	\$ -	\$ 17,000 \$ 6,500	\$ -	\$ 33,000 \$ 6,500	\$ -
2.5b 2.5c	Generator Foundation Station Service Distribution Line - 1ph.	0	EA LS	\$ 16,000	\$ -	\$ 17,000 \$ 6,500	\$ -	\$ 33,000 \$ 6,500	\$ -
2.5b 2.5c 2.6 2.6a	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations	0 0	EA LS EA	\$ 16,000 \$ - \$ 5,229	\$ - \$ - \$ 10,458	\$ 17,000 \$ 6,500 \$ 5,600	\$ - \$ - \$ 11,200	\$ 33,000 \$ 6,500 \$ 10,829 \$ -	\$ - \$ - \$ \$
2.5b 2.5c 2.6 2.6a 2.6b	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations	0 0 2 2	EA LS EA EA	\$ 16,000 \$ - \$ 5,229 \$ -	\$ - \$ - \$ \$ \$ 10,458 \$ -	\$ 17,000 \$ 6,500 \$ 5,600 \$ -	\$ - \$ - \$ \$ \$ 11,200 \$ -	\$ 33,000 \$ 6,500 \$ 10,829 \$ -	\$ - \$ - \$ 21,658 \$ - \$ -
2.5b 2.5c 2.6 2.6a 2.6b 2.6c	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation	0 0 2 2	EA LS EA EA	\$ 16,000 \$ - \$ 5,229 \$ -	\$ - \$ - \$ \$ \$ 10,458 \$ -	\$ 17,000 \$ 6,500 \$ 5,600 \$ -	\$ - \$ - \$ \$ \$ 11,200 \$ -	\$ 33,000 \$ 6,500 \$ 10,829 \$ -	\$ - \$ - \$ 21,658 \$ -
2.5b 2.5c 2.6 2.6a 2.6b 2.6c TOTAL - SUBSTATIO	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS N STRUCTURES	0 0 2 2	EA LS EA EA	\$ 16,000 \$ - \$ 5,229 \$ -	\$ - \$ - \$ 10,458 \$ - \$ -	\$ 17,000 \$ 6,500 \$ 5,600 \$ -	\$ - \$ - \$ 11,200 \$ - \$ -	\$ 33,000 \$ 6,500 \$ 10,829 \$ -	\$ - \$ - \$ 21,658 \$ - \$ -
2.5b 2.5c 2.6 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS N STRUCTURES 345kV	0 0 0 2 0 0	EA LS EA EA EA	\$ 16,000 \$ - \$ 5,229 \$ - \$ -	\$ - \$ - \$ 10,458 \$ - \$ -	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ -	\$ - \$ - \$ 11,200 \$ - \$ - \$ 5	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ -	\$ - \$ - \$ 21,658 \$ - \$ - \$ 310,947
2.5b 2.5c 2.6a 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone	0 0 0 2 0 0	EA LS EA EA EA	\$ 16,000 \$ - \$ 5,229 \$ - \$ - \$ -	\$ - \$ - \$ 10,458 \$ - \$ - \$ 150,147	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ -	\$ - \$ 11,200 \$ - \$ - \$ \$ \$ 160,800	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ -	\$ - \$ - \$ 21,658 \$ - \$ - \$ 310,947
2.5b 2.5c 2.6a 2.6a 2.6b 2.6c TOTAL - SUBSTATIO 3.1 3.1a 3.1b	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0 0 0 2 0 0	EA LS EA EA EA	\$ 16,000 \$ - \$ 5,229 \$ - \$ - \$ - \$ 37,000 \$ 37,000	\$ - \$ 10,458 \$ - \$ - \$ 150,147	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ - \$ - \$ 37,000	\$ - \$ 11,200 \$ - \$ - \$ - \$ 160,800	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ - \$ 5 \$ 74,000 \$ 74,000	\$ - \$ - \$ 21,658 \$ - \$ - \$ 310,947
2.5b 2.5c 2.6a 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation FATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands	0 0 2 0 0 0	EA LS EA EA EA EA	\$ 16,000 \$ \$ 5,229 \$ \$ \$ \$ 37,000 \$ 37,000 \$ 14,800	\$ - \$ 10,458 \$ - \$ - \$ 150,147 \$ - \$ - \$ -	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800	\$ - \$ 11,200 \$ - \$ - \$ - \$ 5 \$ 160,800 \$ - \$ - \$ -	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ - \$ 5 \$ 74,000 \$ 74,000 \$ 29,600	\$ - \$ 21,658 \$ - \$ - \$ - \$ 310,947 \$ - \$ - \$ -
2.5b 2.5c 2.6 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation FATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 0 0 0 0 0	EA LS EA EA EA EA EA EA	\$ 16,000 \$	\$ - \$ 10,458 \$ - \$ - \$ 150,147 \$ - \$ - \$ - \$ -	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800	\$ - \$ 11,200 \$ - \$ - \$ - \$ - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 7 - \$	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ - \$ 5 \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600	\$ - \$ 21,658 \$ - \$ - \$ 310,947 \$ - \$ - \$ - \$ - \$ -
2.5b 2.5c 2.6a 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1a 3.1b 3.1c 3.1d 3.1e	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph	0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA	\$ 16,000 \$ - \$ 5,229 \$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ -	\$ - 10,458 \$ - 2 \$ 10,458 \$ - 3 \$ - 4 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ -	\$ - \$ 11,200 \$ - \$ - \$ 160,800 \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ -	\$ - \$ 21,658 \$ - \$ - \$ 310,947 \$ - \$ - \$ - \$ - \$ -
2.5b 2.5c 2.6 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS NSTRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph	0 0 0 0 0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA EA	\$ 16,000 \$ \$ 5,229 \$ \$ \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ \$ \$	\$ - 10,458 \$ - 2 \$ 10,458 \$ - 3 \$ - 4 \$ - 5 \$ - 7 \$ - 7 \$ - 7	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 5 -	\$ - \$ 11,200 \$ - \$ - \$ - \$ 160,800 \$ - \$ - \$ - \$ - \$ - \$ -	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ - \$ 7,400	\$ - \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$
2.5b 2.5c 2.6 2.6a 2.6b 2.6c TOTAL - SUBS' 3.1u 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Oldman Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1ph Instrument Transformer Stand	0 0 0 2 0 0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA EA	\$ 16,000 \$	\$ - 10,458 \$ - 2 \$ 10,458 \$ - 3 \$ - 4 \$ 150,147 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 7	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ - \$ 37,000 \$ 14,800 \$ 14,800 \$ 1,850	\$ - \$ 11,200 \$ - \$ - \$ 160,800 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700	\$ - \$ 21,658 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.5b 2.5c 2.6 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation IATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA EA EA EA EA EA EA	\$ 16,000 \$ \$ 5,229 \$ \$ \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ \$ 3,700 \$ 1,850 \$ 1,850	\$ - 10,458 \$ 10,458 \$ \$ - \$ \$ 150,147 \$ 5 - \$ \$ 5	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ - \$ 3,700 \$ 1,850 \$ 1,850	\$ - 11,200 \$ 11,200 \$ \$ - \$ - \$ - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ - \$	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ - \$ 7,400 \$ 3,700 \$ 3,700	\$ - \$ - \$ - \$ \$ -
2.5b 2.5c 2.6a 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1a 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1g 3.1h 3.1j	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand	0 0 0 2 0 0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA EA	\$ 16,000 \$	\$ - 10,458 \$ - 2 \$ 10,458 \$ - 3 \$ - 4 \$ 150,147 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 7	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 1,850 \$ 1,850 \$ 1,850 \$ 7,400	\$ - \$ 11,200 \$ - \$ - \$ 160,800 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ 29,600 \$ 3,700 \$ 3,700 \$ 3,700 \$ 3,700 \$ 3,700 \$ 3,700	\$ - \ \$ 21,658 \ \$ - \ \$ 310,947 \ \$ 5 - \ \$
2.5b 2.5c 2.6 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1g 3.1h	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation IATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA EA EA EA	\$ 16,000 \$	\$ - 10,458 \$ - 2 \$ 10,458 \$ - 3 \$ - 4 \$ - 5 \$ - 7 \$ - 7 \$ - 7 \$ - 7	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 1,850 \$ 1,850 \$ 1,850 \$ 7,400	\$ - 11,200 \$ - 5 \$ - 7 \$ 160,800 \$ - 5 \$ - 7 \$ - 7	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ 29,600 \$ 3,700 \$ 3,700 \$ 3,700 \$ 3,700 \$ 3,700	\$ - \ \$ 21,658 \$ - \ \$ 310,947 \$ 5 - \ \$ 5 -
2.5b 2.5c 2.6a 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1a 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA EA EA EA	\$ 16,000 \$	\$ - 10,458 \$ - 2 \$ 10,458 \$ - 3 \$ - 4 \$ - 5 \$ - 7 \$ - 7 \$ - 7 \$ - 7	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 1,850 \$ 1,850 \$ 1,850 \$ 7,400	\$ - 11,200 \$ - 5 \$ - 7 \$ 160,800 \$ - 5 \$ - 7 \$ - 7	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ 29,600 \$ 3,700 \$ 3,700 \$ 3,700 \$ 3,700 \$ 3,700 \$ 3,700	\$ - \ \$ 21,658 \ \$ - \ \$ 310,947 \ \$ 5 - \ \$
2.5b 2.5c 2.6a 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1h 3.1j 3.1h	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Olumn Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70'	0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA EA EA EA	\$ 16,000 \$	\$ - 10,458 \$ - 2 \$ 10,458 \$ - 3 \$ - 4 \$ - 5 \$ - 7 \$ - 7 \$ - 7 \$ - 7	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 1,850 \$ 1,850 \$ 1,850 \$ 7,400	\$ - 11,200 \$ - 5 \$ - 7 \$	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ 29,600 \$ 3,700 \$ 3,700 \$ 3,700 \$ 3,700 \$ 3,700 \$ 3,700	\$ - \ \$ 21,658 \ \$ - \ \$ 310,947 \ \$ 5 - \ \$
2.5b 2.5c 2.6 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1c 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1h 3.1h 3.1h 3.2 3.2a 3.2a	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70' 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 16,000 \$	\$	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475	\$ - 11,200 \$ - 5 \$ - 7 \$ 160,800 \$ - 7 \$ -	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ 29,600 \$ 1,700 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 12,950	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.5b 2.5c 2.6 2.6a 2.6a 2.6c TOTAL - SUBS' 3.1u 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation FATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70' 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 16,000 \$ \$ 5,229 \$ \$ \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 14,800 \$ \$ 3,700 \$ 1,850 \$ 1,850 \$ 7,400 \$ 6,475	\$ - 10,458 \$ 10,458 \$ 5 \$ 5	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ - \$ 37,000 \$ 14,800 \$ 14,800 \$ 14,800 \$ 1,850 \$ 1,850 \$ 6,475 \$ 33,300 \$ 33,300 \$ 12,025	\$ - 11,200 \$ - 11,200 \$ \$ \$ \$	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ 29,600 \$ 14,800 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950	\$ - \ \$ 21,658 \ \$ - \ \$ 310,947 \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ \$ - \ \$ 5 - \ \$
2.5b 2.5c 2.6a 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2a 3.2b 3.2c 3.2d	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70' 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 16,000 \$ 5,229 \$ 5,229 \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,2025	\$ - 10,458 \$ 10,458 \$ \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 1,850 \$ 1,850 \$ 6,475 \$ 33,300 \$ 13,300 \$ 12,025 \$ 12,025	\$ - 11,200 \$ - 11,200 \$ - 5 \$ - 5 \$ - 6 \$ - 6 \$ - 7 \$	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ 29,600 \$ 12,950 \$ 14,800 \$ 12,950 \$ 12,950 \$ 24,050	\$
2.5b 2.5c 2.6a 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1a 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1s 3.1s 3.1s 3.1s 3.1c 3.1d 3.1d 3.1d 3.1d 3.1d 3.1d 3.1d 3.1d	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70' 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 3ph Bus Support 3ph Bus Support 3ph Bus Support 3ph Bus Support 3ph Bus Support 3ph	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 16,000 \$	\$ - 10,458 \$ - 5 \$	\$ 17,000 \$ 6,500 \$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 14,850 \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,202 \$ 12,025 \$ 12,025	\$ - 11,200 \$ - 5 \$ - 7 \$ 160,800 \$ - 7 \$ -	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ 29,600 \$ 12,950 \$ 3,700 \$ 3,700 \$ 14,800 \$ 12,950 \$ 12,950	\$ - \ \$ 21,658 \ \$ - \ \$ 310,947 \ \$ 5 - \ \$
2.5b 2.5c 2.6 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1a 3.1a 3.1b 3.1c 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2c 3.2d 3.2e	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70' 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Bus Support 1 Ph	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 16,000 \$	\$ - 10,458 \$ - 2 \$ 10,458 \$ - 3 \$ - 3 \$ - 4 \$ - 4 \$ - 5 \$ - 7 \$ -	\$ 17,000 \$ 6,500 \$ - \$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ - \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,205 \$ 12,025 \$ 12,025 \$ 2,775	\$ - 11,200 \$ \$ 11,200 \$	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ 29,600 \$ 12,950 \$ 1,4800 \$ 12,950 \$ 12,	\$ - \ \$ 21,658 \$ - \ \$ 310,947 \$ - \ \$ -
2.5b 2.5c 2.6 2.6a 2.6a 2.6b 2.6c TOTAL - SUBS' 3.1u 3.1a 3.1b 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1j 3.1k 3.2 3.2a 3.2b 3.2c 3.2d 3.2c 3.2d 3.2e 3.2f 3.2g	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation FATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70' 230kV Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Sation Service Transformer Stand Support 1 ph Instrument Transformer Stand Lightning Masts - 70' 230kV Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 ph Instrument Transformer Stand	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 16,000 \$ \$ 5,229 \$ \$ \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 14,800 \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,202 \$ 12,025 \$ 12,025 \$ 12,025 \$ 1,295	\$ - 10,458 \$ - 10,458 \$ 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5 \$ - 5	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,202 \$ 12,025 \$ 12,025 \$ 12,025 \$ 1,295	\$ - 11,200 \$ - 11,200 \$ 5 \$ 5	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ 29,600 \$ 12,950 \$ 14,800 \$ 12,950 \$ 14,800 \$ 12,950 \$ 66,600 \$ 66,600 \$ 66,600 \$ 24,050 \$ 24,050 \$ 24,050 \$ 25,550 \$ 25,550	\$ - \ \$ 21,658 \$ - \ \$ 310,947 \$ 5 - \ \$
2.5b 2.5c 2.6 2.6a 2.6b 2.6c TOTAL - SUBS' 3. SUBSTATIO 3.1c 3.1d 3.1e 3.1f 3.1g 3.1h 3.1s 3.1h 3.1c 3.2 3.2d 3.2c 3.2d 3.2c 3.2d	Generator Foundation Station Service Distribution Line - 1ph. Lightning Mast Foundations 70' Lightning Mast Foundation TATION FOUNDATIONS N STRUCTURES 345kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Instrument Transformer Stand Arrester Stand Wave Trap Stand Lightning Masts - 70' 230kV Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Stand alone Substation A-Frame Structures - Shared Column Switch Stands Station Service Transformer Stand Bus Support 3ph Bus Support 1 Ph Bus Support 1 Ph	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA LS EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 16,000 \$	\$ - 10,458 \$ - 5\$ - 5\$ - 5\$ - 5\$ - 5\$ - 5\$ - 5\$	\$ 17,000 \$ 6,500 \$ 5,600 \$ - \$ - \$ - \$ 37,000 \$ 37,000 \$ 14,800 \$ 14,800 \$ 1,850 \$ 1,850 \$ 1,850 \$ 1,2025 \$ 12,025 \$ 12,025 \$ 1,295 \$ 1,295	\$ - 11,200 \$ - 11,200 \$ - 5 \$ - 7 \$	\$ 33,000 \$ 6,500 \$ 10,829 \$ - \$ - \$ 74,000 \$ 74,000 \$ 29,600 \$ 29,600 \$ 29,600 \$ 12,950 \$ 1,4800 \$ 12,950 \$ 12,	\$ - S - S - S - S - S - S - S - S - S -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	1	EA	\$ 18,500	\$ 18,500	\$ 18,500	\$ 18,500	\$ 37,000	\$ 37,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -			\$ 37,000	
3.3c	Switch Stands	1	EA	\$ 7,955	\$ 7,955			\$ 15,910	
3.3d 3.3e	Fuse Stand Bus Support 2nh	0	EA EA	\$ 7,955 \$ 3,330	\$ - \$ 3,330	\$ 7,955 \$ 3,330		\$ 15,910 \$ 6,660	
3.3f	Bus Support 3ph Bus Support 1 Ph	3	EA	\$ 3,330	\$ 5,550			\$ 3,700	
3.3g	Instrument Transformer Stand	9	EA	\$ 740	\$ 6,660		\$ 6,660	\$ 1,480	
3.3h	Arrester Stand	3	EA	\$ 740	\$ 2,220			\$ 1,480	
3.3j	Wave Trap Stand	1	EA	\$ 3,700	\$ 3,700			\$ 7,400	
3.3k	Lightning Mast	2	EA	\$ 6,475	\$ 12,950			\$ 12,950	
3.31	Station Service Transformer Support Stand TATION STRUCTURES	0	EA	\$ 1,110	\$ -	\$ 1,110	\$ -	\$ 2,220	
4. MAJOR EQU					\$ 60,865		\$ 60,865		\$ 121,730
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ 200,000	\$ -	\$ 80,000	\$ -	\$ 280,000	\$ -
4.1b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000		\$ 80,000	\$ -
4.1c	345 kV - 230 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2 4.2a	230kV Circuit Breakers	0	EA	\$ 115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.2a 4.2b	Capacitor Banks	0	EA	\$ 115,000	\$ -	\$ 80,000 \$ 80,000		\$ 195,000	
4.25	Capacitor Banks		LA.	,	,	\$ 00,000	7	y 00,000	*
4.3	115kV								
4.3a	Circuit Breakers	1	EA	\$ 52,000	\$ 52,000		\$ 60,000		\$ 112,000
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL BAALO	DR EQUIPTMENT				ć 53,000		ć 50,000		ć 443.000
	JIPTMENT / MATERIALS				\$ 52,000		\$ 60,000		\$ 112,000
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	0	EA	\$ 40,000	\$ -	\$ 15,000	\$ -	\$ 55,000	\$ -
5.1b	Disconnect Switches - 3ph w/ manual operator	_	Ε.	å 25.000	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
		0	EA	\$ 35,000	, -		-		•
5.1c	VT'S	0	EA	\$ 25,000	\$ -	\$ 12,000	\$ -	\$ 37,000	\$ -
5.1d	CT'S	0	EA EA	\$ 25,000 \$ 13,000	\$ - \$ -	\$ 12,000 \$ 8,000	\$ -	\$ 37,000 \$ 21,000	\$ - \$ -
5.1d 5.1e	CT'S CCVT'S	0 0	EA EA EA	\$ 25,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 8,000	\$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000	\$ - \$ - \$ -
5.1d 5.1e 5.1f	CT'S CCVT'S Arresters	0 0 0 0	EA EA EA	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500	\$ - \$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500	\$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000	\$ - \$ - \$ - \$ -
5.1d 5.1e	CT'S CCVT'S	0 0	EA EA EA	\$ 25,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 8,000	\$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g	CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0	EA EA EA EA	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 13,000	\$ - \$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 8,000	\$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j	CT'S CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0 0 0	EA EA EA EA	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 13,000	\$ - \$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 8,000	\$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j	CT'S CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0 0 0 0	EA EA EA EA EA	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 6,500 \$ 200,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 8,000 \$ 50,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 50,000 \$ 50,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 50,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j	CT'S CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0 0 0 0	EA EA EA EA EA	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 6,500 \$ 200,000	\$ - \$ - \$ - \$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 50,000 \$ 15,000 \$ 17,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 200,000 \$ 35,000 \$ 35,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 1,500 \$ 1,500 \$ 50,000 \$ 15,000 \$ 15,000 \$ 8,000	\$ - \$ - \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ \$ \$ - \$ \$ \$ \$ - \$ \$ \$ \$ \$ - \$ \$ \$ \$ - \$ \$ \$ \$ - \$ \$ \$ \$ - \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ \$ \$ - \$	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 21,000 \$ 250,000 \$ 250,000 \$ 47,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b 5.2c 5.2c 5.2d 5.2e	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S	0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 50,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 50,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b 5.2c 5.2c 5.2d 5.2d 5.2c	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 30,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 5,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 1,500 \$ 1,500 \$ 50,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 250,000 \$ 250,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 11,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b 5.2c 5.2c 5.2d 5.2f 5.2g	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 35,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 50,000 \$ 15,000 \$ 15,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 11,000 \$ 11,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b 5.2c 5	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 30,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 5,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 1,500 \$ 1,500 \$ 50,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 250,000 \$ 250,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 11,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b 5.2c 5.2c 5.2d 5.2f 5.2g	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 35,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 50,000 \$ 15,000 \$ 15,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 11,000 \$ 11,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b 5.2c 5	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 35,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 50,000 \$ 15,000 \$ 15,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 11,000 \$ 11,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b 5.2c 5.2c 5.2c 5.2d 5.2c 5.2d 5.2c 5.2d 5.2c 5.2d 5.2c 5.2d 5.2c 5	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 35,000 \$ 30,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 5,000 \$ 30,000 \$ 30,000	\$ - \$ - \$ - \$ \$ -	\$ 12,000 \$ 8,000 \$ 1,500 \$ 1,500 \$ 15,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 6,000 \$ 15,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 32,000 \$ 32,	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b 5.2c 5.2c 5.2d 5.2e 5.2f 5.2g 5.2j 5.3a 5.3a	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 30,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 20,000 \$ 13,000 \$ 20,000 \$ 20,0	\$ - \$ - \$ - \$ \$ -	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 1,500 \$ 15,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 8,000 \$ 17,500 \$ 17,500 \$ 17,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 11,000 \$ 11,000 \$ 21,000 \$ 47,500 \$ 47,500 \$ 47,500 \$ 21,000 \$ 47,500 \$ 47,500	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b 5.2c 5.2c 5.2c 5.2c 5.2d 5.2e 5.2f 5.2g 5.2f 5.2s 5.3a 5.3a 5.3a 5.3a	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S Disconnect Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ - \$	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 50,000 \$ 15,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 15,000 \$ 8,000 \$ 8,00	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 16,000 \$ 11,000 \$	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b 5.2c 5.2d 5.2e 5.2f 5.2f 5.2j 5.3a 5.3a 5.3a 5.3a 5.3a 5.3c 5.3d	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ motor operator VT'S CT'S CT'S CT'S CT'S CT'S CT'S CT'S C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 30,000 \$ 30,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 15,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 17,500 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,0	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 11,000 \$ 12,000 \$ 12,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b 5.2c 5.2c 5.2c 5.2c 5.2c 5.2c 5.2f 5.2f 5.2j 5.3a 5.3a 5.3a 5.3a 5.3a 5.3a 5.3a 5.3a	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 30,000 \$ 30,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 5,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ \$ - \$ \$ \$ \$ - \$ \$ \$ \$ - \$ \$ \$ \$ - \$ \$ \$ \$ - \$ \$ \$ \$ - \$ \$ \$ \$ - \$ \$ \$ \$ - \$ \$ \$ \$ - \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ \$ - \$ \$ \$ \$ \$ \$ \$ \$ - \$	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 8,000 \$ 15,000 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 9,000 \$ 17,500 \$ 8,000 \$ 9,000 \$ 9,000	\$ - S - S - S - S - S - S - S - S - S -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 3,000 \$ 3,0	\$ - S - S - S - S - S - S - S - S - S -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b 5.2c 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3a 5.3a 5.3b 5.3c 5.3d 5.3d 5.3d 5.3d 5.3d 5.3e 5.3f	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ motor operator VT'S CT'S CCVT'S Arresters Vave Traps Station Service Transformers	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 13,000 \$ 200,000 \$ 30,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 33,000 \$ 34,000 \$ 34,0	\$ - \$ - \$ - \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ \$ -	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 15,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000	\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 21,000 \$ 11,000 \$ 11,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 3,000 \$ 3	\$
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b 5.2c 5.2c 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3a 5.3a 5.3a 5.3a 5.3a 5.3a 5.3a 5.3	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CT'S CCVT'S Arresters Wave Traps	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 200,000 \$ 30,000 \$ 30,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 13,000 \$ 30,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ - \$	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 1,500 \$ 15,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 6,000 \$ 6,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 17,500 \$ 17,500	\$ - S - S - S - S - S - S - S - S - S -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 3,000 \$ 3,000	\$ - S - S - S - S - S - S - S - S - S -
5.1d 5.1e 5.1f 5.1g 5.1h 5.1j 5.2 5.2a 5.2b 5.2c 5.2c 5.2d 5.2e 5.2f 5.2g 5.2h 5.2j 5.3a 5.3a 5.3a 5.3c 5.3d 5.3d 5.3d 5.3d 5.3e 5.3f	CT'S CCVT'S Arresters Wave Traps Station Service Transformers 230kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator VT'S CCT'S CCVT'S Arresters Wave Traps Station Service Transformers 115kV Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ motor operator VT'S CT'S CCVT'S Arresters Vave Traps Station Service Transformers	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EA EA EA EA EA EA EA EA EA EA EA EA EA E	\$ 25,000 \$ 13,000 \$ 13,000 \$ 6,500 \$ 200,000 \$ 200,000 \$ 35,000 \$ 30,000 \$ 13,000 \$ 13,000	\$ - \$ - \$ - \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ - \$	\$ 12,000 \$ 8,000 \$ 8,000 \$ 1,500 \$ 15,000 \$ 17,500 \$ 17,500 \$ 8,000 \$ 8,000 \$ 6,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 17,500 \$ 8,000 \$ 8,000 \$ 8,000 \$ 8,000	\$ - S - S - S - S - S - S - S - S - S -	\$ 37,000 \$ 21,000 \$ 21,000 \$ 8,000 \$ 250,000 \$ 250,000 \$ 47,500 \$ 21,000 \$ 21,000 \$ 21,000 \$ 11,000 \$ 11,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 21,000 \$ 3,000 \$ 3	\$ - S - S - S - S - S - S - S - S - S -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Su	pply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
TOTAL SMALL	EQUIPTMENT / MATERIALS					\$ 186,260		\$ 130,500		\$	316,760
	DUSE / PANELS / GENERATOR					\$ 180,200		\$ 130,500		Ş	310,760
	CONTROL HOUSE	1	EA	\$	76,800	\$ 76,800	\$ 76,800	\$ 76,800	\$ 153,600	\$	153,600
6.2	Protection and Telecom Equipment Panels	3	EA	\$	35,000	\$ 105,000	\$ 10,000	\$ 30,000	\$ 45,000	\$	135,000
6.3	125VDC Batteries	0	EA	\$	75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$	-
6.4	Control Cables	1	LS	\$	71,995	\$ 71,995	\$ 71,995	\$ 71,995	\$ 143,990	\$	143,990
6.5	SCADA and Communications	0	EA	\$	50,000	\$ -	\$ 100,000	\$ -	\$ 150,000	\$	-
6.6	Low Voltage AC Distribution	0	EA	\$	50,000	\$ -	\$ 100,000		\$ 150,000	\$	-
	DC Distribution System	0	EA	\$	50,000		\$ 100,000		\$ 150,000		-
6.8	Security	0	EA	\$	7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	\$	-
6.9	Fire Alarm	0	EA	\$	7,500		\$ 7,500	\$ -	\$ 15,000		-
6.10	Generator	0	EA	\$	100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$	-
	OL HOUSE / PANELS / GENERATOR					\$ 253,795		\$ 178,795		\$	432,590
7. MISC ITEMS											
7.1	Conduit & Cable Trench System	90.0	LF	\$	185.00	\$ 16,650	\$ 170.00	\$ 15,300	\$ 355	\$	31,950
7.2	Rigid Bus, Fittings & Insulators	240.0	LF	\$	125.07	\$ 30,017	\$ 237.10	\$ 56,904	\$ 362	\$	86,921
7.3	Strain Bus, Connectors & Insulators	0.0	LF	\$	39.30	\$ -	\$ 53.35	\$ -	\$ 93	\$	-
	Grounding System	1,100.0	LF	\$	6.93	\$ 7,623	\$ 32.58	\$ 35,838	\$ 40	\$	43,461
	Strain Bus Insulators - 345kV	0	EA	\$	2,000	\$ -	\$ 1,050	\$ -	\$ 3,050		-
	Strain Bus Insulators - 230kV	0	EA	\$	1,400	\$ -	\$ 750	\$ -	\$ 2,150		-
7.7	Strain Bus Insulators - 115kV	0	EA	\$	1,000	\$ -	\$ 550	\$ -	\$ 1,550	\$	-
	Low Voltage AC Station Service	0	LS	\$	50,000		\$ 75,000		\$ 125,000		-
	SSVT Service	0	LS	\$	45,000		\$ 45,000		\$ 90,000		-
	Control Conduits from Trench to Equipment	1	LS	\$,	\$ 62,500	\$ 62,500	\$ 62,500	\$ 125,000	\$	125,000
	Misc. Materials (Above and Below Ground)	1	LS	\$	90,000	\$ 90,000	\$ 180,000	\$ 180,000	\$ 270,000	\$	270,000
7.12											
7.13											
7.14											
7.15											
7.16											
7.17											
7.18											
7.19											
7.20 7.21											
7.22 7.23											
7.24											
7.25											
TOTAL - MISC I	TEMS					\$ 206,790		\$ 350,542		Ś	557,331
						\$ 940,692		\$ 1,036,727		Ś	1,977,418
	ntown Substation - Install					3 940,092		J,U30,727		Ÿ	1,5//,418
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization			ļ.,			46	46	40	_	
	Mob / Demob Project Management, Material Handling & Amenities	1	LS	\$	-	\$ -	\$ 19,774	\$ 19,774	\$ 19,774	\$	19,774
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 95,145	\$ 95,145	\$ 95,145	\$	95,145
8.3	Utility PM and Project Oversite	1	LS			\$ -	\$ 19,774	\$ 19,774	\$ 19,774	\$	19,774
	Site Accommodation, Facilities, Storage	1	LS	\$	-	\$ -	\$ 19,774	\$ 19,774	\$ 19,774	\$	19,774
	Engineering										
	Design Engineering	1	LS	\$		\$ -	\$ 158,193	\$ 158,193	\$ 158,193		158,193
	LiDAR	-	Mile	\$		\$ -	\$ -	\$ -	\$ -	\$	-
	Geotech	4		\$		\$ -	\$ 3,500				14,000
	Surveying/Staking	1	Site	\$	-	\$ -	\$ 13,842	\$ 13,842	\$ 13,842	\$	13,842
	Testing & Commissioning										

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supp	ply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$	-	\$ 49,435	\$ 49,435	\$ 49,435	\$ 49,435
	Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs		LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 5,932	\$ 5,932	\$ 5,932	\$ 5,932
8.13	Real Estate Costs (New)	1	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$	-	\$ 2,400	\$ 2,400	\$ 2,400	\$ 2,400
8.15	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)		LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 75,255	\$	75,255	\$ -	\$ -	\$ 75,255	\$ 75,255
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$	-	\$ 1,977	\$ 1,977	\$ 1,977	\$ 1,977
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	75,255		\$ 400,249		\$ 475,504

Page 22 of 38
H. SS Churchtown-Install

ITC T032 (Segment B) J. Pleasant Valley Substation - Install

Total: \$ 3,855,941

ITC T032 (Segme	ent B)			
		Supply	Installation	Total
J. Pleasant Valley Substation - Install				
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$	11,025	\$ 14,625	\$ 25,650
2. SUBSTATION FOUNDATIONS	\$	151,466	\$ 160,900	\$ 312,366
3. SUBSTATION STRUCTURES	\$	44,400	\$ 44,400	\$ 88,800
4. MAJOR EQUIPTMENT	\$	200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPTMENT / MATERIALS	\$	260,500	\$ 129,000	\$ 389,500
6. CONTROL HOUSE / PANELS	\$	560,900	\$ 253,400	\$ 814,300
7. MISC ITEMS	\$	594,450	\$ 596,075	\$ 1,190,525
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	145,819	\$ 608,981	\$ 754,800
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	1,968,560	\$ 1,887,381	\$ 3,855,941
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	1,968,560	\$ 1,887,381	\$ 3,855,941

Doccri	iption of	Mor	٠.
Descii	puon o	VVOI	٨.

Estimate Revision:

Item	ltem Description	Estimated Quantity	Unit of Measure	Mate	rial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
J. Pleasa	nt Valley Substation - Install									
1. SITE PREP/	GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0	ACRES	\$	-	\$ -	\$ 230,000	\$ -	\$ 230,000	\$ -
1.2	Station stone within substation fence.	75	CY	\$	27	\$ 2,025	\$ 75	\$ 5,625	\$ 102	\$ 7,650
1.3	Substation Fence	90	LF	\$	100	\$ 9,000	\$ 100	\$ 9,000	\$ 200	\$ 18,000
1.4	Permanent Access Road - 20'-Wide	0	LF	\$	35		\$ 285		\$ 320	
1.5										
1.6										
1.7										
1.8										
1.9										
1.10										
1.11										
1.12										
1.13										
1.14										
1.15										
TOTAL - SITE P	REP/ GRADING/ FENCING / CIVIL					\$ 11,025		\$ 14,625		\$ 25,650
2. SUBSTATIO	FOUNDATIONS									
2.1	345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$	14,940	\$ 14,940	\$ 16,000	\$ 16,000	\$ 30,940	\$ 30,940
2.1b	Capacitor Bank Foundations	0	EA	\$	56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	26,145	\$ -	\$ 28,000	\$ -	\$ 54,145	\$ -
2.1e	Switch Stand Foundations	6	EA	\$	4,482	\$ 26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$ 55,692
2.1f	Station Service Transformer Stand Foundation	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 3ph Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations	0	EA	\$	4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1j	Instrument Transformer Stand Foundations	9	EA	\$	4,482	\$ 40,338	\$ 4,800	\$ 43,200	\$ 9,282	\$ 83,538
2.1k	Arrester Stand Foundations	3	EA	\$	4,482	\$ 13,446	\$ 4,800	\$ 14,400	\$ 9,282	\$ 27,846
2.1m	Wave Trap Stand Foundations	1	EA	\$	4,482	\$ 4,482	\$ 4,800	\$ 4,800	\$ 9,282	\$ 9,282
2.1n	Misc. Structure Foundations	0	EA	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p										
2.2	230kV									
2.2a	Circuit Breaker Foundations	0	EA	\$	11,952	\$ -	\$ 12,800	\$ -	\$ 24,752	\$ -
2.2b	Capacitor Bank Foundations	0	EA	\$	44,820	\$ -	\$ 48,000	\$ -	\$ 92,820	\$ -
2.2c	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$	22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.2d	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$	22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
	•			•				•		Page 23 of 38

Page 23 of 38

2.2f Start S	Switch Stand Foundations Station Service Transformer Stand Foundation Bus Support 3ph Foundations Bus Support 1 Ph Foundations Instrument Transformer Stand Foundations Arrester Stand Foundations	0 0 0	EA	\$ 3,735					
2.2g Bu 2.2h Bu 2.2j Ins 2.2k Ar 2.2m W 2.2n Mi 2.2p 2.3 11 2.3 Cir	Bus Support 3ph Foundations Bus Support 1 Ph Foundations nstrument Transformer Stand Foundations			3,/33	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -
2.2h Bu 2.2j Ins 2.2k Ar 2.2m W 2.2n Mi 2.2p 2.3 11 2.3a Cii	Bus Support 1 Ph Foundations nstrument Transformer Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2j Ins 2.2k Ar 2.2m W 2.2n Mi 2.2p 2.3 11 2.3a Cii	nstrument Transformer Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -		\$ -
2.2k Ar 2.2m W 2.2n Mi 2.2p 2.2p 2.3 11 2.3a Cir		0	EA	\$ 3,735	\$ -		\$ -	\$ 7,735	
2.2m W 2.2n Mi 2.2p 2.3 11 2.3a Cir	Arrester Stand Foundations	0	EA	\$ 3,735	\$ -	. , , , , , , , , , , , , , , , , , , ,	\$ -	\$ 7,735	
2.2n Mi 2.2p 2.3 11 2.3a Cir		0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	
2.2p 2.3 11 2.3a Cir	Nave Trap Stand Foundations	0	EA	\$ 3,735	\$ -		\$ -	\$ 7,735	
2.3 11 2.3a Cir	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3a Cir									
2.3a Cir									
	15kV								
	Circuit Breaker Foundations	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	
	Capacitor Bank Foundations	0	EA	\$ 33,615			\$ -	\$ 69,615	•
	Caisson DE Foundations (for DE A frame str stand alone)	0	EA	\$ 16,434	\$ -	\$ 17,600		\$ 34,034	
	Caisson DE Foundations (for DE A frame str shared column)	0	EA	\$ 16,434	\$ -		\$ -	\$ 34,034	•
	Switch Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200		\$ 6,188	
	Station Service Transformer Stand Foundation	0	EA	\$ 2,988	\$ -		\$ -		\$ -
	Bus Support 3ph Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
	Bus Support 1 Ph Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -		\$ -
	nstrument Transformer Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -		\$ -
	Arrester Stand Foundations	0	EA	\$ 2,988	\$ -		\$ -	\$ 6,188	
	Nave Trap Stand Foundations	0	EA	\$ 2,988	\$ -	. ,	\$ -	\$ 6,188	·
	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p									
\longrightarrow									
	Fransformer Foundations								
	345-230kV Transformer Foundation w/ Oil Containment	0	EA	\$ 97,110	\$ -	\$ 104,000	\$ -	\$ 201,110	
	345-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ 74,700	\$ -		\$ -	\$ 154,700	\$ -
	230kV-115kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d 11	115kV-69kV Transformer Foundation w/ Oil Containment	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.5 Co	Control House Foundations / Pad								
2.5a Co	Control House Addition Foundation (25-ft x 50-ft)	1	EA	\$ 51,368	\$ 51,368	\$ 53,700	\$ 53,700	\$ 105,068	\$ 105,068
2.5b Ge	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.6 Lig	ightning Mast Foundations								
	70' Lightning Mast Foundation	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	·	\$ -	\$ -	\$ -
TOTAL - SUBSTAT	ITION FOUNDATIONS				\$ 151,466		\$ 160,900		\$ 312,366
3. SUBSTATION ST	STRUCTURES								
3.1 34	345kV								
3.1a Su	Substation A-Frame Structures - Stand alone	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
	Switch Stands	1	EA	\$ 14,800	\$ 14,800		\$ 14,800	\$ 29,600	\$ 29,600
	Station Service Transformer Stand	0	EA	\$ 14,800			\$ -	\$ 29,600	
	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Bus Support 1 Ph	0	EA	\$ 3,700	\$ -		\$ -		\$ -
	nstrument Transformer Stand	9	EA	\$ 1,850	\$ 16,650	\$ 1,850	\$ 16,650	\$ 3,700	\$ 33,300
	Arrester Stand	3	EA	\$ 1,850	\$ 5,550	\$ 1,850	\$ 5,550		\$ 11,100
	Nave Trap Stand	1	EA	\$ 7,400	\$ 7,400	\$ 7,400	\$ 7,400	\$ 14,800	
	Misc. Structures	0		\$ 6,475	\$ -	\$ 6,475		\$ 12,950	
3.2 23	230kV								
	Substation A-Frame Structures - Stand alone	0	EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
	Substation A-Frame Structures - Shared Column	0		\$ 33,300		\$ 33,300	\$ -	\$ 66,600	
	Switch Stands	0	EA			\$ 12,025		\$ 24,050	
	Station Service Transformer Stand	0	EA	\$ 12,025				\$ 24,050	
	Bus Support 3ph	0	EA	\$ -			\$ -	\$ -	
	Bus Support 1 Ph	0		\$ 2,775				\$ 5,550	
3.2f Bu	nstrument Transformer Stand	0		\$ 1,295	•			\$ 2,590	

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate		Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2h	Arrester Stand	0	EA	\$ 1,29		\$ 1,295	\$ -	\$ 2,590	\$ -
3.2j	Wave Trap Stand	0	EA	\$ 5,55		\$ 5,550	\$ -		\$ -
3.2k	Misc. Structures	0	EA	\$ 6,47	; \$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ 18,50		\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,50) \$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	0	EA	\$ 7,95	5 \$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3d	Fuse Stand	0	EA	\$ 7,95		\$ 7,955	\$ -		\$ -
3.3e	Bus Support 3ph	0	EA	\$ 3,33		\$ 3,330			\$ -
3.3f	Bus Support 1 Ph	0	EA	\$ 1,85					\$ -
3.3g	Instrument Transformer Stand	0	EA) \$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand	0	EA	\$ 74		\$ 740	\$ -	\$ 1,480	\$ -
3.3j	Wave Trap Stand	0	EA	\$ 3,70		\$ 3,700		\$ 7,400	\$ -
3.3k	Misc. Structures	0	EA	\$ 6,47	i \$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
	TATION STRUCTURES				\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQU									
4.1	345kV								
4.1a	Circuit Breakers	1	EA	\$ 200,00		\$ 80,000	\$ 80,000		\$ 280,000
4.1b	Capacitor Banks - W/ Center Tap VT and Reactors	0	EA	\$ 370,00		\$ 80,000	\$ -	\$ 450,000	\$ -
4.1c	Circuit Breakers - Cap Switching	0	EA	\$ 220,00		\$ 750,000	\$ -	\$ 970,000	\$ -
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000	\$ -
4.2	230kV								
4.2a	Circuit Breakers	0	EA	\$ 115,00	+ '	\$ 80,000	\$ -	\$ 195,000	
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 52,00) \$ -	\$ 60,000	\$ -	,	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
	R EQUIPTMENT				\$ 200,000		\$ 80,000		\$ 280,000
	IPTMENT / MATERIALS								
5.1	345kV								
5.1a	Line Switches - 3ph w/ motor operator	1	EA	\$ 40,00			\$ 15,000		
5.1b	Disconnect Switches - 3ph w/ manual operator	1	EA	\$ 35,00		\$ 17,500	\$ 17,500		
5.1c	VT'S	3	EA	\$ 25,00		\$ 12,000	\$ 36,000	\$ 37,000	\$ 111,000
5.1d	CT'S	3	EA	\$ 13,00		\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1e	CCVT'S	3	EA	\$ 13,00				\$ 21,000	\$ 63,000
5.1f	Arresters	3	EA	\$ 6,50		\$ 1,500		\$ 8,000	\$ 24,000
5.1g	Wave Traps	1	EA	\$ 13,00		\$ 8,000	\$ 8,000	\$ 21,000	\$ 21,000
5.1h	Station Service Transformers	0	EA	\$ 200,00) \$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j									
F 3	230kV								
5.2			Γ^	\$ 35.00	d	ć 1F.000	ė	\$ 50,000	ć
5.2a	Line Switches - 3ph w/ motor operator Disconnect Switches - 3ph w/ manual operator	0	EA EA	\$ 35,00 \$ 30,00		\$ 15,000 \$ 17,500	\$ -	,	
5.2b 5.2c	VT'S	0	EA EA	\$ 30,00				\$ 47,500	\$ - \$ -
5.2d	CT'S	0	EA EA	\$ 13,00		\$ 8,000 \$ 8,000		\$ 21,000	
5.2u 5.2e	CCVT'S	0	EA	\$ 10,00	<u> </u>	\$ 6,000	\$ -	. , , , , , , , , , , , , , , , , , , ,	\$ -
5.2e 5.2f	Arresters	0	EA EA	\$ 10,00		\$ 6,000	\$ - \$ -	\$ 16,000	
5.2g	Wave Traps	0	EA	\$ 13,00		\$ 8,000	\$ -	\$ 21,000	\$ -
5.2g 5.2h	Station Service Transformers	0	EA	\$ 15,00	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2j	Station Service Humanormera	0		<u> </u>	+	¥	¥ -	¥ -	* -
3.23				<u> </u>					
5.3	115kV								
5.3a	Line Switches - 3ph w/ motor operator	0	EA	\$ 33,00) \$ -	\$ 15,000	\$ -	\$ 48,000	\$ -
5.3b	Disconnect Switches - 3ph w/ manual operator	0		\$ 28,00		\$ 17,500		\$ 45,500	
5.3c	VT'S	0		\$ 13,00		\$ 8,000		\$ 21,000	
5.3d	CT'S	0		\$ 13,00		\$ 8,000		\$ 21,000	
5.3e	CCVT'S	0		\$ 8,00		\$ 8,000		\$ 16,000	
5.3f	Arresters	0		\$ 3,42		\$ 6,000		\$ 9,420	
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -		\$ -
5.3h	Station Service Transformers	0			\$ -	\$ -			\$ -
			<u> </u>	1.				- 1	D 25 -£20

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL SMALL	EQUIPTMENT / MATERIALS				\$ 260,500		\$ 129,000		\$ 389,500
	DUSE / PANELS / GENERATOR				\$ 200,300		3 129,000		\$ 383,300
	· · · · · ·								
6.1	CONTROL HOUSE Addition (25-ft x 50-ft)	1	EA	\$ 325,000	\$ 325,000	\$ 85,000	\$ 85,000	\$ 410,000	\$ 410,000
	Protection and Telecom Equipment Panels	3	EA	\$ 35,000	\$ 105,000	·	·		·
	125VDC Batteries	0	EA	\$ 75,000	\$ -	\$ 25,000		\$ 100,000	
	Control Cables	1	LS	\$ 130,900	\$ 130,900				
	SCADA and Communications	0	EA	\$ -	\$ - \$ -	\$ -	\$ -	\$ -	\$ -
	Low Voltage AC Distribution	0	EA	\$ 50,000		\$ 100,000	\$ -	\$ 150,000	
	DC Distribution System	0	EA	\$ 50,000	\$ -	\$ 100,000		\$ 150,000	
	Security Fire Alexander	0	EA	\$ 7,500	\$ -	\$ 7,500	\$ -	\$ 15,000	
	Fire Alarm	0	EA	\$ 7,500	\$ -	\$ 7,500		\$ 15,000 \$ 180.000	
6.10	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
TOTAL - CONTR	ROL HOUSE / PANELS / GENERATOR				\$ 560,900		\$ 253,400		\$ 814,300
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	800	LF	\$ 185.00	\$ 148,000	\$ 170.00	\$ 136,000	\$ 355	\$ 284,000
7.2	Rigid Bus, Fittings & Insulators	0	LF	\$ 125.07	\$ -	\$ 237.10	\$ -	\$ 362	\$ -
7.3	Strain Bus, Connectors & Insulators	2,500	LF	\$ 13.38	\$ 33,450	\$ 39.35	\$ 98,375	\$ 53	\$ 131,825
7.4	Grounding System	0	LF	\$ 6.93	\$ -	\$ 32.58	\$ -	\$ 40	\$ -
7.5	Strain Bus Insulators - 345kV	54	EA	\$ 2,000	\$ 108,000	\$ 1,050	\$ 56,700	\$ 3,050	\$ 164,700
	Strain Bus Insulators - 230kV	0	EA	\$ 1,400	\$ -	\$ 750		\$ 2,150	
	Strain Bus Insulators - 115kV	0	EA	\$ 1,000	\$ -	\$ 550		\$ 1,550	
	Low Voltage AC Station Service	0	LS	\$ 50,000	\$ -	\$ 75,000		\$ 125,000	
	SSVT Service	0	LS	\$ 45,000	\$ -	\$ 45,000	\$ -	\$ 90,000	
	Control Conduits from Trench to Equipment	1	LS	\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	
	Misc. Materials (Above and Below Ground)	1	LS	\$ 180,000	\$ 180,000		\$ 180,000	\$ 360,000	
7.12	·								
7.13									
7.14									
7.15									
7.16									
7.17									
7.18									
7.19									
7.20									
7.21									
7.22									
7.23									
7.24									
7.25									
TOTAL - MISC I	TEMS				\$ 594,450		\$ 596,075		\$ 1,190,525
J. Pleasar	nt Valley Substation - Install				\$ 1,822,741		\$ 1,278,400		\$ 3,101,141
	B, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:						, , ,		
	Contractor Mobilization / Demobilization								
	Mob / Demob	1	LS	\$ -	\$ -	\$ 31,011	\$ 31,011	\$ 31,011	\$ 31,011
	Project Management, Material Handling & Amenities	1	25		· ·	51,011	51,011	, 51,011	51,011
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 149,215	\$ 149,215	\$ 149,215	\$ 149,215
8.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 31,011	\$ 31,011	\$ 31,011	\$ 31,011
	Site Accommodation, Facilities, Storage	1		\$ -	\$ -				
	Engineering	-		T	T	51,011	51,011	51,011	7 51,011
	Design Engineering	1	LS	\$ -	\$ -	\$ 248,091	\$ 248,091	\$ 248,091	\$ 248,091
	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ 248,031	\$ 246,031	\$ -
	Geotech	2	EA	\$ -		\$ 3,500			
8.7				17	1 Y	0)الارد ب			

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	ate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -		\$ -	\$ 77,529	\$ 77,529	\$ 77,529	\$ 77,529
	Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	. \$	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation		LS	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -		\$ -	\$ 9,303	\$ 9,303	\$ 9,303	\$ 9,303
8.13	Real Estate Costs (New)	1	LS	\$ -	. \$	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -		\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	LS	\$ -	. \$	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	. Ş	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	. 5	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 145,83	19 \$	\$ 145,819	\$ -	\$ -	\$ 145,819	\$ 145,819
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		Ç	\$ -	\$ 3,101	\$ 3,101	\$ 3,101	\$ 3,101
TOTAL - MOB	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				Ş	\$ 145,819		\$ 608,981		\$ 754,800

Page 27 of 38

J. SS Pleasant Valley-Install

ITC T032 (Segment B) K. Interconnection Knickerbocker Station

ITC T032 (.	Segment B)			
		Supply	Installation	Total
K. Interconnection Knickerbocker Station				
1. CLEARING & ACCESS	\$	-	\$ 436,850	\$ 4
2. FOUNDATIONS	\$	756,457	\$ 764,558	\$ 1,5
3. STRUCTURES	\$	556,300	\$ 370,424	\$ 9
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$ -	\$
5. INSULATORS, FITTINGS, HARDWARE	\$	128,000	\$ 55,640	\$ 1
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	115,261	\$ 439,544	\$ 5
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$
SUBTOTAL:	\$	1,556,017	\$ 2,067,017	\$ 3,6
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$
TOTAL:	\$	1,556,017	\$ 2,067,017	\$ 3,6

Description	OI WOFK:								
Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
K. Interd	onnection Knickerbocker Station								
1. CLEARING 8	& ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$ -	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	3,500.0	LF	\$ -	\$ -	\$ 4	\$ 14,000	\$ 4	\$ 14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$ -	\$ -	\$ 70	\$ 245,000	\$ 70	\$ 245,000
1.6	Matting - To Work Area	525.0	LF	\$ -	\$ -	\$ 70	\$ 36,750		
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800		\$ 516,800	
1.8	ROW Restoration	0.5	Mile	\$ -	\$ -	\$ 10,000			
1.9	Work Pads	35,000.0	SF	\$ -	\$ -		\$ 123,200		\$ 123,200
1.10	Restoration for Work Pad areas	7,000.0	SF	\$ -	\$ -	\$ 0.2			\$ 1,050
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035		\$ 20,035	
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445		\$ 14,445	
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580		\$ 4,580	
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130		\$ 4,130	
1.15	Gates	-	EA	\$ 2,000		\$ 2,500		\$ 4,500	
1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250		\$ 2,000	
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	
1.18					\$ -		\$ -		\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 27	\$ -	\$ 75		\$ 102	
	RING & ACCESS				\$ -		\$ 436,850		\$ 436,850
2. FOUNDATION									
2.1	Drilled Pier - 115kV Single Circuit H- Pole Tangent	2	EA	\$ 64,635				\$ 129,962	
2.2	Drilled Pier - 115kV Single Circuit Single Pole Angle/DE	1	EA	\$ 76,484	\$ 76,484				
2.3	Drilled Pier - 345kV Single Circuit H-Pole Angle /DE	4	EA	\$ 137,676	\$ 550,703	\$ 139,150	\$ 556,601	\$ 276,826	\$ 1,107,304
2.4									
2.5	Rock Excavation Adder	-	СҮ	\$ -	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.6					\$ -		\$ -		\$ -
2.7					\$ -		\$ -		\$ -
2.8					\$ -		\$ -		\$ -
2.9					\$ -		\$ -		\$ -
2.10					\$ -		\$ -		\$ -
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -

Total: \$ 3,623,034

Page 28 of 38

Estimate Revision:

							Labor & Equipment	Labor & Equipment			
Item	Item Description	Estimated Quantity	Unit of Measure	Material Sup	ply Rate	Material Supply Cost	Supply Rate	Cost	Total Unit Rate		TOTAL
2.15						\$ -		\$ -		\$	
TOTAL - FOUN	NDATIONS					\$ 756,457		\$ 764,558		\$	1,521,015
3. STRUCTURI											
3.1	115kV Single Circuit Single Pole Angle/DE	1	Structure	\$	55,315					_	88,504
3.2	115kV Single Circuit Single Pole Tangent	2		\$, -	\$ 78,521	\$ 23,556		\$ 62,817	\$	125,634
3.3	345kV Single Circuit Single Pole Angle /DE	4	Structure	\$		\$ 418,921	\$ 62,838	\$ 251,353	\$ 167,569		670,274
3.4	Install Crounding and Crounding Assessaries	7	Christian	\$		\$ - \$ 3,542	ć F.F30	\$ -	\$ 6,045	\$	42,312
3.6	Install Grounding and Grounding Accessories	/	Structure	,		\$ 3,342	\$ 5,539	\$ 38,770	\$ 6,045	\$	42,312
3.7				+	_	\$ -		\$ -		\$	
3.8						\$ -		\$ -		\$	-
3.9						\$ -		\$ -		\$	-
3.10						\$ -		\$ -		\$	-
3.11						\$ -		\$ -		\$	-
3.12						\$ -		\$ -		\$	-
3.13						\$ -		\$ -		\$	-
3.14						\$ -		\$ -		\$	-
3.15	CTUDES					\$ -		\$ -		\$	026 724
TOTAL - STRU	DR, SHIELDWIRE, OPGW					\$ 556,300		\$ 370,424		\$	926,724
4.1	345kV - (2) 954kcmil 54/7 ACSS "Cardinal"	-	LF	Ś	1.90	\$ -	\$ 5.00	\$ -	\$ 6.90	\$	
4.1	(1) OPGW 36 Fiber AC-33/38/571	-	LF	Ś	1.35		\$ 5.00		\$ 6.35		
4.3	(1) 3/8" EHS7 Steel	-	LF	Ś		\$ -	\$ 5.00		\$ 5.47		-
4.5	Remove Existing 115kV Cable From Existing Structures	-	Mile	Š		\$ -	\$ 30,000		\$ 30,000.00		-
4.6	Remove Existing OPGW Cable	-	Mile	\$		\$ -	\$ 12,000		\$ 12,000.00		-
4.7	Remove Existing EH7	-	Mile	\$	-	\$ -	\$ 12,000	\$ -	\$ 12,000.00	\$	-
4.8	115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$	1.90	\$ -	\$ 5.00	\$ -	\$ 6.90	\$	-
4.9		-								ш.	
4.10	Rider Poles - Relocated	-	Set	\$		\$ -	\$ 3,500		\$ 3,500.00	\$	-
4.11	Rider Poles	-	EA	\$	1,750	\$ -	\$ 3,500		\$ 5,250.00	\$	-
	PUCTOR, SHIELDWIRE, OPGW: R, FITTINGS, HARDWARE					\$ -		\$ -		\$	-
5.1 SOLATOR	345kV Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$	1,800	\$ -	\$ 720	\$ -	\$ 2,520	Ċ	_
5.2	115kV Tangent (1-Group of 9-Bells Each Assembly)	12	Assembly	Š		\$ 10,800	\$ 560				17,520
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	60	Assembly	\$		\$ 108,000	\$ 720				151,200
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	7	Assembly	\$	900						10,220
5.5			Assembly			\$ -			\$ -	\$	-
5.6	OPGW Assembly - Tangent	2	Assembly	\$	200	\$ 400	\$ 150	\$ 300	\$ 350	\$	700
5.7	OPGW Assembly - Angle / DE	10	Assembly	\$		\$ 2,500	\$ 150		\$ 400	\$	4,000
5.8	OHSW Assembly - Tangent	-	Assembly	\$	200		\$ 150		\$ 350		-
5.9	OHSW Assembly - Angle / DE	-	Assembly	\$	250		\$ 150		\$ 400		-
5.10	OPGW Splice Boxes	-	Set	\$	1,750		\$ 1,746		\$ 3,496		-
5.11	OPGW Splice & Test	-	EA	\$	1,400 50		\$ 2,520 \$ 35		\$ 3,920		-
5.12 5.13	Spacer - Conductor Vibration Dampers - Conductor	-	EA EA	\$	35		\$ 35 \$ 35		\$ 85 \$ 70		
5.13	Shieldwire / OPGW Dampers, Misc. Fittings	-	EA	\$	27		\$ 35		\$ 62		
5.15	Guys, Anchors, and Accessories	-	EA	\$	720		\$ 885		\$ 1,605		-
5.16	Misc. materials (Signs and Markers)	-	Mile	\$	770		\$ 1,006		\$ 1,776		-
5.17											
5.18											
5.19										\vdash	
5.20										_	
	LATOR, FITTINGS, HARDWARE					\$ 128,000		\$ 55,640		\$	183,640
K. Interd	connection Knickerbocker Station					\$ 1,440,757		\$ 1,627,472		\$	3,068,229
6. MOB/DEM	OB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
	Contractor Mobilization / Demobilization										
	Mob / Demob	1	LS	\$	-	\$ -	\$ 30,682	\$ 30,682	\$ 30,682	\$	30,682
6.1		1		1						—	
6.1	Project Management, Material Handling & Amenities						ı				
								ا ا	أيبين أ	١,	
6.1	Project Management, Material Handling & Amenities Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 147,631	\$ 147,631	\$ 147,631	\$	147,631
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	_				ė					
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and	1 1 1	LS LS LS	\$		\$ - \$ -	\$ 147,631 \$ 30,682 \$ 30,682	\$ 30,682	\$ 30,682	\$	30,682 30,682

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 153,411	\$ 153,411	\$ 153,411	\$ 153,411
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 9,205	\$ 9,205	\$ 9,205	\$ 9,205
6.7	Geotech	1.0	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 21,478	\$ 21,478	\$ 21,478	\$ 21,478
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 9,205	\$ 9,205	\$ 9,205	\$ 9,205
6.13	Real Estate Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17	Sales Tax on Materials	1	LS	\$ 115,261	\$ 115,261	\$ -	\$ -	\$ 115,261	\$ 115,261
6.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 3,068	\$ 3,068	\$ 3,068	\$ 3,068
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 115,261		\$ 439,544		\$ 554,805

Page 30 of 38

ITC T032 (Segment B) L. Interconnection Churchtown Station

5		Total:	\$ 2,404,297	
ITC T032 (Segment	: B)			
		Supply	Installation	Total
L. Interconnection Churchtown Station				
1. CLEARING & ACCESS	\$	-	\$ 436,850	\$ 436,850
2. FOUNDATIONS	\$	212,820	\$ 669,100	\$ 881,920
3. STRUCTURES	\$	318,188	\$ 353,416	\$ 671,604
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$ -	\$ -
5. INSULATORS, FITTINGS, HARDWARE	\$	44,000	\$ 27,410	\$ 71,410
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	46,001	\$ 296,512	\$ 342,513
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$ -
SUBTOTAL:	\$	621,009	\$ 1,783,288	\$ 2,404,297
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$ -
TOTAL:	\$	621,009	\$ 1,783,288	\$ 2,404,297

Item	Item Description	Estimated Quantity	Unit of Measure	Mat	erial Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate		TOTAL
L. Interc	onnection Churchtown Station										
1. CLEARING 8	& ACCESS										
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$	-	\$ -	\$ 15,000	\$ -	\$ 15,000	\$	-
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$	-	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$	10,000
1.3	Access Road	-	LF	\$	-	\$ -	\$ 45	\$ -	\$ 45	\$	-
1.4	Silt Fence	3,500.0	LF	\$	-	\$ -	\$ 4	\$ 14,000	*	\$	14,000
1.5	Matting - Access and ROW	3,500.0	LF	\$	-	\$ -	\$ 70	\$ 245,000	\$ 70	\$	245,000
1.6	Matting - To Work Area	525.0	LF	\$	-	\$ -	\$ 70				36,750
1.7	Snow Removal	-	LS	\$	-	\$ -	\$ 516,800	\$ -	\$ 516,800	\$	-
1.8	ROW Restoration	0.5	Mile	\$	-	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$	5,000
1.9	Work Pads	35,000.0	SF	\$	-	\$ -	\$ 4	\$ 123,200	\$ 4	\$	123,200
1.10	Restoration for Work Pad areas	7,000.0	SF	\$	-	\$ -	\$ 0.2	\$ 1,050	\$ 0	\$	1,050
1.11	Temporary Access Bridge	-	EA	\$	-	\$ -	\$ 20,035		\$ 20,035	\$	-
1.12	Air Bridge	-	EA	\$	-	\$ -	\$ 14,445		\$ 14,445	\$	-
1.13	Stabilized Construction Entrance	-	EA	\$	-	\$ -	\$ 4,580	\$ -	\$ 4,580	\$	-
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$	-	\$ -	\$ 4,130	\$ -	\$ 4,130	\$	-
1.15	Gates	-	EA	\$	2,000	\$ -	\$ 2,500		\$ 4,500	1	-
1.16	Culverts / Misc. Access	-	EA	\$	750		\$ 1,250		\$ 2,000	_	-
1.17	Concrete Washout Station	1	EA	\$	-	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$	1,850
1.18						\$ -		\$ -		\$	-
1.19						\$ -		\$ -		\$	-
1.20	Crushed Rock	0	CY	\$	27		\$ 75		\$ 102	<u> </u>	-
	RING & ACCESS					\$ -		\$ 436,850		\$	436,850
2. FOUNDATIO	DNS										
2.1	Drilled Pier - 115kV Single Circuit H- Pole Angle/ DE	2	EA	\$	30,403	\$ 60,806	\$ 30,729	\$ 61,457	\$ 61,131	\$	122,263
2.2	Drilled Pier - 115kV Single Circuit H- Pole Tangent	3	EA	\$	30,403	\$ 91,209	\$ 30,729	\$ 92,186	\$ 61,131	\$	183,394
2.3	Drilled Pier - 115kV Single Circuit Single Pole Angle/ DE	2	EA	\$	30,403	\$ 60,806	\$ 30,729	\$ 61,457	\$ 61,131	\$	122,263
2.4											
2.5	Rock Excavation Adder	227	СУ	\$		\$ -	\$ 2,000	\$ 454,000	\$ 2,000	\$	454,000
2.6						\$ -		\$ -		\$	-
2.7				+		\$ -		\$ -		Ś	
2.8				1		\$ -		\$ -		\$	-

Page 31 of 38

Estimate

Revision:

Description of Work:

3.2 115kV Sin, 3.3 3.4 3.5 Install Gro 3.6 3.7 3.8 3.9 3.10 3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 1) Rider Pole 4.11 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Det 5.4 115kV Det 5.5 OPGW Ast 5.7 OPGW Ast	DWIRE, OPGW (1) 954kcmil 54/7 ACSS "Cardinal" 1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	7	Structure Structure Structure	\$ 49,2 \$ 39,2 \$ 5		3,542 - - - - - - - - - -	\$ 49,216 \$ 39,261 \$ 5,539	\$ - \$ 38,770 \$ - \$	\$ 98,432 \$ 78,521 \$ 6,045	\$ - 42,312 \$ - 5 \$ - 7
2.11 2.12 2.13 2.14 2.15 TOTAL - FOUNDATIONS 3. STRUCTURES 3.1 115kV Sin 3.2 115kV Sin 3.3 3.4 3.5 Install Gro 3.6 3.7 3.8 3.9 3.10 3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Det 5.4 115kV Ter 5.3 345kV Det 5.5 OPGW Ast 5.6 OPGW Ast 5.7 OPGW Ast	DWIRE, OPGW (1) 954kcmil 54/7 ACSS "Cardinal" 1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	7	Structure Structure	\$ 39,2	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		\$ 49,216 \$ 39,261 \$ 5,539	\$ - \$ - \$ - \$ \$ - \$ \$ - \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ - \$ \$ \$ -	\$ 98,432 \$ 78,521 \$ 6,045	\$ - \$ - \$ - \$ 5 -
2.12 2.13 2.14 2.15 TOTAL - FOUNDATIONS 3. STRUCTURES 3.1	DWIRE, OPGW (1) 954kcmil 54/7 ACSS "Cardinal" 1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	7	Structure Structure	\$ 39,2	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		\$ 49,216 \$ 39,261 \$ 5,539	\$ - \$ - \$ - \$ \$ -	\$ 98,432 \$ 78,521 \$ 6,045	\$ - \$ - \$ - \$ \$ - \$ \$ 881,920 \$ \$ 393,728 \$ \$ 235,564 \$ \$ - \$ \$ \$ - \$ \$ \$ - \$
2.13 2.14 2.15 TOTAL - FOUNDATIONS 3. STRUCTURES 3.1 115kV Sin; 3.2 115kV Sin; 3.3 3.4 3.4 3.5 Install Grd 3.6 3.7 3.8 3.9 3.10 3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.2 115kV Tar 5.3 345kV De; 5.4 115kV De; 5.5 OPGW As; 5.7 OPGW As;	DWIRE, OPGW (1) 954kcmil 54/7 ACSS "Cardinal" 1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	7	Structure Structure	\$ 39,2	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		\$ 49,216 \$ 39,261 \$ 5,539	\$ - \$ - \$ 669,100 \$ 196,864 \$ 117,782 \$ - \$ 38,770 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 98,432 \$ 78,521 \$ 6,045	\$ - \$ - \$ \$ - \$ \$ 881,920 \$ \$ 393,728 \$ \$ 235,564 \$ \$ - \$ \$ 42,312 \$ \$ -
2.14 2.15 TOTAL - FOUNDATIONS 3. STRUCTURES 3.1 115kV Sin, 3.2 115kV Sin, 3.3 3.4 3.5 Install Gro 3.6 3.7 3.8 3.9 3.10 3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 4.9 4.10 Rider Pole 4.11 Rider Pole 4.11 Rider Pole 5.1 345kV - (1 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Des 5.4 115kV Des 5.5 OPGW Ass 5.6 OPGW Ass 5.7 OPGW Ass	DWIRE, OPGW (1) 954kcmil 54/7 ACSS "Cardinal" 1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	7	Structure Structure	\$ 39,2	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	196,864 117,782 - 3,542 	\$ 49,216 \$ 39,261 \$ 5,539	\$ - \$ - \$ 196,864 \$ 117,782 \$ \$ - \$ \$	\$ 98,432 \$ 78,521 \$ 6,045	\$ - \$ 881,920 \$ 393,728 \$ 235,564 \$ - \$ 42,312 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
2.15 TOTAL - FOUNDATIONS 3. STRUCTURES 3.1 115kV Sin 3.2 115kV Sin 3.3 3.4 3.5 Install Gro 3.6 3.7 3.8 3.9 3.10 3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDY 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 4.9 4.10 Rider Pole 4.11 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Dec 5.4 115kV Dec 5.5 OPGW Ass 5.7 OPGW Ass	DWIRE, OPGW (1) 954kcmil 54/7 ACSS "Cardinal" 1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	7	Structure Structure	\$ 39,2	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	- 212,820 196,864 117,782 - 3,542 	\$ 39,261 \$ 5,539	\$ - \$ 669,100 \$ 196,864 \$ 117,782 \$ - \$ 38,770 \$ - \$ - \$ \$	\$ 98,432 \$ 78,521 \$ 6,045	\$ - \$ 881,920 \$ 393,728 \$ 235,564 \$ - \$ 42,312 \$ - \$ 5
TOTAL - FOUNDATIONS 3. STRUCTURES 3.1 115kV Sin, 3.2 115kV Sin, 3.3 3.4 3.5 Install Gro 3.6 3.7 3.8 3.9 3.10 3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Dec 5.4 115kV Dec 5.5 5.6 OPGW Ass 5.7 OPGW Ass	DWIRE, OPGW (1) 954kcmil 54/7 ACSS "Cardinal" 1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	7	Structure Structure	\$ 39,2	16 \$ 61 \$ \$ 61 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	196,864 117,782 - 3,542 - - - - - - - - - -	\$ 39,261 \$ 5,539	\$ 196,864 \$ 117,782 \$ - \$ 38,770 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 98,432 \$ 78,521 \$ 6,045	\$ 881,920 \$ 393,728 \$ 235,564 \$ - \$ 42,312 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.1 115kV Sin, 3.2 115kV Sin, 3.3 15kV Sin, 3.4 3.5 Install Gro 3.6 3.7 3.8 3.9 3.10 3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 345kV - (1 4.2 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 4.11 Rider Pole 5.1 345kV - (1 5.1 34	DWIRE, OPGW (1) 954kcmil 54/7 ACSS "Cardinal" 1) OPGW 36 Fiber AC-33/38/571 1) 3/8" EHS7 Steel	7	Structure Structure	\$ 39,2	61 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	117,782 - 3,542 - - - - - - - - - - - - - -	\$ 39,261 \$ 5,539	\$ 117,782 \$ - \$ 38,770 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 78,521	\$ 235,564 \$ - \$ 42,312 \$ - \$ 5 - \$ 7 - \$
3.2 115kV Sin, 3.3 3.4 3.5 Install Gro 3.6 3.7 3.8 3.9 3.10 3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 1) Rider Pole 4.11 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Det 5.4 115kV Det 5.5 OPGW Ast 5.7 OPGW Ast	DWIRE, OPGW (1) 954kcmil 54/7 ACSS "Cardinal" 1) OPGW 36 Fiber AC-33/38/571 1) 3/8" EHS7 Steel	7	Structure Structure	\$ 39,2	61 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	117,782 - 3,542 - - - - - - - - - - - - - -	\$ 39,261 \$ 5,539	\$ 117,782 \$ - \$ 38,770 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 78,521	\$ 235,564 \$ - \$ 42,312 \$ - \$ 5 - \$ 7 - \$
3.3 3.4 3.5 Install Gro 3.6 3.7 3.8 3.9 3.10 3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Ret 4.7 Ret 4.8 115kV - (1 4.9 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Dec 5.4 115kV Dec 5.5 5.6 OPGW Ass 5.7 OPGW Ass	DWIRE, OPGW - (1) 954kcmil 54/7 ACSS "Cardinal" 1) OPGW 36 Fiber AC-33/38/571 13) 3/8" EHS7 Steel	7	Structure		\$ 06 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	3,542	\$ 5,539	\$ - \$ 38,770 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 6,045	\$ - \$ 42,312 \$ - \$ - \$ - \$ 5 -
3.4 3.5 Install Gro 3.6 3.7 3.8 3.9 3.10 3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 3.45 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Der 5.4 115kV Der 5.5 6 OPGW Ass 5.7 OPGW Ass	DWIRE, OPGW - (1) 954kcmil 54/7 ACSS "Cardinal" - (1) OPGW 36 Fiber AC-33/38/571 - (1) 3/8" EHS7 Steel	-	LF	\$ 5	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	3,542 		\$ 38,770 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 6,045	\$ 42,312 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.5 Install Gro 3.6 3.7 3.8 3.7 3.8 3.9 3.10 3.11 3.12 3.13 3.14 3.15 5.1 3.45kV - [1] 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - [1] 4.9 4.10 Rider Pole 4.11 Rider Pole 4.11 Rider Pole 4.11 Rider Pole 5.1 345kV - 15.2 115kV Tar 5.2 115kV Tar 5.3 345kV Dec 5.4 115kV Dec 5.5 5.6 OPGW Ass 5.7 OPGW Ass 5.7 OPGW Ass 5.7 OPGW Ass 3.8 3.8 OPGW Ass 5.7 OPGW Ass 0.8 OPGW	DWIRE, OPGW - (1) 954kcmil 54/7 ACSS "Cardinal" - (1) OPGW 36 Fiber AC-33/38/571 - (1) 3/8" EHS7 Steel	-	LF	\$ 5	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	3,542 		\$ 38,770 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ 6,045	\$ 42,312 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.6 3.7 3.8 3.9 3.10 3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDY 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Ree 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Dei 5.4 115kV Dei 5.5 6 OPGW Ass 5.7 OPGW Ass	DWIRE, OPGW - (1) 954kcmil 54/7 ACSS "Cardinal" - (1) OPGW 36 Fiber AC-33/38/571 - (1) 3/8" EHS7 Steel	-	LF		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	-		\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -		\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.7 3.8 3.9 3.10 3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Ret 4.7 Ret 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Dec 5.4 115kV Dec 5.5 0 OPGW Ass 5.7 OPGW Ass	(1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-			\$ \$ \$ \$ \$ \$ \$	-		\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -		\$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.8 3.9 3.10 3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Ret 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV De; 5.4 115kV De; 5.5 6 OPGW As;	(1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-			\$ \$ \$ \$ \$ \$ \$	-		\$ - \$ - \$ - \$ - \$ - \$ - \$ -		\$ - \$ - \$ - \$ - \$ - \$ - \$ -
3.10 3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 345kV - (1 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Reer 4.8 115kV - (1 4.9 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Dec 5.4 115kV Dec 5.5 6 OPGW Ass 5.7 OPGW Ass	(1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-			\$ \$ \$ \$ \$			\$ - \$ - \$ - \$ - \$ -		\$ - \$ - \$ - \$ - \$ -
3.11 3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDW 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 5.1 NSULATOR, FITTINGS, SH 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV De; 5.4 115kV De; 5.5 5.6 OPGW As; 5.7 OPGW As;	(1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-			\$ \$ \$ \$ \$			\$ - \$ - \$ - \$ -		\$ - \$ - \$ - \$ -
3.12 3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rei 4.7 Ref 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Dei 5.4 115kV Dei 5.5 5.6 OPGW Asi 5.7 OPGW Asi	(1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-			\$ \$ \$ \$	- - - -		\$ - \$ - \$ -		\$ - \$ - \$ -
3.13 3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 345KV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 A.10 Rider Pole 4.11 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Dec 5.4 115kV Dec 5.5 6 OPGW Ass 5.7 OPGW Ass	(1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-			\$ \$	-		\$ - \$ -		\$ - \$ -
3.14 3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDV 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Reer 4.8 115kV - (1 4.9 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Dec 5.4 115kV Dec 5.5 6 OPGW Ass 5.7 OPGW Ass	(1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-			\$	-		\$ -		\$ -
3.15 TOTAL - STRUCTURES 4. CONDUCTOR, SHIELDY 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Ret 4.7 Ret 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Det 5.4 115kV Det 5.5.6 OPGW Ast 5.7 OPGW Ast	(1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-			\$	-				
4. CONDUCTOR, SHIELDW 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Tar 5.4 115kV Der 5.5 GPGW As 5.7 OPGW As	(1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-			<u> </u>	-				\$ -
4. CONDUCTOR, SHIELDY 4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 4.11 Rider Pole 5. INSULATOR, FITTINGS, 5. INSULATOR, FITTINGS, 5. 3 345kV Tar 5.2 115kV Tar 5.3 345kV Der 5.4 115kV Der 5.5 OPGW Ass 5.7 OPGW Ass	(1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-			\$					<u>. </u>
4.1 345kV - (1 4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 5. INSULATOR, FITTINGS, 5. 115kV Tar 5.2 115kV Tar 5.3 345kV Der 5.4 115kV Der 5.5 OPGW As 5.7 OPGW As	(1) 954kcmil 54/7 ACSS "Cardinal" (1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-				318,188		\$ 353,416		\$ 671,604
4.2 (1) 4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 A.10 Rider Pole 4.11 Rider Pole 5. INSULATOR, FITTINGS, 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Der 5.4 115kV Der 5.5 OPGW Ass 5.7 OPGW Ass	(1) OPGW 36 Fiber AC-33/38/571 (1) 3/8" EHS7 Steel	-								
4.3 (1) 4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Dec 5.4 115kV Dec 5.5 OPGW Ass 5.7 OPGW Ass	1) 3/8" EHS7 Steel				90 \$		\$ 5.00	\$ -	\$ 6.90	
4.5 Remove E 4.6 Rer 4.7 Rer 4.8 115kV - (1 4.9 Rider Pole 4.11 Rider Pole 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV De: 5.4 115kV De: 5.5 OPGW As: 5.7 OPGW As:		-	LF		35 \$ 47 \$		\$ 5.00 \$ 5.00	\$ - \$ -	\$ 6.35 \$ 5.47	\$ - \$ -
4.6 Rer 4.7 Rer 4.8 115kV - {1 4.9 4.10 Rider Pole 4.11 Rider Pole 5. INSULATOR, FITTINGS, 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Der 5.4 115kV Der 5.5.6 OPGW As	e Existing 115kV Cable From Existing Structures	-	Mile	+'	47 \$ - \$		\$ 5.00 \$ 30,000	\$ -		\$ -
4.7 Rer 4.8 115kV - (1 4.9 4.10 Rider Pole 4.11 Rider Pole TOTAL: CONDUCTOR, SH 5. INSULATOR, FITTINGS, 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Dei 5.4 115kV Dei 5.5 OPGW Asi 5.7 OPGW Asi	Remove Existing OPGW Cable		Mile	+	- 3 - \$		\$ 30,000	\$ -		\$ -
4.9 4.10 Rider Pole 4.11 Rider Pole 4.11 Rider Pole TOTAL: CONDUCTOR, SH 5. INSULATOR, FITTINGS, 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV De: 5.4 115kV De: 5.5 OPGW As: 5.7 OPGW As:	Remove Existing EH7	-	Mile	-	- \$	-		\$ -		\$ -
4.10 Rider Pole 4.11 Rider Pole TOTAL: CONDUCTOR, SH 5. INSULATOR, FITTINGS, 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV De: 5.4 115kV De: 5.6 OPGW As: 5.7 OPGW As:	(1) 954kcmil 54/7 ACSS "Cardinal"	-	LF	\$ 1.	90 \$	-	\$ 5.00	\$ -	\$ 6.90	\$ -
4.11 Rider Pole TOTAL: CONDUCTOR, SH 5. INSULATOR, FITTINGS, 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Dei 5.4 115kV Dei 5.5 OPGW Asi 5.7 OPGW Asi		-								
TOTAL: CONDUCTOR, SH 5. INSULATOR, FITTINGS, 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV De: 5.4 115kV De: 5.5 OPGW As: 5.7 OPGW As:	oles - Relocated	-	Set	7	- \$		7 3,500		\$ 3,500.00	
5. INSULATOR, FITTINGS, 5.1 345kV Tar 5.2 115kV Tar 5.3 345kV Dei 5.4 115kV Dei 5.5 5.6 OPGW As: 5.7 OPGW As:		-	EA	\$ 1,7			\$ 3,500	\$ -	,	\$ -
5.1 345kV Tar 5.2 115kV Tar 5.3 345kV De; 5.4 115kV De; 5.5 5.6 OPGW As; 5.7 OPGW As;	· · · · · · · · · · · · · · · · · · ·				\$	-		\$ -		\$ -
5.2 115kV Tar 5.3 345kV Dec 5.4 115kV Dec 5.5 OPGW As: 5.7 OPGW As:	Tangent (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,8	00 \$	-	\$ 720	\$ -	\$ 2,520	\$ -
5.3 345kV Dec 5.4 115kV Dec 5.5 5.6 OPGW As: 5.7 OPGW As:	Tangent (1-Group of 9-Bells Each Assembly)	18	Assembly		00 \$		\$ 560	\$ 10,080		\$ 26,280
5.5 OPGW As: 5.7 OPGW As:	Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,8	00 \$			\$ -		\$ -
5.6 OPGW As: 5.7 OPGW As:	Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	28	Assembly	\$ 9	00 \$	25,200	\$ 560	\$ 15,680	\$ 1,460	\$ 40,880
5.7 OPGW As:			Assembly	1.	\$	-		\$ -		\$ -
	Assembly - Tangent	3	Assembly		00 \$	600	\$ 150			\$ 1,050
	Assembly - Angle / DE Assembly - Tangent	8	Assembly Assembly		50 \$ 00 \$	-,	\$ 150 \$ 150	\$ 1,200 \$ -		\$ 3,200 \$ -
	Assembly - Tangent Assembly - Angle / DE	-	Assembly		50 \$		\$ 150	\$ -		\$ - \$ -
	Splice Boxes	-	Set	\$ 1,7			\$ 1,746	\$ -		\$ -
	Splice & Test	-	EA	\$ 1,4			\$ 2,520			\$ -
	- Conductor	-	EA	\$	50 \$	-	\$ 35	\$ -	\$ 85	\$ -
5.13 Vibration	on Dampers - Conductor	-	EA	\$	35 \$	-	\$ 35	\$ -	\$ 70	\$ -
5.14 Shieldwire	vire / OPGW Dampers, Misc. Fittings	_	EA	Ś	27 \$	_	\$ 35	Ś -	\$ 62	\$ -
	anchors, and Accessories	-	EA	1	20 \$		\$ 885		\$ 1,605	
	naterials (Signs and Markers)	-	Mile		70 \$		\$ 1,006		\$ 1,776	
5.17	iateriais (SignS dilu Ividi REIS)						,			
5.18	ומנכונמוז (אומן אבו ז)									
5.19	racerians (signs ditu Widikets)									
5.20	racerions (organs ditu Markers)			1				\$ 27,410		\$ 71.410
					Ċ	44 000		27,410		\$ 71,410
L. Interconnect 6. MOB/DEMOB, ENGINE	ITTINGS, HARDWARE				\$	44,000 575,008		\$ 1,486,775		\$ 2,061,784

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 20,618	\$ 20,618	\$ 20,618	\$ 20,618
	Project Management, Material Handling & Amenities								
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 99,205	\$ 99,205	\$ 99,205	\$ 99,205
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 20,618	\$ 20,618	\$ 20,618	\$ 20,618
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 20,618	\$ 20,618	\$ 20,618	\$ 20,618
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 103,089	\$ 103,089	\$ 103,089	\$ 103,089
6.6	Lidar	1	LS	\$ -	\$ -	\$ 6,185	\$ 6,185	\$ 6,185	\$ 6,185
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 14,432	\$ 14,432	\$ 14,432	\$ 14,432
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Permitting and Additional Costs								
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.11	Environmental Mitigation		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 6,185	\$ 6,185	\$ 6,185	\$ 6,185
6.13	Real Estate Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.15	Allowance for Funds Used During Construction (AFUDC)		LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17	Sales Tax on Materials	1	LS	\$ 46,001	\$ 46,001	\$ -	\$ -	\$ 46,001	\$ 46,001
6.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 2,062	\$ 2,062	\$ 2,062	\$ 2,062
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 46,001		\$ 296,512		\$ 342,513

ITC T032 (Segment B) M. Interconnection Milan Station

5		Total:	\$ 745,311		
ITC T032 (Segment I	3)				
		Supply	Installation		Total
M. Interconnection Milan Station					
1. CLEARING & ACCESS	\$	-	\$ 121,100	\$	121,100
2. FOUNDATIONS	\$	84,375	\$ 135,279	\$	219,654
3. STRUCTURES	\$	130,328	\$ 140,393	\$	270,721
4. CONDUCTOR, SHIELDWIRE, OPGW	\$	-	\$ -	\$	-
5. INSULATORS, FITTINGS, HARDWARE	\$	13,600	\$ 8,440	\$	22,040
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$	18,264	\$ 93,533	\$	111,797
CONTRACTOR MARK-UP (OH&P)	\$	-	\$ -	\$	-
SUBTOTAL:	\$	246,567	\$ 498,744	\$	745,311
CONTINGENCY ON ENTIRE PROJECT	\$	-	\$ -	\$	-
				_	

	CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -					
	TOTAL:	\$ 246,567	\$ 498,744	\$ 745,311					
Description Item	of Work: Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
M. Inter	connection Milan Station								
1. CLEARING	& ACCESS								
1.1	Clearing the ROW - Heavy (mowing & clearing)	-	Acre	\$ -	\$ -	\$ 15,000	\$ -	\$ 15,000	\$ -
1.2	Clearing the ROW - Light (mowing)	1.0	Acre	\$ -	\$ -	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
1.3	Access Road	-	LF	\$ -	\$ -	\$ 45	\$ -	\$ 45	\$ -
1.4	Silt Fence	500.0	LF	\$ -	\$ -	\$ 4	\$ 2,000	\$ 4	\$ 2,000
1.5	Matting - Access and ROW	500.0	LF	\$ -	\$ -	\$ 70	\$ 35,000	\$ 70	\$ 35,000
1.6	Matting - To Work Area	525.0	LF	\$ -	\$ -	\$ 70	\$ 36,750	\$ 70	\$ 36,750
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mile	\$ -	\$ -	\$ 10,000	\$ 5,000	\$ 10,000	\$ 5,000
1.9	Work Pads	10,000.0	SF	\$ -	\$ -	\$ 4	\$ 35,200	\$ 4	\$ 35,200
1.10	Restoration for Work Pad areas	2,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 300	\$ 0	\$ 300
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	-	EA	\$ -	\$ -	\$ 4,580	\$ -	\$ 4,580	\$ -
1.14	Maintenance and Protection of Traffic on Public Roads	-	EA	\$ -	\$ -	\$ 4,130	\$ -	\$ 4,130	\$ -
1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	-	EA	\$ 750	\$ -	\$ 1,250	\$ -	\$ 2,000	\$ -
1.17	Concrete Washout Station	1	EA	\$ -	\$ -	\$ 1,850	\$ 1,850	\$ 1,850	\$ 1,850
1.18					\$ -		\$ -		\$ -
1.19					\$ -		\$ -		\$ -
1.20	Crushed Rock	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEA	RING & ACCESS				\$ -		\$ 121,100		\$ 121,100
2. FOUNDATI	ONS								
2.1	Drilled Pier - 115kV Single Circuit Single Pole Angle/DE	2	EA	\$ 42,187	\$ 84,375	\$ 42,639	\$ 85,279	\$ 84,827	\$ 169,654
2.2									
2.3									
2.4									
2.5	Rock Excavation Adder	25	СУ	\$ -	\$ -	\$ 2,000	\$ 50,000	\$ 2,000	\$ 50,000
2.6					\$ -		\$ -		\$ -
2.7					\$ -		\$ -		\$ -
2.8					\$ -		\$ -		\$ -
2.9					\$ - \$ -		\$ - \$ -		\$ - \$ -
2.10					\$ - \$ -		\$ - \$ -		\$ -
2.11		1							· -

Page 34 of 38

Estimate

Revision:

2.12	* - * - * - * - * * - * * - * * - * * - * * * - *	Total Unit Rate			Material Cumply Cost						
2.13	\$ -		Cost	Supply Rate	Material Supply Cost	oly Rate	Material	Unit of Measure	Estimated Quantity	Item Description	Item
2.16	7		\$ -								2.12
2.5 STANCHURS S. 84,775 S. 135,279	l ¢					-					
STRUCTURES STR	-		·								
STRUCTURES	\$ - \$ 219,654									IDATIONS	
3.1 1354V Single Circuit Single Pole Angle/PE	\$ 219,034		3 153,275		\$ 64,573						
3.2	\$ 258,632	\$ 129,316	\$ 129,316	\$ 64,658	\$ 129,316	64,658	\$	Structure	2		
3.4											3.2
3.5											
3.6	\$ -										
3.7		\$ 6,045					\$	Pole	2	Install Grounding and Grounding Accessories	
3.8	\$ -										
3.9	\$ - \$ -										
3.10	\$ -		·								
3.11	\$ -		_								
3.12	\$ -		'								
3.14	\$ -		\$ -								3.12
S	\$ -										
S 130,328 S 140,939	\$ -										3.14
## CONDUCTOR, SHIELDWIRE, OPGW ## 1.1 3458V-(2) 954kcmil 54/7 ACSS "Cardinal" ## 2. LF \$ 1.90 \$ - \$ 5.00 \$ - \$ 5.60 \$ - \$ 6. ## 3. (1) 13/8" FH57 Steel ## 2. LF \$ 1.35 \$ - \$ 5.00 \$ - \$ 5.60 \$ -	\$ -		\$ -		\$ -						3.15
## CONDUCTOR, SHIELDWIRE, OPGW ## A.1 345W-(2) 954kcml 34/7 ACSS "Cardinal"	\$ 270,721		\$ 140,393		\$ 130.328					CTURES	TOTAL - STRUC
A 1 345kV - (2) 954kcmil 54/7 ACSS "Cardinal"	7 2.0,122		+ = 1.0,000		7 201,020						
4.2	\$ -	\$ 6.90	\$ -	\$ 5.00	\$ -	1.90	Ś	LF	-		
4.3											
4.6 Remove Existing OPGW Cable - Mile \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$ - \$ 12,000 \$			\$ -						-		
4.7 Remove Existing EH7	\$ -	\$ 30,000.00	\$ -	\$ 30,000	\$ -	-	\$	Mile	-	Remove Existing 115kV Cable From Existing Structures	4.5
4.8			\$ -						-		
4.9											
A.10 Rider Poles - Relocated - Set \$ - \$ \$ 3,500 \$ - \$ 3,500 \$	\$ -	\$ 6.90	\$ -	\$ 5.00	\$ -	1.90	\$	LF		115kV - (1) 954kcmil 54/7 ACSS "Cardinal"	
A.11 Rider Poles	\$ -	ć 2.500.00	ć	ć 2.500	ć		<u> </u>	Cot		Bider Deles Delegated	
S			'								
S. INSULATOR, FITTINGS, HARDWARE S.1 345kV Tangent (1-Group of 18-Bells Each Assembly) S. 1,800 S - S 720 S - S 2,5 5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) S 1,800 S - S 560 S - S 2,5 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) Assembly S 1,800 S - S 720 S - S 2,5 5.4 115kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 14 Assembly S 900 S 12,600 S 560 S 7,840 S 1,4 5.5 S S S S S S S S S	\$ -	5,250.00	Ÿ				7	EA.			
5.2 115kV Tangent (1-Group of 9-Bells Each Assembly) - Assembly \$ 900 \$ - \$ 5.0 \$ - \$ 1.4 5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) 14 Assembly \$ 1,800 \$ - \$ 7.20 \$ - \$ 2,5 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 14 Assembly \$ 900 \$ 1.600 \$ 7.840 \$ 1.4 5.5 - - - Assembly \$ 900 \$ 1.600 \$ 5 7.840 \$ 1.4 5.5 - - - Assembly \$ 900 \$ 1.600 \$ 5 7.840 \$ 1.4 5.6 OPGW Assembly - Tangent - Assembly \$ 200 \$ - \$ 1.5 \$ 6 0.5 3 3 5.7 OPGW Assembly - Angle / DE - Assembly \$ 200 \$ - \$	-										
5.3 345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly) Assembly \$ 1,800 \$ - \$ 720 \$ - \$ 2,5 5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 14 Assembly \$ 900 \$ 12,600 \$ 560 \$ 7,840 \$ 1,4 5.5 - Assembly \$ 200 \$ - \$ 150 \$ - \$ 5 \$ 3 5.6 OPGW Assembly - Tangent - Assembly \$ 200 \$ - \$ 150 \$ - \$ 5 3 5.7 OPGW Assembly - Angle / DE 4 Assembly \$ 250 \$ 1,000 \$ 150 \$ 600 \$ 4 5.8 OHSW Assembly - Angle / DE - Assembly \$ 200 \$ - \$ 150 \$ - \$ 5 3 5.9 OHSW Assembly - Angle / DE - Assembly \$ 250 \$ - \$ 150 \$ - \$ 5 3 5.10 OPGW Splice Boxes - Set \$ 1,750 \$ - \$ 1,746 \$ - \$ 3,49 5.11 OPGW Splice & Test - EA \$ 1,400 \$ - \$ 2,520 \$ - \$ 5 3,9	\$ -	\$ 2,520	\$ -	\$ 720	\$ -	1,800	\$	Assembly	-		
5.4 115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly) 14 Assembly \$ 900 \$ 12,600 \$ 560 \$ 7,840 \$ 1.4 5.5 - Assembly \$ -			\$ -		\$ -			Assembly	-	115kV Tangent (1-Group of 9-Bells Each Assembly)	
5.5 - Assembly \$ - \$ - \$ - \$ - \$ 5.6 OPGW Assembly - Tangent - Assembly \$ 200 \$ - \$ 150 \$ - \$ 3 5.7 OPGW Assembly - Angle / DE 4 Assembly \$ 250 \$ 1,000 \$ 150 \$ 600 \$ 4 5.8 OHSW Assembly - Tangent - Assembly \$ 200 \$ - \$ 150 \$ - \$ 3 5.9 OHSW Assembly - Angle / DE - Assembly \$ 250 \$ - \$ 150 \$ - \$ 3 5.10 OPGW Splice Boxes - Set \$ 1,700 \$ - \$ 1,746 \$ - \$ 3,44 5.11 OPGW Splice & Test - EA \$ 1,400 \$ - \$ 2,520 \$ - \$ 3,99											
5.6 OPGW Assembly - Tangent - Assembly \$ 200 \$ - \$ 150 \$ - \$ 3 5.7 OPGW Assembly - Angle / DE 4 Assembly \$ 250 \$ 1,000 \$ 150 \$ 600 \$ 4 5.8 OHSW Assembly - Tangent - Assembly \$ 200 \$ - \$ 150 \$ - \$ 3 5.9 OHSW Assembly - Angle / DE - Assembly \$ 200 \$ - \$ 150 \$ - \$ 3 5.9 OHSW Assembly - Angle / DE - Assembly \$ 250 \$ - \$ 150 \$ - \$ 3 5.10 OPGW Splice Boxes - Set \$ 1,740 \$ - \$ 3,94 5.11 OPGW Splice & Test - \$ 1,740 \$ - \$							\$			115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	
5.7 OPGW Assembly - Angle / DE 4 Assembly \$ 250 \$ 1,000 \$ 150 \$ 600 \$ 4 5.8 OHSW Assembly - Tangent - Assembly \$ 200 \$ - \$ 150 \$ - \$ 3 5.9 OHSW Assembly - Angle / DE - Assembly \$ 250 \$ - \$ 150 \$ - \$ 4 5.10 OPGW Splice Boxes - Set \$ 1,750 \$ - \$ 1,746 \$ - \$ 3,4 5.11 OPGW Splice & Test - EA \$ 1,400 \$ - \$ 2,520 \$ - \$ 3,9	\$ - \$ -		т				ć			ODCW Assembly Toward	
5.8 OHSW Assembly - Tangent - Assembly \$ 200 \$ - \$ 150 \$ - \$ 3 5.9 OHSW Assembly - Angle / DE - Assembly \$ 250 \$ - \$ 150 \$ - \$ 4 5.10 OPGW Splice Boxes - Set \$ 1,750 \$ - \$ 1,746 \$ - \$ 3,4 5.11 OPGW Splice & Test - EA \$ 1,400 \$ - \$ 2,520 \$ - \$ 3,9											
5.9 OHSW Assembly - Angle / DE - Assembly \$ 250 \$ - \$ 150 \$ - \$ 4 5.10 OPGW Splice Boxes - Set \$ 1,750 \$ - \$ 1,746 \$ - \$ 3,4 5.11 OPGW Splice & Test - EA \$ 1,400 \$ - \$ 2,520 \$ - \$ 3,9											
5.10 OPGW Splice Boxes - Set \$ 1,750 \$ - \$ 1,746 \$ - \$ 3,4 5.11 OPGW Splice & Test - EA \$ 1,400 \$ - \$ 2,520 \$ - \$ 3,9											
			'								
5.12 Spacer - Conductor FA \$ 50 \$ - \$ 35 \$ - \$			\$ -						-		
	\$ -	\$ 85	\$ -	\$ 35	\$ -	50	\$	EA	-	Spacer - Conductor	5.12
5.13 Vibration Dampers - Conductor - EA \$ 35 \$ - \$ 35 \$ - \$	\$ -	\$ 70	\$ -	\$ 35	\$ -	35	\$	EA	-	Vibration Dampers - Conductor	5.13
5.14 Shieldwire / OPGW Dampers, Misc. Fittings - EA \$ 27 \$ - \$ 35 \$ - \$	\$ -	\$ 62	\$ -	\$ 35	\$ -	27	s	FA	_	Shieldwire / OPGW Dampers, Misc. Fittings	5.14
	· ·	•					L.				
			7								
5.17 Wille 7 / 70 2 2,000 7 7 7 7 7 7 7 7 7	-		7	7 1,000	T	- ,,,,	Ť	···iic		Compro and markers)	
5.18											
5.19											5.19
5.20											
TOTAL - INSULATOR, FITTINGS, HARDWARE \$ 13,600 \$ 8,440	\$ 22,040		\$ 8,440		\$ 13,600					LATOR, FITTINGS, HARDWARE	TOTAL - INSUL
M. Interconnection Milan Station \$ 228,303 \$ 405,211	\$ 633,514		\$ 405,211		\$ 228,303					connection Milan Station	M. Inter
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:											
Contractor Mobilization / Demobilization											-,,
	\$ 6,335	\$ 6,335	\$ 6,335	\$ 6,335	\$ -		\$	LS	1		6.1
Project Management, Material Handling & Amenities										Project Management, Material Handling & Amenities	

ltem	item Description	Estimated Quantity	Unit of Measure	Material Supply Ra	te I	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS				\$ 30,482	\$ 30,482	\$ 30,482	\$ 30,482
6.3	Utility PM and Project Oversite	1	LS		\$	-	\$ 6,335	\$ 6,335	\$ 6,335	\$ 6,335
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$	-	\$ 6,335	\$ 6,335	\$ 6,335	\$ 6,335
	Engineering									
6.5	Design Engineering	1	LS	\$ -	\$	-	\$ 31,676	\$ 31,676	\$ 31,676	\$ 31,676
6.6	LiDAR	1	LS	\$ -	\$	-	\$ 1,901	\$ 1,901	\$ 1,901	\$ 1,901
6.7	Geotech	1	Location	\$ -	\$	-	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$	-	\$ 4,435	\$ 4,435	\$ 4,435	\$ 4,435
	Testing & Commissioning									
6.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
	Permitting and Additional Costs									
6.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
	Environmental Mitigation	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.12	Warranties / LOC's	1	LS	\$ -	\$	-	\$ 1,901	\$ 1,901	\$ 1,901	\$ 1,901
6.13	Real Estate Costs	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.14	Legal Fees	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.15	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
6.16		-	LS	\$ -	\$	-	\$ -	\$ -	\$ -	\$ -
	Sales Tax on Materials	1	LS	\$ 18,2		18,264	\$ -	\$ -	\$ 18,264	\$ 18,264
6.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$		\$ 634	\$ 634	\$ 634	\$ 634
TOTAL - MOB/	DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$	18,264		\$ 93,533		\$ 111,797

Page 36 of 38

NAT & NYPA - T032 - (Segment B)

N. System Upgrade Facilities (Cricket Valley to Long Mt. Line)

Estimate Revision: Total: \$ 3,943,950

SYSTEM UPG	RADE FACILITIES	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sun	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
SUF 1	Transmission Line Upgrade Cricket Valley - Connecticut Border to Long Mountain (3.3 + 6.0 = 9.3 Miles)								
1.1	345kV - (1) 954kcmil 45/7 ACSS "Rail" Conductor (Cricket Vly to Conn Border)	109,771.20	LF	\$ 2.50	\$ 274,428	\$ \$ 5.00	\$ 548,856	\$ 8	\$ 823,284
1.2	345kV - (1) 2312kcmil 76/19 ACSS "Thrasher" Conductor (Conn Border to Long Mtn.)	99,792.00	LF	\$ 8.00	\$ 798,336	\$ 5.00	\$ 498,960	\$ 13	\$ 1,297,296
1.3	Remove Existing 795 ACSS Conductor and Accessories (Cricket Vly to Conn Border)	3.30	Mile	\$ -	\$ -	\$ 30,000.00	\$ 99,000	\$ 30,000	\$ 99,000
1.4	Remove Existing 2156kmil ACSS Conductor and Accessories (Conn Border to Long Mtn.)	6.00	Mile	\$ -	\$ -	\$ 30,000.00	\$ 180,000	\$ 30,000	\$ 180,000
1.5	Rider Poles	10.00	Sets	\$ 1,750.00	\$ 17,500	\$ 3,500.00	\$ 35,000	\$ 5,250	\$ 52,500
1.6	345kV Vertical Tangent Insulator Assembly	147.00	Assembly	\$ 1,800.00	\$ 264,600	\$ 720.00	\$ 105,840	\$ 2,520	\$ 370,440
1.7	345kV Deadend Insulator Assembly	132.00	Assembly	\$ 1,800.00	\$ 237,600	\$ 720.00	\$ 95,040	\$ 2,520	\$ 332,640
	Subtotal SUG 1 Direct Cost				\$ 1,592,464		\$ 1,562,696		\$ 3,155,160
2.0	Indirect Cost (25% of Direct Cost)				\$ 398,116	;	\$ 390,674		\$ 788,790
	TOTAL:				\$ 1,990,580		\$ 1,953,370		\$ 3,943,950

ITC T032 (Segment B)

ESTIMATE ASSUMPTIONS & CLARIFICATIONS

- 1 Cost Estimate is based on 2017 rates.
- Construction schedule is in accordance with proposed schedule we have assumed continuous working with no breaks in the schedule. Six months have been added to the construction schedule for start up and close out works and assisting in pre-construction activities (i.e. permitting activities, material procurement etc.).
- We have assumed a typical work week of five-(5) days per week at ten-(10) hours per day (5 x 10 hour days).
- 4 All labor rates and benefits used for estimating purposes are taken from IBEW Local 1249 working agreement as updated 5-8-2017.
- We have assumed that the Access Road included in Developer Estimate will be Type 1 Gravel Type. 20% of the total length of the line is assumed to use Type 1 Gravel road and 80% of the line length access to be used wood matting. In addition 75 feet of wood matting is included from the access matting to the work pad area matting. The estimate also include 5,000 square feet of wood matting for each structure work area within the ROW. For the ground restoration (seed, straw and woven mat), 20% of the work pad area included.
- Costs will vary for handling and disposal of contaminated spoils, depending on type of contaminants and availability / location of the appropriate tipping facility. Since there is not enough information to provide a quantified estimate for this item, allowance is included in the contingency monies.
- Costs have been developed based on historical data from Projects of a similar nature (AACE Class 5 and 4 Estimating Practices). We have not engaged any subcontractors for formal quotes.
- 8 Foundation rates include supply and installation of materials. Drilled Pier rates include supply and testing of concrete, rebar cage and the use of temp or permanent casing.
- 9 A Contractor Mark-Up (OH&P) of 15% has been included in the Total section.
- 10 We have assumed that all project details provided are accurate unless noted otherwise.
- 11 Any SUF pricing includes 35% to cover Contractor markup (15%) and contingency (20%)
- 12 A contractor allowance of 1% for mobilization and demobilization has been included in the total section.
- A contractor allowance of 4.184% for project management and staffing has been included in the total section. This also includes agricultural inspector, engineering inspector, safety inspector, compliance inspector, environmental inspector, and SWPP inspector.
- An allowance of 1% for Utility PM and Project Oversite staffing has been included in the total section.
- 15 A contractor allowance of 1% for site accommodation, facilities, and storage has been included in the total section.
- 16 An allowance of 5% for transmission design and engineering has been included in the total section.
- 17 An allowance of 8% for substation design and engineering has been included in the total section.
- 18 An allowance of 0.7% for survey and staking of the transmission line and substation layout has been included in the total section.
- An allowance of 0.3% for LIDAR of the transmission line has been included in the total section.
- 20 An allowance of 3.75% for substation testing and commissioning has been included in the total section.
- An allowance of \$20,000.00 per circuit for transmission line testing and commissioning has been included in the total section.
- 22 New York state sales tax of 8% is included in all material pricing.
- 23 An allowance of 1.5% for insurance is included in the DPS sheet.
- Rock excavation not provided in proposal foundation data, all structures are drilled shaft foundation, rock excavation assumed same guantity as in National Grid's proposal.
- 25 An additional Quantity of 5% have been added to conductors, OPGW, & OHSW for sag and jumpers.
 - Cricket Valley to Long Mountain line upgrade: The length of the re-conductor between Cricket Valley and the NY/CT border is 3.3 miles and will remove the existing (to be installed on CV project) 2 bundle 795 ACSS conductor and install new 2 bundle Rail 954 ACSS conductor.
 - -The length of the re-conductor between the NY/CT border and Long Mountain is 6 miles and will remove the existing single 2156 ACSS conductor and install new single Thrasher 2312 ACSS conductor.
- -The Insulators and associated conductor hardware will be replaced.
 - -The existing structures are assumed to have adequate strength to support the new conductors.
 - -The estimate is a rough order of magnitude estimate as no engineering was performed and SECo did not have access to record drawings.
- 27 The SUF estimates for the stations are rough order of magnitude estimates. No engineering was performed and SECo did not have access to record drawings.