

NG NY TRANSCO T018

Task Name	Duration	Year 1										Year 2										Year 3										Year 4																			
		M-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	M48	M49
NG NY TRANSCO T018	1046 days	[Overall project bar]																																																	
PRE-CONSTRUCTION	520 days	[Pre-construction bar]																																																	
ARTICLE 7 PREPARATION & SUBMISSION	130 days	[Task bar]																																																	
ARTICLE 7 REVIEW & APPROVAL	260 days	[Task bar]																																																	
EM&CP REVIEW & APPROVAL	130 days	[Task bar]																																																	
REAL ESTATE ACQUISITION	520 days	[Task bar]																																																	
FINAL ENGINEERING	391 days	[Task bar]																																																	
PROCURE MAJOR EQUIPMENT & MATERIALS	391 days	[Task bar]																																																	
TRANSMISSION LINE - EDIC TO NEW SCOTLAND	523 days	[Transmission line bar]																																																	
PRINCETOWN TO ROTTERDAM LINE 31 REBUILD	65 days	[Task bar]																																																	
PRINCETOWN TO ROTTERDAM LINE 30 REBUILD	66 days	[Task bar]																																																	
EDIC TO PRINCETOWN	383 days	[Task bar]																																																	
PRINCETOWN TO NEW SCOTLAND - XS 11, 13	81 days	[Task bar]																																																	
PRINCETOWN TO NEW SCOTLAND - XS 10	31 days	[Task bar]																																																	
PRINCETOWN TO NEW SCOTLAND - XS 1,4	88 days	[Task bar]																																																	
SUBSTATIONS - EDIC TO NEW SCOTLAND	324 days	[Substations bar]																																																	
EDIC SUBSTATION	129 days	[Task bar]																																																	
ROTTERDAM SUBSTATION	324 days	[Task bar]																																																	
NEW SCOTLAND SUBSTATION	129 days	[Task bar]																																																	
T018 COMPLETE	1 day																																																		◆ 3/2

NEXTERA T021

Task Name	Duration	Year 1												Year 2												Year 3												Year 4											
		M-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
NEXTERA T021	1046 days	[Overall project bar]																																															
PRE-CONSTRUCTION	520 days	[Pre-construction bar]																																															
ARTICLE 7 PREPARATION & SUBMISSION	130 days	[Task bar]																																															
ARTICLE 7 REVIEW & APPROVAL	260 days	[Task bar]																																															
EM&CP REVIEW & APPROVAL	130 days	[Task bar]																																															
REAL ESTATE ACQUISITION	520 days	[Task bar]																																															
FINAL ENGINEERING	391 days	[Task bar]																																															
PROCURE MAJOR EQUIPMENT & MATERIALS	391 days	[Task bar]																																															
TRANSMISSION LINE - EDIC TO NEW SCOTLAND	523 days	[Transmission line bar]																																															
PRINCETOWN TO ROTTERDAM (Line 31)	65 days	[Task bar]																																															
PRINCETOWN TO ROTTERDAM (Line 30)	66 days	[Task bar]																																															
EDIC TO PRINCETOWN	383 days	[Task bar]																																															
PRINCETOWN TO NEW SCOTLAND	228 days	[Task bar]																																															
SUBSTATIONS - EDIC TO NEW SCOTLAND	324 days	[Substations bar]																																															
EDIC SUBSTATION	129 days	[Task bar]																																															
PRINCETOWN SUBSTATION	324 days	[Task bar]																																															
NEW SCOTLAND SUBSTATION	129 days	[Task bar]																																															
T021 COMPLETE	1 day	[Completion point]																																															

NYPA NAT T025

Task Name	Duration	Year 1										Year 2										Year 3										Year 4																					
		M-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	M48	M49	M50	M51
NYPA NAT T025	1089 days	[Overall Project Duration Bar]																																																			
PRE-CONSTRUCTION	563 days	[Pre-construction Duration Bar]																																																			
ARTICLE 7 PREPARATION & SUBMISSION	130 days	[Task Bar]																																																			
ARTICLE 7 REVIEW & APPROVAL	281 days	[Task Bar]																																																			
EM&CP REVIEW & APPROVAL	152 days	[Task Bar]																																																			
REAL ESTATE ACQUISITION	563 days	[Task Bar]																																																			
FINAL ENGINEERING	433 days	[Task Bar]																																																			
PROCURE MAJOR EQUIPMENT & MATERIALS	433 days	[Task Bar]																																																			
TRANSMISSION LINE - EDIC TO NEW SCOTLAND	522 days	[Transmission Line Duration Bar]																																																			
PRINCETOWN TO ROTTERDAM Line 31 Rebuild	65 days	[Task Bar]																																																			
PRINCETOWN TO ROTTERDAM Line 30 Rebuild	66 days	[Task Bar]																																																			
EDIC TO PRINCETOWN	383 days	[Task Bar]																																																			
MARCY TO EDIC 765kV REBUILD	68 days	[Task Bar]																																																			
NEW SCOTLAND 765kV REBUILD	68 days	[Task Bar]																																																			
PRINCETOWN TO NEW SCOTLAND	219 days	[Task Bar]																																																			
SUBSTATIONS - EDIC TO NEW SCOTLAND	455 days	[Substations Duration Bar]																																																			
EDIC SUBSTATION	129 days	[Task Bar]																																																			
KNICKERBOCKER SUBSTATION	324 days	[Task Bar]																																																			
PRINCETOWN SUBSTATION	324 days	[Task Bar]																																																			
NEW SCOTLAND SUBSTATION	129 days	[Task Bar]																																																			
MARCY SUBSTATION	90 days	[Task Bar]																																																			
T025 COMPLETE	1 day	[Completion Point]																																																			

NYPA NAT T026

Task Name	Duration	Year 1												Year 2												Year 3												Year 4																																			
		M-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	M48	M49	M																					
NYPA NAT T026	1046 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 - EDIC TO NEW SCOTLAND	523 days																									▶																																															
PRINCETOWN TO ROTTERDAM (Line 31 Rebuild)	65 days																									█																																															
PRINCETOWN TO ROTTERDAM (Line 30 Rebuild)	66 days																																					█																																			
EDIC TO PRINCETOWN	383 days																									█																																															
PRINCETOWN TO NEW SCOTLAND	228 days																																																	█																							
SUBSTATIONS - EDIC TO NEW SCOTLAND	324 days																									▶																																															
EDIC SUBSTATION	129 days																									█																																															
ROTTERDAM SUBSTATION	324 days																									█																																															
NEW SCOTLAND SUBSTATION	129 days																									█																																															
T026 COMPLETE	1 day																																																◆	3/2																							

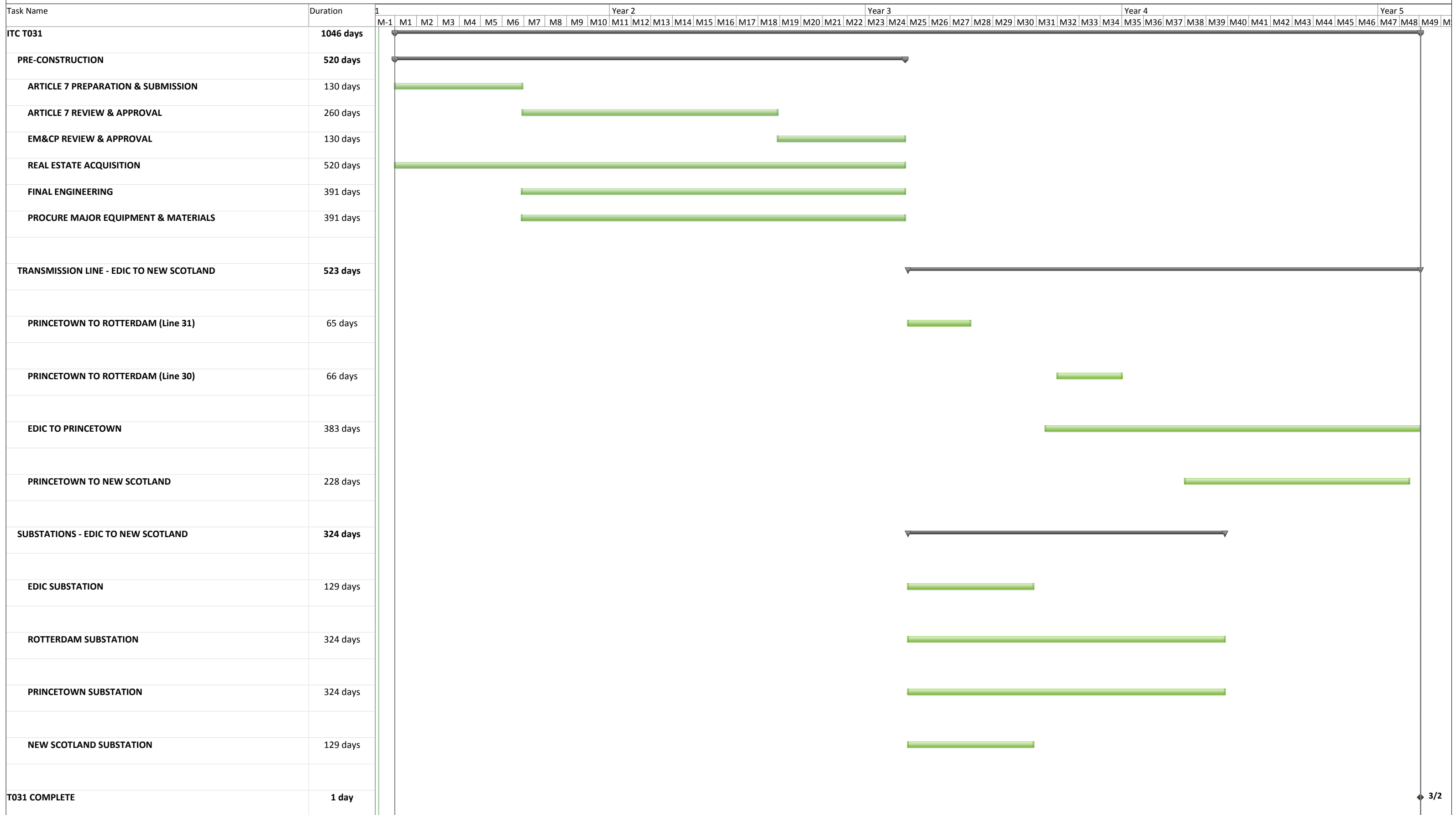
NYPA NAT T027

Task Name	Duration	Year 1												Year 2												Year 3												Year 4												Year 5				
		M-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	M48	M49	M50	M51	M52
NYPA NAT T027	1113 days	[Overall project bar]																																																				
PRE-CONSTRUCTION	520 days	[Pre-construction bar]																																																				
ARTICLE 7 PREPARATION & SUBMISSION	130 days	[Task bar]																																																				
ARTICLE 7 REVIEW & APPROVAL	260 days	[Task bar]																																																				
EM&CP REVIEW & APPROVAL	130 days	[Task bar]																																																				
REAL ESTATE ACQUISITION	520 days	[Task bar]																																																				
FINAL ENGINEERING	391 days	[Task bar]																																																				
PROCURE MAJOR EQUIPMENT & MATERIALS	391 days	[Task bar]																																																				
TRANSMISSION LINE - EDIC TO NEW SCOTLAND	590 days	[Transmission line bar]																																																				
PRINCETOWN TO ROTTERDAM (Line 31)	65 days	[Task bar]																																																				
PRINCETOWN TO ROTTERDAM (Line 30)	66 days	[Task bar]																																																				
EDIC TO PRINCETOWN	383 days	[Task bar]																																																				
PRINCETOWN TO NEW SCOTLAND	285 days	[Task bar]																																																				
SUBSTATIONS - EDIC TO NEW SCOTLAND	324 days	[Substations bar]																																																				
EDIC SUBSTATION	129 days	[Task bar]																																																				
ROTTERDAM SUBSTATION	324 days	[Task bar]																																																				
PRINCETOWN SUBSTATION	324 days	[Task bar]																																																				
NEW SCOTLAND SUBSTATION	129 days	[Task bar]																																																				
T027 COMPLETE	1 day	[Completion point]																																																				

NYPA NAT T028

Task Name	Duration	Year 1												Year 2												Year 3												Year 4												
		M-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	M48
NYPA NAT T028	1046 days	[Overall project bar from M-1 to M49]																																																
PRE-CONSTRUCTION	520 days	[Pre-construction bar from M-1 to M24]																																																
ARTICLE 7 PREPARATION & SUBMISSION	130 days	[Green bar from M1 to M7]																																																
ARTICLE 7 REVIEW & APPROVAL	260 days	[Green bar from M7 to M19]																																																
EM&CP REVIEW & APPROVAL	130 days	[Green bar from M19 to M24]																																																
REAL ESTATE ACQUISITION	520 days	[Green bar from M-1 to M24]																																																
FINAL ENGINEERING	391 days	[Green bar from M7 to M24]																																																
PROCURE MAJOR EQUIPMENT & MATERIALS	391 days	[Green bar from M7 to M24]																																																
TRANSMISSION LINE - EDIC TO NEW SCOTLAND	523 days	[Transmission line bar from M24 to M49]																																																
PRINCETOWN TO ROTTERDAM (Line 31)	65 days	[Green bar from M24 to M27]																																																
PRINCETOWN TO ROTTERDAM (Line 30)	66 days	[Green bar from M31 to M32]																																																
EDIC TO PRINCETOWN	383 days	[Green bar from M31 to M49]																																																
PRINCETOWN TO NEW SCOTLAND	228 days	[Green bar from M38 to M49]																																																
SUBSTATIONS - EDIC TO NEW SCOTLAND	324 days	[Substations bar from M24 to M38]																																																
EDIC SUBSTATION	129 days	[Green bar from M24 to M27]																																																
ROTTERDAM SUBSTATION	324 days	[Green bar from M24 to M38]																																																
PRINCETOWN SUBSTATION	324 days	[Green bar from M24 to M38]																																																
NEW SCOTLAND SUBSTATION	129 days	[Green bar from M24 to M27]																																																
T028 COMPLETE	1 day	[Completion marker at M49]																																																

ITC T031



NG NY TRANSCO T019

Task Name	Duration	Year 1										Year 2										Year 3										Year 4															
		M-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
NG NY TRANSCO T019	980 days	[Overall Project Duration Bar]																																													
PRE-CONSTRUCTION	520 days	[Pre-construction Duration Bar]																																													
ARTICLE 7 PREPARATION & SUBMISSION	130 days	[Task Bar]																																													
ARTICLE 7 REVIEW & APPROVAL	260 days	[Task Bar]																																													
EM&CP REVIEW & APPROVAL	130 days	[Task Bar]																																													
REAL ESTATE ACQUISITION	520 days	[Task Bar]																																													
FINAL ENGINEERING	391 days	[Task Bar]																																													
PROCURE MAJOR EQUIPMENT & MATERIALS	391 days	[Task Bar]																																													
TRANSMISSION LINE - KNICKERBOCKER TO PLEASANT VALLEY	458 days	[Transmission Line Duration Bar]																																													
KNICKERBOCKER TO CHURCHTOWN	229 days	[Task Bar]																																													
CHURCHTOWN TO PLEASANT VALLEY	348 days	[Task Bar]																																													
BLUE STORES JUNCTION TO BLUE STORES SS	65 days	[Task Bar]																																													
SUBSTATIONS - KNICKERBOCKER TO PLEASANT VALLEY	371 days	[Substations Duration Bar]																																													
KNICKERBOCKER SUBSTATION	283 days	[Task Bar]																																													
CHURCHTOWN SUBSTATION	261 days	[Task Bar]																																													
PLEASANT VALLEY SUBSTATION	131 days	[Task Bar]																																													
SCHODACK SUBSTATION	131 days	[Task Bar]																																													
T019 COMPLETE	1 day																																														12/1

NEXTERA T022

Task Name	Duration	Year 1										Year 2										Year 3										Year 4														
		M-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
NEXTERA T022	937 days	[Overall Project Duration Bar]																																												
PRE-CONSTRUCTION	520 days	[Pre-construction Duration Bar]																																												
ARTICLE 7 PREPARATION & SUBMISSION	130 days	[Task Bar]																																												
ARTICLE 7 REVIEW & APPROVAL	260 days	[Task Bar]																																												
EM&CP REVIEW & APPROVAL	130 days	[Task Bar]																																												
REAL ESTATE ACQUISITION	520 days	[Task Bar]																																												
FINAL ENGINEERING	391 days	[Task Bar]																																												
PROCURE MAJOR EQUIPMENT & MATERIALS	391 days	[Task Bar]																																												
TRANSMISSION LINE - KNICKERBOCKER TO PLEASANT VALLEY	415 days	[Transmission Line Duration Bar]																																												
KNICKERBOCKER TO CHURCHTOWN	229 days	[Task Bar]																																												
CHURCHTOWN TO PLEASANT VALLEY	305 days	[Task Bar]																																												
BLUE STORES JUNCTION TO BLUE STORES SS	65 days	[Task Bar]																																												
SUBSTATIONS - KNICKERBOCKER TO PLEASANT VALLEY	371 days	[Substations Duration Bar]																																												
KNICKERBOCKER	283 days	[Task Bar]																																												
NORTH CHURCHTOWN	261 days	[Task Bar]																																												
PLEASANT VALLEY	131 days	[Task Bar]																																												
T022 COMPLETE	1 day																																													◆ 10/1

NEXTERA T023

Task Name	Duration	Year 1										Year 2										Year 3										Year 4																	
		M-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
NEXTERA T023	979 days	[Overall project duration bar]																																															
PRE-CONSTRUCTION	520 days	[Pre-construction duration bar]																																															
ARTICLE 7 PREPARATION & SUBMISSION	130 days	[Task bar]																																															
ARTICLE 7 REVIEW & APPROVAL	260 days	[Task bar]																																															
EM&CP REVIEW & APPROVAL	130 days	[Task bar]																																															
REAL ESTATE ACQUISITION	520 days	[Task bar]																																															
FINAL ENGINEERING	391 days	[Task bar]																																															
PROCURE MAJOR EQUIPMENT & MATERIALS	391 days	[Task bar]																																															
TRANSMISSION LINE - KNICKERBOCKER TO PLEASANT VALLEY	457 days	[Task bar]																																															
KNICKERBOCKER TO CHURCHTOWN	229 days	[Task bar]																																															
CHURCHTOWN TO PLEASANT VALLEY	347 days	[Task bar]																																															
BLUE STORES JUNCTION TO BLUE STORES SS	65 days	[Task bar]																																															
SUBSTATIONS - KNICKERBOCKER TO PLEASANT VALLEY	371 days	[Task bar]																																															
KNICKERBOCKER	283 days	[Task bar]																																															
NORTHCHURCHTOWN	261 days	[Task bar]																																															
PLEASANT VALLEY	131 days	[Task bar]																																															
T023 COMPLETE	1 day																																																11/30

NYPA NAT T029

Task Name	Duration	Year 1										Year 2										Year 3										Year 4															
		M-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
NYPA NAT T029	980 days	[Gantt bar from M-1 to M46]																																													
PRE-CONSTRUCTION	520 days	[Gantt bar from M-1 to M22]																																													
ARTICLE 7 PREPARATION & SUBMISSION	130 days	[Gantt bar from M1 to M6]																																													
ARTICLE 7 REVIEW & APPROVAL	260 days	[Gantt bar from M7 to M18]																																													
EM&CP REVIEW & APPROVAL	130 days	[Gantt bar from M19 to M22]																																													
REAL ESTATE ACQUISITION	520 days	[Gantt bar from M-1 to M22]																																													
FINAL ENGINEERING	391 days	[Gantt bar from M7 to M22]																																													
PROCURE MAJOR EQUIPMENT & MATERIALS	391 days	[Gantt bar from M7 to M22]																																													
TRANSMISSION LINE - KNICKERBOCKER TO PLEASANT VALLEY	458 days	[Gantt bar from M23 to M46]																																													
KNICKERBOCKER TO CHURCHTOWN	229 days	[Gantt bar from M23 to M30]																																													
CHURCHTOWN TO PLEASANT VALLEY	348 days	[Gantt bar from M29 to M46]																																													
BLUE STORES JUNCTION TO BLUE STORES SS	65 days	[Gantt bar from M37 to M38]																																													
SUBSTATIONS - KNICKERBOCKER TO PLEASANT VALLEY	371 days	[Gantt bar from M23 to M38]																																													
KNICKERBOCKER	283 days	[Gantt bar from M29 to M38]																																													
CHURCHTOWN	261 days	[Gantt bar from M23 to M30]																																													
PLEASANT VALLEY	131 days	[Gantt bar from M32 to M33]																																													
SCHODACK	131 days	[Gantt bar from M32 to M33]																																													
T029 COMPLETE	1 day	[Gantt bar at M46]																																													

NYPA NAT T030

Task Name	Duration	Year 1										Year 2										Year 3										Year 4															
		M-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
NYPA NAT T030	980 days	[Overall project bar from M-1 to M46]																																													
PRE-CONSTRUCTION	520 days	[Pre-construction bar from M-1 to M22]																																													
ARTICLE 7 PREPARATION & SUBMISSION	130 days	[Green bar from M1 to M6]																																													
ARTICLE 7 REVIEW & APPROVAL	260 days	[Green bar from M7 to M12]																																													
EM&CP REVIEW & APPROVAL	130 days	[Green bar from M18 to M21]																																													
REAL ESTATE ACQUISITION	520 days	[Green bar from M-1 to M22]																																													
FINAL ENGINEERING	391 days	[Green bar from M7 to M22]																																													
PROCURE MAJOR EQUIPMENT & MATERIALS	391 days	[Green bar from M7 to M22]																																													
TRANSMISSION LINE - KNICKERBOCKER TO PLEASANT VALLEY	458 days	[Transmission line bar from M23 to M46]																																													
KNICKERBOCKER TO CHURCHTOWN	229 days	[Green bar from M23 to M30]																																													
CHURCHTOWN TO PLEASANT VALLEY	348 days	[Green bar from M29 to M46]																																													
BLUE STORES JUNCTION TO BLUE STORES SS	65 days	[Green bar from M37 to M38]																																													
SUBSTATIONS - KNICKERBOCKER TO PLEASANT VALLEY	371 days	[Substations bar from M23 to M39]																																													
KNICKERBOCKER	283 days	[Green bar from M29 to M39]																																													
CHURCHTOWN	261 days	[Green bar from M23 to M33]																																													
PLEASANT VALLEY	131 days	[Green bar from M32 to M34]																																													
SCHODACK	131 days	[Green bar from M32 to M34]																																													
T030 COMPLETE	1 day	[Completion point at M46]																																													

ITC T032

Task Name	Duration	Year 1												Year 2												Year 3												Year 4											
		M-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
ITC T032	1025 days	[Gantt bar from M-1 to M48]																																															
PRE-CONSTRUCTION	520 days	[Gantt bar from M-1 to M22]																																															
ARTICLE 7 PREPARATION & SUBMISSION	130 days	[Gantt bar from M1 to M7]																																															
ARTICLE 7 REVIEW & APPROVAL	260 days	[Gantt bar from M7 to M13]																																															
EM&CP REVIEW & APPROVAL	130 days	[Gantt bar from M13 to M16]																																															
REAL ESTATE ACQUISITION	520 days	[Gantt bar from M-1 to M22]																																															
FINAL ENGINEERING	391 days	[Gantt bar from M7 to M22]																																															
PROCURE MAJOR EQUIPMENT & MATERIALS	391 days	[Gantt bar from M7 to M22]																																															
TRANSMISSION LINE - KNICKERBOCKER TO PLEASANT VALLEY	503 days	[Gantt bar from M23 to M48]																																															
KNICKERBOCKER TO CHURCHTOWN	229 days	[Gantt bar from M23 to M30]																																															
CHURCHTOWN TO PLEASANT VALLEY	393 days	[Gantt bar from M29 to M48]																																															
BLUE STORES JUNCTION TO BLUE STORES SS	65 days	[Gantt bar from M37 to M39]																																															
SUBSTATIONS - KNICKERBOCKER TO PLEASANT VALLEY	295 days	[Gantt bar from M23 to M39]																																															
KNICKERBOCKER	261 days	[Gantt bar from M23 to M30]																																															
CHURCHTOWN	261 days	[Gantt bar from M23 to M30]																																															
PLEASANT VALLEY	131 days	[Gantt bar from M31 to M33]																																															
T032 COMPLETE	1 day	[Gantt bar at M48]																																															

National Grid and NY Transco (T018)			
Description		Total Amount (In thousand \$)	
Direct Cost	1	Transmission Lines	
	1.1	Clearing & Access	\$52,139
	1.2	Foundations	\$38,037
	1.3	Structures	\$67,033
	1.4	Conductor, Shiedwire and OPGW	\$35,990
	1.5	Insulators, Fitting and Hardwares	\$11,291
	Subtotal (1)		\$204,489
	2	Substations	
	2.1	Rotterdam Substation	\$48,141
	2.2	Edic Substation	\$2,117
	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	\$8,557	
Subtotal (2)		\$66,399	
Total (1+2)		\$270,889	
Contractors Mark-up (15% of Total 1+2)		\$40,633	
Total Direct Cost (A)		\$311,522	
Indirect Cost	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$2,716
	3.2	Project Management, Material Handling & Amenities	\$18,439
	3.3	Engineering	\$18,154
	3.4	Testing & Commissioning	\$1,559
	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$20,171
	3.6	Compensation for use of NYPA Structures (1 Ckt.)	\$8,919
	3.7	Legal, Env. Lisc. & Permit and Env. Mitigation	\$7,719
Total Indirect Cost (3)		\$77,677	
Subtotal Project Cost (B=A+3) 2017 \$		\$389,199	
	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 \$		\$389,199	
Total Project Cost 2018 \$		\$400,875	

NG & NY Transco - T018 - (Segment A)

Estimate Revision: 4

<i>NG & NY Transco - T018 - (Segment A) - Direct Costs</i>		<i>Total Each Segment</i>
Direct Labor, Material & Equipment Costs	A. Transmission Line Edic to Princetown	\$ 135,037,635
Direct Labor, Material & Equipment Costs	B. Transmission Line Princetown to Rotterdam	\$ 26,133,641
Direct Labor, Material & Equipment Costs	C. Transmission Line Princetown to New Scotland	\$ 43,318,193
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	\$ 2,676,471
Direct Labor, Material & Equipment Costs	N. Interconnection Rotterdam Station	\$ 4,096,464
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)	\$ -
SUBTOTAL:		\$ 270,888,530
CONTRACTOR MARK-UP (OH&P)		\$ 40,633,279
CONTINGENCY ON ENTIRE PROJECT		\$ -
TOTAL DIRECT:		\$ 311,521,809

<i>NG & NY Transco - T018 - (Segment A) - Indirect Costs</i>		<i>Total Each Segment</i>
Indirect Costs	A. Transmission Line Edic to Princetown	\$ 38,766,978
Indirect Costs	B. Transmission Line Princetown to Rotterdam	\$ 5,563,174
Indirect Costs	C. Transmission Line Princetown to New Scotland	\$ 9,957,481
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	\$ 522,163
Indirect Costs	N. Interconnection Rotterdam Station	\$ 703,126
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. Lic. & Permit., and Envir. Mitigation)	\$ 7,718,854
TOTAL INDIRECT:		\$ 77,677,497

TOTAL ESTIMATED COST: \$ 389,199,306

NG & NY Transco - T018 - (Segment A)

A. Transmission Line Edic to Princetown

Estimate Revision: **4** Total: **\$ 173,804,614**

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	\$ 4,260,280	\$ 2,197,520	\$ 6,457,800
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 2,804,559	\$ 35,962,420	\$ 38,766,978
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 37,861,540	\$ 135,943,074	\$ 173,804,614
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 37,861,540	\$ 135,943,074	\$ 173,804,614

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. Transmission Line Edic to Princetown									
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)	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	\$ -	\$ -	\$ 70	\$ 19,751,424	\$ 70	\$ 19,751,424
1.6	Matting - To Work Area	27,075	LF	\$ -	\$ -	\$ 70	\$ 1,895,250	\$ 70	\$ 1,895,250
1.7	Snow Removal	66.8	Mile	\$ -	\$ -	\$ 16,000	\$ 1,068,800	\$ 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	\$ 4	\$ 6,353,600
1.10	Restoration for Work Pad areas	361,000	SF	\$ -	\$ -	\$ 0.15	\$ 54,150	\$ 0	\$ 54,150
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	50	EA	\$ -	\$ -	\$ 4,580	\$ 229,000	\$ 4,580	\$ 229,000
1.14	Maintenance and Protection of Traffic on Public Roads	100	EA	\$ -	\$ -	\$ 4,130	\$ 413,000	\$ 4,130	\$ 413,000
1.15	Culverts / Misc. Access	10	EA	\$ 750	\$ 7,500	\$ 1,250	\$ 12,500	\$ 2,000	\$ 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 - CLEARING & ACCESS:					\$ 41,500	\$ 36,310,876	\$ 36,352,376		\$ 36,352,376
2. FOUNDATIONS									
2.1	Direct Embed - 345kV Single Circuit H-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-Pole Angle (15-30 degree)	9	Structure	\$ 94,824	\$ 853,418	\$ 95,840	\$ 862,557	\$ 190,664	\$ 1,715,975
2.3	Drilled Pier - 345kV Single Circuit H-Pole Angle (2-15 degree)	33	Structure	\$ 94,824	\$ 3,129,198	\$ 95,840	\$ 3,162,710	\$ 190,664	\$ 6,291,908
2.4	Drilled Pier - 345kV Single Circuit H-Pole Angle (30-60 degree)	6	Structure	\$ 94,824	\$ 568,945	\$ 95,840	\$ 575,038	\$ 190,664	\$ 1,143,983
2.5	Drilled Pier - 345kV Single Circuit Single Pole Angle (2-15 degree)	3	Structure	\$ 79,376	\$ 238,129	\$ 80,226	\$ 240,679	\$ 159,603	\$ 478,808
2.6	Drilled Pier - 345kV Single Circuit Single Pole Deadend (15-30 degree)	8	Structure	\$ 100,412	\$ 803,294	\$ 101,487	\$ 811,897	\$ 201,899	\$ 1,615,191
2.7	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
2.8	Drilled Pier - 345kV Single Circuit Single Pole Tangent (0-2 degree)	32	Structure	\$ 27,938	\$ 894,010	\$ 28,237	\$ 903,584	\$ 56,175	\$ 1,797,594
2.9									
2.10	Rock Excavation Adder	355	CY	\$ -	\$ -	\$ 2,000	\$ 710,000	\$ 2,000	\$ 710,000
TOTAL - FOUNDATIONS:					\$ 7,516,941	\$ 13,107,490	\$ 20,624,431		\$ 20,624,431
3. STRUCTURES									
3.1	345kV Single Circuit H-Pole Angle (15-30 degree) 60'-90'	9	Structure	\$ 97,613	\$ 878,521	\$ 58,568	\$ 527,112	\$ 156,181	\$ 1,405,633
3.2	345kV Single Circuit H-Pole Angle (2-15 degree) 60'-90'	33	Structure	\$ 97,613	\$ 3,221,242	\$ 58,568	\$ 1,932,745	\$ 156,181	\$ 5,153,988
3.3	345kV Single Circuit H-Pole Angle (30-60 degree) 70'-100'	6	Structure	\$ 98,839	\$ 593,036	\$ 59,304	\$ 355,822	\$ 158,143	\$ 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 - STRUCTURES:					\$ 18,292,102		\$ 27,319,288		\$ 45,611,390
4. CONDUCTOR, 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
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 4,946,158		\$ 21,045,480		\$ 25,991,638
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (6-Assemblies Each Structure)	192	Assembly	\$ 1,800	\$ 345,600	\$ 720	\$ 138,240	\$ 2,520	\$ 483,840
5.2	Angle - V-String	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	H-Frame - Tangent Insulators (3-Assemblies Each Structure)	930	Assembly	\$ 1,800	\$ 1,674,000	\$ 720	\$ 669,600	\$ 2,520	\$ 2,343,600
5.4	Dead-end & Angle Insulators (18-Assemblies Each Structure)	288	Assembly	\$ 2,540	\$ 731,520	\$ 720	\$ 207,360	\$ 3,260	\$ 938,880
5.5	OPGW Assembly - Tangent	451	Assembly	\$ 200	\$ 90,200	\$ 150	\$ 67,650	\$ 350	\$ 157,850
5.6	OPGW Assembly - Angle / DE	20	Assembly	\$ 250	\$ 5,000	\$ 150	\$ 3,000	\$ 400	\$ 8,000
5.7	OHSW Assembly - Tangent	319	Assembly	\$ 200	\$ 63,800	\$ 150	\$ 47,850	\$ 350	\$ 111,650
5.8	OHSW Assembly - Angle / DE	20	Assembly	\$ 250	\$ 5,000	\$ 150	\$ 3,000	\$ 400	\$ 8,000
5.9	OPGW Splice Boxes	41	Set	\$ 1,746	\$ 71,592	\$ 2,274	\$ 93,234	\$ 4,020	\$ 164,826
5.10	OPGW Splice & Test	41	EA	\$ 2,520	\$ 103,320	\$ 2,520	\$ 103,320	\$ 5,040	\$ 206,640
5.11	Spacer - Conductor	3,593	EA	\$ 50	\$ 179,650	\$ 35	\$ 125,755	\$ 85	\$ 305,405
5.12	Vibration Dampers - Conductor	2,874	EA	\$ 35	\$ 100,590	\$ 35	\$ 100,590	\$ 70	\$ 201,180
5.13	Shield wire / OPGW Dampers, Misc. Fittings	1,356	EA	\$ 27	\$ 36,612	\$ 35	\$ 47,460	\$ 62	\$ 84,072
5.14									
5.15	Replace - Mono Pole Vertical Tangent - V-String	327	Set	\$ 1,800	\$ 588,600	\$ 1,080	\$ 353,160	\$ 2,880	\$ 941,760
5.16	Replace - Dead-end & Angle Insulators	84	Set	\$ 2,540	\$ 213,360	\$ 2,025	\$ 170,100	\$ 4,565	\$ 383,460
5.17									
5.18	Guys, Anchors, and Accessories	-	EA	\$ 720	\$ -	\$ 885	\$ -	\$ 1,605	\$ -
5.19	Misc. materials (Signs and Markers)	66.8	Mile	\$ 770	\$ 51,436	\$ 1,006	\$ 67,201	\$ 1,776	\$ 118,637
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 4,260,280		\$ 2,197,520		\$ 6,457,800
A. Transmission Line Edic to Princetown					\$ 35,056,982		\$ 99,980,654		\$ 135,037,635
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 1,350,376	\$ 1,350,376	\$ 1,350,376	\$ 1,350,376
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			\$ 6,491,259	\$ 6,491,259	\$ 6,491,259	\$ 6,491,259
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 1,350,376	\$ 1,350,376	\$ 1,350,376	\$ 1,350,376

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
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,350,376	\$ 1,350,376	\$ 1,350,376	\$ 1,350,376
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 6,751,882	\$ 6,751,882	\$ 6,751,882	\$ 6,751,882
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 405,113	\$ 405,113	\$ 405,113	\$ 405,113
6.7	Geotech	67	Location	\$ -	\$ -	\$ 3,500	\$ 234,500	\$ 3,500	\$ 234,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 945,263	\$ 945,263	\$ 945,263	\$ 945,263
	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	\$ -	\$ -	\$ 405,113	\$ 405,113	\$ 405,113	\$ 405,113
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	\$ 2,804,559	\$ 2,804,559	\$ -	\$ -	\$ 2,804,559	\$ 2,804,559
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 135,038	\$ 135,038	\$ 135,038	\$ 135,038
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 2,804,559		\$ 35,962,420		\$ 38,766,978

NG & NY Transco - T018 - (Segment A)

B. Transmission Line Princetown to Rotterdam

Estimate Revision: **4** Total: \$ **31,696,815**

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	\$ 1,734,353	\$ 664,533	\$ 2,398,886
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 781,868	\$ 4,781,306	\$ 5,563,174
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 10,555,212	\$ 21,141,603	\$ 31,696,815
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 10,555,212	\$ 21,141,603	\$ 31,696,815

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. Transmission 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	\$ 237,600	\$ 45	\$ 237,600
1.4	Silt Fence	26,400	LF	\$ -	\$ -	\$ 4	\$ 105,600	\$ 4	\$ 105,600
1.5	Matting - Access and ROW	21,120	LF	\$ -	\$ -	\$ 70	\$ 1,478,400	\$ 70	\$ 1,478,400
1.6	Matting - To Work Area	6,375	LF	\$ -	\$ -	\$ 70	\$ 446,250	\$ 70	\$ 446,250
1.7	Snow Removal	5.0	Mile	\$ -	\$ -	\$ 16,000	\$ 80,000	\$ 16,000	\$ 80,000
1.8	ROW Restoration	5.0	Mile	\$ -	\$ -	\$ 10,000	\$ 50,000	\$ 10,000	\$ 50,000
1.9	Work Pads	425,000	SF	\$ -	\$ -	\$ 4	\$ 1,496,000	\$ 4	\$ 1,496,000
1.10	Restoration for Work Pad areas	85,000	SF	\$ -	\$ -	\$ 0.2	\$ 12,750	\$ 0	\$ 12,750
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	\$ 45,800	\$ 4,580	\$ 45,800
1.14	Maintenance and Protection of Traffic on Public Roads	10	LS	\$ -	\$ -	\$ 4,130	\$ 41,300	\$ 4,130	\$ 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 - CLEARING & ACCESS:					\$ 6,000		\$ 4,142,200		\$ 4,148,200
2. FOUNDATIONS									
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 - FOUNDATIONS:					\$ 3,178,993		\$ 4,231,038		\$ 7,410,031
3. STRUCTURES									
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	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.6	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									
TOTAL - STRUCTURES PRINCETOWN TO NEW SCOTLAND:					\$ 4,080,173		\$ 4,419,070		\$ 8,499,243
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	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	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									
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 773,826		\$ 2,903,455		\$ 3,677,281
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (6-Assemblies Each Structure)	366	Assembly	\$ 1,800	\$ 658,800	\$ 720	\$ 263,520	\$ 2,520	\$ 922,320
5.2	Angle - V-String	-	Assembly	\$ 1,800	\$ -	\$ 1,040	\$ -	\$ 2,840	\$ -
5.3	H-Frame - Tangent Insulators (3-Assemblies Each Structure)	-	Assembly	\$ 1,800	\$ -	\$ 1,040	\$ -	\$ 2,840	\$ -
5.4	Dead-end & Angle Insulators (18-Assemblies Each Structure)	360	Assembly	\$ 2,540	\$ 914,400	\$ 720	\$ 259,200	\$ 3,260	\$ 1,173,600
5.5	OPGW Assembly - Tangent	61	Assembly	\$ 200	\$ 12,200	\$ 150	\$ 9,150	\$ 350	\$ 21,350
5.6	OPGW Assembly - Angle / DE	24	Assembly	\$ 250	\$ 6,000	\$ 150	\$ 3,600	\$ 400	\$ 9,600
5.7	OHSW Assembly - Tangent	61	Assembly	\$ 200	\$ 12,200	\$ 150	\$ 9,150	\$ 350	\$ 21,350
5.8	OHSW Assembly - Angle / DE	24	Assembly	\$ 250	\$ 6,000	\$ 150	\$ 3,600	\$ 400	\$ 9,600
5.9	OPGW Splice Boxes	8	Set	\$ 1,746	\$ 13,968	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161
5.10	OPGW Splice & Test	8	EA	\$ 2,520	\$ 20,160	\$ 2,520	\$ 20,160	\$ 5,040	\$ 40,320
5.11	Spacer - Conductor	1,038	EA	\$ 50	\$ 51,900	\$ 35	\$ 36,330	\$ 85	\$ 88,230
5.12	Vibration Dampers - Conductor	830	EA	\$ 35	\$ 29,050	\$ 35	\$ 29,050	\$ 70	\$ 58,100
5.13	Shieldwire / OPGW Dampers, Misc. Fittings	210	EA	\$ 27	\$ 5,670	\$ 35	\$ 7,350	\$ 62	\$ 13,020
5.14	Guys, Anchors, and Accessories	-	EA	\$ 720	\$ -	\$ 885	\$ -	\$ 1,605	\$ -
5.15	Misc. materials (Signs and Markers)	5.2	Mile	\$ 770	\$ 4,004	\$ 1,006	\$ 5,231	\$ 1,776	\$ 9,235
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 1,734,533		\$ 664,533		\$ 2,398,886
B. Transmission Line Princetown to Rotterdam					\$ 9,773,345		\$ 16,360,297		\$ 26,133,641
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 261,336	\$ 261,336	\$ 261,336	\$ 261,336
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			\$ 1,256,244	\$ 1,256,244	\$ 1,256,244	\$ 1,256,244
6.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 261,336	\$ 261,336	\$ 261,336	\$ 261,336
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 261,336	\$ 261,336	\$ 261,336	\$ 261,336
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,306,682	\$ 1,306,682	\$ 1,306,682	\$ 1,306,682
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 78,401	\$ 78,401	\$ 78,401	\$ 78,401
6.7	Geotech	5	Location	\$ -	\$ -	\$ 3,500	\$ 17,500	\$ 3,500	\$ 17,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 182,935	\$ 182,935	\$ 182,935	\$ 182,935
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	\$ -	\$ -	\$ 78,401	\$ 78,401	\$ 78,401	\$ 78,401

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.13	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	\$ 781,868	\$ 781,868	\$ -	\$ -	\$ 781,868	\$ 781,868
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 26,134	\$ 26,134	\$ 26,134	\$ 26,134
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 781,868		\$ 4,781,306		\$ 5,563,174

NG & NY Transco - T018 - (Segment A)

C. Transmission Line Princetown to New Scotland

Estimate Revision: **4**

Total: \$ 53,275,675

NG & NY Transco - T018 - (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	\$ 1,548,910	\$ 885,075	\$ 2,433,985
6. MOB/DEMOMB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,165,266	\$ 8,792,216	\$ 9,957,481
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 15,731,086	\$ 37,544,589	\$ 53,275,675
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 15,731,086	\$ 37,544,589	\$ 53,275,675

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. Transmission 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	\$ 936,144	\$ 45	\$ 936,144
1.4	Silt Fence	104,016.0	LF	\$ -	\$ -	\$ 4	\$ 416,064	\$ 4	\$ 416,064
1.5	Matting - Access and ROW	83,213	LF	\$ -	\$ -	\$ 70	\$ 5,824,896	\$ 70	\$ 5,824,896
1.6	Matting - To Work Area	9,675.0	LF	\$ -	\$ -	\$ 70	\$ 677,250	\$ 70	\$ 677,250
1.7	Snow Removal	20	Mile	\$ -	\$ -	\$ 16,000	\$ 315,200	\$ 16,000	\$ 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	2.0	EA	\$ -	\$ -	\$ 14,445	\$ 28,890	\$ 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	\$ 24,000
1.17	Concrete Washout Station	30	EA	\$ -	\$ -	\$ 1,850	\$ 55,500	\$ 1,850	\$ 55,500
TOTAL - CLEARING & ACCESS:					\$ 31,000		\$ 11,607,774		\$ 11,638,774
2. FOUNDATIONS									
2.1	<i>Direct Embed</i> - 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	<i>Drilled Pier</i> - 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	<i>Drilled Pier</i> - 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	<i>Drilled Pier</i> - 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	<i>Drilled Pier</i> - 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	<i>Drilled Pier</i> - 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	<i>Drilled Pier</i> - 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	<i>Drilled Pier</i> - 345kV Single Circuit Single Pole Deadend (15-30 degree)	6	Structure	\$ 100,412	\$ 602,470	\$ 101,487	\$ 608,923	\$ 201,899	\$ 1,213,393
2.9	<i>Drilled Pier</i> - 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	<i>Drilled Pier</i> - 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									
2.15									
TOTAL - FOUNDATIONS:					\$ 4,202,127		\$ 5,800,125		\$ 10,002,252

Item	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									
3.1	345kV Double Circuit Single Pole Deadend (0-30 degree) 125'-140'	2	Structure	\$ 134,867	\$ 269,734	\$ 80,920	\$ 161,840	\$ 215,787	\$ 431,574
3.2	345kV Double Circuit Single Pole Tangent (0-2 degree) 110'-140'	15	Structure	\$ 48,606	\$ 729,089	\$ 29,164	\$ 437,453	\$ 77,769	\$ 1,166,542
3.3	345kV Single Circuit H-Pole Angle (15-30 degree) 70'-90'	3	Structure	\$ 97,613	\$ 292,840	\$ 58,568	\$ 175,704	\$ 156,181	\$ 468,544
3.4	345kV Single Circuit H-Pole Angle (2-15 degree) 60'-75'	6	Structure	\$ 97,613	\$ 585,680	\$ 58,568	\$ 351,408	\$ 156,181	\$ 937,089
3.5	345kV Single Circuit H-Pole Angle (30-60 degree) 60'-75'	5	Structure	\$ 99,085	\$ 495,423	\$ 59,451	\$ 297,254	\$ 158,535	\$ 792,676
3.6	345kV Single Circuit H-Pole Tangent (0-2 degree) 70'-115'	56	Structure	\$ 39,385	\$ 2,205,587	\$ 23,631	\$ 1,323,352	\$ 63,017	\$ 3,528,939
3.7	345kV Single Circuit Single Pole Angle (2-15 degree) 95'	2	Structure	\$ 82,952	\$ 165,904	\$ 49,771	\$ 99,543	\$ 132,723	\$ 265,447
3.8	345kV Single Circuit Single Pole Deadend (15-30 degree) 115'-150'	6	Structure	\$ 101,691	\$ 610,145	\$ 61,014	\$ 366,087	\$ 162,705	\$ 976,232
3.9	345kV Single Circuit Single Pole Deadend (30-60 degree) 135'-155'	2	Structure	\$ 106,098	\$ 212,195	\$ 63,659	\$ 127,317	\$ 169,756	\$ 339,512
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	Install Grounding and Grounding Accessories	199	Pole	\$ 506	\$ 100,694	\$ 5,539	\$ 1,102,162	\$ 6,045	\$ 1,202,856
3.15									
TOTAL - STRUCTURES:					\$ 7,218,941		\$ 5,703,110		\$ 12,922,050
4. CONDUCTOR, 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									
TOTAL - CONDUCTOR, SHIELDWIRE, OPGW:					\$ 1,564,842		\$ 4,756,290		\$ 6,321,132
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (6-Assemblies Each Structure)	378	Assembly	\$ 1,800	\$ 680,400	\$ 720	\$ 272,160	\$ 2,520	\$ 952,560
5.2	Double Ckt. Mono Pole Vertical Tangent - V-String (115kV)	204	Assembly	\$ 1,000	\$ 204,000	\$ 720	\$ 146,880	\$ 1,720	\$ 350,880
5.3	Double Ckt. Mono Pole Vertical Tangent - V-String (345kV)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	Double Ckt. Dead End Vertical (115kV)	18	Assembly	\$ 1,000	\$ 18,000	\$ 1,040	\$ 18,720	\$ 2,040	\$ 36,720
5.5	Double Ckt. Dead End Vertical (345kV)	30	Assembly	\$ 2,000	\$ 60,000	\$ 1,040	\$ 31,200	\$ 3,040	\$ 91,200
5.6	Single Ckt. Dead End Vertical (345kV)	-	Assembly	\$ 2,000	\$ -	\$ 1,040	\$ -	\$ 3,040	\$ -
5.7	Angle - V-String	-	Assembly	\$ 1,800	\$ -	\$ 1,040	\$ -	\$ 2,840	\$ -
5.8	H-Frame - Tangent Insulators (3-Assemblies Each Structure)	195	Assembly	\$ 1,800	\$ 351,000	\$ 1,040	\$ 202,800	\$ 2,840	\$ 553,800
5.9	Dead-end & Angle Insulators	-	Assembly	\$ 2,540	\$ -	\$ 1,350	\$ -	\$ 3,890	\$ -
5.10	OPGW Assembly - Tangent	119	Assembly	\$ 200	\$ 23,800	\$ 150	\$ 17,850	\$ 350	\$ 41,650
5.11	OPGW Assembly - Angle / DE	10	Assembly	\$ 250	\$ 2,500	\$ 150	\$ 1,500	\$ 400	\$ 4,000
5.12	OHSW Assembly - Tangent	119	Assembly	\$ 200	\$ 23,800	\$ 150	\$ 17,850	\$ 350	\$ 41,650
5.13	OHSW Assembly - Angle / DE	10	Assembly	\$ 250	\$ 2,500	\$ 150	\$ 1,500	\$ 400	\$ 4,000
5.14	OPGW Splice Boxes	8	Set	\$ 1,746	\$ 13,969	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161
5.15	OPGW Splice & Test	8	EA	\$ 2,520	\$ 20,160	\$ 2,520	\$ 20,160	\$ 5,040	\$ 40,320
5.16	Spacer - Conductor	1,489	EA	\$ 50	\$ 74,450	\$ 35	\$ 52,115	\$ 85	\$ 126,565
5.17	Vibration Dampers - Conductor	1,192	EA	\$ 35	\$ 41,720	\$ 35	\$ 41,720	\$ 70	\$ 83,440
5.18	Shieldwire / OPGW Dampers, Misc. Fittings	646	EA	\$ 27	\$ 17,442	\$ 35	\$ 22,610	\$ 62	\$ 40,052
5.19	Guys, Anchors, and Accessories	-	EA	\$ 720	\$ -	\$ 885	\$ -	\$ 1,605	\$ -
5.20	Misc. materials (Signs and Markers)	19.7	Mile	\$ 770	\$ 15,169	\$ 1,006	\$ 19,818	\$ 1,776	\$ 34,987
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 1,548,910		\$ 885,075		\$ 2,433,985
C. Transmission Line Princetown to New Scotland									
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 14,565,820		\$ 28,752,373		\$ 43,318,193
Contractor Mobilization / Demobilization									

Item	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	\$ -	\$ -	\$ 433,182	\$ 433,182	\$ 433,182	\$ 433,182
	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			\$ 2,082,306	\$ 2,082,306	\$ 2,082,306	\$ 2,082,306
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 433,182	\$ 433,182	\$ 433,182	\$ 433,182
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 433,182	\$ 433,182	\$ 433,182	\$ 433,182
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,165,910	\$ 2,165,910	\$ 2,165,910	\$ 2,165,910
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 129,955	\$ 129,955	\$ 129,955	\$ 129,955
6.7	Geotech	20	Location	\$ -	\$ -	\$ 3,500	\$ 70,000	\$ 3,500	\$ 70,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 303,227	\$ 303,227	\$ 303,227	\$ 303,227
	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	\$ -	\$ -	\$ 129,955	\$ 129,955	\$ 129,955	\$ 129,955
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	\$ 1,165,266	\$ 1,165,266	\$ -	\$ -	\$ 1,165,266	\$ 1,165,266
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 43,318	\$ 43,318	\$ 43,318	\$ 43,318
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,165,266	\$ -	\$ 8,792,216	\$ -	\$ 9,957,481

NG & NY Transco - T018 - (Segment A)

D. Rotterdam Substation - Install

Estimate Revision: **4**

Total: \$ **55,762,476**

NG & NY Transco - T018 - (Segment 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 EQUIPMENT	\$ 23,285,000	\$ 6,676,670	\$ 29,961,670
5. SMALL EQUIPMENT / 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	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. Rotterdam 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 PREP/ GRADING/ FENCING / CIVIL					\$ 189,745		\$ 1,156,225		\$ 1,345,970
2. SUBSTATION 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	\$ 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	4	EA	\$ 3,735	\$ 14,940	\$ 4,000	\$ 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	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	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								
2.5a	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 - SUBSTATION FOUNDATIONS					\$ 2,197,240		\$ 2,353,000		\$ 4,550,240
3. SUBSTATION STRUCTURES									
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	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	15	EA	\$ 3,700	\$ 55,500	\$ 3,700	\$ 55,500	\$ 7,400	\$ 111,000
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	8	EA	\$ 6,475	\$ 51,800	\$ 6,475	\$ 51,800	\$ 12,950	\$ 103,600

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
3.2	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	1	EA	\$ 12,025	\$ 12,025	\$ 12,025	\$ 12,025	\$ 24,050	\$ 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	3	EA	\$ 2,775	\$ 8,325	\$ 2,775	\$ 8,325	\$ 5,550	\$ 16,650
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	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	6	EA	\$ 1,850	\$ 11,100	\$ 1,850	\$ 11,100	\$ 3,700	\$ 22,200
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	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ 372,220		\$ 372,220		\$ 744,440
4. MAJOR EQUIPMENT									
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ 200,000	\$ -	\$ 80,000	\$ -	\$ 280,000	\$ -
4.1b	Capacitor Banks with Reactors	1	EA	\$ 370,000	\$ 370,000	\$ 80,000	\$ 80,000	\$ 450,000	\$ 450,000
4.1c	345 kV - 230 kV Auto Transformer	1	EA	\$ 3,700,000	\$ 3,700,000	\$ 750,000	\$ 750,000	\$ 4,450,000	\$ 4,450,000
4.1d	345 kV - 115 kV Auto Transformer	2	EA	\$ 3,200,000	\$ 6,400,000	\$ 750,000	\$ 1,500,000	\$ 3,950,000	\$ 7,900,000
4.1e	345 kV (3) Bay Breaker-and-a-half GIS system with building	1	EA	\$ 12,700,000	\$ 12,700,000	\$ 4,266,670	\$ 4,266,670	\$ 16,966,670	\$ 16,966,670
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 - MAJOR EQUIPMENT					\$ 23,285,000		\$ 6,676,670		\$ 29,961,670
5. SMALL EQUIPMENT / 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	0	EA	\$ 35,000	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	6	EA	\$ 13,000	\$ 78,000	\$ 12,000	\$ 72,000	\$ 25,000	\$ 150,000
5.1d	CT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000
5.1e	CCVT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000
5.1f	Arresters	15	EA	\$ 6,500	\$ 97,500	\$ 1,500	\$ 22,500	\$ 8,000	\$ 120,000

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
5.1g	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	\$ -	\$ 17,500	\$ -	\$ 45,500	\$ -
5.3c	VT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 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	6	EA	\$ 8,000	\$ 48,000	\$ 8,000	\$ 48,000	\$ 16,000	\$ 96,000
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 1,164,540		\$ 675,000		\$ 1,839,540
6. CONTROL HOUSE / 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 - CONTROL HOUSE / PANELS / GENERATOR					\$ 3,396,670		\$ 1,285,545		\$ 4,682,215
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, 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	Material 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. Rotterdam Substation - Install					\$ 31,138,082		\$ 13,392,330		\$ 44,530,412
8. MOB/DEMOB, 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 Oversight	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

NG & NY Transco - T018 - (Segment A)

E. Rotterdam Substation - Removal

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

NG & NY Transco - T018 - (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 EQUIPMENT	\$ -	\$ 147,000	\$ 147,000
5. SMALL EQUIPMENT / 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. Rotterdam 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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ 1,472,750		\$ 1,472,750
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 - SUBSTATION FOUNDATIONS					\$ -		\$ 617,400		\$ 617,400
3. SUBSTATION 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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

Item	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 - SUBSTATION STRUCTURES					\$ -		\$ 534,900		\$ 534,900
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT					\$ -		\$ 147,000		\$ 147,000
5. SMALL EQUIPMENT / 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	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
5.2g	Wave Traps	3	EA	\$ -	\$ -	\$ 2,500	\$ 7,500	\$ 2,500	\$ 7,500
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 - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 169,500		\$ 169,500
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	1	EA	\$ -	\$ -	\$ 150,000	\$ 150,000	\$ 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 - CONTROL 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
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
TOTAL - MISC ITEMS					\$ -		\$ 519,480		\$ 519,480
E. Rotterdam Substation - Removal					\$ -		\$ 3,611,030		\$ 3,611,030
8. MOB/DEMOB, 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			\$ 173,582	\$ 173,582	\$ 173,582	\$ 173,582
8.3	Utility PM and Project Oversight	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.12	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:					\$ -		\$ 585,240		\$ 585,240

NG & NY Transco - T018 - (Segment A)

F. Edic Substation - Install

Estimate Revision: **4**

Total: \$ **2,587,379**

NG & NY Transco - T018 - (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 EQUIPMENT	\$ 200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPMENT / 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

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
F. Edic 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	0	LF	\$ 100	\$ -	\$ 100	\$ -	\$ 200	\$ -
1.4	Permanent Access Road - 20'-Wide	0	LF	\$ 35	\$ -	\$ 285	\$ -	\$ 320	\$ -
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 2,025		\$ 5,625		\$ 7,650
2. SUBSTATION 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3 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	\$ -	\$ 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	\$ -

Item	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								
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	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 - 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	\$ -	\$ 74,000	\$ -
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	\$ -	\$ 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	\$ 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	\$ -	\$ 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 - SUBSTATION STRUCTURES					\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQUIPMENT									
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	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
4.2	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 - MAJOR EQUIPMENT					\$ 200,000		\$ 80,000		\$ 280,000
5. SMALL EQUIPMENT / 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	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	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1f	Arresters	6	EA	\$ 6,500	\$ 39,000	\$ 1,500	\$ 9,000	\$ 8,000	\$ 48,000
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	\$ -
5.2	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	\$ 30,000	\$ -	\$ 8,000	\$ -	\$ 38,000	\$ -
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	\$ 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	\$ -
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 EQUIPMENT / MATERIALS					\$ 244,000		\$ 133,500		\$ 377,500
6. CONTROL HOUSE / 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	\$ -
TOTAL - CONTROL 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
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	\$ 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

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
7.11	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 Substation - Install					\$ 1,103,730		\$ 977,455		\$ 2,081,185
8. MOB/DEMOB, 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 Oversight	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

NG & NY Transco - T018 - (Segment A)

G. Edic Substation - Removal

Estimate Revision: **4**

Total: \$ **41,740**

NG & NY Transco - T018 - (Segment A)			
	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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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	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 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									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ -		\$ -
2. SUBSTATION FOUNDATIONS									
2.1 345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$ -	\$ -	\$ 14,200	\$ 14,200	\$ 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	\$ -
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	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2j	Instrument Transformer Stand Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.2k	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	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	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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 14,200		\$ 14,200
3. SUBSTATION 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	3	EA	\$ -	\$ -	\$ 2,250	\$ 6,750	\$ 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	\$ -	\$ 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	\$ -
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	\$ -	\$ 2,250	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.3c	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 - SUBSTATION STRUCTURES					\$ -		\$ 6,750		\$ 6,750
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 4,500		\$ 4,500
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
6.2	Protection and Telecom Equipment Panels	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
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 - CONTROL 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	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 ITEMS					\$ -		\$ 10,500		\$ 10,500
G. Edic Substation - Removal					\$ -		\$ 35,950		\$ 35,950
8. MOB/DEMOB, 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 Oversight	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

NG & NY Transco - T018 - (Segment A)

H. New Scotland Substation - Install

Estimate Revision: **4**

Total: \$ **8,532,315**

NG & NY Transco - T018 - (Segment 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 EQUIPMENT	\$ 1,000,000	\$ 400,000	\$ 1,400,000
5. SMALL EQUIPMENT / 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:

Item	Item 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 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	\$ 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 PREP/ 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									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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								
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	\$ -	\$ 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	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 - SUBSTATION FOUNDATIONS					\$ 498,996		\$ 534,400		\$ 1,033,396
3. SUBSTATION STRUCTURES									
3.1	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	\$ -
3.1c	Switch Stands	3	EA	\$ 14,800	\$ 44,400	\$ 14,800	\$ 44,400	\$ 29,600	\$ 88,800
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	32	EA	\$ 3,700	\$ 118,400	\$ 3,700	\$ 118,400	\$ 7,400	\$ 236,800
3.1g	Instrument Transformer Stand	15	EA	\$ 1,850	\$ 27,750	\$ 1,850	\$ 27,750	\$ 3,700	\$ 55,500
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	\$ 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	\$ -	\$ 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								

Item	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	\$ -	\$ 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 - SUBSTATION STRUCTURES					\$ 240,500		\$ 240,500		\$ 481,000
4. MAJOR EQUIPMENT									
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	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 - MAJOR EQUIPMENT					\$ 1,000,000		\$ 400,000		\$ 1,400,000
5. SMALL EQUIPMENT / 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	3	EA	\$ 35,000	\$ 105,000	\$ 17,500	\$ 52,500	\$ 52,500	\$ 157,500
5.1c	VT'S	3	EA	\$ 35,000	\$ 105,000	\$ 12,000	\$ 36,000	\$ 47,000	\$ 141,000
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	3	EA	\$ 6,500	\$ 19,500	\$ 1,500	\$ 4,500	\$ 8,000	\$ 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									
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	\$ 30,000	\$ -	\$ 8,000	\$ -	\$ 38,000	\$ -
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	\$ 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	\$ -
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 EQUIPMENT / MATERIALS					\$ 399,500		\$ 188,000		\$ 587,500
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	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 Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
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	\$ -
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 - CONTROL HOUSE / PANELS / GENERATOR					\$ 749,150		\$ 372,900		\$ 1,122,050
7. MISC ITEMS									
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	\$ 10,395	\$ 32.58	\$ 48,870	\$ 40	\$ 59,265
7.5	Strain Bus Insulators - 345kV	12	EA	\$ 2,000	\$ 24,000	\$ 1,050	\$ 12,600	\$ 3,050	\$ 36,600
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	\$ 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	Install new communication tower foundation	1	LS	\$ -	\$ -	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000
7.13	Relocate existing 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					\$ 897,304		\$ 1,093,110		\$ 1,990,414
H. New Scotland Substation - Install					\$ 3,816,200		\$ 3,061,973		\$ 6,878,173
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 68,782	\$ 68,782	\$ 68,782	\$ 68,782
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			\$ 330,634	\$ 330,634	\$ 330,634	\$ 330,634
8.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 68,782	\$ 68,782	\$ 68,782	\$ 68,782
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 68,782	\$ 68,782	\$ 68,782	\$ 68,782
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 550,254	\$ 550,254	\$ 550,254	\$ 550,254
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 48,147	\$ 48,147	\$ 48,147	\$ 48,147
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 171,954	\$ 171,954	\$ 171,954	\$ 171,954
Permitting and Additional Costs									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 20,635	\$ 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	\$ -	\$ -	\$ 6,878	\$ 6,878	\$ 6,878	\$ 6,878
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 305,296		\$ 1,348,847		\$ 1,654,143

NG & NY Transco - T018 - (Segment A)

I. New Scotland Substation - Removal

Estimate Revision: **4**

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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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 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. New Scotland 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									
1.14									
1.15									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ 30,000		\$ 30,000
2. SUBSTATION FOUNDATIONS									
2.1 345kV									
2.1a	Circuit Breaker Foundations	2	EA	\$ -	\$ -	\$ 14,200	\$ 28,400	\$ 14,200	\$ 28,400
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	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	\$ -	\$ -	\$ 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	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -

Item	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	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	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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 57,200		\$ 57,200
3. SUBSTATION 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	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	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	\$ -	\$ 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	\$ -
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	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 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	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 - SUBSTATION STRUCTURES					\$ -		\$ 27,000		\$ 27,000
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 7,000		\$ 7,000
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
6.2	Protection and Telecom Equipment Panels	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
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 - CONTROL 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	300	EA	\$ 126.25	\$ -	\$ -	\$ 37,875	\$ 126	\$ 37,875
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					\$ -		\$ 37,875		\$ 37,875
I. New Scotland Substation - Removal					\$ -		\$ 159,075		\$ 159,075
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 1,591	\$ 1,591	\$ 1,591	\$ 1,591
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			\$ 7,647	\$ 7,647	\$ 7,647	\$ 7,647
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 1,591	\$ 1,591	\$ 1,591	\$ 1,591
8.4	Site Accommodation, Facilities, Storage	1.0	LS	\$ -	\$ -	\$ 1,591	\$ 1,591	\$ 1,591	\$ 1,591
Engineering									
8.5	Design Engineering	1.0	LS	\$ -	\$ -	\$ 12,726	\$ 12,726	\$ 12,726	\$ 12,726
8.6	LIDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 1,114	\$ -	\$ 1,114	\$ -
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 3,977	\$ -	\$ 3,977	\$ -
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 477	\$ 477	\$ 477	\$ 477
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	\$ -	\$ -	\$ 159	\$ -	\$ 159	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 25,622		\$ 25,622

NG & NY Transco - T018 - (Segment A)

J. Porter Substation - Install

Estimate Revision: **4**

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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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

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
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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ -		\$ -
2. SUBSTATION 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									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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								
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	\$ -	\$ 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	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	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
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								
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								

Item	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	\$ -	\$ 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 - SUBSTATION STRUCTURES					\$ -		\$ -		\$ -
4. MAJOR EQUIPMENT									
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	\$ -	\$ 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 - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	\$ 35,000	\$ -	\$ 12,000	\$ -	\$ 47,000	\$ -
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								
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	\$ -	\$ 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	\$ 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	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 EQUIPMENT / MATERIALS					\$ -		\$ -		\$ -
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -

Item	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	\$ 35,000	\$ -	\$ 10,000	\$ -	\$ 45,000	\$ -
6.3	125VDC Batteries	0	EA	\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	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 - CONTROL 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	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	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
J. Porter Substation - Install					\$ 15,008		\$ 56,904		\$ 71,912
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	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			\$ 3,457	\$ 3,457	\$ 3,457	\$ 3,457
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 719	\$ 719	\$ 719	\$ 719
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 5,753	\$ 5,753	\$ 5,753	\$ 5,753
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 216	\$ 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)	-	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

NG & NY Transco - T018 - (Segment A)

K. Porter Substation - Removal

Estimate Revision: **4**

Total: \$ **557,825**

NG & NY Transco - T018 - (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 EQUIPMENT	\$ -	\$ 43,500	\$ 43,500
5. SMALL EQUIPMENT / 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	\$ -	\$ -	\$ -
TOTAL:	\$ -	\$ 557,825	\$ 557,825

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. Porter Substation - Removal									
1. SITE PREP/ GRADING/ FENCING / CIVIL									
TOTAL - SITE PREP/ 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								
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.3e	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	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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 126,600		\$ 126,600
3. SUBSTATION 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Shared Column	5	EA	\$ -	\$ -	\$ 27,000	\$ 135,000	\$ 27,000	\$ 135,000
3.2c	Switch Stands	6	EA	\$ -	\$ -	\$ 9,750	\$ 58,500	\$ 9,750	\$ 58,500
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	\$ -	\$ 2,250	\$ -
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	\$ -
3.2k	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 - SUBSTATION 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	Total Unit Rate	TOTAL
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT						\$ -	\$ 43,500		\$ 43,500
5. SMALL EQUIPMENT / 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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j									
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	\$ 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	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	EA	\$ -	\$ -	\$ 2,500	\$ 5,000	\$ 2,500	\$ 5,000
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	\$ -	\$ 5,500	\$ -
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS						\$ -	\$ 59,500		\$ 59,500
6. CONTROL HOUSE / 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	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 - CONTROL HOUSE / PANELS / GENERATOR						\$ -	\$ -		\$ -
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	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 - MISC ITEMS					\$ -		\$ 38,613		\$ 38,613
K. Porter Substation - Removal					\$ -		\$ 474,313		\$ 474,313
8. MOB/DEMOB, 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 Oversight	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	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 83,512		\$ 83,512

NG & NY Transco - T018 - (Segment A)

L. Interconnection Edic Station

Estimate Revision: **4** Total: \$ **2,122,073**

NG & NY Transco - T018 - (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/DEMOMB, 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

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
L. Interconnection Edic 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	\$ -	\$ -	\$ -	\$ 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 - CLEARING & ACCESS					\$ -		\$ 367,850		\$ 367,850
2. FOUNDATIONS									
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									
2.8									
2.9									
2.10									
2.11									
2.12									
2.13									
2.14									

Item	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 - FOUNDATIONS					\$ 168,366		\$ 170,169		\$ 338,536
3. STRUCTURES									
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	\$ 121,678	\$ 324,475	\$ 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					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 501,469		\$ 321,821		\$ 823,289
4. CONDUCTOR, 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									
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kv Mono Pole Vertical Tangent - V-String								
5.2	115kv Mono Pole Vertical Tangent - V-String								
5.3	Single Ckt. Dead End Vertical (345kv) (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								
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.8	OPGW Splice Boxes	-	Set	\$ 1,746	\$ -	\$ 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	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					\$ -		\$ -		\$ -
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 160,000		\$ 94,400		\$ 254,400
L. Interconnection Edic Station					\$ 829,835		\$ 954,240		\$ 1,784,075
6. MOB/DEMOB, 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			\$ 85,760	\$ 85,760	\$ 85,760	\$ 85,760

Item	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 Oversight	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	\$ 66,387	\$ -	\$ -	\$ 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	\$ 1,784	\$ 271,611	\$ 337,998	\$ 337,998

NG & NY Transco - T018 - (Segment A)

M. Interconnection New Scotland Station

Estimate
Revision: 4

Total: \$ 3,198,634

NG & NY Transco - T018 - (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	\$ 205,530	\$ 133,595	\$ 339,125
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 98,416	\$ 423,746	\$ 522,163
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,328,622	\$ 1,870,011	\$ 3,198,634
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,328,622	\$ 1,870,011	\$ 3,198,634

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. Interconnection 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 - CLEARING & ACCESS					\$ -		\$ 367,850		\$ 367,850
2. FOUNDATIONS									
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									
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 - FOUNDATIONS					\$ 365,657		\$ 473,093		\$ 838,749
3. STRUCTURES									
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	Structure	\$ 506	\$ 5,060	\$ 5,539	\$ 55,385	\$ 6,045	\$ 60,445
3.4					\$ -		\$ -		
3.5					\$ -		\$ -		
3.6					\$ -		\$ -		
3.7					\$ -		\$ -		
3.8					\$ -		\$ -		
3.9					\$ -		\$ -		
3.10					\$ -		\$ -		
3.11					\$ -		\$ -		
3.12					\$ -		\$ -		
3.13					\$ -		\$ -		
3.14					\$ -		\$ -		
3.15					\$ -		\$ -		
TOTAL - STRUCTURES					\$ 655,465		\$ 445,628		\$ 1,101,092
4. CONDUCTOR, SHIELDWIRE, OPGW									
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	\$ 705	\$ 5.00	\$ 7,500	\$ 5.47	\$ 8,205
4.5	Remove Existing 345KV Cable From Existing Structures	0.3	Mile	\$ -	\$ -	\$ 30,000	\$ 7,500	\$ 30,000.00	\$ 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									
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 3,555		\$ 26,100		\$ 29,655
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345KV Mono Pole Vertical Tangent - V-String	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	115KV Mono Pole Vertical Tangent - V-String	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.3	345KV Dead-end & Angle Insulators	60	Assembly	\$ 2,540	\$ 152,400	\$ 1,350	\$ 81,000	\$ 3,890	\$ 233,400
5.4	115KV Dead-end & Angle Insulators	-	Assembly	\$ 1,270	\$ -	\$ 725	\$ -	\$ 1,995	\$ -
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	-	Assembly	\$ 250	\$ -	\$ 150	\$ -	\$ 400	\$ -
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 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	9	EA	\$ 50	\$ 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	\$ -
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	\$ 50,000	\$ 100,000	\$ 100,000
5.17					\$ -		\$ -		\$ -
5.18					\$ -		\$ -		\$ -
5.19					\$ -		\$ -		\$ -
5.20					\$ -		\$ -		\$ -
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 205,530		\$ 133,595		\$ 339,125
M. Interconnection New Scotland Station					\$ 1,230,206		\$ 1,446,265		\$ 2,676,471
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
6.1	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 26,765	\$ 26,765	\$ 26,765	\$ 26,765
	Project Management, Material Handling & Amenities								

Item	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			\$ 128,658	\$ 128,658	\$ 128,658	\$ 128,658
6.3	Utility PM and Project Oversight	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
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	\$ 98,416	\$ 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	\$ 2,676	\$ 2,676
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 98,416		\$ 423,746		\$ 522,163

NG & NY Transco - T018 - (Segment A)

N. Interconnection Rotterdam Station

Estimate Revision: **4** Total: \$ **4,799,591**

NG & NY Transco - T018 - (Segment 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	\$ 134,320	\$ 300,050
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 77,642	\$ 625,485	\$ 703,126
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,048,161	\$ 3,751,430	\$ 4,799,591
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,048,161	\$ 3,751,430	\$ 4,799,591

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 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	\$ -	\$ -	\$ 4	\$ 19,200	\$ 4	\$ 19,200
1.5	Matting - Access and ROW	4,800.0	LF	\$ -	\$ -	\$ 70	\$ 336,000	\$ 70	\$ 336,000
1.6	Matting - To Work Area	2,400.0	LF	\$ -	\$ -	\$ 70	\$ 168,000	\$ 70	\$ 168,000
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	1.0	Mile	\$ -	\$ -	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
1.9	Work Pads	160,000.0	SF	\$ -	\$ -	\$ 4	\$ 563,200	\$ 4	\$ 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	\$ -
TOTAL - CLEARING & ACCESS					\$ -		\$ 1,233,050		\$ 1,233,050
2. FOUNDATIONS									
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	\$ 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 - FOUNDATIONS					\$ 192,145		\$ 325,963		\$ 518,108
3. STRUCTURES									
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	\$ 7,100
3.3	15kv 3-CKT DE - WOOD POLE	2	Pole	\$ 3,500	\$ 7,000	\$ 3,600	\$ 7,200	\$ 7,100	\$ 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	2	Pole	\$ 4,500	\$ 9,000	\$ 4,400	\$ 8,800	\$ 8,900	\$ 17,800
3.6	115kv 1-CKT DE - WOOD POLE	11	Pole	\$ 5,500	\$ 60,500	\$ 5,000	\$ 55,000	\$ 10,500	\$ 115,500
3.7	115kv 2-CKT TANGENT - WOOD POLE	4	Pole	\$ 5,500	\$ 22,000	\$ 5,000	\$ 20,000	\$ 10,500	\$ 42,000
3.8	115kv 2-CKT DE - STEEL POLE	4	Pole	\$ 98,883	\$ 395,530	\$ 98,883	\$ 395,530	\$ 197,765	\$ 791,060
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	Structure	\$ 506	\$ 16,192	\$ 5,539	\$ 177,232	\$ 6,045	\$ 193,424
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 546,722		\$ 995,362		\$ 1,542,084
4. CONDUCTOR, SHIELDWIRE, OPGW									
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	\$ 5.47	\$ 42,666
4.5	Remove Existing Cable	6.6	Mile	\$ -	\$ -	\$ 30,000	\$ 197,700	\$ 30,000.00	\$ 197,700
4.6	Remove Existing EHT	2.2	Mile	\$ -	\$ -	\$ 12,000	\$ 26,400	\$ 12,000.00	\$ 26,400
4.7	15kv - (1) 477kcmil 26/7 ACSR "Hawk"	9,630	LF	\$ 1.62	\$ 15,601	\$ 5.00	\$ 48,150	\$ 6.62	\$ 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		-							
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 65,923		\$ 437,250		\$ 503,173
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Conductor, 115kv, 3PH, Tangent - Insulator	33	Assembly	\$ 1,000	\$ 33,000	\$ 720	\$ 23,760	\$ 1,720	\$ 56,760
5.2	Conductor, 115kv, 3PH, DE/Side - Insulator	66	Assembly	\$ 1,000	\$ 66,000	\$ 720	\$ 47,520	\$ 1,720	\$ 113,520
5.3	Conductor, 15kv, 3PH, Tangent - Insulator	12	Assembly	\$ 100	\$ 1,200	\$ 75	\$ 900	\$ 175	\$ 2,100
5.4	Conductor, 15kv, 3PH, DE/Side - Insulator	18	Assembly	\$ 100	\$ 1,800	\$ 75	\$ 1,350	\$ 175	\$ 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	\$ 400	\$ 75	\$ 300	\$ 175	\$ 700
5.8	OPGW Assembly - Tangent	2	Assembly	\$ 200	\$ 400	\$ 150	\$ 300	\$ 350	\$ 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	\$ -
5.13	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
5.14	Vibration Dampers - Conductor	-	EA	\$ 35	\$ -	\$ 35	\$ -	\$ 70	\$ -
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	\$ -	\$ 1,776	\$ -
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					\$ -		\$ -		\$ -
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 165,730		\$ 134,320		\$ 300,050
N. Interconnection Rotterdam Station					\$ 970,519		\$ 3,125,945		\$ 4,096,464
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									

Item	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	\$ -	\$ -	\$ 40,965	\$ 40,965	\$ 40,965	\$ 40,965
	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			\$ 196,917	\$ 196,917	\$ 196,917	\$ 196,917
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 40,965	\$ 40,965	\$ 40,965	\$ 40,965
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 40,965	\$ 40,965	\$ 40,965	\$ 40,965
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 204,823	\$ 204,823	\$ 204,823	\$ 204,823
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 12,289	\$ 12,289	\$ 12,289	\$ 12,289
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 28,675	\$ 28,675	\$ 28,675	\$ 28,675
	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	\$ -	\$ -	\$ 12,289	\$ 12,289	\$ 12,289	\$ 12,289
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			\$ 4,096	\$ 4,096	\$ 4,096	\$ 4,096
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 77,642		\$ 625,485		\$ 703,126

NG & NY Transco - T018 - (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 4.121% 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 Oversight 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.

NextEra Energy (T021)			
Description		Total Amount (In thousand \$)	
Direct Cost	1	Transmission Lines	
	1.1	Clearing & Access	\$55,279
	1.2	Foundations	\$18,318
	1.3	Structures	\$78,675
	1.4	Conductor, Shiedwire and OPGW	\$38,661
	1.5	Insulators, Fitting and Hardwares	\$13,339
	Subtotal (1)		\$204,272
	2	Substations	
	2.1	Rotterdam Substation	\$850
	2.2	Edic Substation	\$2,153
	2.3	Princetown Substation	\$40,296
	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	\$4,461	
Subtotal (2)		\$55,189	
Total (1+2)		\$259,461	
Contractors Mark-up (15% of Total 1+2)		\$38,919	
Total Direct Cost (A)		\$298,380	
Indirect Cost	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$2,595
	3.2	Project Management, Material Handling & Amenities	\$18,378
	3.3	Engineering	\$17,274
	3.4	Testing & Commissioning	\$1,435
	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$15,379
	3.6	Compensation for use of NYPA Structures (1 Ckt.)	\$8,919
	3.7	Legal, Env. Lisc. & Permit and Env. Mitigation	\$7,865
Total Indirect Cost (3)		\$71,844	
Subtotal Project Cost (B=A+3) 2017 \$		\$370,225	
	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 \$		\$370,225	
Total Project Cost 2018 \$		\$381,331	

NextEra - T021 Enterprise Line - (Segment A)

Estimate Revision: 4

<i>NextEra - T021 Enterprise Line - (Segment A) - Direct Costs</i>		<i>Total Each Segment</i>
Direct Labor, Material & Equipment Costs	A. Transmission Line Edic to Princetown	\$ 137,674,402
Direct Labor, Material & Equipment Costs	B. Transmission Line Princetown to Rotterdam	\$ 22,443,378
Direct Labor, Material & Equipment Costs	C. Transmission Line Princetown to New Scotland	\$ 44,154,230
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	\$ 2,676,471
Direct Labor, Material & Equipment Costs	N. Rotterdam Substation - 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)	\$ -
SUBTOTAL:		\$ 259,461,233
CONTRACTOR MARK-UP (OH&P)		\$ 38,919,185
CONTINGENCY ON ENTIRE PROJECT		\$ -
TOTAL DIRECT:		\$ 298,380,417

<i>NextEra - T021 Enterprise Line - (Segment A) - Indirect Costs</i>		<i>Total Each Segment</i>
Indirect Costs	A. Transmission Line Edic to Princetown	\$ 36,479,169
Indirect Costs	B. Transmission Line Princetown to Rotterdam	\$ 4,556,559
Indirect Costs	C. Transmission Line Princetown to New Scotland	\$ 9,036,267
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	\$ 529,550
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
TOTAL INDIRECT:		\$ 71,844,156

TOTAL ESTIMATED COST: \$ 370,224,574

NextEra - T021 Enterprise Line - (Segment A)

A. Transmission Line Edic to Princetown

Estimate Revision: **4** Total: \$ 174,153,571

NextEra - T021 Enterprise Line - (Segment 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	\$ 5,295,348	\$ 2,946,881	\$ 8,242,229
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,833,162	\$ 34,646,007	\$ 36,479,169
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 24,747,694	\$ 149,405,878	\$ 174,153,571
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 24,747,694	\$ 149,405,878	\$ 174,153,571

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. Transmission 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	\$ 3,174,336	\$ 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	\$ 19,751,424	\$ 70	\$ 19,751,424
1.6	Matting - To Work Area	25,200.0	LF	\$ -	\$ -	\$ 70	\$ 1,764,000	\$ 70	\$ 1,764,000
1.7	Snow Removal	66.8	Mile	\$ -	\$ -	\$ 16,000	\$ 1,068,800	\$ 16,000	\$ 1,068,800
1.8	ROW Restoration	66.8	Mile	\$ -	\$ -	\$ 10,000	\$ 668,000	\$ 10,000	\$ 668,000
1.9	Work Pads	2,625,000.0	SF	\$ -	\$ -	\$ 4	\$ 9,240,000	\$ 4	\$ 9,240,000
1.10	Restoration for Work Pad areas	525,000.0	SF	\$ -	\$ -	\$ 0.15	\$ 78,750	\$ 0	\$ 78,750
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 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 on Public Roads	100	EA	\$ -	\$ -	\$ 4,130	\$ 413,000	\$ 4,130	\$ 413,000
1.15	Culverts / Misc. Access	10	EA	\$ 750	\$ 7,500	\$ 1,250	\$ 12,500	\$ 2,000	\$ 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 - CLEARING & ACCESS:					\$ 41,500		\$ 38,580,626		\$ 38,622,126
2. FOUNDATIONS									
2.1	Direct Embed - 345KV S/C CONC DELTA TANGENT	472	EA	\$ 1,739	\$ 820,985	\$ 11,828	\$ 5,582,698	\$ 13,567	\$ 6,403,683
2.2	Direct Embed - 345KV S/C CONC GUYED DEADEND	21	EA	\$ 1,943	\$ 40,800	\$ 13,212	\$ 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 - FOUNDATIONS:					\$ 1,198,049		\$ 9,147,920		\$ 10,345,968
3. STRUCTURES									
3.1	345KV S/C CONCRETE DELTA TANGENT	472	Structure	\$ 14,930	\$ 7,046,960	\$ 47,964	\$ 22,639,079	\$ 62,894	\$ 29,686,039
3.2	345KV S/C CONCRETE GUYED DEADEND	21	Structure	\$ 17,582	\$ 369,222	\$ 60,144	\$ 1,263,021	\$ 77,726	\$ 1,632,243

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	\$ 47,580	\$ 25,376	\$ 126,880
3.5	345KV RUNNING ANGLE, STEEL	2	Structure	\$ 62,900	\$ 125,800	\$ 37,740	\$ 75,480	\$ 100,640	\$ 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	\$ 12,500	\$ 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									
3.13									
3.14									
3.15									
TOTAL - STRUCTURES:					\$ 8,531,149		\$ 41,220,539		\$ 49,751,688
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	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
4.2	(1) OPGW 36 Fiber AC-33/38/571	347,054	LF	\$ 1.35	\$ 468,523	\$ 5.00	\$ 1,735,270	\$ 6.35	\$ 2,203,793
4.3	(1) 7/16" EHS7 Steel	347,054	LF	\$ 0.47	\$ 163,115	\$ 5.00	\$ 1,735,270	\$ 5.47	\$ 1,898,385
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
4.9									
4.10									
4.11									
4.12									
4.13									
4.14									
4.15									
4.16									
4.17									
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 7,848,486		\$ 22,863,905		\$ 30,712,391
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	1,524	Assembly	\$ 1,800	\$ 2,743,200	\$ 720	\$ 1,097,280	\$ 2,520	\$ 3,840,480
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	264	Assembly	\$ 1,800	\$ 475,200	\$ 720	\$ 190,080	\$ 2,520	\$ 665,280
5.4	OPGW Assembly - Tangent	501	Assembly	\$ 200	\$ 100,200	\$ 150	\$ 75,150	\$ 350	\$ 175,350
5.5	OPGW Assembly - Angle / DE	24	Assembly	\$ 250	\$ 6,000	\$ 150	\$ 3,600	\$ 400	\$ 9,600
5.6	OHSW Assembly - Tangent	501	Assembly	\$ 200	\$ 100,200	\$ 150	\$ 75,150	\$ 350	\$ 175,350
5.7	OHSW Assembly - Angle / DE	24	Assembly	\$ 250	\$ 6,000	\$ 150	\$ 3,600	\$ 400	\$ 9,600
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	\$ 5,040	\$ 211,680
5.10	Spacer - Conductor	11,077	EA	\$ 50	\$ 553,850	\$ 35	\$ 387,695	\$ 85	\$ 941,545
5.11	Vibration Dampers - Conductor	2,658	EA	\$ 35	\$ 93,030	\$ 35	\$ 93,030	\$ 70	\$ 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	327	Set	\$ 1,800	\$ 588,600	\$ 1,080	\$ 353,160	\$ 2,880	\$ 941,760
5.15	Replace - Dead-end & Angle Insulators	84	Set	\$ 2,540	\$ 213,360	\$ 2,025	\$ 170,100	\$ 4,565	\$ 383,460
5.16									
5.17	Guys, Anchors, and Accessories	188	EA	\$ 828	\$ 155,664	\$ 1,018	\$ 191,337	\$ 1,846	\$ 347,001
5.18	Misc. materials (Signs and Markers)	66.8	Mile	\$ 770	\$ 51,436	\$ 1,006	\$ 67,201	\$ 1,776	\$ 118,637
5.19		-		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 5,295,348		\$ 2,946,881		\$ 8,242,229
A. Transmission Line Edic to Princetown					\$ 22,914,531		\$ 114,759,871		\$ 137,674,402

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
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization								
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 1,376,744	\$ 1,376,744	\$ 1,376,744	\$ 1,376,744
	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			\$ 6,997,990	\$ 6,997,990	\$ 6,997,990	\$ 6,997,990
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 1,376,744	\$ 1,376,744	\$ 1,376,744	\$ 1,376,744
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,376,744	\$ 1,376,744	\$ 1,376,744	\$ 1,376,744
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 6,883,720	\$ 6,883,720	\$ 6,883,720	\$ 6,883,720
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 413,023	\$ 413,023	\$ 413,023	\$ 413,023
6.7	Geotech	55.0	Location	\$ -	\$ -	\$ 3,500	\$ 192,500	\$ 3,500	\$ 192,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 963,721	\$ 963,721	\$ 963,721	\$ 963,721
	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	\$ -	\$ -	\$ 413,023	\$ 413,023	\$ 413,023	\$ 413,023
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	\$ 5,555,000
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	\$ 1,833,162	\$ 1,833,162	\$ -	\$ -	\$ 1,833,162	\$ 1,833,162
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 137,674	\$ 137,674	\$ 137,674	\$ 137,674
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,833,162		\$ 34,646,007		\$ 36,479,169

NextEra - T021 Enterprise Line - (Segment A)

B. Transmission Line Princetown to Rotterdam

Estimate Revision: 4

Total: \$ 26,999,937

NextEra - T021 Enterprise Line - (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	\$ 1,318,633	\$ 647,793	\$ 1,966,426
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 401,584	\$ 4,154,974	\$ 4,556,559
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 5,421,390	\$ 21,578,547	\$ 26,999,937
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 5,421,390	\$ 21,578,547	\$ 26,999,937

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. Transmission 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)	20.0	Acre	\$ -	\$ -	\$ 5,000	\$ 100,000	\$ 5,000	\$ 100,000
1.3	Access Road	5,280.0	LF	\$ -	\$ -	\$ 45	\$ 237,600	\$ 45	\$ 237,600
1.4	Silt Fence	26,400.0	LF	\$ -	\$ -	\$ 4	\$ 105,600	\$ 4	\$ 105,600
1.5	Matting - Access and ROW	21,120.0	LF	\$ -	\$ -	\$ 70	\$ 1,478,400	\$ 70	\$ 1,478,400
1.6	Matting - To Work Area	8,550.0	LF	\$ -	\$ -	\$ 70	\$ 598,500	\$ 70	\$ 598,500
1.7	Snow Removal	5.0	Mile	\$ -	\$ -	\$ 16,000	\$ 80,000	\$ 16,000	\$ 80,000
1.8	ROW Restoration	5.0	Mile	\$ -	\$ -	\$ 10,000	\$ 50,000	\$ 10,000	\$ 50,000
1.9	Work Pads	570,000.0	SF	\$ -	\$ -	\$ 4	\$ 2,006,400	\$ 4	\$ 2,006,400
1.10	Restoration for Work Pad areas	114,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 17,100	\$ 0	\$ 17,100
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	\$ 45,800	\$ 4,580	\$ 45,800
1.14	Maintenance and Protection of Traffic on Public Roads	10	EA	\$ -	\$ -	\$ 4,130	\$ 41,300	\$ 4,130	\$ 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 - CLEARING & ACCESS:					\$ 6,000		\$ 4,789,200		\$ 4,795,200
2. FOUNDATIONS									
2.1	Direct Embed - 230KV S/C STEEL GUYED DEADEND	4	EA	\$ 1,200	\$ 4,802	\$ 8,163	\$ 32,650	\$ 9,363	\$ 37,452
2.2	Direct Embed - 230KV S/C STEEL GUYED RUNNING ANGLE	24	EA	\$ 1,416	\$ 33,990	\$ 9,631	\$ 231,132	\$ 11,047	\$ 265,122
2.3	Direct Embed - 230 KV GUYED ANGLE, STEEL	6	EA	\$ 1,471	\$ 8,828	\$ 10,005	\$ 60,027	\$ 11,476	\$ 68,855
2.4	Direct Embed - 345KV S/C CONC DELTA TANGENT	70	EA	\$ 2,229	\$ 156,021	\$ 15,156	\$ 1,060,945	\$ 17,385	\$ 1,216,966
2.5	Direct Embed - 345KV GUYED DEADEND, CONCRETE	2	EA	\$ 1,920	\$ 3,839	\$ 13,053	\$ 26,105	\$ 14,972	\$ 29,944
2.6	Drilled Pier - 345KV S/C STEEL SELF SUPPORTING DEADEND	1	EA	\$ 32,128	\$ 32,128	\$ 32,473	\$ 32,473	\$ 64,601	\$ 64,601
2.7	Drilled Pier - 345KV THREE POLE TAP, STEEL	6	EA	\$ 96,377	\$ 578,263	\$ 97,409	\$ 584,456	\$ 193,787	\$ 1,162,719
2.8	Drilled Pier - 345KV STEEL D/C DEADEND , STEEL	1	EA	\$ 74,101	\$ 74,101	\$ 74,894	\$ 74,894	\$ 148,995	\$ 148,995
2.9	Rock Excavation Adder	1,001.1	CY	\$ -	\$ -	\$ 2,000	\$ 2,002,200	\$ 2,000	\$ 2,002,200
TOTAL - FOUNDATIONS:					\$ 891,972		\$ 4,104,882		\$ 4,996,854
3. STRUCTURES									
3.1	345KV RUNNING ANGLE, STEEL	24	Structure	\$ 17,074	\$ 409,775	\$ 10,244	\$ 245,865	\$ 27,318	\$ 655,640

Item	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	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	\$ 81,000	\$ 94,860	\$ 94,860
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	114	Pole	\$ 506	\$ 57,684	\$ 5,539	\$ 631,389	\$ 6,045	\$ 689,073
3.12									
3.13									
TOTAL - STRUCTURES PRINCETOWN TO NEW SCOTLAND:					\$ 2,675,074		\$ 7,029,527		\$ 9,704,602
4. CONDUCTOR, 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	\$ -
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	\$ 3,500.00	\$ 49,000
4.14									
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 128,126		\$ 852,170		\$ 980,296
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	528	Assembly	\$ 1,800	\$ 950,400	\$ 720	\$ 380,160	\$ 2,520	\$ 1,330,560
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	84	Assembly	\$ 1,800	\$ 151,200	\$ 720	\$ 60,480	\$ 2,520	\$ 211,680
5.4	OPGW Assembly - Tangent	108	Assembly	\$ 200	\$ 21,600	\$ 150	\$ 16,200	\$ 350	\$ 37,800
5.5	OPGW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.6	OHSW Assembly - Tangent	108	Assembly	\$ 200	\$ 21,600	\$ 150	\$ 16,200	\$ 350	\$ 37,800
5.7	OHSW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.8	OPGW Splice Boxes	8	Assembly	\$ 1,746	\$ 13,968	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161
5.9	OPGW Splice & Test	8	EA	\$ 2,520	\$ 20,160	\$ 2,520	\$ 20,160	\$ 5,040	\$ 40,320
5.10	Spacer - Conductor	1,038	EA	\$ 50	\$ 51,900	\$ 35	\$ 36,330	\$ 85	\$ 88,230
5.11	Vibration Dampers - Conductor	830	EA	\$ 35	\$ 29,050	\$ 35	\$ 29,050	\$ 70	\$ 58,100
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	210	EA	\$ 27	\$ 5,670	\$ 35	\$ 7,350	\$ 62	\$ 13,020
5.13	Guys, Anchors, and Accessories	64.0	EA	\$ 720	\$ 46,080	\$ 885	\$ 56,640	\$ 1,605	\$ 102,720
5.14	Misc. materials (Signs and Markers)	5.2	Mile	\$ 770	\$ 4,004	\$ 1,006	\$ 5,231	\$ 1,776	\$ 9,235
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 1,318,633		\$ 647,793		\$ 1,966,426
B. Transmission Line Princetown to Rotterdam					\$ 5,019,805		\$ 17,423,573		\$ 22,443,378
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 224,434	\$ 224,434	\$ 224,434	\$ 224,434
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			\$ 1,140,797	\$ 1,140,797	\$ 1,140,797	\$ 1,140,797
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 224,434	\$ 224,434	\$ 224,434	\$ 224,434

Item	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	\$ -	\$ -	\$ 224,434	\$ 224,434	\$ 224,434	\$ 224,434
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,122,169	\$ 1,122,169	\$ 1,122,169	\$ 1,122,169
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 67,330	\$ 67,330	\$ 67,330	\$ 67,330
6.7	Geotech	5	Location	\$ -	\$ -	\$ 3,500	\$ 17,500	\$ 3,500	\$ 17,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 157,104	\$ 157,104	\$ 157,104	\$ 157,104
	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	\$ -	\$ -	\$ 67,330	\$ 67,330	\$ 67,330	\$ 67,330
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	\$ 401,584	\$ 401,584	\$ -	\$ -	\$ 401,584	\$ 401,584
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 22,443	\$ 22,443	\$ 22,443	\$ 22,443
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 401,584	\$ -	\$ 4,154,974	\$ -	\$ 4,556,559

NextEra - T021 Enterprise Line - (Segment A)

C. Transmission Line Princetown to New Scotland

Estimate Revision: **4**

Total: \$ 53,190,496

NextEra - T021 Enterprise Line - (Segment A)			
	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	\$ 16,026,789	\$ 19,219,137
4. CONDUCTOR, SHIELDWIRE, OPGW	\$ 2,212,093	\$ 4,756,290	\$ 6,968,383
5. INSULATORS, FITTINGS, HARDWARE	\$ 2,123,696	\$ 1,006,481	\$ 3,130,178
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 629,909	\$ 8,406,357	\$ 9,036,267
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 8,503,777	\$ 44,686,719	\$ 53,190,496
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 8,503,777	\$ 44,686,719	\$ 53,190,496

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. Transmission 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)	40.0	Acre	\$ -	\$ -	\$ 5,000	\$ 200,000	\$ 5,000	\$ 200,000
1.3	Access Road	21,014.4	LF	\$ -	\$ -	\$ 45	\$ 945,648	\$ 45	\$ 945,648
1.4	Silt Fence	105,072.0	LF	\$ -	\$ -	\$ 4	\$ 420,288	\$ 4	\$ 420,288
1.5	Matting - Access and ROW	84,057.6	LF	\$ -	\$ -	\$ 70	\$ 5,884,032	\$ 70	\$ 5,884,032
1.6	Matting - To Work Area	10,275.0	LF	\$ -	\$ -	\$ 70	\$ 719,250	\$ 70	\$ 719,250
1.7	Snow Removal	19.9	LS	\$ -	\$ -	\$ 16,000	\$ 318,400	\$ 16,000	\$ 318,400
1.8	ROW Restoration	19.9	Mile	\$ -	\$ -	\$ 10,000	\$ 199,000	\$ 10,000	\$ 199,000
1.9	Work Pads	685,000.0	SF	\$ -	\$ -	\$ 4	\$ 2,411,200	\$ 4	\$ 2,411,200
1.10	Restoration for Work Pad areas	137,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 20,550	\$ 0	\$ 20,550
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 20,035	\$ -	\$ 20,035	\$ -
1.12	Air Bridge	2.0	EA	\$ -	\$ -	\$ 14,445	\$ 28,890	\$ 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	30.0	EA	\$ 750	\$ 22,500	\$ 1,250	\$ 37,500	\$ 2,000	\$ 60,000
1.15	Gates	11.0	EA	\$ 2,000	\$ 22,000	\$ 2,500	\$ 27,500	\$ 4,500	\$ 49,500
1.16	Culverts / Misc. Access	58.0	EA	\$ 750	\$ 43,500	\$ 1,250	\$ 72,500	\$ 2,000	\$ 116,000
1.17	Concrete Washout Station	76.0	EA	\$ -	\$ -	\$ 1,850	\$ 140,600	\$ 1,850	\$ 140,600
TOTAL - CLEARING & ACCESS:					\$ 88,000		\$ 11,773,438		\$ 11,861,438
2. FOUNDATIONS									
2.1	Drilled Pier - 345KV SELF SUPPORT DEADEND, STEEL	3	EA	\$ 72,918	\$ 218,753	\$ 73,699	\$ 221,096	\$ 146,616	\$ 439,849
2.2	Drilled Pier - 345KV VERTICAL D/C TANGENT, STEEL	2	EA	\$ 12,547	\$ 25,095	\$ 12,682	\$ 25,363	\$ 25,229	\$ 50,458
2.3	Drilled Pier - 345KV VERTICAL TANGENT, STEEL	2	EA	\$ 32,128	\$ 64,257	\$ 32,473	\$ 64,945	\$ 64,601	\$ 129,202
2.4	Direct Embed - 345KV DELTA S/C TANGENT, CONCRETE	66	EA	\$ 2,043	\$ 134,855	\$ 13,894	\$ 917,011	\$ 15,937	\$ 1,051,865
2.5	Direct Embed - 345KV VERTICAL TANGENT, CONCRETE	37	EA	\$ 1,881	\$ 69,597	\$ 12,791	\$ 473,260	\$ 14,672	\$ 542,857
2.6	Direct Embed - 345KV RUNNING ANGLE, CONCRETE	5	EA	\$ 1,920	\$ 9,598	\$ 13,053	\$ 65,263	\$ 14,972	\$ 74,861
2.7	Direct Embed - 345KV GUYED DEADEND, CONCRETE	4	EA	\$ 1,800	\$ 7,200	\$ 12,239	\$ 48,957	\$ 14,039	\$ 56,156
2.8	Direct Embed - 345KV VERTICAL D/C TANGENT, CONCRETE	18	EA	\$ 2,027	\$ 36,482	\$ 13,782	\$ 248,074	\$ 15,809	\$ 284,556
2.9	Rock Excavation Adder	482.4	CY	\$ -	\$ -	\$ 2,000	\$ 964,800	\$ 2,000	\$ 964,800
2.10									
2.11									
2.12									
2.13									
2.14									
2.15									
TOTAL - FOUNDATIONS:					\$ 257,730		\$ 2,717,364		\$ 2,975,094
3. STRUCTURES									
3.1	345KV D/C CONCRETE VERTICAL TANGENT	18	Structure	\$ 21,737	\$ 391,266	\$ 116,082	\$ 2,089,475	\$ 137,819	\$ 2,480,741
3.2	345KV S/C CONCRETE DELTA TANGENT	66	Structure	\$ 21,214	\$ 1,400,124	\$ 115,181	\$ 7,601,946	\$ 136,395	\$ 9,002,070
3.3	345KV S/C CONCRETE GUYED DEADEND	4	Structure	\$ 17,563	\$ 70,252	\$ 81,008	\$ 324,031	\$ 98,571	\$ 394,283

Item	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	\$ 85,535	\$ 427,674	\$ 103,098	\$ 515,489
3.5	345KV S/C CONCRETE VERTICAL TANGENT	37	Structure	\$ 21,214	\$ 784,918	\$ 115,181	\$ 4,261,697	\$ 136,395	\$ 5,046,615
3.6	345KV S/C STEEL SELF SUPPORTING DEADEND	3	Structure	\$ 80,217	\$ 240,652	\$ 48,130	\$ 144,391	\$ 128,348	\$ 385,043
3.7	345KV S/C STEEL VERTICAL TANGENT	2	Structure	\$ 37,000	\$ 74,000	\$ 22,200	\$ 44,400	\$ 59,200	\$ 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	\$ 7,500	\$ 30,000
3.10	Remove Existing Structure and Accessories	24	EA	\$ -	\$ -	\$ 12,500	\$ 300,000	\$ 12,500	\$ 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 - STRUCTURES:					\$ 3,192,349		\$ 16,026,789		\$ 19,219,137
4. CONDUCTOR, 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	\$ 117,256	\$ 5.00	\$ 207,900	\$ 7.82	\$ 325,156
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									
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	\$ 3,500.00	\$ 87,500
TOTAL - CONDUCTOR, SHIELDWIRE, OPGW:					\$ 2,212,093		\$ 4,756,290		\$ 6,968,383
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	900	Assembly	\$ 1,800	\$ 1,620,000	\$ 720	\$ 648,000	\$ 2,520	\$ 2,268,000
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	84	Assembly	\$ 1,800	\$ 151,200	\$ 720	\$ 60,480	\$ 2,520	\$ 211,680
5.4	OPGW Assembly - Tangent	130	Assembly	\$ 200	\$ 26,000	\$ 150	\$ 19,500	\$ 350	\$ 45,500
5.5	OPGW Assembly - Angle / DE	7	Assembly	\$ 250	\$ 1,750	\$ 150	\$ 1,050	\$ 400	\$ 2,800
5.6	OHSW Assembly - Tangent	130	Assembly	\$ 200	\$ 26,000	\$ 150	\$ 19,500	\$ 350	\$ 45,500
5.7	OHSW Assembly - Angle / DE	7	Assembly	\$ 250	\$ 1,750	\$ 150	\$ 1,050	\$ 400	\$ 2,800
5.8	OPGW Splice Boxes	8	Assembly	\$ 1,746	\$ 13,969	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161
5.9	OPGW Splice & Test	8	EA	\$ 2,520	\$ 20,160	\$ 2,520	\$ 20,160	\$ 5,040	\$ 40,320
5.10	Spacer - Conductor	3,734	EA	\$ 50	\$ 186,700	\$ 35	\$ 130,690	\$ 85	\$ 317,390
5.11	Vibration Dampers - Conductor	896	EA	\$ 35	\$ 31,360	\$ 35	\$ 31,360	\$ 70	\$ 62,720
5.12	Shieldwire / OPGW Dampers, Misc. Fittings	132	EA	\$ 27	\$ 3,564	\$ 35	\$ 4,620	\$ 62	\$ 8,184
5.13	Guys, Anchors, and Accessories	36	EA	\$ 720	\$ 25,920	\$ 885	\$ 31,860	\$ 1,605	\$ 57,780
5.14	Misc. materials (Signs and Markers)	19.9	Mile	\$ 770	\$ 15,323	\$ 1,006	\$ 20,019	\$ 1,776	\$ 35,342
5.15									
5.16									
5.17									
5.18									
5.19									
5.20									
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 2,123,696		\$ 1,006,481		\$ 3,130,178
C. Transmission Line Princetown to New Scotland						\$ 7,873,868		\$ 36,280,362	\$ 44,154,230
6. MOB/DEMOB, 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	\$ -	\$ -	\$ 441,542	\$ 441,542	\$ 441,542	\$ 441,542
	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			\$ 2,244,360	\$ 2,244,360	\$ 2,244,360	\$ 2,244,360
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 441,542	\$ 441,542	\$ 441,542	\$ 441,542
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 441,542	\$ 441,542	\$ 441,542	\$ 441,542
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,207,711	\$ 2,207,711	\$ 2,207,711	\$ 2,207,711
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 132,463	\$ 132,463	\$ 132,463	\$ 132,463
6.7	Geotech	21	Location	\$ -	\$ -	\$ 3,500	\$ 73,500	\$ 3,500	\$ 73,500
6.8	Surveying/Staking	1	Mile	\$ -	\$ -	\$ 309,080	\$ 309,080	\$ 309,080	\$ 309,080
	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	\$ -	\$ -	\$ 132,463	\$ 132,463	\$ 132,463	\$ 132,463
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ 218,000	\$ 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	\$ 629,909	\$ 629,909	\$ -	\$ -	\$ 629,909	\$ 629,909
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 44,154	\$ 44,154	\$ 44,154	\$ 44,154
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 629,909		\$ 8,406,357		\$ 9,036,267

NextEra - T021 Enterprise Line - (Segment A)

D. Princetown Substation - Install

Estimate Revision: **4**

Total: \$ **50,824,310**

NextEra - T021 Enterprise Line - (Segment 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
4. MAJOR EQUIPMENT	\$ 8,890,000	\$ 2,540,000	\$ 11,430,000
5. SMALL EQUIPMENT / MATERIALS	\$ 2,338,000	\$ 1,215,000	\$ 3,553,000
6. CONTROL HOUSE / PANELS	\$ 4,021,205	\$ 2,135,205	\$ 6,156,410
7. MISC ITEMS	\$ 1,825,778	\$ 3,468,853	\$ 5,294,631
8. MOB/DEMOb, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,790,317	\$ 8,737,549	\$ 10,527,866
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 24,169,283	\$ 26,655,027	\$ 50,824,310
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 24,169,283	\$ 26,655,027	\$ 50,824,310

0.0%
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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
D. Princetown 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	CY	\$ 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 PREP/ GRADING/ FENCING / CIVIL					\$ 440,750		\$ 3,451,500		\$ 3,892,250
2. SUBSTATION 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 Rate	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	\$ -
2.3k	Arrester Stand Foundations		EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3m	Wave Trap Stand Foundations		EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 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	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 - SUBSTATION FOUNDATIONS					\$ 3,436,513		\$ 3,680,200		\$ 7,116,713
3. SUBSTATION 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	\$ 5,550	\$ 11,100	\$ 11,100	\$ 22,200
3.2k	Misc. Structures	3	EA	\$ 6,475	\$ 19,425	\$ 6,475	\$ 19,425	\$ 12,950	\$ 38,850
3.3	115kV								
TOTAL - SUBSTATION STRUCTURES					\$ 1,426,720		\$ 1,426,720		\$ 2,853,440
4. MAJOR EQUIPMENT									
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									
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	\$ -	\$ 60,000	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 8,890,000		\$ 2,540,000		\$ 11,430,000
5. SMALL EQUIPMENT / MATERIALS									
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	\$ 17,500	\$ 245,000	\$ 52,500	\$ 735,000
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	18	EA	\$ 13,000	\$ 234,000	\$ 8,000	\$ 144,000	\$ 21,000	\$ 378,000
5.1f	Arresters	12	EA	\$ 6,500	\$ 78,000	\$ 1,500	\$ 18,000	\$ 8,000	\$ 96,000

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
5.1g	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 2,338,000		\$ 1,215,000		\$ 3,553,000
6. CONTROL 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
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 4,021,205		\$ 2,135,205		\$ 6,156,410
7. MISC ITEMS									
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	\$ 73,200

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
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 ITEMS					\$ 1,825,778		\$ 3,468,853		\$ 5,294,631
D. Princetown Substation - Install					\$ 22,378,966		\$ 17,917,478		\$ 40,296,444
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 402,964	\$ 402,964	\$ 402,964	\$ 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 Oversight	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									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 120,889	\$ 120,889	\$ 120,889	\$ 120,889
8.13	Real Estate Costs (New)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -	\$ 792,000	\$ 792,000	\$ 792,000	\$ 792,000
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	\$ 1,790,317	\$ 1,790,317	\$ -	\$ -	\$ 1,790,317	\$ 1,790,317
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 40,296	\$ 40,296	\$ 40,296	\$ 40,296
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,790,317		\$ 8,737,549		\$ 10,527,866

NextEra - T021 Enterprise Line - (Segment A)

F. Edic Substation - Install

Estimate Revision: **4**

Total: \$ **2,639,089**

<i>NextEra - T021 Enterprise Line - (Segment A)</i>			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
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 EQUIPMENT	\$ 200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPMENT / 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

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
F. Edic 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	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 PREP/ GRADING/ FENCING / CIVIL					\$ 2,025		\$ 5,625		\$ 7,650
2. SUBSTATION 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	\$ 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		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	\$ -	\$ 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 Foundation		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		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	\$ -	\$ 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	\$ -
2.3k	Arrester Stand Foundations		EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3m	Wave Trap Stand Foundations		EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 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	\$ -	\$ 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	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b	60' Lightning Mast Foundation		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c	50' Lightning Mast Foundation		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	\$ -	\$ 74,000	\$ -
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	\$ -	\$ 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	\$ 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		EA	\$ 33,300	\$ -	\$ 33,300	\$ -	\$ 66,600	\$ -
3.2b	Substation A-Frame Structures - Shared Column		EA	\$ 33,300	\$ -	\$ 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	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands		EA	\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3d	Fuse Stand		EA	\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3e	Bus Support 3ph		EA	\$ 3,330	\$ -	\$ 3,330	\$ -	\$ 6,660	\$ -
3.3f	Bus Support 1 Ph		EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
3.3g	Instrument Transformer Stand		EA	\$ 740	\$ -	\$ 740	\$ -	\$ 1,480	\$ -
3.3h	Arrester Stand		EA	\$ 740	\$ -	\$ 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 - SUBSTATION STRUCTURES						\$ 44,400	\$ 44,400		\$ 88,800
4. MAJOR EQUIPMENT									
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								
4.2a	Circuit Breakers		EA	\$ 115,000	\$ -	\$ 80,000	\$ -	\$ 195,000	\$ -
4.2b	Capacitor Banks		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	\$ -	\$ 60,000	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 200,000		\$ 80,000		\$ 280,000
5. SMALL EQUIPMENT / 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	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	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1f	Arresters	6	EA	\$ 6,500	\$ 39,000	\$ 1,500	\$ 9,000	\$ 8,000	\$ 48,000
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									
5.2	230kV								
5.2a	Line Switches - 3ph w/ motor operator		EA	\$ 35,000	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -
5.2b	Disconnect Switches - 3ph w/ manual operator		EA	\$ 30,000	\$ -	\$ 17,500	\$ -	\$ 47,500	\$ -
5.2c	VT'S		EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2d	CT'S		EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2e	CCVT'S		EA	\$ 10,000	\$ -	\$ 6,000	\$ -	\$ 16,000	\$ -
5.2f	Arresters		EA	\$ 5,000	\$ -	\$ 6,000	\$ -	\$ 11,000	\$ -
5.2g	Wave Traps		EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2h	Station Service Transformers		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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 EQUIPMENT / MATERIALS					\$ 280,000		\$ 133,500		\$ 413,500
6. CONTROL HOUSE / 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	\$ -
TOTAL - CONTROL 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
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	\$ 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
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 ITEMS					\$ 339,357		\$ 507,880		\$ 847,237
F. Edic Substation - Install					\$ 1,139,730		\$ 977,455		\$ 2,117,185
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
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 Oversight	1	LS	\$ -	\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$ 21,172
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$ 21,172
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 169,375	\$ 169,375	\$ 169,375	\$ 169,375
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 14,820	\$ 14,820	\$ 14,820	\$ 14,820
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 52,930	\$ 52,930	\$ 52,930	\$ 52,930
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	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
8.11	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	-	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

NextEra - T021 Enterprise Line - (Segment A)

G. Edic Substation - Removal

Estimate Revision: **4**

Total: \$ **41,840**

NextEra - T021 Enterprise Line - (Segment A)			
	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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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:	\$ -	\$ 41,840	\$ 41,840

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
G. Edic 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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ -		\$ -
2. SUBSTATION FOUNDATIONS									
2.1 345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$ -	\$ -	\$ 14,200	\$ 14,200	\$ 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	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	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	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	\$ -	\$ 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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 14,200		\$ 14,200
3. SUBSTATION 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 1 Ph	3	EA	\$ -	\$ -	\$ 2,250	\$ 6,750	\$ 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	\$ -	\$ 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	\$ -
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	\$ -	\$ 2,250	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 6,750		\$ 6,750
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 4,500		\$ 4,500
6. CONTROL HOUSE / 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONTROL 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	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	\$ -
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
G. Edic Substation - Removal					\$ -		\$ 35,950		\$ 35,950
8. MOB/DEMOB, 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			\$ 1,827	\$ 1,827	\$ 1,827	\$ 1,827
8.3	Utility PM and Project Oversight	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	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500	\$ -
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:					\$ -		\$ 5,890		\$ 5,890

NextEra - T021 Enterprise Line - (Segment A)

H. New Scotland Substation - Install

Estimate Revision: **4**

Total: \$ **8,384,335**

NextEra - T021 Enterprise Line - (Segment 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 EQUIPMENT	\$ 1,000,000	\$ 400,000	\$ 1,400,000
5. SMALL EQUIPMENT / 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:

Item	Item 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 Scotland Substation - Install									
1. SITE PREP/ GRADING/ 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 PREP/ 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									
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	\$ -

Item	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	\$ 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)	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	\$ 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 - SUBSTATION FOUNDATIONS					\$ 498,996		\$ 534,400		\$ 1,033,396
3. SUBSTATION STRUCTURES									
3.1	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	\$ -
3.1c	Switch Stands	3	EA	\$ 14,800	\$ 44,400	\$ 14,800	\$ 44,400	\$ 29,600	\$ 88,800
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	32	EA	\$ 3,700	\$ 118,400	\$ 3,700	\$ 118,400	\$ 7,400	\$ 236,800
3.1g	Instrument Transformer Stand	15	EA	\$ 1,850	\$ 27,750	\$ 1,850	\$ 27,750	\$ 3,700	\$ 55,500
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	\$ 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	\$ -	\$ 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	\$ -

Item	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	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 - SUBSTATION STRUCTURES					\$ 240,500		\$ 240,500		\$ 481,000
4. MAJOR EQUIPMENT									
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	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 - MAJOR EQUIPMENT					\$ 1,000,000		\$ 400,000		\$ 1,400,000
5. SMALL EQUIPMENT / 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	3	EA	\$ 35,000	\$ 105,000	\$ 17,500	\$ 52,500	\$ 157,500	\$ 157,500
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	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000
5.1f	Arresters	3	EA	\$ 6,500	\$ 19,500	\$ 1,500	\$ 4,500	\$ 8,000	\$ 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									
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	\$ -	\$ 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 - SMALL EQUIPMENT / MATERIALS					\$ 369,500		\$ 188,000		\$ 557,500
6. CONTROL HOUSE / 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	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	\$ -
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	\$ -
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 - CONTROL HOUSE / PANELS / GENERATOR					\$ 749,150		\$ 390,400		\$ 1,139,550
7. MISC ITEMS									
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	\$ 10,395	\$ 32.58	\$ 48,870	\$ 40	\$ 59,265
7.5	Strain Bus Insulators - 345kV	12	EA	\$ 2,000	\$ 24,000	\$ 1,050	\$ 12,600	\$ 3,050	\$ 36,600
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	\$ 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					\$ 897,304		\$ 968,110		\$ 1,865,414
H. New Scotland Substation - Install					\$ 3,786,200		\$ 2,954,473		\$ 6,740,673
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 67,407	\$ 67,407	\$ 67,407	\$ 67,407
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			\$ 342,628	\$ 342,628	\$ 342,628	\$ 342,628
8.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 67,407	\$ 67,407	\$ 67,407	\$ 67,407
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 67,407	\$ 67,407	\$ 67,407	\$ 67,407
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 539,254	\$ 539,254	\$ 539,254	\$ 539,254
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	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 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	\$ -	\$ -	\$ 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

NextEra - T021 Enterprise Line - (Segment A)

I. New Scotland Substation - Removal

Estimate Revision: **4**

Total: \$ **169,052**

NextEra - T021 Enterprise Line - (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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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

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. New Scotland 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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ 30,000		\$ 30,000
2. SUBSTATION FOUNDATIONS									
2.1 345kV									
2.1a	Circuit Breaker Foundations	2	EA	\$ -	\$ -	\$ 14,200	\$ 28,400	\$ 14,200	\$ 28,400
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	\$ -	\$ -	\$ 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	Fuse Stand Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ -	\$ 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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p	Misc. Structure Foundations	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	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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 57,200		\$ 57,200
3. SUBSTATION 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	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	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	\$ -	\$ 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	\$ -
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	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 27,000		\$ 27,000
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j	Fuses	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	\$ -	\$ 5,500	\$ -
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	Fuses	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 7,000		\$ 7,000
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	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
6.2	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 - CONTROL 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	1	LS	\$ -	\$ -	\$ 21,000.00	\$ 21,000	\$ 21,000	\$ 21,000
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					\$ -		\$ 21,000		\$ 21,000
I. New Scotland Substation - Removal					\$ -		\$ 142,200		\$ 142,200
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 1,422	\$ 1,422	\$ 1,422	\$ 1,422
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			\$ 7,228	\$ 7,228	\$ 7,228	\$ 7,228
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 1,422	\$ 1,422	\$ 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
8.6	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									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 427	\$ 427	\$ 427	\$ 427
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	\$ -	\$ -	\$ 142	\$ -	\$ 142	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 26,852		\$ 26,852

NextEra - T021 Enterprise Line - (Segment A)

J. Porter Substation - Install

Estimate Revision: **4**

Total: \$ **101,268**

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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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

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
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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ -		\$ -
2. SUBSTATION 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	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 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	\$ -	\$ 4,800	\$ -	\$ 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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ 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	\$ 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	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS									
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	\$ -	\$ 74,000	\$ -
3.1c	Switch Stands	0	EA	\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
3.1d	Fuse 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	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
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								
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	Fuse 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								

Item	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	\$ -	\$ 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 - SUBSTATION STRUCTURES					\$ -		\$ -		\$ -
4. MAJOR EQUIPMENT									
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ 200	\$ -	\$ 80,000	\$ -	\$ 80,200	\$ -
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	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / MATERIALS									
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	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	0	EA	\$ -	\$ -	\$ 12,000	\$ -	\$ 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	Fuses	0	EA	\$ 15,000	\$ -	\$ 7,500	\$ -	\$ 22,500	\$ -
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	Fuses	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 - SMALL EQUIPMENT / MATERIALS					\$ -		\$ -		\$ -
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -

Item	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	0	EA	\$ 35,000	\$ -	\$ 12,500	\$ -	\$ 47,500	\$ -
6.3	125VDC Batteries	0	EA	\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	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 - CONTROL 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	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	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
J. Porter Substation - Install					\$ 15,008		\$ 56,904		\$ 71,912
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	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			\$ 3,655	\$ 3,655	\$ 3,655	\$ 3,655
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 719	\$ 719	\$ 719	\$ 719
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 5,753	\$ 5,753	\$ 5,753	\$ 5,753
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 216	\$ 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)	-	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

NextEra - T021 Enterprise Line - (Segment A)

K. Porter Substation - Removal

Estimate Revision: **4**

Total: \$ **552,493**

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 EQUIPMENT	\$ -	\$ 43,500	\$ 43,500
5. SMALL EQUIPMENT / 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

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. Porter 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 PREP/ 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	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	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	Fuse Stand 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
2.2g	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	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p	Misc. Structure Foundations	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	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 (40'x125')	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 126,600		\$ 126,600
3. SUBSTATION 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	Fuse 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	0	EA	\$ -	\$ -	\$ 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	6	EA	\$ -	\$ -	\$ 9,750	\$ 58,500	\$ 9,750	\$ 58,500
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	\$ -	\$ -	\$ 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	\$ -
3.2k	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 206,100		\$ 206,100
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT					\$ -		\$ 43,500		\$ 43,500
5. SMALL EQUIPMENT / 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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ 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	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	EA	\$ -	\$ -	\$ 2,500	\$ 5,000	\$ 2,500	\$ 5,000
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 59,500		\$ 59,500
6. CONTROL HOUSE / 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	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 - CONTROL 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	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 - MISC ITEMS					\$ -		\$ 38,613		\$ 38,613
K. Porter Substation - Removal					\$ -		\$ 474,313		\$ 474,313
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 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			\$ 24,109	\$ 24,109	\$ 24,109	\$ 24,109
8.3	Utility PM and Project Oversight	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	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500	\$ -
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	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 474	\$ 474	\$ 474	\$ 474
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 78,181		\$ 78,181

NextEra - T021 Enterprise Line - (Segment A)

L. Interconnection Edic Station

Estimate Revision: **4** 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:	\$ 896,222	\$ 1,230,776	\$ 2,126,997

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
L. Interconnection Edic 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 - CLEARING & ACCESS					\$ -	\$ -	\$ 367,850	\$ -	\$ 367,850
2. FOUNDATIONS									
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									
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 - FOUNDATIONS					\$ 168,366		\$ 170,169		\$ 338,536
3. STRUCTURES									
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	\$ 121,678	\$ 324,475	\$ 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									
3.13									
3.14									
3.15									
TOTAL - STRUCTURES					\$ 501,469		\$ 321,821		\$ 823,289
4. CONDUCTOR, SHIELDWIRE, OPGW									
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									
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kv Mono Pole Vertical Tangent - V-String								
5.2	115kv Mono Pole Vertical Tangent - V-String								
5.3	Single Ckt. Dead End Vertical (345kv) (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								
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.8	OPGW Splice Boxes	-	Set	\$ 1,746	\$ -	\$ 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	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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 160,000		\$ 94,400		\$ 254,400
L. Interconnection Edic Station					\$ 829,835		\$ 954,240		\$ 1,784,075
6. MOB/DEMOB, 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 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 Oversight	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	\$ 1,784
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 66,387		\$ 276,535		\$ 342,922

NextEra - T021 Enterprise Line - (Segment A)

M. Interconnection New Scotland Station

Estimate
Revision: 4

Total: \$ 3,206,021

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	\$ 205,530	\$ 133,595	\$ 339,125
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 98,416	\$ 431,133	\$ 529,550
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,328,622	\$ 1,877,399	\$ 3,206,021
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,328,622	\$ 1,877,399	\$ 3,206,021

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. Interconnection 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 - CLEARING & ACCESS					\$ -		\$ 367,850		\$ 367,850
2. FOUNDATIONS									
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									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.10									
2.11									
2.12									
2.13									
2.14									
2.15									
TOTAL - FOUNDATIONS					\$ 365,657		\$ 473,093		\$ 838,749
3. STRUCTURES									
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	Structure	\$ 506	\$ 5,060	\$ 5,539	\$ 55,385	\$ 6,045	\$ 60,445
3.4					\$ -		\$ -		
3.5									
3.6					\$ -		\$ -		
3.7					\$ -		\$ -		
3.8					\$ -		\$ -		
3.9					\$ -		\$ -		
3.10					\$ -		\$ -		
3.11					\$ -		\$ -		
3.12					\$ -		\$ -		
3.13					\$ -		\$ -		
3.14					\$ -		\$ -		
3.15					\$ -		\$ -		
TOTAL - STRUCTURES					\$ 655,465		\$ 445,628		\$ 1,101,092
4. CONDUCTOR, 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	\$ -	\$ 6.35	\$ -
4.3	(1) 3/8" EHS7 Steel	1,500	LF	\$ 0.47	\$ 705	\$ 5.00	\$ 7,500	\$ 5.47	\$ 8,205
4.5	Remove Existing 345kV Cable From Existing Structures	0.3	Mile	\$ -	\$ -	\$ 30,000	\$ 7,500	\$ 30,000.00	\$ 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									
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 3,555		\$ 26,100		\$ 29,655
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kV Mono Pole Vertical Tangent - V-String	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	115kV Mono Pole Vertical Tangent - V-String	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.3	345kV Dead-end & Angle Insulators	60	Assembly	\$ 2,540	\$ 152,400	\$ 1,350	\$ 81,000	\$ 3,890	\$ 233,400
5.4	115kV Dead-end & Angle Insulators	-	Assembly	\$ 1,270	\$ -	\$ 725	\$ -	\$ 1,995	\$ -
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	-	Assembly	\$ 250	\$ -	\$ 150	\$ -	\$ 400	\$ -
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 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	9	EA	\$ 50	\$ 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	\$ -
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	\$ 50,000	\$ 100,000	\$ 100,000
5.17					\$ -		\$ -		\$ -
5.18					\$ -		\$ -		\$ -
5.19					\$ -		\$ -		\$ -
5.20					\$ -		\$ -		\$ -
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 205,530		\$ 133,595		\$ 339,125
M. Interconnection New Scotland Station					\$ 1,230,206		\$ 1,446,265		\$ 2,676,471
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									

Item	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	\$ -	\$ -	\$ 26,765	\$ 26,765	\$ 26,765	\$ 26,765
	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			\$ 136,045	\$ 136,045	\$ 136,045	\$ 136,045
6.3	Utility PM and Project Oversight	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
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	\$ 98,416	\$ 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	\$ 2,676	\$ 2,676
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 98,416	\$ -	\$ 431,133	\$ -	\$ 529,550

NextEra - T021 Enterprise Line - (Segment A)

J. Porter Substation - Install

Estimate Revision: **4** Total: \$ **1,051,306**

<i>NextEra - T021 Enterprise Line - (Segment A)</i>			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
J. Porter Substation - Install			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ -	\$ -	\$ -
2. SUBSTATION FOUNDATIONS	\$ -	\$ -	\$ -
3. SUBSTATION STRUCTURES	\$ -	\$ -	\$ -
4. MAJOR EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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:

Item	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	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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ -		\$ -
2. SUBSTATION 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	\$ -
2.1e	Switch Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 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	\$ -	\$ 4,800	\$ -	\$ 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	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -

Item	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	\$ -	\$ 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	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ 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	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS									
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	\$ -	\$ 74,000	\$ -
3.1c	Switch Stands	0	EA	\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
3.1d	Fuse 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	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
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								
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	Fuse 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	\$ -

Item	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	\$ -	\$ 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 - SUBSTATION STRUCTURES					\$ -		\$ -		\$ -
4. MAJOR EQUIPMENT									
4.1	345kV								
4.1a	Circuit Breakers	0	EA	\$ 200	\$ -	\$ 80,000	\$ -	\$ 80,200	\$ -
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	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / MATERIALS									
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	\$ -	\$ 17,500	\$ -	\$ 47,500	\$ -
5.1c	VT'S	0	EA	\$ -	\$ -	\$ 12,000	\$ -	\$ 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	Fuses	0	EA	\$ 15,000	\$ -	\$ 7,500	\$ -	\$ 22,500	\$ -
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	Fuses	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 EQUIPMENT / MATERIALS									
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -
6.2	Protection and Telecom Equipment	1	L.S.	\$ 425,000	\$ 425,000	\$ 425,000	\$ 425,000	\$ 850,000	\$ 850,000
6.3	125VDC Batteries	0	EA	\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	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 - CONTROL 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	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	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					\$ -		\$ -		\$ -
J. Porter Substation - Install					\$ 425,000		\$ 425,000		\$ 850,000
8. MOB/DEMOB, 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 Oversight	1	LS		\$ -	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 68,000	\$ 68,000	\$ 68,000	\$ 68,000
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500	\$ -
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 5,950	\$ 5,950	\$ 5,950	\$ 5,950
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 21,250	\$ 21,250	\$ 21,250	\$ 21,250

Item	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	\$ -	\$ -	\$ 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	\$ 34,000	\$ 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

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 inspector, compliance inspector, environmental inspector, and SWPP inspector.
14	An allowance of 1% for Utility PM and Project Oversight 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.

NY Power Authority and North American Transmission (T025)			
Description		Total Amount (In thousand \$)	
Direct Cost	1	Transmission Lines	
	1.1	Clearing & Access	\$54,770
	1.2	Foundations	\$35,794
	1.3	Structures	\$67,800
	1.4	Conductor, Shieldwire and OPGW	\$37,454
	1.5	Insulators, Fitting and Hardwares	\$11,666
	Subtotal (1)		\$207,485
	2	Substations	
	2.1	Rotterdam Substation	\$46,629
	2.2	Edic Substation	\$2,153
	2.3	Princetown Substation	\$12,713
	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	\$8,399	
Subtotal (2)		\$155,160	
Total (1+2)		\$362,645	
Contractors Mark-up (15% of Total 1+2)		\$54,397	
Total Direct Cost (A)		\$417,042	
Indirect Cost	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$3,626
	3.2	Project Management, Material Handling & Amenities	\$20,353
	3.3	Engineering	\$26,100
	3.4	Testing & Commissioning	\$3,826
	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$26,499
	3.6	Compensation for use of NYPA Structures (1 Ckt.)	\$8,919
	3.7	Legal, Env. Lisc. & Permit and Env. Mitigation	\$9,589
Total Indirect Cost (3)		\$98,914	
Subtotal Project Cost (B=A+3) 2017 \$		\$515,955	
	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 \$		\$639,687	
Total Project Cost 2018 \$		\$658,877	

NAT & NYPA - T025 - (Segment A, + 765kV)

Estimate Revision: 4

<i>NAT & NYPA - T025 - (Segment A, + 765kV) - Direct Costs</i>		<i>Total Each Segment</i>
Direct Labor, Material & Equipment Costs	A. Transmission Line Edic to Princetown	\$ 122,326,553
Direct Labor, Material & Equipment Costs	A1. Marcy Interconnect & New Scotland SS Loop	\$ 26,812,821
Direct Labor, Material & Equipment Costs	B. Transmission Line Princetown to Rotterdam	\$ 20,508,582
Direct Labor, Material & Equipment Costs	C. Transmission Line Princetown to New Scotland	\$ 37,837,229
Direct Labor, Material & Equipment Costs	D. Rotterdam Substation - Install	\$ 43,017,974
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	I.	\$ -
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	\$ 3,938,252
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:		\$ 451,024,492
CONTRACTOR MARK-UP (OH&P)		\$ 67,653,674
CONTINGENCY ON ENTIRE PROJECT		\$ -
TOTAL DIRECT:		\$ 518,678,166

<i>NAT & NYPA - T025 - (Segment A, + 765kV) - Indirect Costs</i>		<i>Total Each Segment</i>
Indirect Costs	A. Transmission Line Edic to Princetown	\$ 35,958,738
	A1. Marcy Interconnect & New Scotland SS Loop	\$ 5,293,944
Indirect Costs	B. Transmission Line Princetown to Rotterdam	\$ 4,235,749
Indirect Costs	C. Transmission Line Princetown to New Scotland	\$ 8,611,234
Indirect Costs	D. Rotterdam Substation - Install	\$ 10,061,233
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	I.	\$ -
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	\$ 490,192
Indirect Costs	N. Interconnection Rotterdam Station	\$ 633,606
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:		\$ 121,008,673
TOTAL ESTIMATED COST:		\$ 639,686,839

NAT & NYPA - T025 - (Segment A, + 765kV)

A. Transmission Line Edic to Princetown

Estimate Revision: **4**

Total: \$ 158,285,291

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	\$ 4,680,711	\$ 2,243,484	\$ 6,924,195
6. MOB/DEMOMB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 2,207,378	\$ 33,751,360	\$ 35,958,738
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 29,799,605	\$ 128,485,686	\$ 158,285,291
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 29,799,605	\$ 128,485,686	\$ 158,285,291

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. Transmission 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	\$ 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	\$ 19,751,424	\$ 70	\$ 19,751,424
1.6	Matting - To Work Area	25,200.0	LF	\$ -	\$ -	\$ 70	\$ 1,764,000	\$ 70	\$ 1,764,000
1.7	Snow Removal	66.8	Mile	\$ -	\$ -	\$ 16,000	\$ 1,068,800	\$ 16,000	\$ 1,068,800
1.8	ROW Restoration	66.8	Mile	\$ -	\$ -	\$ 10,000	\$ 668,000	\$ 10,000	\$ 668,000
1.9	Work Pads	1,680,000.0	SF	\$ -	\$ -	\$ 4	\$ 5,913,600	\$ 4	\$ 5,913,600
1.10	Restoration for Work Pad areas	336,000.0	SF	\$ -	\$ -	\$ 0.15	\$ 50,400	\$ 0	\$ 50,400
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 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 on Public Roads	100	EA	\$ -	\$ -	\$ 4,130	\$ 413,000	\$ 4,130	\$ 413,000
1.15	Culverts / Misc. Access	10	EA	\$ 750	\$ 7,500	\$ 1,250	\$ 12,500	\$ 2,000	\$ 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 - CLEARING & ACCESS:					\$ 41,500		\$ 35,680,876		\$ 35,722,376
2. FOUNDATIONS									
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	\$ 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	\$ 2,613	\$ 26,437	\$ 26,437	\$ 29,049	\$ 29,049
2.14	Direct Embed Foundations - 6' x 28'	3	EA	\$ 2,707	\$ 8,121	\$ 27,416	\$ 82,247	\$ 30,123	\$ 90,368
2.15	Direct Embed Foundations - 6' x 29'	3	EA	\$ 2,896	\$ 8,687	\$ 29,374	\$ 88,122	\$ 32,270	\$ 96,809
2.16	Direct Embed Foundations - 6' x 33'	3	EA	\$ 3,273	\$ 9,820	\$ 33,290	\$ 99,871	\$ 36,564	\$ 109,691
2.17	Direct Embed Foundations - 7' x 27'	2	EA	\$ 3,337	\$ 6,673	\$ 37,316	\$ 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
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	Material 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	CY	\$ -	\$ -	\$ 2,000	\$ 2,684,000	\$ 2,000	\$ 2,684,000	
TOTAL - FOUNDATIONS:					\$ 3,098,282		\$ 10,723,946		\$ 13,822,229	
3. STRUCTURES										
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	\$ 48,896	\$ 325,970	\$ 48,896	\$ 195,582	\$ 130,388	\$ 521,552	
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	\$ 634,809	\$ 63,481	\$ 380,885	\$ 169,282	\$ 1,015,694	
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	\$ 1,125,629	
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	\$ 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	\$ 284,841	
3.36	Remove Existing Foundation	50	EA	\$ -	\$ -	\$ 7,500	\$ 375,000	\$ 7,500	\$ 375,000	
3.37	Remove Existing Structure and Accessories	994	EA	\$ -	\$ -	\$ 12,500	\$ 12,425,000	\$ 12,500	\$ 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	
TOTAL - STRUCTURES:					\$ 14,839,646		\$ 25,190,231		\$ 40,029,876	
4. CONDUCTOR, 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	

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	\$ 12,000.00	\$ 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									
4.13	Rider Poles (187 Locations)	93	Set	\$ 1,750	\$ 162,750	\$ 3,500	\$ 325,500	\$ 5,250.00	\$ 488,250
4.14	Rider Poles - Relocated	94	Set	\$ -	\$ -	\$ 3,500	\$ 329,000	\$ 3,500.00	\$ 329,000
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 4,932,087		\$ 20,895,790		\$ 25,827,877
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	180	Assembly	\$ 1,800	\$ 324,000	\$ 720	\$ 129,600	\$ 2,520	\$ 453,600
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	1,104	Assembly	\$ 1,800	\$ 1,987,200	\$ 720	\$ 794,880	\$ 2,520	\$ 2,782,080
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	450	Assembly	\$ 1,800	\$ 810,000	\$ 720	\$ 324,000	\$ 2,520	\$ 1,134,000
5.4	OPGW Assembly - Tangent	310	Assembly	\$ 200	\$ 62,000	\$ 150	\$ 46,500	\$ 350	\$ 108,500
5.5	OPGW Assembly - Angle / DE	54	Assembly	\$ 250	\$ 13,500	\$ 150	\$ 8,100	\$ 400	\$ 21,600
5.6	OHSW Assembly - Tangent	310	Assembly	\$ 200	\$ 62,000	\$ 150	\$ 46,500	\$ 350	\$ 108,500
5.7	OHSW Assembly - Angle / DE	54	Assembly	\$ 250	\$ 13,500	\$ 150	\$ 8,100	\$ 400	\$ 21,600
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	5,244	EA	\$ 50	\$ 262,200	\$ 35	\$ 183,540	\$ 85	\$ 445,740
5.11	Vibration Dampers - Conductor	4,164	EA	\$ 35	\$ 145,740	\$ 35	\$ 145,740	\$ 70	\$ 291,480
5.12	Shield wire / OPGW Dampers, Misc. Fittings	1,087	EA	\$ 27	\$ 29,349	\$ 35	\$ 38,045	\$ 62	\$ 67,394
5.13	Replace - Mono Pole Vertical Tangent (1-Group of 18-Bells Each Assembly)	252	Assembly	\$ 1,800	\$ 453,600	\$ 720	\$ 181,440	\$ 2,520	\$ 635,040
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 - INSULATORS, FITTINGS, HARDWARE:					\$ 4,680,711		\$ 2,243,484		\$ 6,924,195
A. Transmission Line Edic to Princetown					\$ 27,592,226		\$ 94,734,327		\$ 122,326,553
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 1,223,266	\$ 1,223,266	\$ 1,223,266	\$ 1,223,266
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			\$ 4,419,041	\$ 4,419,041	\$ 4,419,041	\$ 4,419,041
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 1,223,266	\$ 1,223,266	\$ 1,223,266	\$ 1,223,266
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,223,266	\$ 1,223,266	\$ 1,223,266	\$ 1,223,266
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 6,116,328	\$ 6,116,328	\$ 6,116,328	\$ 6,116,328
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 366,980	\$ 366,980	\$ 366,980	\$ 366,980
6.7	Geotech	67	Location	\$ -	\$ -	\$ 3,500	\$ 234,500	\$ 3,500	\$ 234,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 856,286	\$ 856,286	\$ 856,286	\$ 856,286
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	\$ -	\$ -	\$ 366,980	\$ 366,980	\$ 366,980	\$ 366,980
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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
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	\$ 2,207,378	\$ 2,207,378	\$ -	\$ -	\$ 2,207,378	\$ 2,207,378
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 122,327	\$ 122,327	\$ 122,327	\$ 122,327
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 2,207,378		\$ 33,751,360		\$ 35,958,738

NAT & NYPA - T025 - (Segment A, + 765kV)

A1. Marcy Interconnect & New Scotland SS Loop

Estimate Revision: **4** Total: \$ **32,106,765**

NAT & NYPA - T025 - (Segment A, + 765kV)			
	Supply	Installation	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	\$ 486,255	\$ 378,212	\$ 864,467
6. MOB/DEMOb, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 820,427	\$ 4,473,517	\$ 5,293,944
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 11,075,767	\$ 21,030,998	\$ 32,106,765
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 11,075,767	\$ 21,030,998	\$ 32,106,765

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
A1. Marcy Interconnect & New Scotland SS Loop									
1. CLEARING & ACCESS									
1.1	Clearing the ROW - Heavy (mowing & clearing)	98.0	Acre	\$ -	\$ -	\$ 15,000	\$ 1,470,000	\$ 15,000	\$ 1,470,000
1.2	Clearing the ROW - Light (mowing)	2.0	Acre	\$ -	\$ -	\$ 5,000	\$ 10,000	\$ 5,000	\$ 10,000
1.3	Permanent Access Road	2,851.2	LF	\$ -	\$ -	\$ 45	\$ 128,304	\$ 45	\$ 128,304
1.4	Silt Fence	14,256.0	LF	\$ -	\$ -	\$ 4	\$ 57,024	\$ 4	\$ 57,024
1.5	Matting - Access and ROW	11,404.8	LF	\$ -	\$ -	\$ 70	\$ 798,336	\$ 70	\$ 798,336
1.6	Matting - To Work Area	25,200.0	LF	\$ -	\$ -	\$ 70	\$ 1,764,000	\$ 70	\$ 1,764,000
1.7	Snow Removal	2.7	Mile	\$ -	\$ -	\$ 16,000	\$ 43,200	\$ 16,000	\$ 43,200
1.8	ROW Restoration	2.7	Mile	\$ -	\$ -	\$ 10,000	\$ 26,600	\$ 10,000	\$ 26,600
1.9	Work Pads	120,000.0	SF	\$ -	\$ -	\$ 4	\$ 422,400	\$ 4	\$ 422,400
1.10	Restoration for Work Pad areas	24,000.0	SF	\$ -	\$ -	\$ 0.15	\$ 3,600	\$ 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	\$ 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	\$ 7,400	\$ 1,850	\$ 7,400
TOTAL - CLEARING & ACCESS:					\$ -	\$ -	\$ 4,749,184	\$ -	\$ 4,749,184
2. FOUNDATIONS									
2.1	1-CKT 765KV 3-POLE LARGE ANGLE DEADEND (INNER POLE)	2	EA	\$ 130,812	\$ 261,624	\$ 132,236	\$ 264,472	\$ 263,048	\$ 526,096
2.2	1-CKT 765KV 3-POLE LARGE ANGLE DEADEND (OUTER POLE)	4	EA	\$ 130,812	\$ 523,248	\$ 132,236	\$ 528,944	\$ 263,048	\$ 1,052,192
2.3	1-CKT 765KV 3-POLE MEDIUM ANGLE DEADEND (INNER POLE)	2	EA	\$ 130,812	\$ 261,624	\$ 132,236	\$ 264,472	\$ 263,048	\$ 526,096
2.4	1-CKT 765KV 3-POLE MEDIUM ANGLE DEADEND (OUTER POLE)	4	EA	\$ 130,812	\$ 523,248	\$ 132,236	\$ 528,944	\$ 263,048	\$ 1,052,192
2.5	1-CKT 765KV H-FRAME TANGENT	12	EA	\$ 130,812	\$ 1,569,743	\$ 132,236	\$ 1,586,833	\$ 263,048	\$ 3,156,576
2.6	1-CKT 765KV 3-POLE LARGE ANGLE DEADEND (INNER POLE)	1	EA	\$ 140,973	\$ 140,973	\$ 142,508	\$ 142,508	\$ 283,481	\$ 283,481
2.7	1-CKT 765KV 3-POLE LARGE ANGLE DEADEND (OUTER POLE)	2	EA	\$ 140,973	\$ 281,946	\$ 142,508	\$ 285,016	\$ 283,481	\$ 566,961
2.8	1-CKT 765KV 3-POLE MEDIUM ANGLE DEADEND (INNER POLE)	1	EA	\$ 140,973	\$ 140,973	\$ 142,508	\$ 142,508	\$ 283,481	\$ 283,481
2.9	1-CKT 765KV 3-POLE MEDIUM ANGLE DEADEND (OUTER POLE)	2	EA	\$ 140,973	\$ 281,946	\$ 142,508	\$ 285,016	\$ 283,481	\$ 566,961
2.10	1-CKT 765KV H-FRAME TANGENT	8	EA	\$ 140,973	\$ 1,127,784	\$ 142,508	\$ 1,140,062	\$ 283,481	\$ 2,267,846
2.11	Rock Excavation	900	CY	\$ -	\$ -	\$ 2,000	\$ 1,800,000	\$ 2,000	\$ 1,800,000
2.12									
2.13									
2.14									
2.15									
TOTAL - FOUNDATIONS:					\$ 5,113,108		\$ 6,968,775		\$ 12,081,883
3. STRUCTURES									
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

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
3.2	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	\$ 255,540.50	\$ 1,533,243	\$ 153,324.30	\$ 919,946	\$ 408,865	\$ 2,453,189
3.4	1-CKT 765KV 3-POLE LARGE ANGLE DEADEND	1	Structure	\$ 233,291.17	\$ 233,291	\$ 139,974.70	\$ 139,975	\$ 373,266	\$ 373,266
3.5	1-CKT 765KV 3-POLE MEDIUM ANGLE DEADEND	1	Structure	\$ 233,291.17	\$ 233,291	\$ 139,974.70	\$ 139,975	\$ 373,266	\$ 373,266
3.6	1-CKT 765KV H-FRAME TANGENT	4	Structure	\$ 233,291.17	\$ 933,165	\$ 139,974.70	\$ 559,899	\$ 373,266	\$ 1,493,063
3.7	Remove Existing Structure and Accessories - Lattice	3	EA	\$ -	\$ -	\$ 12,500	\$ 37,500	\$ 12,500	\$ 37,500
3.8	Remove Existing Structure and Accessories - 3-Pole	3	EA	\$ -	\$ -	\$ 37,500	\$ 112,500	\$ 37,500	\$ 112,500
3.9	Remove Existing Structure and Accessories - H-Frame	11	EA	\$ -	\$ -	\$ 12,500	\$ 137,500	\$ 12,500	\$ 137,500
3.10	Remove Existing Foundation	43	EA	\$ -	\$ -	\$ 7,500	\$ 322,500	\$ 7,500	\$ 322,500
3.11	Install Grounding and Grounding Accessories	36	Pole	\$ 506	\$ 18,216	\$ 5,539	\$ 199,386	\$ 6,045	\$ 217,602
3.12									
3.13									
3.14									
3.15									
3.16									
3.17									
TOTAL - STRUCTURES:					\$ 3,973,368		\$ 3,182,477		\$ 7,155,845
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	765KV - (1) 1351.5kcmil 54/19 ACSR "Martin"	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	\$ 73,736	\$ 5.47	\$ 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	\$ 31,920
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	\$ 42,000	\$ 5,250.00	\$ 63,000
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									
4.15									
4.16									
4.17									
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 682,610		\$ 1,278,833		\$ 1,961,442
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 4,000	\$ -	\$ 1,440	\$ -	\$ 5,440	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 40-Bells Each Assembly)	60	Assembly	\$ 4,000	\$ 240,000	\$ 1,440	\$ 86,400	\$ 5,440	\$ 326,400
5.3	Dead-end & Angle Insulators (1, Group of 40-Bells Each Assembly)	33	Assembly	\$ 4,000	\$ 132,000	\$ 1,440	\$ 47,520	\$ 5,440	\$ 179,520
5.4	OPGW Assembly - Tangent	33	Assembly	\$ 200	\$ 6,600	\$ 150	\$ 4,950	\$ 350	\$ 11,550
5.5	OPGW Assembly - Angle / DE	8	Assembly	\$ 250	\$ 2,000	\$ 150	\$ 1,200	\$ 400	\$ 3,200
5.6	OHSW Assembly - Tangent	20	Assembly	\$ 200	\$ 4,000	\$ 150	\$ 3,000	\$ 350	\$ 7,000
5.7	OHSW Assembly - Angle / DE	20	Assembly	\$ 250	\$ 5,000	\$ 150	\$ 3,000	\$ 400	\$ 8,000
5.8	OPGW Splice Boxes	4	Assembly	\$ 1,746	\$ 6,985	\$ 2,274	\$ 9,096	\$ 4,020	\$ 16,081
5.9	OPGW Splice & Test	4	EA	\$ 2,520	\$ 10,080	\$ 2,520	\$ 10,080	\$ 5,040	\$ 20,160
5.10	Spacer - Conductor	531	EA	\$ 50	\$ 26,550	\$ 35	\$ 18,585	\$ 85	\$ 45,135
5.11	Vibration Dampers - Conductor	531	EA	\$ 35	\$ 18,585	\$ 35	\$ 18,585	\$ 70	\$ 37,170
5.12	Shield wire / OPGW Dampers, Misc. Fittings	88	EA	\$ 27	\$ 2,376	\$ 35	\$ 3,080	\$ 62	\$ 5,456
5.13	Splicing at existing 765kV DE	4	LS	\$ 7,500	\$ 30,000	\$ 42,500	\$ 170,000	\$ 50,000	\$ 200,000
5.14	Guys, Anchors, and Accessories	-	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.15	Misc. materials (Signs and Markers)	2.7	Mile	\$ 770	\$ 2,079	\$ 1,006	\$ 2,716	\$ 1,776	\$ 4,795
5.16									
5.17									
5.18									
5.19									
5.20									
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 486,255		\$ 378,212		\$ 864,467
A1. Marcy Interconnect & New Scotland SS Loop					\$ 10,255,340		\$ 16,557,481		\$ 26,812,821
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 268,128	\$ 268,128	\$ 268,128	\$ 268,128

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			\$ 968,612	\$ 968,612	\$ 968,612	\$ 968,612
6.3	Utility PM and Project Oversite	1	LS		\$ -	\$ 268,128	\$ 268,128	\$ 268,128	\$ 268,128
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 268,128	\$ 268,128	\$ 268,128	\$ 268,128
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,340,641	\$ 1,340,641	\$ 1,340,641	\$ 1,340,641
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 80,438	\$ 80,438	\$ 80,438	\$ 80,438
6.7	Geotech	3	Location	\$ -	\$ -	\$ 3,500	\$ 10,500	\$ 3,500	\$ 10,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 187,690	\$ 187,690	\$ 187,690	\$ 187,690
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	\$ -	\$ -	\$ 80,438	\$ 80,438	\$ 80,438	\$ 80,438
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ 466,000	\$ 466,000	\$ 466,000	\$ 466,000
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	\$ 820,427	\$ 820,427	\$ -	\$ -	\$ 820,427	\$ 820,427
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 26,813	\$ 26,813	\$ 26,813	\$ 26,813
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 820,427		\$ 4,473,517		\$ 5,293,944

NAT & NYPA - T025 - (Segment A, + 765kV)

B. Transmission Line Princetown to Rotterdam

Estimate Revision: **4** Total: \$ **24,744,331**

NAT & NYPA - T025 - (Segment A, + 765kV)			
	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	\$ 1,210,631	\$ 557,892	\$ 1,768,523
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 498,571	\$ 3,737,178	\$ 4,235,749
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 6,730,705	\$ 18,013,626	\$ 24,744,331
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 6,730,705	\$ 18,013,626	\$ 24,744,331

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. Transmission 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	\$ 237,600	\$ 45	\$ 237,600
1.4	Silt Fence	26,400	LF	\$ -	\$ -	\$ 4	\$ 105,600	\$ 4	\$ 105,600
1.5	Matting - Access and ROW	21,120	LF	\$ -	\$ -	\$ 70	\$ 1,478,400	\$ 70	\$ 1,478,400
1.6	Matting - To Work Area	2,775	LF	\$ -	\$ -	\$ 70	\$ 194,250	\$ 70	\$ 194,250
1.7	Snow Removal	5	Mile	\$ -	\$ -	\$ 16,000	\$ 80,000	\$ 16,000	\$ 80,000
1.8	ROW Restoration	5	Mile	\$ -	\$ -	\$ 10,000	\$ 50,000	\$ 10,000	\$ 50,000
1.9	Work Pads	185,000	SF	\$ -	\$ -	\$ 4	\$ 651,200	\$ 4	\$ 651,200
1.10	Restoration for Work Pad areas	37,000	SF	\$ -	\$ -	\$ 0.2	\$ 5,550	\$ 0	\$ 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	\$ 45,800	\$ 4,580	\$ 45,800
1.14	Maintenance and Protection of Traffic on Public Roads	10	EA	\$ -	\$ -	\$ 4,130	\$ 41,300	\$ 4,130	\$ 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 - CLEARING & ACCESS:					\$ 6,000		\$ 3,038,200		\$ 3,044,200
2. FOUNDATIONS									
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	\$ 82,247	\$ 22,608	\$ 90,432
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	\$ 34,595	\$ 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 - FOUNDATIONS:					\$ 417,002		\$ 3,778,708		\$ 4,195,711
3. STRUCTURES									
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	\$ 226,677	\$ 453,354
3.4	2x 1-CKT 345KV VERTICAL TANGENT DEADEND (0°-5°) - 115'	4	Structure	\$ 109,816	\$ 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	\$ 232,656	\$ 465,312	\$ 139,594	\$ 279,187	\$ 372,520	\$ 744,499
3.6	2x 1-CKT 345KV 3-POLE LARGE ANGLE DEADEND (60°-90°) - 115'	1	Structure	\$ 176,342	\$ 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	\$ 99,493	\$ 99,493	\$ 59,696	\$ 59,696	\$ 159,189	\$ 159,189
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	Material 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
TOTAL - STRUCTURES PRINCETOWN TO NEW SCOTLAND:					\$ 3,876,135		\$ 4,280,943		\$ 8,157,078
4. CONDUCTOR, 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: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 722,365		\$ 2,620,705		\$ 3,343,070
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	348.0	Assembly	\$ 1,800	\$ 626,400	\$ 720	\$ 250,560	\$ 2,520	\$ 876,960
5.2	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	58	Assembly	\$ 200	\$ 11,600	\$ 150	\$ 8,700	\$ 350	\$ 20,300
5.4	OPGW Assembly - Angle / DE	16	Assembly	\$ 250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.5	OHSW Assembly - Tangent	58	Assembly	\$ 200	\$ 11,600	\$ 150	\$ 8,700	\$ 350	\$ 20,300
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	\$ 35	\$ 29,820	\$ 35	\$ 29,820	\$ 70	\$ 59,640
5.11	Shieldwire / OPGW Dampers, Misc. Fittings	116	EA	\$ 27	\$ 3,132	\$ 35	\$ 4,060	\$ 62	\$ 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	\$ 5,030	\$ 1,776	\$ 8,880
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 1,210,631		\$ 557,892		\$ 1,768,523
B. Transmission Line Princetown to Rotterdam					\$ 6,232,134		\$ 14,276,448		\$ 20,508,582
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 205,086	\$ 205,086	\$ 205,086	\$ 205,086
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			\$ 740,872	\$ 740,872	\$ 740,872	\$ 740,872
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 205,086	\$ 205,086	\$ 205,086	\$ 205,086
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 205,086	\$ 205,086	\$ 205,086	\$ 205,086
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,025,429	\$ 1,025,429	\$ 1,025,429	\$ 1,025,429
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 61,526	\$ 61,526	\$ 61,526	\$ 61,526
6.7	Geotech	5	Location	\$ -	\$ -	\$ 3,500	\$ 17,500	\$ 3,500	\$ 17,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 143,560	\$ 143,560	\$ 143,560	\$ 143,560
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	\$ -	\$ -	\$ 61,526	\$ 61,526	\$ 61,526	\$ 61,526
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	\$ 498,571	\$ 498,571	\$ -	\$ -	\$ 498,571	\$ 498,571

Item	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		\$ -	\$ 20,509	\$ 20,509	\$ 20,509	\$ 20,509
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 498,571		\$ 3,737,178		\$ 4,235,749

NAT & NYPA - T025 - (Segment A, + 765kV)

C. Transmission Line Princetown to New Scotland

Estimate
Revision: **4**

Total: \$ 46,448,464

NAT & NYPA - T025 - (Segment A, + 765kV)			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
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	\$ 1,400,673	\$ 708,421	\$ 2,109,095
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 885,667	\$ 7,725,568	\$ 8,611,234
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 11,956,503	\$ 34,491,960	\$ 46,448,464
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 11,956,503	\$ 34,491,960	\$ 46,448,464

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. Transmission 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	\$ 936,144	\$ 45	\$ 936,144
1.4	Silt Fence	104,016.0	LF	\$ -	\$ -	\$ 4	\$ 416,064	\$ 4	\$ 416,064
1.5	Matting - Access and ROW	83,212.8	LF	\$ -	\$ -	\$ 70	\$ 5,824,896	\$ 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	\$ 16,000	\$ 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 - CLEARING & ACCESS:					\$ 31,000		\$ 11,223,694		\$ 11,254,694
2. FOUNDATIONS									
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	\$ 18,064	\$ 108,384	\$ 18,261	\$ 109,564	\$ 36,325	\$ 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	EA	\$ 29,270	\$ 87,811	\$ 29,589	\$ 88,767	\$ 58,860	\$ 176,579
2.18	Drilled Pier - 8' x 27'	1	EA	\$ 42,819	\$ 42,819	\$ 43,285	\$ 43,285	\$ 86,103	\$ 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
5.4	Double Ckt. Dead End Vertical (345kV) (1, Group of 18-Bells Each Assembly)	60	Assembly	\$ 1,800	\$ 108,000	\$ 720	\$ 43,200	\$ 2,520	\$ 151,200
5.5	Single Ckt. Dead End Vertical (345kV) (1, Group of 18-Bells Each Assembly)	210	Assembly	\$ 1,800	\$ 378,000	\$ 720	\$ 151,200	\$ 2,520	\$ 529,200
5.6	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	244	Assembly	\$ 1,800	\$ 439,200	\$ 720	\$ 175,680	\$ 2,520	\$ 614,880
5.7	OPGW Assembly - Tangent	58	Assembly	\$ 200	\$ 11,600	\$ 150	\$ 8,700	\$ 350	\$ 20,300
5.8	OPGW Assembly - Angle / DE	16	Assembly	\$ 250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.9	OHSW Assembly - Tangent	58	Assembly	\$ 200	\$ 11,600	\$ 150	\$ 8,700	\$ 350	\$ 20,300
5.10	OHSW Assembly - Angle / DE	16	Assembly	\$ 250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
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
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 1,400,673		\$ 708,421		\$ 2,109,095
C. Transmission Line Princetown to New Scotland					\$ 11,070,837		\$ 26,766,393		\$ 37,837,229
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Contractor Mobilization / Demobilization	1	LS	\$ -	\$ -	\$ 378,372	\$ 378,372	\$ 378,372	\$ 378,372
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			\$ 1,366,868	\$ 1,366,868	\$ 1,366,868	\$ 1,366,868
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 378,372	\$ 378,372	\$ 378,372	\$ 378,372
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 378,372	\$ 378,372	\$ 378,372	\$ 378,372
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,891,861	\$ 1,891,861	\$ 1,891,861	\$ 1,891,861
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 113,512	\$ 113,512	\$ 113,512	\$ 113,512
6.7	Geotech	20	Location	\$ -	\$ -	\$ 3,500	\$ 70,000	\$ 3,500	\$ 70,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 264,861	\$ 264,861	\$ 264,861	\$ 264,861
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	\$ -	\$ -	\$ 113,512	\$ 113,512	\$ 113,512	\$ 113,512
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	\$ 885,667	\$ 885,667	\$ -	\$ -	\$ 885,667	\$ 885,667
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 37,837	\$ 37,837	\$ 37,837	\$ 37,837
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 885,667		\$ 7,725,568		\$ 8,611,234

NAT & NYPA - T025 - (Segment A, + 765kV)

D. Rotterdam Substation - Install

Estimate Revision: **4** Total: \$ **53,079,207**

NAT & NYPA - T025 - (Segment A, + 765kV)			
	Supply	Installation	Total
D. Rotterdam Substation - Install			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ 2,896,891	\$ 7,053,255	\$ 9,950,146
2. SUBSTATION FOUNDATIONS	\$ 2,443,003	\$ 2,616,200	\$ 5,059,203
3. SUBSTATION STRUCTURES	\$ 944,980	\$ 944,980	\$ 1,889,960
4. MAJOR EQUIPMENT	\$ 11,915,000	\$ 2,970,000	\$ 14,885,000
5. SMALL EQUIPMENT / 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	\$ 8,096,146	\$ 10,061,233
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 26,528,676	\$ 26,550,531	\$ 53,079,207
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 26,528,676	\$ 26,550,531	\$ 53,079,207

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
D. Rotterdam 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	\$ -	\$ -	\$ 1,800,000	\$ 1,800,000	\$ 1,800,000	\$ 1,800,000
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 2,896,891		\$ 7,053,255		\$ 9,950,146
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	\$ 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	\$ 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								
2.5a	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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 2,443,003		\$ 2,616,200		\$ 5,059,203
3. SUBSTATION 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

Item	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	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	\$ -	\$ 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	\$ -	\$ 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	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ 944,980		\$ 944,980		\$ 1,889,960
4. MAJOR EQUIPMENT									
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	\$ 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	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 11,915,000		\$ 2,970,000		\$ 14,885,000
5. SMALL EQUIPMENT / 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	\$ 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	\$ -	\$ 17,500	\$ -	\$ 45,500	\$ -
5.3c	VT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 1,994,540		\$ 1,060,500		\$ 3,055,040
6. CONTROL HOUSE / 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
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 2,927,500		\$ 1,477,500		\$ 4,405,000
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	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	\$ 173,250	\$ 32.58	\$ 814,500	\$ 40	\$ 987,750
7.5	Strain Bus Insulators - 345kV	48	EA	\$ 2,000	\$ 96,000	\$ 1,050	\$ 50,400	\$ 3,050	\$ 146,400
7.6	Strain Bus Insulators - 230kV	6	EA	\$ 1,400	\$ 8,400	\$ 750	\$ 4,500	\$ 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 ITEMS					\$ 1,441,675		\$ 2,331,950		\$ 3,773,625
D. Rotterdam Substation - Install					\$ 24,563,589		\$ 18,454,385		\$ 43,017,974
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 430,180	\$ 430,180	\$ 430,180	\$ 430,180
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			\$ 1,554,022	\$ 1,554,022	\$ 1,554,022	\$ 1,554,022
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 430,180	\$ 430,180	\$ 430,180	\$ 430,180
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 430,180	\$ 430,180	\$ 430,180	\$ 430,180
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,441,438	\$ 3,441,438	\$ 3,441,438	\$ 3,441,438
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 301,126	\$ 301,126	\$ 301,126	\$ 301,126
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 1,075,449	\$ 1,075,449	\$ 1,075,449	\$ 1,075,449
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 129,054	\$ 129,054	\$ 129,054	\$ 129,054
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -	\$ 247,500	\$ 247,500	\$ 247,500	\$ 247,500

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.15	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		\$ -	\$ 43,018	\$ 43,018	\$ 43,018	\$ 43,018
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,965,087		\$ 8,096,146		\$ 10,061,233

NAT & NYPA - T025 - (Segment A, + 765kV)

E. Rotterdam Substation - Removal

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

NAT & NYPA - T025 - (Segment 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 EQUIPMENT	\$ -	\$ 147,000	\$ 147,000
5. SMALL EQUIPMENT / 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

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. Rotterdam 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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ 1,472,750		\$ 1,472,750
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									

Item	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 - SUBSTATION FOUNDATIONS					\$ -		\$ 617,400		\$ 617,400
3. SUBSTATION 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -	\$ -	\$ 534,900	\$ -	\$ 534,900
4. MAJOR EQUIPMENT									
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									
TOTAL - MAJOR EQUIPMENT					\$ -	\$ -	\$ 147,000	\$ -	\$ 147,000
5. SMALL EQUIPMENT / 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	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
5.1j									
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 - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 169,500		\$ 169,500
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	1	EA	\$ -	\$ -	\$ 150,000	\$ 150,000	\$ 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 - CONTROL 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
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									

Item	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 ITEMS					\$ -		\$ 519,480		\$ 519,480
E. Rotterdam Substation - Removal					\$ -		\$ 3,611,030		\$ 3,611,030
8. MOB/DEMOB, 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 Oversight	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

Estimate Revision: **4** Total: \$ **2,607,956**

NAT & NYPA - T025 - (Segment A, + 765kV)			
	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 EQUIPMENT	\$ 200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPMENT / 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 Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
F. Edic 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	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									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 2,025		\$ 5,625		\$ 7,650
2. SUBSTATION 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	\$ -
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	\$ -

Item	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								
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	\$ -	\$ 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	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	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 - 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	\$ -	\$ 74,000	\$ -
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	\$ -	\$ 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	\$ 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	\$ -	\$ 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	\$ -

Item	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	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 - SUBSTATION STRUCTURES					\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQUIPMENT									
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									
4.2a	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 - MAJOR EQUIPMENT					\$ 200,000		\$ 80,000		\$ 280,000
5. SMALL EQUIPMENT / 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	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	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1f	Arresters	6	EA	\$ 6,500	\$ 39,000	\$ 1,500	\$ 9,000	\$ 8,000	\$ 48,000
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									
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	\$ -	\$ 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 - SMALL EQUIPMENT / MATERIALS					\$ 280,000		\$ 133,500		\$ 413,500
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -

Item	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	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	\$ -
TOTAL - CONTROL 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
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	\$ 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 ITEMS					\$ 339,357		\$ 507,880		\$ 847,237
F. Edic Substation - Install					\$ 1,139,730		\$ 977,455		\$ 2,117,185
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
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			\$ 76,483	\$ 76,483	\$ 76,483	\$ 76,483
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$ 21,172
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$ 21,172
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 169,375	\$ 169,375	\$ 169,375	\$ 169,375
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 14,820	\$ 14,820	\$ 14,820	\$ 14,820
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 52,930	\$ 52,930	\$ 52,930	\$ 52,930
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / 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	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	\$ 91,178	\$ 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		\$ 399,592		\$ 490,771

NAT & NYPA - T025 - (Segment A, + 765kV)

G. Edic Substation - Removal

Estimate Revision: **4**

Total: \$ **41,311**

NAT & NYPA - T025 - (Segment 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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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

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
G. Edic 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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ -		\$ -
2. SUBSTATION FOUNDATIONS									
2.1 345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$ -	\$ -	\$ 14,200	\$ 14,200	\$ 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		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	\$ -
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	Bus Support 1 Ph Foundations	0	EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -

Item	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		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	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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 14,200		\$ 14,200
3. SUBSTATION 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	3	EA	\$ -	\$ -	\$ 2,250	\$ 6,750	\$ 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	\$ -	\$ 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	\$ -
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	\$ -	\$ 2,250	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	115kV								
3.3a	Substation A-Frame Structures - Stand alone	0	EA	\$ -	\$ -	\$ 15,000	\$ -	\$ 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	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 - SUBSTATION STRUCTURES					\$ -		\$ 6,750		\$ 6,750
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
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	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		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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 4,500		\$ 4,500
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ -
6.2	Protection and Telecom Equipment Panels	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
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 - CONTROL 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	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	\$ -
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
G. Edic Substation - Removal					\$ -		\$ 35,950		\$ 35,950
8. MOB/DEMOB, 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									
8.2	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 Oversight	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:					\$ -		\$ 5,361		\$ 5,361

NAT & NYPA - T025 - (Segment A, + 765kV)

H. Princetown Switchyard - Install

Estimate Revision: **4**

Total: \$ **15,771,722**

NAT & NYPA - T025 - (Segment 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 EQUIPMENT	\$ 800,000	\$ 320,000	\$ 1,120,000
5. SMALL EQUIPMENT / 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	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
H. Princetown 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	\$ 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									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 163,560		\$ 904,700		\$ 1,068,260
2. SUBSTATION FOUNDATIONS									
2.1 765kV									
2.1a	Circuit Breaker Foundations		EA.	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.1b	Capacitor Bank Foundations		EA.	\$ 56,025	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str. - stand alone)		EA.	\$ 52,290	\$ -	\$ 56,000	\$ -	\$ 108,290	\$ -
2.1d	Caisson DE Foundations (for DE A frame str. - shared column)		EA.	\$ 52,290	\$ -	\$ 56,000	\$ -	\$ 108,290	\$ -
2.1e	Switch Stand Foundations		EA.	\$ 8,964	\$ -	\$ 8,964	\$ -	\$ 17,928	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA.	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 1ph Foundations (High Bus)		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	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									
2.2 345kV									
2.2a	Circuit Breaker Foundations	4	EA.	\$ 14,940	\$ 59,760	\$ 14,940	\$ 59,760	\$ 29,880	\$ 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.	\$ 26,145	\$ 418,320	\$ 26,145	\$ 418,320	\$ 52,290	\$ 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	\$ 4,482	\$ 215,136	\$ 8,964	\$ 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
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	\$ 4,482	\$ 161,352	\$ 8,964	\$ 322,704
2.2k	Arrester Stand Foundations	12	EA.	\$ 4,482	\$ 53,784	\$ 4,482	\$ 53,784	\$ 8,964	\$ 107,568
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	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)	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	\$ 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	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								
2.5a	Control House / Pad - 25' x 50'	1	EA	\$ 17,928	\$ 17,928	\$ 19,200	\$ 19,200	\$ 37,128	\$ 37,128
2.5b	Generator Foundation	1	EA	\$ 16,434	\$ 16,434	\$ 17,600	\$ 17,600	\$ 34,034	\$ 34,034
2.5c	Station Service Distribution Line - 3ph.	1	LS	\$ -	\$ -	\$ 15,120	\$ 15,120	\$ 15,120	\$ 15,120
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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 1,193,706		\$ 1,213,490		\$ 2,407,196
3. SUBSTATION STRUCTURES									
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	\$ -	\$ 111,000	\$ -	\$ 222,000	\$ -
3.1c	Switch Stands		EA.	\$ 22,200	\$ -	\$ 22,200	\$ -	\$ 44,400	\$ -
3.1d	Station Service Transformer Stand		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 1ph (High Bus)		EA.	\$ 7,400	\$ -	\$ 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	\$ -	\$ 7,400	\$ -
3.1j	Wave Trap Stand		EA.	\$ 9,250	\$ -	\$ 9,250	\$ -	\$ 18,500	\$ -
3.1k	Lightning Mast		EA.	\$ 9,250	\$ -	\$ 9,250	\$ -	\$ 18,500	\$ -
3.2	345kV								
3.2a	Substation A-Frame Structures - Stand alone	4	EA	\$ 37,000	\$ 148,000	\$ 37,000	\$ 148,000	\$ 74,000	\$ 296,000
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	\$ 14,800	\$ 118,400	\$ 29,600	\$ 236,800
3.2d	Station Service Transformer Stand	1	EA	\$ 14,800	\$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600	\$ 29,600
3.2e	Bus Support 3ph	0	EA	\$ 5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
3.2f	Bus Support 1 Ph	39	EA	\$ 3,700	\$ 144,300	\$ 3,700	\$ 144,300	\$ 7,400	\$ 288,600
3.2g	Instrument Transformer Stand	36	EA	\$ 1,850	\$ 66,600	\$ 1,850	\$ 66,600	\$ 3,700	\$ 133,200
3.2h	Arrester Stand	12	EA	\$ 1,850	\$ 22,200	\$ 1,850	\$ 22,200	\$ 3,700	\$ 44,400
3.2j	Wave Trap Stand	4	EA	\$ 7,400	\$ 29,600	\$ 7,400	\$ 29,600	\$ 14,800	\$ 59,200
3.2k	Misc. Structures	6	EA	\$ 6,475	\$ 38,850	\$ 6,475	\$ 38,850	\$ 12,950	\$ 77,700

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								
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 - SUBSTATION STRUCTURES					\$ 582,750		\$ 582,750		\$ 1,165,500
4. MAJOR EQUIPMENT									
4.2	345kV								
4.2a	Circuit Breakers	4	EA	\$ 200,000	\$ 800,000	\$ 80,000	\$ 320,000	\$ 280,000	\$ 1,120,000
4.2b	Capacitor Banks		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 - MAJOR EQUIPMENT					\$ 800,000		\$ 320,000		\$ 1,120,000
5. SMALL EQUIPMENT / MATERIALS									
5.2	345kV								
5.2a	Line Switches - 3ph w/ motor operator	4	EA	\$ 40,000	\$ 160,000	\$ 15,000	\$ 60,000	\$ 55,000	\$ 220,000
5.2b	Disconnect Switches - 3ph w/ manual operator	8	EA	\$ 35,000	\$ 280,000	\$ 17,500	\$ 140,000	\$ 52,500	\$ 420,000
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									
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 - SMALL EQUIPMENT / MATERIALS					\$ 1,382,000		\$ 636,000		\$ 2,018,000
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	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
6.4	Control Cables	1	LS	\$ 281,050	\$ 281,050	\$ 281,050	\$ 281,050	\$ 562,100	\$ 562,100
6.5	SCADA and Communications	0	EA	\$ 35,000	\$ -	\$ 12,500	\$ -	\$ 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
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 1,621,800		\$ 1,043,550		\$ 2,665,350
7. MISC ITEMS 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
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	\$ 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									
7.25									
7.26									
7.27									
7.28									
7.29									
TOTAL - MISC ITEMS					\$ 895,854		\$ 1,373,004		\$ 2,268,858
H. Princetown Switchyard - Install					\$ 6,639,670		\$ 6,073,494		\$ 12,713,164
8. MOB/DEMOB, 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 Oversight	1	LS		\$ -	\$ 127,132	\$ 127,132	\$ 127,132	\$ 127,132
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 127,132	\$ 127,132	\$ 127,132	\$ 127,132
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,017,053	\$ 1,017,053	\$ 1,017,053	\$ 1,017,053
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 88,992	\$ 88,992	\$ 88,992	\$ 88,992
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 317,829	\$ 317,829	\$ 317,829	\$ 317,829
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 38,139	\$ 38,139	\$ 38,139	\$ 38,139
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	\$ -	\$ -	\$ 12,713	\$ 12,713	\$ 12,713	\$ 12,713
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 531,174		\$ 2,527,384		\$ 3,058,558

NAT & NYPA - T025 - (Segment A, + 765kV)

J. Porter Substation - Install

Estimate Revision: **4**

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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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

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
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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ -		\$ -
2. SUBSTATION 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									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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								
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	\$ -	\$ 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	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	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
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								
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								

Item	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	\$ -	\$ 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 - SUBSTATION STRUCTURES					\$ -		\$ -		\$ -
4. MAJOR EQUIPMENT									
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	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	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / MATERIALS									
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	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	0	EA	\$ -	\$ -	\$ 12,000	\$ -	\$ 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								
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	\$ -	\$ 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 - SMALL EQUIPMENT / MATERIALS					\$ -		\$ -		\$ -
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -

Item	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	\$ 35,000	\$ -	\$ 10,000	\$ -	\$ 45,000	\$ -
6.3	125VDC Batteries	0	EA	\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	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 - CONTROL 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	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	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
J. Porter Substation - Install					\$ 15,008		\$ 56,904		\$ 71,912
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	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			\$ 2,598	\$ 2,598	\$ 2,598	\$ 2,598
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 719	\$ 719	\$ 719	\$ 719
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 5,753	\$ 5,753	\$ 5,753	\$ 5,753
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500	\$ -
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									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.10	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	1	LS	\$ -	\$ -	\$ 72	\$ 72	\$ 72	\$ 72
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,201	\$ 72	\$ 13,097	\$ 14,298	\$ 14,298

NAT & NYPA - T025 - (Segment A, + 765kV)

K. Porter Substation - Removal

Estimate Revision: **4**

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 EQUIPMENT	\$ -	\$ 43,500	\$ 43,500
5. SMALL EQUIPMENT / 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	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/ 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 PREP/ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ 2,400	\$ -
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	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	\$ -	\$ 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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 126,600		\$ 126,600
3. SUBSTATION 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Shared Column	5	EA	\$ -	\$ -	\$ 27,000	\$ 135,000	\$ 27,000	\$ 135,000
3.2c	Switch Stands	6	EA	\$ -	\$ -	\$ 9,750	\$ 58,500	\$ 9,750	\$ 58,500
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	\$ -	\$ 2,250	\$ -
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	\$ -
3.2k	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 206,100		\$ 206,100
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT					\$ -		\$ 43,500		\$ 43,500
5. SMALL EQUIPMENT / 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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j									
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	\$ 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	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	EA	\$ -	\$ -	\$ 2,500	\$ 5,000	\$ 2,500	\$ 5,000
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	\$ -	\$ 5,500	\$ -
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / 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 HOUSE / 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	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 - CONTROL 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	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 - MISC ITEMS					\$ -		\$ 38,613		\$ 38,613
K. Porter Substation - Removal					\$ -		\$ 474,313		\$ 474,313
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 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			\$ 17,135	\$ 17,135	\$ 17,135	\$ 17,135
8.3	Utility PM and Project Oversight	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS	\$ -	\$ -	\$ 474	\$ -	\$ 474	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 70,732		\$ 70,732

NAT & NYPA - T025 - (Segment A, + 765kV)

L. Interconnection Edic Station

Estimate
Revision:

4

Total: \$ 2,100,762

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 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
L. Interconnection Edic 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	\$ -	\$ -	\$ -	\$ 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 - CLEARING & ACCESS					\$ -		\$ 367,850		\$ 367,850
2. FOUNDATIONS									
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									
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 - FOUNDATIONS					\$ 168,366		\$ 170,169		\$ 338,536
3. STRUCTURES									
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	\$ 121,678	\$ 324,475	\$ 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					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 501,469		\$ 321,821		\$ 823,289
4. CONDUCTOR, SHIELDWIRE, OPGW									
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									
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -	\$ -	\$ -	\$ -	\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kv Mono Pole Vertical Tangent - V-String								
5.2	115kv Mono Pole Vertical Tangent - V-String								
5.3	Single Ckt. Dead End Vertical (345kv) (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								
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 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	\$ -	\$ 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	\$ -
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					\$ -		\$ -		\$ -
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 160,000		\$ 94,400		\$ 254,400
L. Interconnection Edic Station					\$ 829,835		\$ 954,240		\$ 1,784,075
6. MOB/DEMOB, 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	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.3	Utility PM and Project Oversight	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	\$ 66,387	\$ -	\$ -	\$ 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

NAT & NYPA - T025 - (Segment A, + 765kV)

M. Interconnection New Scotland Station

Estimate Revision: 4

Total: \$ 3,166,663

NAT & NYPA - T025 - (Segment A, + 765kV)			
	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	\$ 391,776	\$ 490,192
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,328,622	\$ 1,838,041	\$ 3,166,663
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,328,622	\$ 1,838,041	\$ 3,166,663

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. Interconnection 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 - CLEARING & ACCESS					\$ -		\$ 367,850		\$ 367,850
2. FOUNDATIONS									
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									
2.12									
2.13									
2.14									

Item	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					\$ 365,657		\$ 473,093		\$ 838,749
TOTAL - FOUNDATIONS									
3. STRUCTURES									
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	Structure	\$ 506	\$ 5,060	\$ 5,539	\$ 55,385	\$ 6,045	\$ 60,445
3.4					\$ -		\$ -		
3.5									
3.6					\$ -		\$ -		
3.7					\$ -		\$ -		
3.8					\$ -		\$ -		
3.9					\$ -		\$ -		
3.10					\$ -		\$ -		
3.11					\$ -		\$ -		
3.12					\$ -		\$ -		
3.13					\$ -		\$ -		
3.14					\$ -		\$ -		
3.15					\$ -		\$ -		
TOTAL - STRUCTURES									
4. CONDUCTOR, 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	\$ -	\$ 6.35	\$ -
4.3	(1) 3/8" EHS7 Steel	1,500	LF	\$ 0.47	\$ 705	\$ 5.00	\$ 7,500	\$ 5.47	\$ 8,205
4.5	Remove Existing 345kv Cable From Existing Structures	0.3	Mile	\$ -	\$ -	\$ 30,000	\$ 7,500	\$ 30,000.00	\$ 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									
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:									
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kv Mono Pole Vertical Tangent - V-String	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	115kv Mono Pole Vertical Tangent - V-String	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.3	345kv Dead-end & Angle Insulators	60	Assembly	\$ 2,540	\$ 152,400	\$ 1,350	\$ 81,000	\$ 3,890	\$ 233,400
5.4	115kv Dead-end & Angle Insulators	-	Assembly	\$ 1,270	\$ -	\$ 725	\$ -	\$ 1,995	\$ -
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	-	Assembly	\$ 250	\$ -	\$ 150	\$ -	\$ 400	\$ -
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	9	EA	\$ 50	\$ 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	\$ -
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	\$ 50,000	\$ 100,000	\$ 100,000
5.17					\$ -		\$ -		\$ -
5.18					\$ -		\$ -		\$ -
5.19					\$ -		\$ -		\$ -
5.20					\$ -		\$ -		\$ -
TOTAL - INSULATOR, FITTINGS, HARDWARE									
M. Interconnection New Scotland Station									
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 26,765	\$ 26,765	\$ 26,765	\$ 26,765
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			\$ 96,687	\$ 96,687	\$ 96,687	\$ 96,687

Item	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 Oversight	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
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	\$ 98,416	\$ 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	\$ 2,676	\$ 2,676
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 98,416	\$ 2,676	\$ 391,776	\$ 2,676	\$ 490,192

NAT & NYPA - T025 - (Segment A, + 765kV)

N. Interconnection Rotterdam Station

Estimate Revision: **4** Total: \$ **4,571,859**

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	\$ 134,320	\$ 300,050
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 77,642	\$ 555,965	\$ 633,606
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,048,161	\$ 3,523,698	\$ 4,571,859
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,048,161	\$ 3,523,698	\$ 4,571,859

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 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	\$ -	\$ -	\$ 4	\$ 19,200	\$ 4	\$ 19,200
1.5	Matting - Access and ROW	4,800.0	LF	\$ -	\$ -	\$ 70	\$ 336,000	\$ 70	\$ 336,000
1.6	Matting - To Work Area	2,400.0	LF	\$ -	\$ -	\$ 70	\$ 168,000	\$ 70	\$ 168,000
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	1.0	Mile	\$ -	\$ -	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
1.9	Work Pads	160,000.0	SF	\$ -	\$ -	\$ 4	\$ 563,200	\$ 4	\$ 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	\$ 1,250	\$ -	\$ 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 - CLEARING & ACCESS					\$ -		\$ 1,233,050		\$ 1,233,050
2. FOUNDATIONS									
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	\$ 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 - FOUNDATIONS					\$ 192,145		\$ 325,963		\$ 518,108
3. STRUCTURES									
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	\$ 7,100
3.3	15kv 3-CKT DE - WOOD POLE	2	Pole	\$ 3,500	\$ 7,000	\$ 3,600	\$ 7,200	\$ 7,100	\$ 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	2	Pole	\$ 4,500	\$ 9,000	\$ 4,400	\$ 8,800	\$ 8,900	\$ 17,800
3.6	115kv 1-CKT DE - WOOD POLE	11	Pole	\$ 5,500	\$ 60,500	\$ 5,000	\$ 55,000	\$ 10,500	\$ 115,500
3.7	115kv 2-CKT TANGENT - WOOD POLE	4	Pole	\$ 5,500	\$ 22,000	\$ 5,000	\$ 20,000	\$ 10,500	\$ 42,000
3.8	115kv 2-CKT DE - STEEL POLE	4	Pole	\$ 98,883	\$ 395,530	\$ 59,330	\$ 237,318	\$ 158,212	\$ 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	Structure	\$ 506	\$ 16,192	\$ 5,539	\$ 177,232	\$ 6,045	\$ 193,424
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 546,722		\$ 837,150		\$ 1,383,872
4. CONDUCTOR, SHIELDWIRE, OPGW									
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	\$ 5.47	\$ 42,666
4.5	Remove Existing Cable	6.6	Mile	\$ -	\$ -	\$ 30,000	\$ 197,700	\$ 30,000.00	\$ 197,700
4.6	Remove Existing EHT	2.2	Mile	\$ -	\$ -	\$ 12,000	\$ 26,400	\$ 12,000.00	\$ 26,400
4.7	15kv - (1) 477kcmil 26/7 ACSR "Hawk"	9,630	LF	\$ 1.62	\$ 15,601	\$ 5.00	\$ 48,150	\$ 6.62	\$ 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		-							
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 65,923		\$ 437,250		\$ 503,173
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Conductor, 115kv, 3PH, Tangent - Insulator	33	Assembly	\$ 1,000	\$ 33,000	\$ 720	\$ 23,760	\$ 1,720	\$ 56,760
5.2	Conductor, 115kv, 3PH, DE/Side - Insulator	66	Assembly	\$ 1,000	\$ 66,000	\$ 720	\$ 47,520	\$ 1,720	\$ 113,520
5.3	Conductor, 15kv, 3PH, Tangent - Insulator	12	Assembly	\$ 100	\$ 1,200	\$ 75	\$ 900	\$ 175	\$ 2,100
5.4	Conductor, 15kv, 3PH, DE/Side - Insulator	18	Assembly	\$ 100	\$ 1,800	\$ 75	\$ 1,350	\$ 175	\$ 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	\$ 400	\$ 75	\$ 300	\$ 175	\$ 700
5.8	OPGW Assembly - Tangent	2	Assembly	\$ 200	\$ 400	\$ 150	\$ 300	\$ 350	\$ 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	\$ 1,750	\$ -	\$ 1,746	\$ -	\$ 3,496	\$ -
5.12	OPGW Splice & Test	-	EA	\$ 1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	\$ -
5.13	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
5.14	Vibration Dampers - Conductor	-	EA	\$ 35	\$ -	\$ 35	\$ -	\$ 70	\$ -
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	\$ -	\$ 1,776	\$ -
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					\$ -		\$ -		\$ -
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 165,730		\$ 134,320		\$ 300,050
N. Interconnection Rotterdam Station					\$ 970,519		\$ 2,967,733		\$ 3,938,252
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									

Item	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	\$ -	\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383
	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			\$ 142,269	\$ 142,269	\$ 142,269	\$ 142,269
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 196,913	\$ 196,913	\$ 196,913	\$ 196,913
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 11,815	\$ 11,815	\$ 11,815	\$ 11,815
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 27,568	\$ 27,568	\$ 27,568	\$ 27,568
	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	\$ -	\$ -	\$ 11,815	\$ 11,815	\$ 11,815	\$ 11,815
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			\$ 3,938	\$ 3,938	\$ 3,938	\$ 3,938
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 77,642		\$ 555,965		\$ 633,606

NAT & NYPA - T025 - (Segment A, + 765kV)

System Upgrade Facilities (765kV Corona Mitigation)

Estimate
Revision: 4

Total: \$ 103,575,563

SYSTEM UPGRADE 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

NAT & NYPA - T025 - (Segment A, + 765kV)

System Upgrade Facilities (Various Stations for Edic/Marcy to New Scotland)

Estimate Revision: 4

Total: \$ 6,899,000

SYSTEM UPGRADE 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
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	Removals	-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
SUF SS4	Removals		LS %					\$ -	\$ -
SUF SS4	Engineering, T&C, PM, Indirects (25%)		LS %						\$ -
SUF SS4	SUF SS4 - TOTAL:				\$ -		\$ -		\$ -
SUF SS5	Removals	-	LS	\$ -	\$ -	\$ -	\$ -		\$ -
SUF SS5	Removals		LS %					\$ -	\$ -
SUF SS5	Engineering, T&C, PM, Indirects (25%)		LS %						\$ -
SUF SS5	SUF SS5 - TOTAL:				\$ -		\$ -		\$ -
STATIONS SUF DIRECT TOTAL:									\$ 5,519,000
STATIONS SUF INDIRECT TOTAL:									\$ 1,380,000
STATIONS SUF TOTAL									\$ 6,899,000

NAT & NYPA - T025 - (Segment A, + 765kV)

R. Knickerbocker Substation - Install

Estimate Revision: **4**

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 EQUIPMENT	\$ 12,366,667	\$ 2,400,000	\$ 14,766,667
5. SMALL EQUIPMENT / 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

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
R. Knickerbocker 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	\$ 75	\$ 1,095,000	\$ 102	\$ 1,489,200
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									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 926,950		\$ 10,925,250		\$ 11,852,200
2. SUBSTATION FOUNDATIONS									
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	\$ -	\$ 60,000	\$ -	\$ 116,025	\$ -
2.1c	Caisson DE Foundations (for DE A frame str. - stand alone)	4	EA.	\$ 52,290	\$ 209,160	\$ 56,000	\$ 224,000	\$ 108,290	\$ 433,160
2.1d	Caisson DE Foundations (for DE A frame str. - shared column)	0	EA.	\$ 52,290	\$ -	\$ 56,000	\$ -	\$ 108,290	\$ -
2.1e	Switch Stand Foundations	36	EA.	\$ 8,964	\$ 322,704	\$ 8,964	\$ 322,704	\$ 17,928	\$ 645,408
2.1f									
2.1g	Bus Support 1ph Foundations (High Bus)	54	EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ 59,760	\$ 14,940	\$ 59,760	\$ 29,880	\$ 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)	8	EA.	\$ 26,145	\$ 209,160	\$ 26,145	\$ 209,160	\$ 52,290	\$ 418,320
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	\$ 4,482	\$ 228,582	\$ 8,964	\$ 457,164
2.2j	Instrument Transformer Stand Foundations	24	EA.	\$ 4,482	\$ 107,568	\$ 4,482	\$ 107,568	\$ 8,964	\$ 215,136
2.2k	Arrester Stand Foundations	6	EA.	\$ 4,482	\$ 26,892	\$ 4,482	\$ 26,892	\$ 8,964	\$ 53,784
2.2m	Wave Trap Stand Foundations	2	EA.	\$ 4,482	\$ 8,964	\$ 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								
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
2.4c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.4d				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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
2.5b	Generator Foundation	1	EA	\$ 16,434	\$ 16,434	\$ 17,600	\$ 17,600	\$ 34,034	\$ 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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 3,740,976		\$ 3,864,890		\$ 7,605,866
3. SUBSTATION 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	\$ 37,000	\$ 74,000	\$ 74,000	\$ 148,000
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	\$ 14,800	\$ 118,400	\$ 29,600	\$ 236,800
3.2d	Station Service Transformer Stand	1	EA	\$ 14,800	\$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600	\$ 29,600
3.2e	Bus Support 3ph	27	EA	\$ 5,550	\$ 149,850	\$ 5,550	\$ 149,850	\$ 11,100	\$ 299,700
3.2f	Bus Support 1 Ph	51	EA	\$ 3,700	\$ 188,700	\$ 3,700	\$ 188,700	\$ 7,400	\$ 377,400
3.2g	Instrument Transformer Stand	24	EA	\$ 1,850	\$ 44,400	\$ 1,850	\$ 44,400	\$ 3,700	\$ 88,800
3.2h	Arrester Stand	6	EA	\$ 1,850	\$ 11,100	\$ 1,850	\$ 11,100	\$ 3,700	\$ 22,200
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 - SUBSTATION STRUCTURES					\$ 1,874,050		\$ 1,874,050		\$ 3,748,100
4. MAJOR EQUIPMENT									
4.1	765kV								
4.1a	Circuit Breakers	3	EA.	\$ 900,000	\$ 2,700,000	\$ 110,000	\$ 330,000	\$ 1,010,000	\$ 3,030,000
4.1b	Capacitor Banks	0	EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c	765-345kV Transformer (1ph)	7	EA.	\$ 1,266,667	\$ 8,866,667	\$ 250,000	\$ 1,750,000	\$ 1,516,667	\$ 10,616,667
4.1d									
4.2	345kV								
4.2a	Circuit Breakers	4	EA	\$ 200,000	\$ 800,000	\$ 80,000	\$ 320,000	\$ 280,000	\$ 1,120,000
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 12,366,667		\$ 2,400,000		\$ 14,766,667
5. SMALL EQUIPMENT / 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	765kV									
5.1a	Line Switches - 3ph w/ motor operator	1	EA	\$ 400,000	\$ 400,000	\$ 50,000	\$ 50,000	\$ 450,000	\$ 450,000	
5.1b	Disconnect Switches - 3ph w/ manual operator	6	EA	\$ 350,000	\$ 2,100,000	\$ 45,000	\$ 270,000	\$ 395,000	\$ 2,370,000	
5.1c	VT'S	3	EA	\$ 13,000	\$ 39,000	\$ 16,000	\$ 48,000	\$ 29,000	\$ 87,000	
5.1d	CT'S	3	EA	\$ 13,000	\$ 39,000	\$ 12,000	\$ 36,000	\$ 25,000	\$ 75,000	
5.1e	CCVT'S	9	EA	\$ 12,000	\$ 108,000	\$ 12,000	\$ 108,000	\$ 24,000	\$ 216,000	
5.1f	Arresters	10	EA	\$ 15,000	\$ 150,000	\$ 12,000	\$ 120,000	\$ 27,000	\$ 270,000	
5.1g	Wave Traps	1	EA	\$ 15,000	\$ 15,000	\$ 12,000	\$ 12,000	\$ 27,000	\$ 27,000	
5.1h										
5.1j										
5.2	345kV									
5.2a	Line Switches - 3ph w/ motor operator	2	EA	\$ 40,000	\$ 80,000	\$ 15,000	\$ 30,000	\$ 55,000	\$ 110,000	
5.2b	Disconnect Switches - 3ph w/ manual operator	8	EA	\$ 35,000	\$ 280,000	\$ 17,500	\$ 140,000	\$ 52,500	\$ 420,000	
5.2c	VT'S	6	EA	\$ 25,000	\$ 150,000	\$ 12,000	\$ 72,000	\$ 37,000	\$ 222,000	
5.2d	CT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000	
5.2e	CCVT'S	12	EA	\$ 13,000	\$ 156,000	\$ 8,000	\$ 96,000	\$ 21,000	\$ 252,000	
5.2f	Arresters	13	EA	\$ 6,500	\$ 84,500	\$ 1,500	\$ 19,500	\$ 8,000	\$ 104,000	
5.2g	Wave Traps	2	EA	\$ 13,000	\$ 26,000	\$ 8,000	\$ 16,000	\$ 21,000	\$ 42,000	
5.2h	Station Service Transformers	2	EA	\$ 200,000	\$ 400,000	\$ 50,000	\$ 100,000	\$ 250,000	\$ 500,000	
TOTAL - SMALL EQUIPMENT / MATERIALS						\$ 4,105,500		\$ 1,165,500		\$ 5,271,000
6. CONTROL HOUSE / PANELS / GENERATOR										
6.1	CONTROL HOUSE	1	EA	\$ 1,053,000	\$ 1,053,000	\$ 162,000	\$ 162,000	\$ 1,215,000	\$ 1,215,000	
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	\$ 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	
TOTAL - CONTROL HOUSE / PANELS / GENERATOR						\$ 3,114,700		\$ 1,556,200		\$ 4,670,900
7. MISC ITEMS 765kV										
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	
7.6	Control Conduits from Trench to Equipment	1	LS	\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$ 250,000	
7.7	Misc. Materials (Above and Below Ground)	1	LS	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$ 360,000	
7.8										
7.9										
7.10										
7.11										
7.12										
7.13										
7.14										
7. MISC ITEMS 345kV										
7.15	Conduit & Cable Trench System	4,500	LF	\$ 125.07	\$ 562,815	\$ 170.00	\$ 765,000	\$ 295	\$ 1,327,815	
7.16	Rigid Bus, Fittings & Insulators	4,300	LF	\$ 125.07	\$ 537,801	\$ 237.10	\$ 1,019,530	\$ 362	\$ 1,557,331	
7.17	Strain Bus, Connectors & Insulators	2,900	LF	\$ 61.50	\$ 178,350	\$ 78.69	\$ 228,201	\$ 140	\$ 406,551	

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 ITEMS					\$ 7,876,951		\$ 11,375,341		\$ 19,252,292
R. Knickerbocker Substation - Install					\$ 34,005,794		\$ 33,161,231		\$ 67,167,025
8. MOB/DEMOB, 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 Oversight	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

NAT & NYPA - T025 - (Segment A, + 765kV)

S. Marcy Substation - Install

Estimate Revision: **4**

Total: \$ **21,526,138**

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 EQUIPMENT	\$ 900,000	\$ 110,000	\$ 1,010,000
5. SMALL EQUIPMENT / 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

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
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	\$ 54,000	\$ 75	\$ 150,000	\$ 102	\$ 204,000
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									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 134,000		\$ 991,250		\$ 1,125,250
2. SUBSTATION FOUNDATIONS									
2.1 765kV									
2.1a	Circuit Breaker Foundations	1	EA.	\$ 22,410	\$ 22,410	\$ 24,000	\$ 24,000	\$ 46,410	\$ 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	\$ 56,000	\$ 1,344,000	\$ 108,290	\$ 2,598,960
2.1d	Caisson DE Foundations (for DE A frame str. - shared column)	0	EA.	\$ 52,290	\$ -	\$ 56,000	\$ -	\$ 108,290	\$ -
2.1e	Switch Stand Foundations	18	EA.	\$ 8,964	\$ 161,352	\$ 8,964	\$ 161,352	\$ 17,928	\$ 322,704
2.1f									
2.1g	Bus Support 1ph Foundations (High Bus)	0	EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	Bus Support 1 Ph Foundations (Low Bus)	74	EA.	\$ 8,964	\$ 663,336	\$ 8,964	\$ 663,336	\$ 17,928	\$ 1,326,672
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	2	EA.	\$ 8,964	\$ 17,928	\$ 8,964	\$ 17,928	\$ 17,928	\$ 35,856
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	\$ -	\$ 4,482	\$ -	\$ 8,964	\$ -
2.2g	Bus Support 1ph Foundations (High Bus)	0	EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations (Low Bus)	0	EA.	\$ 4,482	\$ -	\$ 4,482	\$ -	\$ 8,964	\$ -

Item	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									
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	\$ -	\$ 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	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	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		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 2,312,712		\$ 2,405,568		\$ 4,718,280
3. SUBSTATION STRUCTURES									
3.1	765kV								
3.1a	Substation A-Frame Structures - Stand alone	6	EA.	\$ 111,000	\$ 666,000	\$ 111,000	\$ 666,000	\$ 222,000	\$ 1,332,000
3.1b	Substation A-Frame Structures - Shared Column	0	EA.	\$ 111,000	\$ -	\$ 111,000	\$ -	\$ 222,000	\$ -
3.1c	Switch Stands	3	EA.	\$ 22,200	\$ 66,600	\$ 22,200	\$ 66,600	\$ 44,400	\$ 133,200
3.1d									
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	\$ 5,550	\$ 410,700	\$ 11,100	\$ 821,400
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	2	EA.	\$ 9,250	\$ 18,500	\$ 9,250	\$ 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	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.2c	Switch Stands	0	EA	\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
3.2d	Station Service Transformer Stand	0	EA	\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
3.2e	Bus Support 3ph	0	EA	\$ 5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
3.2f	Bus Support 1 Ph	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.2g	Instrument Transformer Stand	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
3.2h	Arrester Stand	0	EA	\$ 1,850	\$ -	\$ 1,850	\$ -	\$ 3,700	\$ -
3.2j	Wave Trap Stand	0	EA	\$ 7,400	\$ -	\$ 7,400	\$ -	\$ 14,800	\$ -
3.2k	Misc. Structures	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
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	\$ 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 - SUBSTATION STRUCTURES					\$ 1,283,900		\$ 1,283,900		\$ 2,567,800
4. MAJOR EQUIPMENT									
4.1 765kV									
4.1a	Circuit Breakers	1	EA.	\$ 900,000	\$ 900,000	\$ 110,000	\$ 110,000	\$ 1,010,000	\$ 1,010,000
4.1b	Capacitor Banks	0	EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.1c	765-345kV Transformer (1ph)	0	EA.	\$ -	\$ -	\$ 250,000	\$ -	\$ 250,000	\$ -
4.1d									
4.2 345kV									
4.2a	Circuit Breakers	0	EA	\$ 200,000	\$ -	\$ 80,000	\$ -	\$ 280,000	\$ -
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 - MAJOR EQUIPMENT					\$ 900,000		\$ 110,000		\$ 1,010,000
5. SMALL EQUIPMENT / MATERIALS									
5.1 765kV									
5.1a	Line Switches - 3ph w/ motor operator	1	EA	\$ 400,000	\$ 400,000	\$ 50,000	\$ 50,000	\$ 450,000	\$ 450,000
5.1b	Disconnect Switches - 3ph w/ manual operator	2	EA	\$ 350,000	\$ 700,000	\$ 45,000	\$ 90,000	\$ 395,000	\$ 790,000
5.1c	VT'S	3	EA	\$ 13,000	\$ 39,000	\$ 16,000	\$ 48,000	\$ 29,000	\$ 87,000
5.1d	CT'S	3	EA	\$ 13,000	\$ 39,000	\$ 12,000	\$ 36,000	\$ 25,000	\$ 75,000
5.1e	CCVT'S	9	EA	\$ 12,000	\$ 108,000	\$ 12,000	\$ 108,000	\$ 24,000	\$ 216,000
5.1f	Arresters	3	EA	\$ 15,000	\$ 45,000	\$ 12,000	\$ 36,000	\$ 27,000	\$ 81,000
5.1g	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	\$ -
5.2e	CCVT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -
5.2f	Arresters	0	EA	\$ 6,500	\$ -	\$ 1,500	\$ -	\$ 8,000	\$ -
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	\$ -	\$ 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 - SMALL EQUIPMENT / MATERIALS					\$ 1,361,000		\$ 392,000		\$ 1,753,000
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	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
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	EA	\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	Control Cables	1	LS	\$ 327,250	\$ 327,250	\$ 327,250	\$ 327,250	\$ 654,500	\$ 654,500
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 - CONTROL HOUSE / PANELS / GENERATOR					\$ 432,250		\$ 364,750		\$ 797,000
7. MISC ITEMS 765kV									
7.1	Conduit & Cable Trench System	1,400	LF	\$ 185.00	\$ 259,000	\$ 231.27	\$ 323,778	\$ 416.27	\$ 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	\$ 6.93	\$ 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 345kV									
7.15	Conduit & Cable Trench System	0	LF	\$ 125.07	\$ -	\$ 170.00	\$ -	\$ 295	\$ -
7.16	Rigid Bus, Fittings & Insulators	0	LF	\$ 125.07	\$ -	\$ 237.10	\$ -	\$ 362	\$ -
7.17	Strain Bus, Connectors & Insulators	0	LF	\$ 61.50	\$ -	\$ 78.69	\$ -	\$ 140	\$ -
7.18	Grounding System	0	LF	\$ 6.93	\$ -	\$ 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
S. Marcy Substation - Install					\$ 9,536,042		\$ 8,016,464		\$ 17,552,506
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 175,525	\$ 175,525	\$ 175,525	\$ 175,525
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			\$ 634,083	\$ 634,083	\$ 634,083	\$ 634,083
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 175,525	\$ 175,525	\$ 175,525	\$ 175,525
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 175,525	\$ 175,525	\$ 175,525	\$ 175,525
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,404,200	\$ 1,404,200	\$ 1,404,200	\$ 1,404,200
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000

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
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	\$ 762,883	\$ 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

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.
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 3.132% 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 Oversight 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 (T026)			
Description		Total Amount (In thousand \$)	
Direct Cost	1	Transmission Lines	
	1.1	Clearing & Access	\$50,021
	1.2	Foundations	\$23,713
	1.3	Structures	\$60,645
	1.4	Conductor, Shieldwire and OPGW	\$35,492
	1.5	Insulators, Fitting and Hardwares	\$10,802
	Subtotal (1)		\$180,672
	2	Substations	
	2.1	Rotterdam Substation	\$47,340
	2.2	Edic Substation	\$2,153
	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	\$8,399	
Subtotal (2)		\$63,702	
Total (1+2)		\$244,374	
Contractors Mark-up (15% of Total 1+2)		\$36,656	
Total Direct Cost (A)		\$281,030	
Indirect Cost	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$2,444
	3.2	Project Management, Material Handling & Amenities	\$18,000
	3.3	Engineering	\$16,495
	3.4	Testing & Commissioning	\$1,498
	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$19,684
	3.6	Compensation for use of NYPA Structures (1 Ckt.)	\$8,919
	3.7	Legal, Env. Lisc. & Permit and Env. Mitigation	\$7,920
Total Indirect Cost (3)		\$74,960	
Subtotal Project Cost (B=A+3) 2017 \$		\$355,990	
	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 \$		\$363,717	
Total Project Cost 2018 \$		\$374,628	

NAT & NYPA - T026 - (Segment A, Base)

Estimate Revision: 4

NAT & NYPA - T026 - (Segment A, Base) - Direct Costs		Total Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Edic to Princetown	\$ 122,326,553
Direct Labor, Material & Equipment Costs	B. Transmission Line Princetown to Rotterdam	\$ 20,508,582
Direct Labor, Material & Equipment Costs	C. Transmission Line Princetown to New Scotland	\$ 37,837,229
Direct Labor, Material & Equipment Costs	D. Rotterdam Substation - Install	\$ 43,728,474
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	\$ 2,676,471
Direct Labor, Material & Equipment Costs	N. Interconnection Rotterdam Station	\$ 3,938,252
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:		\$ 249,892,880
CONTRACTOR MARK-UP (OH&P)		\$ 37,483,932
CONTINGENCY ON ENTIRE PROJECT		\$ -
TOTAL DIRECT:		\$ 287,376,812

NAT & NYPA - T026 - (Segment A, Base) - Indirect Costs		Total Each Segment
Indirect Costs	A. Transmission Line Edic to Princetown	\$ 38,103,618
Indirect Costs	B. Transmission Line Princetown to Rotterdam	\$ 4,595,347
Indirect Costs	C. Transmission Line Princetown to New Scotland	\$ 9,274,674
Indirect Costs	D. Rotterdam Substation - Install	\$ 10,957,370
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	\$ 537,122
Indirect Costs	N. Interconnection Rotterdam Station	\$ 702,660
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. Lic. & Permit., and Envir. Mitigation)	\$ 7,919,694
TOTAL INDIRECT:		\$ 76,339,911

TOTAL ESTIMATED COST:		\$ 363,716,723
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NAT & NYPA - T026 - (Segment A, Base)

A. Transmission Line Edic to Princetown

Estimate Revision: **4** Total: \$ **160,430,171**

NAT & NYPA - T026 - (Segment 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	\$ 4,680,711	\$ 2,243,484	\$ 6,924,195
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 2,207,378	\$ 35,896,240	\$ 38,103,618
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 29,799,605	\$ 130,630,566	\$ 160,430,171
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 29,799,605	\$ 130,630,566	\$ 160,430,171

0.0%

0.0%

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. Transmission 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	Access Road	70,540.8	LF	\$ -	\$ -	\$ 45	\$ 3,174,336	\$ 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	\$ 19,751,424	\$ 70	\$ 19,751,424
1.6	Matting - To Work Area	25,200.0	LF	\$ -	\$ -	\$ 70	\$ 1,764,000	\$ 70	\$ 1,764,000
1.7	Snow Removal	66.8	Mile	\$ -	\$ -	\$ 16,000	\$ 1,068,800	\$ 16,000	\$ 1,068,800
1.8	ROW Restoration	66.8	Mile	\$ -	\$ -	\$ 10,000	\$ 668,000	\$ 10,000	\$ 668,000
1.9	Work Pads	1,680,000.0	SF	\$ -	\$ -	\$ 4	\$ 5,913,600	\$ 4	\$ 5,913,600
1.10	Restoration for Work Pad areas	336,000.0	SF	\$ -	\$ -	\$ 0.15	\$ 50,400	\$ 0	\$ 50,400
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 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 on Public Roads	100	EA	\$ -	\$ -	\$ 4,130	\$ 413,000	\$ 4,130	\$ 413,000
1.15	Culverts / Misc. Access	10	EA	\$ 750	\$ 7,500	\$ 1,250	\$ 12,500	\$ 2,000	\$ 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 - CLEARING & ACCESS:					\$ 41,500		\$ 35,680,876		\$ 35,722,376
2. FOUNDATIONS									
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	\$ 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	\$ 2,613	\$ 26,437	\$ 26,437	\$ 29,049	\$ 29,049
2.14	Direct Embed Foundations - 6' x 28'	3	EA	\$ 2,707	\$ 8,121	\$ 27,416	\$ 82,247	\$ 30,123	\$ 90,368
2.15	Direct Embed Foundations - 6' x 29'	3	EA	\$ 2,896	\$ 8,687	\$ 29,374	\$ 88,122	\$ 32,270	\$ 96,809
2.16	Direct Embed Foundations - 6' x 33'	3	EA	\$ 3,273	\$ 9,820	\$ 33,290	\$ 99,871	\$ 36,564	\$ 109,691
2.17	Direct Embed Foundations - 7' x 27'	2	EA	\$ 3,337	\$ 6,673	\$ 37,316	\$ 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
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	Material 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	CY	\$ -	\$ -	\$ 2,000	\$ 2,684,000	\$ 2,000	\$ 2,684,000
TOTAL - FOUNDATIONS:					\$ 3,098,282		\$ 10,723,946		\$ 13,822,229
3. STRUCTURES									
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	\$ 130,388	\$ 521,552
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	\$ 634,809	\$ 63,481	\$ 380,885	\$ 169,282	\$ 1,015,694
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	\$ 1,125,629
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	\$ 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	\$ 284,841
3.36	Remove Existing Foundation	50	EA	\$ -	\$ -	\$ 7,500	\$ 375,000	\$ 7,500	\$ 375,000
3.37	Remove Existing Structure and Accessories	994	EA	\$ -	\$ -	\$ 12,500	\$ 12,425,000	\$ 12,500	\$ 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
TOTAL - STRUCTURES:					\$ 14,839,646		\$ 25,190,231		\$ 40,029,876
4. CONDUCTOR, 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 Rate	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	\$ 1.35	\$ 407,152	\$ 5.00	\$ 1,507,970	\$ 6.35	\$ 1,915,122
4.3	(1) 3/8" EHS7 Steel (Edic to 12.6 Miles)	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	\$ 12,000.00	\$ 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									
4.13	Rider Poles (187 Locations)	93	Set	\$ 1,750	\$ 162,750	\$ 3,500	\$ 325,500	\$ 5,250.00	\$ 488,250
4.14	Rider Poles - Relocated	94	Set	\$ -	\$ -	\$ 3,500	\$ 329,000	\$ 3,500.00	\$ 329,000
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 4,932,087		\$ 20,895,790		\$ 25,827,877
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	180	Assembly	\$ 1,800	\$ 324,000	\$ 720	\$ 129,600	\$ 2,520	\$ 453,600
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	1,104	Assembly	\$ 1,800	\$ 1,987,200	\$ 720	\$ 794,880	\$ 2,520	\$ 2,782,080
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	450	Assembly	\$ 1,800	\$ 810,000	\$ 720	\$ 324,000	\$ 2,520	\$ 1,134,000
5.4	OPGW Assembly - Tangent	310	Assembly	\$ 200	\$ 62,000	\$ 150	\$ 46,500	\$ 350	\$ 108,500
5.5	OPGW Assembly - Angle / DE	54	Assembly	\$ 250	\$ 13,500	\$ 150	\$ 8,100	\$ 400	\$ 21,600
5.6	OHSW Assembly - Tangent	310	Assembly	\$ 200	\$ 62,000	\$ 150	\$ 46,500	\$ 350	\$ 108,500
5.7	OHSW Assembly - Angle / DE	54	Assembly	\$ 250	\$ 13,500	\$ 150	\$ 8,100	\$ 400	\$ 21,600
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	5,244	EA	\$ 50	\$ 262,200	\$ 35	\$ 183,540	\$ 85	\$ 445,740
5.11	Vibration Dampers - Conductor	4,164	EA	\$ 35	\$ 145,740	\$ 35	\$ 145,740	\$ 70	\$ 291,480
5.12	Shield wire / OPGW Dampers, Misc. Fittings	1,087	EA	\$ 27	\$ 29,349	\$ 35	\$ 38,045	\$ 62	\$ 67,394
5.13	Replace - Mono Pole Vertical Tangent (1-Group of 18-Bells Each Assembly)	252	Assembly	\$ 1,800	\$ 453,600	\$ 720	\$ 181,440	\$ 2,520	\$ 635,040
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 - INSULATORS, FITTINGS, HARDWARE:					\$ 4,680,711		\$ 2,243,484		\$ 6,924,195
A. Transmission Line Edic to Princetown					\$ 27,592,226		\$ 94,734,327		\$ 122,326,553
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 1,223,266	\$ 1,223,266	\$ 1,223,266	\$ 1,223,266
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			\$ 6,563,921	\$ 6,563,921	\$ 6,563,921	\$ 6,563,921
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 1,223,266	\$ 1,223,266	\$ 1,223,266	\$ 1,223,266
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,223,266	\$ 1,223,266	\$ 1,223,266	\$ 1,223,266
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 6,116,328	\$ 6,116,328	\$ 6,116,328	\$ 6,116,328
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 366,980	\$ 366,980	\$ 366,980	\$ 366,980
6.7	Geotech	67	Location	\$ -	\$ -	\$ 3,500	\$ 234,500	\$ 3,500	\$ 234,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 856,286	\$ 856,286	\$ 856,286	\$ 856,286
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	\$ -	\$ -	\$ 366,980	\$ 366,980	\$ 366,980	\$ 366,980
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

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
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	\$ 2,207,378	\$ 2,207,378	\$ -	\$ -	\$ 2,207,378	\$ 2,207,378
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 122,327	\$ 122,327	\$ 122,327	\$ 122,327
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 2,207,378		\$ 35,896,240		\$ 38,103,618

NAT & NYPA - T026 - (Segment A, Base)

B. Transmission Line Princetown to Rotterdam

Estimate Revision: **4** Total: \$ **25,103,929**

NAT & NYPA - T026 - (Segment 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	\$ 1,210,631	\$ 557,892	\$ 1,768,523
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 498,571	\$ 4,096,777	\$ 4,595,347
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 6,730,705	\$ 18,373,225	\$ 25,103,929
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 6,730,705	\$ 18,373,225	\$ 25,103,929

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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. Transmission 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	Access Road	5,280	LF	\$ -	\$ -	\$ 45	\$ 237,600	\$ 45	\$ 237,600
1.4	Silt Fence	26,400	LF	\$ -	\$ -	\$ 4	\$ 105,600	\$ 4	\$ 105,600
1.5	Matting - Access and ROW	21,120	LF	\$ -	\$ -	\$ 70	\$ 1,478,400	\$ 70	\$ 1,478,400
1.6	Matting - To Work Area	2,775	LF	\$ -	\$ -	\$ 70	\$ 194,250	\$ 70	\$ 194,250
1.7	Snow Removal	5	Mile	\$ -	\$ -	\$ 16,000	\$ 80,000	\$ 16,000	\$ 80,000
1.8	ROW Restoration	5	Mile	\$ -	\$ -	\$ 10,000	\$ 50,000	\$ 10,000	\$ 50,000
1.9	Work Pads	185,000	SF	\$ -	\$ -	\$ 4	\$ 651,200	\$ 4	\$ 651,200
1.10	Restoration for Work Pad areas	37,000	SF	\$ -	\$ -	\$ 0.2	\$ 5,550	\$ 0	\$ 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	\$ 45,800	\$ 4,580	\$ 45,800
1.14	Maintenance and Protection of Traffic on Public Roads	10	EA	\$ -	\$ -	\$ 4,130	\$ 41,300	\$ 4,130	\$ 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 - CLEARING & ACCESS:					\$ 6,000		\$ 3,038,200		\$ 3,044,200
2. FOUNDATIONS									
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	\$ 82,247	\$ 22,608	\$ 90,432
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	\$ 34,595	\$ 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 - FOUNDATIONS:					\$ 417,002		\$ 3,778,708		\$ 4,195,711
3. STRUCTURES									
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	\$ 226,677	\$ 453,354
3.4	2x 1-CKT 345KV VERTICAL TANGENT DEADEND (0°-5°) - 115'	4	Structure	\$ 109,816	\$ 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	\$ 232,656	\$ 465,312	\$ 139,594	\$ 279,187	\$ 372,250	\$ 744,499
3.6	2x 1-CKT 345KV 3-POLE LARGE ANGLE DEADEND (60°-90°) - 115'	1	Structure	\$ 176,342	\$ 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	\$ 99,493	\$ 99,493	\$ 59,696	\$ 59,696	\$ 159,189	\$ 159,189
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	Material 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
TOTAL - STRUCTURES PRINCETOWN TO NEW SCOTLAND:					\$ 3,876,135		\$ 4,280,943		\$ 8,157,078
4. CONDUCTOR, 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: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 722,365		\$ 2,620,705		\$ 3,343,070
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	348.0	Assembly	\$ 1,800	\$ 626,400	\$ 720	\$ 250,560	\$ 2,520	\$ 876,960
5.2	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	58	Assembly	\$ 200	\$ 11,600	\$ 150	\$ 8,700	\$ 350	\$ 20,300
5.4	OPGW Assembly - Angle / DE	16	Assembly	\$ 250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.5	OHSW Assembly - Tangent	58	Assembly	\$ 200	\$ 11,600	\$ 150	\$ 8,700	\$ 350	\$ 20,300
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	\$ 13,968	\$ 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	\$ 35	\$ 29,820	\$ 35	\$ 29,820	\$ 70	\$ 59,640
5.11	Shieldwire / OPGW Dampers, Misc. Fittings	116	EA	\$ 27	\$ 3,132	\$ 35	\$ 4,060	\$ 62	\$ 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	\$ 5,030	\$ 1,776	\$ 8,880
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 1,210,631		\$ 557,892		\$ 1,768,523
B. Transmission Line Princetown to Rotterdam					\$ 6,232,134		\$ 14,276,448		\$ 20,508,582
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 205,086	\$ 205,086	\$ 205,086	\$ 205,086
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			\$ 1,100,470	\$ 1,100,470	\$ 1,100,470	\$ 1,100,470
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 205,086	\$ 205,086	\$ 205,086	\$ 205,086
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 205,086	\$ 205,086	\$ 205,086	\$ 205,086
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,025,429	\$ 1,025,429	\$ 1,025,429	\$ 1,025,429
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 61,526	\$ 61,526	\$ 61,526	\$ 61,526
6.7	Geotech	5	Location	\$ -	\$ -	\$ 3,500	\$ 17,500	\$ 3,500	\$ 17,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 143,560	\$ 143,560	\$ 143,560	\$ 143,560
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	\$ -	\$ -	\$ 61,526	\$ 61,526	\$ 61,526	\$ 61,526
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	\$ 498,571	\$ 498,571	\$ -	\$ -	\$ 498,571	\$ 498,571

Item	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		\$ -	\$ 20,509	\$ 20,509	\$ 20,509	\$ 20,509
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 498,571		\$ 4,096,777		\$ 4,595,347

NAT & NYPA - T026 - (Segment A, Base)

C. Transmission Line Princetown to New Scotland

Estimate
Revision:

4

Total: \$ 47,111,904

NAT & NYPA - T026 - (Segment 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	\$ 1,400,673	\$ 708,421	\$ 2,109,095
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 885,667	\$ 8,389,007	\$ 9,274,674
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 11,956,503	\$ 35,155,400	\$ 47,111,904
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 11,956,503	\$ 35,155,400	\$ 47,111,904

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. Transmission 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	\$ 4	\$ 416,064
1.5	Matting - Access and ROW	83,212.8	LF	\$ -	\$ -	\$ 70	\$ 5,824,896	\$ 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	\$ 16,000	\$ 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 - CLEARING & ACCESS:					\$ 31,000		\$ 11,223,694		\$ 11,254,694
2. FOUNDATIONS									
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	\$ 18,064	\$ 108,384	\$ 18,261	\$ 109,564	\$ 36,325	\$ 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	EA	\$ 29,270	\$ 87,811	\$ 29,589	\$ 88,767	\$ 58,860	\$ 176,579
2.18	Drilled Pier - 8' x 27'	1	EA	\$ 42,819	\$ 42,819	\$ 43,285	\$ 43,285	\$ 86,103	\$ 86,103
2.19	Drilled Pier - 8' x 83'	1	EA	\$ 128,456	\$ 128,456	\$ 172,020	\$ 172,020	\$ 300,475	\$ 300,475
2.20	Drilled Pier - 8' x 89'	1	EA	\$ 137,631	\$ 137,631	\$ 184,307	\$ 184,307	\$ 321,938	\$ 321,938

Item	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	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	CY	\$ -	\$ -	\$ 2,000	\$ 964,800	\$ 2,000	\$ 964,800	
TOTAL - FOUNDATIONS:					\$ 1,194,705		\$ 4,499,949		\$ 5,694,653	
3. STRUCTURES										
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'	5	Structure	\$ 52,207	\$ 261,035	\$ 31,324	\$ 156,621	\$ 83,531	\$ 417,656	
3.3	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 125'	8	Structure	\$ 55,685	\$ 445,480	\$ 33,411	\$ 267,288	\$ 89,096	\$ 712,768	
3.4	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 130'	9	Structure	\$ 58,257	\$ 524,309	\$ 34,954	\$ 314,585	\$ 93,210	\$ 838,894	
3.5	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 135'	4	Structure	\$ 60,884	\$ 243,534	\$ 36,530	\$ 146,120	\$ 97,414	\$ 389,654	
3.6	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 145'	1	Structure	\$ 64,473	\$ 64,473	\$ 38,684	\$ 38,684	\$ 103,156	\$ 103,156	
3.7	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 115'	1	Structure	\$ 72,039	\$ 72,039	\$ 43,223	\$ 43,223	\$ 115,262	\$ 115,262	
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 TANGENT DEADEND (0°-5°) - 120'	1	Structure	\$ 58,164	\$ 58,164	\$ 34,898	\$ 34,898	\$ 93,062	\$ 93,062	
3.10	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 105'	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	
3.12	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 89'	5	Structure	\$ 32,708	\$ 163,540	\$ 19,625	\$ 98,124	\$ 52,333	\$ 261,664	
3.13	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 93'	5	Structure	\$ 34,540	\$ 172,698	\$ 20,724	\$ 103,619	\$ 55,263	\$ 276,316	
3.14	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 107'	5	Structure	\$ 45,936	\$ 229,678	\$ 27,561	\$ 137,807	\$ 73,497	\$ 367,484	
3.15	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 80'	3	Structure	\$ 55,241	\$ 165,723	\$ 33,145	\$ 99,434	\$ 88,386	\$ 265,157	
3.16	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 80'	5	Structure	\$ 69,079	\$ 345,395	\$ 41,447	\$ 207,237	\$ 110,526	\$ 552,632	
3.17	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 85'	1	Structure	\$ 75,739	\$ 75,739	\$ 45,443	\$ 45,443	\$ 121,182	\$ 121,182	
3.18	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 80'	5	Structure	\$ 97,403	\$ 487,013	\$ 58,442	\$ 292,208	\$ 155,844	\$ 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	\$ 207,052	
3.20	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$ 178,026	\$ 178,026	\$ 106,815	\$ 106,815	\$ 284,841	\$ 284,841	
3.21	2-CKT 115KV/345KV VERTICAL TANGENT (0°-1°) - 115'	7	Structure	\$ 54,631	\$ 382,414	\$ 32,778	\$ 229,448	\$ 87,409	\$ 611,862	
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	\$ 278,092	\$ 278,092	
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	\$ 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	\$ 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 - STRUCTURES:					\$ 6,879,617		\$ 5,578,039		\$ 12,457,656	
4. CONDUCTOR, SHIELDWIRE, OPGW										
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	
4.2	(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	\$ 30,000.00	\$ 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	\$ 43,750	\$ 3,500	\$ 87,500	\$ 5,250.00	\$ 131,250	
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		\$ 6,321,132	
5. INSULATOR, FITTINGS, HARDWARE										
5.1	Double Ckt. Mono Pole Vertical Tangent - V-String (115KV) (1, Group of 10-Bells Each Assembly)	78	Assembly	\$ 1,000	\$ 78,000	\$ 720	\$ 56,160	\$ 1,720	\$ 134,160	
5.2	Double Ckt. Mono Pole Vertical Tangent - V-String (345kv) (1, Group of 18-Bells Each Assembly)	78	Assembly	\$ 1,800	\$ 140,400	\$ 720	\$ 56,160	\$ 2,520	\$ 196,560	
5.3	Double Ckt. Dead End Vertical (115KV) (1, Group of 10-Bells Each Assembly)	24	Assembly	\$ 1,000	\$ 24,000	\$ 720	\$ 17,280	\$ 1,720	\$ 41,280	
5.4	Double Ckt. Dead End Vertical (345kv) (1, Group of 18-Bells Each Assembly)	60	Assembly	\$ 1,800	\$ 108,000	\$ 720	\$ 43,200	\$ 2,520	\$ 151,200	
5.5	Single Ckt. Dead End Vertical (345KV) (1, Group of 18-Bells Each Assembly)	210	Assembly	\$ 1,800	\$ 378,000	\$ 720	\$ 151,200	\$ 2,520	\$ 529,200	

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
5.6	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	244	Assembly	\$ 1,800	\$ 439,200	\$ 720	\$ 175,680	\$ 2,520	\$ 614,880
5.7	OPGW Assembly - Tangent	58	Assembly	\$ 200	\$ 11,600	\$ 150	\$ 8,700	\$ 350	\$ 20,300
5.8	OPGW Assembly - Angle / DE	16	Assembly	\$ 250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.9	OHSW Assembly - Tangent	58	Assembly	\$ 200	\$ 11,600	\$ 150	\$ 8,700	\$ 350	\$ 20,300
5.10	OHSW Assembly - Angle / DE	16	Assembly	\$ 250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.11	OPGW Splice Boxes	8	Assembly	\$ 1,746	\$ 13,968	\$ 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
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 1,400,673		\$ 708,421		\$ 2,109,095
C. Transmission Line Princetown to New Scotland					\$ 11,070,837		\$ 26,766,393		\$ 37,837,229
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 378,372	\$ 378,372	\$ 378,372	\$ 378,372
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			\$ 2,030,308	\$ 2,030,308	\$ 2,030,308	\$ 2,030,308
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 378,372	\$ 378,372	\$ 378,372	\$ 378,372
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 378,372	\$ 378,372	\$ 378,372	\$ 378,372
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,891,861	\$ 1,891,861	\$ 1,891,861	\$ 1,891,861
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 113,512	\$ 113,512	\$ 113,512	\$ 113,512
6.7	Geotech	20	Location	\$ -	\$ -	\$ 3,500	\$ 70,000	\$ 3,500	\$ 70,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 264,861	\$ 264,861	\$ 264,861	\$ 264,861
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	\$ -	\$ -	\$ 113,512	\$ 113,512	\$ 113,512	\$ 113,512
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	\$ 885,667	\$ 885,667	\$ -	\$ -	\$ 885,667	\$ 885,667
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 37,837	\$ 37,837	\$ 37,837	\$ 37,837
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 885,667		\$ 8,389,007		\$ 9,274,674

NAT & NYPA - T026 - (Segment A, Base)

D. Rotterdam Substation - Install

Estimate Revision: **4** Total: \$ **54,685,844**

NAT & NYPA - T026 - (Segment A, Base)			
	Supply	Installation	Total
D. Rotterdam Substation - Install			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ 2,896,891	\$ 7,763,755	\$ 10,660,646
2. SUBSTATION FOUNDATIONS	\$ 2,443,003	\$ 2,616,200	\$ 5,059,203
3. SUBSTATION STRUCTURES	\$ 944,980	\$ 944,980	\$ 1,889,960
4. MAJOR EQUIPMENT	\$ 11,915,000	\$ 2,970,000	\$ 14,885,000
5. SMALL EQUIPMENT / 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	\$ 8,992,283	\$ 10,957,370
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 26,528,676	\$ 28,157,168	\$ 54,685,844
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 26,528,676	\$ 28,157,168	\$ 54,685,844

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
D. Rotterdam 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	\$ -		\$ 1,800,000	\$ 1,800,000	\$ 1,800,000	\$ 1,800,000
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 2,896,891		\$ 7,763,755		\$ 10,660,646
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
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	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	\$ 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								
2.5a	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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 2,443,003		\$ 2,616,200		\$ 5,059,203
3. SUBSTATION 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	\$ 14,800	\$ 251,600	\$ 29,600	\$ 503,200

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
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	\$ 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	\$ -	\$ 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	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ 944,980		\$ 944,980		\$ 1,889,960
4. MAJOR EQUIPMENT									
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	\$ 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	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 11,915,000		\$ 2,970,000		\$ 14,885,000
5. SMALL EQUIPMENT / 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

Item	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	\$ 892,500
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	\$ 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	\$ -	\$ 17,500	\$ -	\$ 45,500	\$ -
5.3c	VT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 1,994,540		\$ 1,060,500		\$ 3,055,040
6. CONTROL HOUSE / 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
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 2,927,500		\$ 1,477,500		\$ 4,405,000
7. MISC ITEMS									
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

Item	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	\$ 185,300
7.4	Grounding System	25,000	LF	\$ 6.93	\$ 173,250	\$ 32.58	\$ 814,500	\$ 40	\$ 987,750
7.5	Strain Bus Insulators - 345kV	48	EA	\$ 2,000	\$ 96,000	\$ 1,050	\$ 50,400	\$ 3,050	\$ 146,400
7.6	Strain Bus Insulators - 230kV	6	EA	\$ 1,400	\$ 8,400	\$ 750	\$ 4,500	\$ 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									
TOTAL - MISC ITEMS					\$ 1,441,675		\$ 2,331,950		\$ 3,773,625
D. Rotterdam Substation - Install					\$ 24,563,589		\$ 19,164,885		\$ 43,728,474
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 437,285	\$ 437,285	\$ 437,285	\$ 437,285
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			\$ 2,346,426	\$ 2,346,426	\$ 2,346,426	\$ 2,346,426
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 437,285	\$ 437,285	\$ 437,285	\$ 437,285
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 437,285	\$ 437,285	\$ 437,285	\$ 437,285
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,498,278	\$ 3,498,278	\$ 3,498,278	\$ 3,498,278
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 306,099	\$ 306,099	\$ 306,099	\$ 306,099
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 1,093,212	\$ 1,093,212	\$ 1,093,212	\$ 1,093,212
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 131,185	\$ 131,185	\$ 131,185	\$ 131,185
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	\$ 1,965,087	\$ 1,965,087	\$ -	\$ -	\$ 1,965,087	\$ 1,965,087
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 43,728	\$ 43,728	\$ 43,728	\$ 43,728
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,965,087		\$ 8,992,283		\$ 10,957,370

NAT & NYPA - T026 - (Segment A, Base)

E. Rotterdam Substation - Removal

Estimate Revision: **4** Total: \$ **4,216,452**

NAT & NYPA - T026 - (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 EQUIPMENT	\$ -	\$ 147,000	\$ 147,000
5. SMALL EQUIPMENT / 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	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. Rotterdam 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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ 1,472,750		\$ 1,472,750
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		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	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		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	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 - SUBSTATION FOUNDATIONS					\$ -		\$ 617,400		\$ 617,400
3. SUBSTATION 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 - SUBSTATION STRUCTURES					\$ -		\$ 534,900		\$ 534,900
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT					\$ -		\$ 147,000		\$ 147,000
5. SMALL EQUIPMENT / MATERIALS									
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	\$ 16,500
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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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 - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 169,500		\$ 169,500
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	1	EA	\$ -	\$ -	\$ 150,000	\$ 150,000	\$ 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 - CONTROL 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 & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	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. Rotterdam Substation - Removal					\$ -		\$ 3,611,030		\$ 3,611,030
8. MOB/DEMOB, 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 Oversight	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:					\$ -		\$ 605,422		\$ 605,422

NAT & NYPA - T026 - (Segment A, Base)

F. Edic Substation - Install

Estimate Revision: **4**

Total: \$ **2,645,078**

NAT & NYPA - T026 - (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 EQUIPMENT	\$ 200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPMENT / 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:	\$ 1,230,908	\$ 1,414,170	\$ 2,645,078

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
F. Edic 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	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 PREP/ GRADING/ FENCING / CIVIL					\$ 2,025		\$ 5,625		\$ 7,650
2. SUBSTATION 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	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -

Item	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	\$ -	\$ 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)	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	\$ 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	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 - 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	\$ -	\$ 74,000	\$ -
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	\$ -	\$ 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	\$ 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	\$ -	\$ 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	\$ -

Item	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	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 - SUBSTATION STRUCTURES					\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQUIPMENT									
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								
4.2a	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 - MAJOR EQUIPMENT					\$ 200,000		\$ 80,000		\$ 280,000
5. SMALL EQUIPMENT / 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	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	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1f	Arresters	6	EA	\$ 6,500	\$ 39,000	\$ 1,500	\$ 9,000	\$ 8,000	\$ 48,000
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									
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	\$ 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 - SMALL EQUIPMENT / 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 HOUSE / 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	\$ -
TOTAL - CONTROL 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
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	\$ 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
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 ITEMS					\$ 339,357		\$ 507,880		\$ 847,237
F. Edic Substation - Install					\$ 1,139,730		\$ 977,455		\$ 2,117,185
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
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			\$ 113,606	\$ 113,606	\$ 113,606	\$ 113,606
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$ 21,172
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$ 21,172
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 169,375	\$ 169,375	\$ 169,375	\$ 169,375
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 14,820	\$ 14,820	\$ 14,820	\$ 14,820
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 52,930	\$ 52,930	\$ 52,930	\$ 52,930
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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)	-	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	\$ 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		\$ 436,715		\$ 527,893

NAT & NYPA - T026 - (Segment A, Base)

G. Edic Substation - Removal

Estimate Revision: **4**

Total: \$ **41,708**

NAT & NYPA - T026 - (Segment A, Base)			
	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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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:	\$ -	\$ 31,208	\$ 41,708

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
G. Edic 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.			\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence			\$ -	\$ -	\$ 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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ -		\$ -
2. SUBSTATION FOUNDATIONS									
2.1 345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$ -	\$ -	\$ 14,000	\$ 14,000	\$ 14,000	\$ 14,000
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		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	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ 2,400	\$ -
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	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 14,000		\$ 14,000
3. SUBSTATION 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	3	EA	\$ -	\$ -	\$ 2,250	\$ 6,750	\$ 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	\$ -	\$ 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	\$ -
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	\$ -	\$ 2,250	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 6,750		\$ 6,750
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
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	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		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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 4,500		\$ 4,500
6. CONTROL HOUSE / 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONTROL 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	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	\$ -
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
G. Edic Substation - Removal					\$ -		\$ 35,750		\$ 35,750
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	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	\$ -	\$ -	\$ 1,918	\$ 1,918	\$ 1,918	\$ 1,918
8.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 358	\$ 358	\$ 358	\$ 358
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 358	\$ 358	\$ 358	\$ 358
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,860	\$ 2,860	\$ 2,860	\$ 2,860
8.6	LIDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 250	\$ -	\$ 250	\$ -
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 894	\$ -	\$ 894	\$ -
Permitting and Additional Costs									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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:					\$ -		\$ 5,958		\$ 5,958

NAT & NYPA - T026 - (Segment A, Base)

H. New Scotland Substation - Install

Estimate Revision: **4**

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 EQUIPMENT	\$ 600,000	\$ 240,000	\$ 840,000
5. SMALL EQUIPMENT / 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	Item 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 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	\$ 4,050	\$ 75	\$ 11,250	\$ 102	\$ 15,300
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									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 4,050		\$ 11,250		\$ 15,300
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)	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	24	EA	\$ 4,482	\$ 107,568	\$ 4,800	\$ 115,200	\$ 9,282	\$ 222,768
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	12	EA	\$ 4,482	\$ 53,784	\$ 4,800	\$ 57,600	\$ 9,282	\$ 111,384
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	\$ -
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								
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	\$ -	\$ 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	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 - SUBSTATION FOUNDATIONS					\$ 406,368		\$ 435,200		\$ 841,568
3. SUBSTATION STRUCTURES									
3.1	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	\$ -
3.1c	Switch Stands	4	EA	\$ 14,800	\$ 59,200	\$ 14,800	\$ 59,200	\$ 29,600	\$ 118,400
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	15	EA	\$ 3,700	\$ 55,500	\$ 3,700	\$ 55,500	\$ 7,400	\$ 111,000
3.1g	Instrument Transformer Stand	12	EA	\$ 1,850	\$ 22,200	\$ 1,850	\$ 22,200	\$ 3,700	\$ 44,400
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	\$ 14,800
3.1k	Lightning Masts - 70'	2	EA	\$ 6,475	\$ 12,950	\$ 6,475	\$ 12,950	\$ 12,950	\$ 25,900
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								

Item	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	\$ -	\$ 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 - SUBSTATION STRUCTURES					\$ 199,800		\$ 199,800		\$ 399,600
4. MAJOR EQUIPMENTMENT									
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	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 - MAJOR EQUIPMENTMENT					\$ 600,000		\$ 240,000		\$ 840,000
5. SMALL EQUIPMENTMENT / 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	3	EA	\$ 35,000	\$ 105,000	\$ 17,500	\$ 52,500	\$ 52,500	\$ 157,500
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	EA	\$ 6,500	\$ 39,000	\$ 1,500	\$ 9,000	\$ 8,000	\$ 48,000
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		0	EA	\$ 15,000	\$ -	\$ 7,500	\$ -	\$ 22,500	\$ -
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	\$ 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 - SMALL EQUIPMENTMENT / MATERIALS					\$ 353,000		\$ 192,500		\$ 545,500
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	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 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	\$ -
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 726,650		\$ 500,400		\$ 1,227,050
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	1	L.S.	\$ 55,500.00	\$ 55,500	\$ 76,500.00	\$ 76,500	\$ 132,000	\$ 132,000
7.2	Rigid Bus, Fittings & Insulators	1	L.S.	\$ 62,535.00	\$ 62,535	\$ 118,550.00	\$ 118,550	\$ 181,085	\$ 181,085
7.3	Strain Bus, Connectors & Insulators	1	L.S.	\$ 92,250.00	\$ 92,250	\$ 114,135.00	\$ 114,135	\$ 206,385	\$ 206,385
7.4	Grounding System	1	L.S.	\$ 10,395.00	\$ 10,395	\$ 48,870.00	\$ 48,870	\$ 59,265	\$ 59,265
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	\$ -
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	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
H. New Scotland Substation - Install					\$ 2,815,548		\$ 2,367,205		\$ 5,182,753
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 51,828	\$ 51,828	\$ 51,828	\$ 51,828
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			\$ 278,101	\$ 278,101	\$ 278,101	\$ 278,101
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 51,828	\$ 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	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 36,279	\$ 36,279	\$ 36,279	\$ 36,279
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 129,569	\$ 129,569	\$ 129,569	\$ 129,569
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	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	\$ -	\$ -	\$ 247,500	\$ -	\$ 247,500	\$ -
8.15	Legal Fees	-	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
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 225,244	\$ 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

NAT & NYPA - T026 - (Segment A, Base)

I. New Scotland Substation - Removal

Estimate Revision: **4**

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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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

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. New Scotland 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 PREP/ 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	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	\$ -
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	\$ -

Item	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	\$ -	\$ -	\$ 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	\$ -	\$ -	\$ 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	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 28,800		\$ 28,800
3. SUBSTATION 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	12	EA	\$ -	\$ -	\$ 2,250	\$ 27,000	\$ 2,250	\$ 27,000
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	\$ -	\$ 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	\$ -
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	\$ -	\$ 2,250	\$ -
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	\$ -

Item	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								
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 - SUBSTATION STRUCTURES					\$ -		\$ 27,000		\$ 27,000
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
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	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		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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 4,500		\$ 4,500
6. CONTROL HOUSE / 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 Cable	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 - CONTROL 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	1	LS	\$ -	\$ -	\$ 21,000.00	\$ 21,000	\$ 21,000	\$ 21,000
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					\$ -		\$ 21,000		\$ 21,000
I. New Scotland Substation - Removal					\$ -		\$ 81,300		\$ 81,300
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	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 Oversight	1	LS		\$ -	\$ 813	\$ 813	\$ 813	\$ 813
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 813	\$ 813	\$ 813	\$ 813
Engineering									
8.5	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									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 244	\$ 244	\$ 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		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS	\$ -	\$ -	\$ 81	\$ -	\$ 81	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 13,549		\$ 13,549

NAT & NYPA - T027 - (Segment A, Double Circuit)

J. Porter Substation - Install

Estimate Revision: **4**

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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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

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
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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ -		\$ -
2. SUBSTATION 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									
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	\$ -

Item	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								
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	\$ -	\$ 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	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	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
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								
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	\$ -

Item	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	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 - SUBSTATION STRUCTURES					\$ -		\$ -		\$ -
4. MAJOR EQUIPMENT									
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	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	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / MATERIALS									
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	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	0	EA	\$ -	\$ -	\$ 12,000	\$ -	\$ 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		0	EA	\$ 15,000	\$ -	\$ 7,500	\$ -	\$ 22,500	\$ -
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	\$ 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 - SMALL EQUIPMENT / MATERIALS					\$ -		\$ -		\$ -
6. CONTROL HOUSE / 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	\$ -

Item	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	\$ 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 - CONTROL 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	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 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									
7.23									
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/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	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	\$ -	\$ -	\$ 3,859	\$ 3,859	\$ 3,859	\$ 3,859
8.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 5,753	\$ 5,753	\$ 5,753	\$ 5,753
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 216	\$ 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		\$ 14,358		\$ 15,559

NAT & NYPA - T026 - (Segment A, Base)

K. Porter Substation - Removal

Estimate Revision: **4**

Total: \$ **553,361**

NAT & NYPA - T026 - (Segment A, Base)			
	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 EQUIPMENT	\$ -	\$ 43,500	\$ 43,500
5. SMALL EQUIPMENT / 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. Porter 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 PREP/ 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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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 (40'x125')	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 126,600		\$ 126,600
3. SUBSTATION 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Shared Column	5	EA	\$ -	\$ -	\$ 27,000	\$ 135,000	\$ 27,000	\$ 135,000
3.2c	Switch Stands	6	EA	\$ -	\$ -	\$ 9,750	\$ 58,500	\$ 9,750	\$ 58,500
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	\$ -	\$ 2,250	\$ -
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	\$ -
3.2k	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
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 - SUBSTATION STRUCTURES					\$ -		\$ 206,100		\$ 206,100
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT					\$ -		\$ 43,500		\$ 43,500
5. SMALL EQUIPMENT / 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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ 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	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	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 59,500		\$ 59,500
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	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
6.2	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.7	DC Distribution System	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.8	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONTROL 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	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 - MISC ITEMS					\$ -		\$ 38,613		\$ 38,613
K. Porter Substation - Removal					\$ -		\$ 474,313		\$ 474,313
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 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 Oversight	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	\$ 474	\$ -	\$ 474	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 79,048		\$ 79,048

NAT & NYPA - T026 - (Segment A, Base)

L. Interconnection Edic Station

Estimate Revision: **4** Total: \$ **2,132,044**

NAT & NYPA - T026 - (Segment A, Base)			
	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	\$ 281,583	\$ 347,969
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 896,222	\$ 1,235,823	\$ 2,132,044
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 896,222	\$ 1,235,823	\$ 2,132,044

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
L. Interconnection Edic 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	\$ -	\$ -	\$ -	\$ 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 - CLEARING & ACCESS					\$ -	\$ 367,850	\$ 367,850		\$ 367,850
2. FOUNDATIONS									
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									
2.8									
2.9									
2.10									
2.11									
2.12									
2.13									
2.14									

Item	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 - FOUNDATIONS					\$ 168,366		\$ 170,169		\$ 338,536
3. STRUCTURES									
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	\$ 121,678	\$ 324,475	\$ 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					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 501,469		\$ 321,821		\$ 823,289
4. CONDUCTOR, 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									
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kv Mono Pole Vertical Tangent - V-String								
5.2	115kv Mono Pole Vertical Tangent - V-String								
5.3	Single Ckt. Dead End Vertical (345kv) (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								
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.8	OPGW Splice Boxes	-	Set	\$ 1,746	\$ -	\$ 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	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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 160,000		\$ 94,400		\$ 254,400
L. Interconnection Edic Station					\$ 829,835		\$ 954,240		\$ 1,784,075
6. MOB/DEMOB, 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 Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.3	Utility PM and Project Oversight	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	\$ 66,387	\$ -	\$ -	\$ 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		\$ 281,583		\$ 347,969

NAT & NYPA - T026 - (Segment A, Base)

M. Interconnection New Scotland Station

Estimate
Revision: 4

Total: \$ 3,213,593

NAT & NYPA - T026 - (Segment A, Base)			
	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	\$ 438,705	\$ 537,122
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,328,622	\$ 1,884,970	\$ 3,213,593
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,328,622	\$ 1,884,970	\$ 3,213,593

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. Interconnection 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 - CLEARING & ACCESS					\$ -	\$ 367,850	\$ 367,850		\$ 367,850
2. FOUNDATIONS									
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									

Item	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 - FOUNDATIONS					\$ 365,657		\$ 473,093		\$ 838,749
3. STRUCTURES									
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	\$ 5,060	\$ 5,539	\$ 55,385	\$ 6,045	\$ 60,445
3.4									
3.5									
3.6									
3.7									
3.8									
3.9									
3.10									
3.11									
3.12									
3.13									
3.14									
3.15									
TOTAL - STRUCTURES					\$ 655,465		\$ 445,628		\$ 1,101,092
4. CONDUCTOR, SHIELDWIRE, OPGW									
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	\$ 705	\$ 5.00	\$ 7,500	\$ 5.47	\$ 8,205
4.5	Remove Existing 345kv Cable From Existing Structures	0.3	Mile	\$ -	\$ -	\$ 30,000	\$ 7,500	\$ 30,000.00	\$ 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									
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 3,555		\$ 26,100		\$ 29,655
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kv Mono Pole Vertical Tangent - V-String	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	115kv Mono Pole Vertical Tangent - V-String	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.3	345kv Dead-end & Angle Insulators	60	Assembly	\$ 2,540	\$ 152,400	\$ 1,350	\$ 81,000	\$ 3,890	\$ 233,400
5.4	115kv Dead-end & Angle Insulators	-	Assembly	\$ 1,270	\$ -	\$ 725	\$ -	\$ 1,995	\$ -
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	-	Assembly	\$ 250	\$ -	\$ 150	\$ -	\$ 400	\$ -
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 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	9	EA	\$ 50	\$ 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	\$ -
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	\$ 50,000	\$ 100,000	\$ 100,000
5.17									
5.18									
5.19									
5.20									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 205,530		\$ 133,595		\$ 339,125
M. Interconnection New Scotland Station					\$ 1,230,206		\$ 1,446,265		\$ 2,676,471
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 26,765	\$ 26,765	\$ 26,765	\$ 26,765
Project Management, Material Handling & Amenities									

Item	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			\$ 143,617	\$ 143,617	\$ 143,617	\$ 143,617
6.3	Utility PM and Project Oversight	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
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	\$ 98,416	\$ 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	\$ 2,676	\$ 2,676
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 98,416		\$ 438,705		\$ 537,122

NAT & NYPA - T026 - (Segment A, Base)

N. Interconnection Rotterdam Station

Estimate Revision: **4** Total: \$ **4,640,912**

NAT & NYPA - T026 - (Segment A, Base)			
	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	\$ 134,320	\$ 300,050
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 77,642	\$ 625,018	\$ 702,660
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,048,161	\$ 3,592,751	\$ 4,640,912
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,048,161	\$ 3,592,751	\$ 4,640,912

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 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	\$ -	\$ -	\$ 4	\$ 19,200	\$ 4	\$ 19,200
1.5	Matting - Access and ROW	4,800.0	LF	\$ -	\$ -	\$ 70	\$ 336,000	\$ 70	\$ 336,000
1.6	Matting - To Work Area	2,400.0	LF	\$ -	\$ -	\$ 70	\$ 168,000	\$ 70	\$ 168,000
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	1.0	Mile	\$ -	\$ -	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
1.9	Work Pads	160,000.0	SF	\$ -	\$ -	\$ 4	\$ 563,200	\$ 4	\$ 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	\$ -
TOTAL - CLEARING & ACCESS				\$ -	\$ -	\$ 1,233,050	\$ 1,233,050	\$ -	\$ 1,233,050
2. FOUNDATIONS									
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	\$ 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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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 - FOUNDATIONS					\$ 192,145		\$ 325,963		\$ 518,108
3. STRUCTURES									
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	\$ 7,100
3.3	15kv 3-CKT DE - WOOD POLE	2	Pole	\$ 3,500	\$ 7,000	\$ 3,600	\$ 7,200	\$ 7,100	\$ 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	2	Pole	\$ 4,500	\$ 9,000	\$ 4,400	\$ 8,800	\$ 8,900	\$ 17,800
3.6	115kv 1-CKT DE - WOOD POLE	11	Pole	\$ 5,500	\$ 60,500	\$ 5,000	\$ 55,000	\$ 10,500	\$ 115,500
3.7	115kv 2-CKT TANGENT - WOOD POLE	4	Pole	\$ 5,500	\$ 22,000	\$ 5,000	\$ 20,000	\$ 10,500	\$ 42,000
3.8	115kv 2-CKT DE - STEEL POLE	4	Pole	\$ 98,883	\$ 395,530	\$ 59,330	\$ 237,318	\$ 158,212	\$ 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					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 546,722		\$ 837,150		\$ 1,383,872
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	345kv - (1) 954kcmil 54/7 ACSR "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	\$ 5.47	\$ 42,666
4.5	Remove Existing Cable	6.6	Mile	\$ -	\$ -	\$ 30,000	\$ 197,700	\$ 30,000.00	\$ 197,700
4.6	Remove Existing EH7	2.2	Mile	\$ -	\$ -	\$ 12,000	\$ 26,400	\$ 12,000.00	\$ 26,400
4.7	15kv - (1) 477kcmil 26/7 ACSR "Hawk"	9,630	LF	\$ 1.62	\$ 15,601	\$ 5.00	\$ 48,150	\$ 6.62	\$ 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		-			\$ -	\$ -	\$ -	\$ -	\$ -
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 65,923		\$ 437,250		\$ 503,173
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Conductor, 115kv, 3PH, Tangent - Insulator	33	Assembly	\$ 1,000	\$ 33,000	\$ 720	\$ 23,760	\$ 1,720	\$ 56,760
5.2	Conductor, 115kv, 3PH, DE/Side - Insulator	66	Assembly	\$ 1,000	\$ 66,000	\$ 720	\$ 47,520	\$ 1,720	\$ 113,520
5.3	Conductor, 15kv, 3PH, Tangent - Insulator	12	Assembly	\$ 100	\$ 1,200	\$ 75	\$ 900	\$ 175	\$ 2,100
5.4	Conductor, 15kv, 3PH, DE/Side - Insulator	18	Assembly	\$ 100	\$ 1,800	\$ 75	\$ 1,350	\$ 175	\$ 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	\$ 400	\$ 75	\$ 300	\$ 175	\$ 700
5.8	OPGW Assembly - Tangent	2	Assembly	\$ 200	\$ 400	\$ 150	\$ 300	\$ 350	\$ 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	\$ -
5.13	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
5.14	Vibration Dampers - Conductor	-	EA	\$ 35	\$ -	\$ 35	\$ -	\$ 70	\$ -
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	\$ -	\$ 1,776	\$ -
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					\$ -		\$ -		\$ -
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 165,730		\$ 134,320		\$ 300,050
N. Interconnection Rotterdam Station					\$ 970,519		\$ 2,967,733		\$ 3,938,252
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383

Item	Item 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			\$ 211,323	\$ 211,323	\$ 211,323	\$ 211,323
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 196,913	\$ 196,913	\$ 196,913	\$ 196,913
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 11,815	\$ 11,815	\$ 11,815	\$ 11,815
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 27,568	\$ 27,568	\$ 27,568	\$ 27,568
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	\$ -	\$ -	\$ 11,815	\$ 11,815	\$ 11,815	\$ 11,815
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		\$ -	\$ 3,938	\$ 3,938	\$ 3,938	\$ 3,938
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 77,642		\$ 625,018		\$ 702,660

NAT & NYPA - T026 - (Segment A, Base)

System Upgrade Facilities (Various Stations for Edic/Marcy to New Scotland)

Estimate Revision: 4

Total: \$ 6,899,000

SYSTEM UPGRADE 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
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	\$ -	\$ -	\$ -	\$ -		\$ -
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

NAT & NYPA - T026 - (Segment A, Base)

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 4.644% 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 Oversight 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 \$)	
Direct Cost	1	Transmission Lines	
	1.1	Clearing & Access	\$56,801
	1.2	Foundations	\$31,116
	1.3	Structures	\$106,166
	1.4	Conductor, Shiedwire and OPGW	\$62,279
	1.5	Insulators, Fitting and Hardwares	\$23,408
	Subtotal (1)		\$279,769
	2	Substations	
	2.1	Rotterdam Substation	\$47,340
	2.2	Edic Substation	\$5,333
	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	\$8,399	
Subtotal (2)		\$99,207	
Total (1+2)		\$378,976	
Contractors Mark-up (15% of Total 1+2)		\$56,846	
Total Direct Cost (A)		\$435,822	
Indirect Cost	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$3,790
	3.2	Project Management, Material Handling & Amenities	\$21,983
	3.3	Engineering	\$25,529
	3.4	Testing & Commissioning	\$2,532
	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$26,011
	3.6	Compensation for use of NYPA Structures (1 Ckt.)	\$17,838
	3.7	Legal, Env. Lisc. & Permit and Env. Mitigation	\$8,278
Total Indirect Cost (3)		\$105,962	
Subtotal Project Cost (B=A+3) 2017 \$		\$541,784	
	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 \$		\$549,511	
Total Project Cost 2018 \$		\$565,996	

NAT & NYPA - T027 - (Segment A, Double Circuit)

Estimate Revision: 4

<i>NAT & NYPA - T027 - (Segment A, Double Circuit) - Direct Costs</i>		<i>Total Each Segment</i>
Direct Labor, Material & Equipment Costs	A. Transmission Line Edic to Princetown	\$ 189,855,461
Direct Labor, Material & Equipment Costs	B. Transmission Line Princetown to Rotterdam	\$ 20,508,582
Direct Labor, Material & Equipment Costs	C. Transmission Line Princetown to New Scotland	\$ 69,405,158
Direct Labor, Material & Equipment Costs	D. Rotterdam Substation - Install	\$ 43,728,474
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	\$ 2,676,471
Direct Labor, Material & Equipment Costs	N. Interconnection Rotterdam Station	\$ 3,938,252
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. Princetown GIS Substation - Install	\$ 29,871,757
SUBTOTAL:		\$ 384,494,878
CONTRACTOR MARK-UP (OH&P)		\$ 57,674,232
CONTINGENCY ON ENTIRE PROJECT		\$ -
TOTAL DIRECT:		\$ 442,169,110

<i>NAT & NYPA - T027 - (Segment A, Double Circuit) - Indirect Costs</i>		<i>Total Each Segment</i>
Indirect Costs	A. Transmission Line Edic to Princetown	\$ 56,609,978
Indirect Costs	B. Transmission Line Princetown to Rotterdam	\$ 4,274,357
Indirect Costs	C. Transmission Line Princetown to New Scotland	\$ 14,033,136
Indirect Costs	D. Rotterdam Substation - Install	\$ 10,272,954
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	\$ 495,231
Indirect Costs	N. Interconnection Rotterdam Station	\$ 641,020
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. Princetown GIS Substation - Install	\$ 7,418,414
Indirect Costs	Legal and Permitting (Includes Legal, Envir. Lic. & Permit., and Envir. Mitigation)	\$ 8,277,824
TOTAL INDIRECT:		\$ 107,342,295

TOTAL ESTIMATED COST:		\$ 549,511,405
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NAT & NYPA - T027 - (Segment A, Double Circuit)

A. Transmission Line Edic to Princetown

Estimate Revision: **4** Total: \$ **246,465,439**

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	\$ 10,485,160	\$ 4,867,934	\$ 15,353,094
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 4,695,889	\$ 51,914,090	\$ 56,609,978
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 63,394,495	\$ 183,070,944	\$ 246,465,439
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 63,394,495	\$ 183,070,944	\$ 246,465,439

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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. Transmission 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
1.3	Permanent Access Road	83,001.6	LF	\$ -	\$ -	\$ 45	\$ 3,735,072	\$ 45	\$ 3,735,072
1.4	Silt Fence	415,008	LF	\$ -	\$ -	\$ 4	\$ 1,660,032	\$ 4	\$ 1,660,032
1.5	Matting - Access and ROW	332,006.4	LF	\$ -	\$ -	\$ 70	\$ 23,240,448	\$ 70	\$ 23,240,448
1.6	Matting - To Work Area	29,325	LF	\$ -	\$ -	\$ 70	\$ 2,052,750	\$ 70	\$ 2,052,750
1.7	Snow Removal	78.6	Mile	\$ -	\$ -	\$ 16,000	\$ 1,257,600	\$ 16,000	\$ 1,257,600
1.8	ROW Restoration	78.6	Mile	\$ -	\$ -	\$ 10,000	\$ 786,000	\$ 10,000	\$ 786,000
1.9	Work Pads	1,955,000	SF	\$ -	\$ -	\$ 4	\$ 6,881,600	\$ 4	\$ 6,881,600
1.10	Restoration for Work Pad areas	391,000	SF	\$ -	\$ -	\$ 0.15	\$ 58,650	\$ 0	\$ 58,650
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 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 on Public Roads	100	EA	\$ -	\$ -	\$ 4,130	\$ 413,000	\$ 4,130	\$ 413,000
1.15	Culverts / Misc. Access	55	EA	\$ 750	\$ 41,250	\$ 1,250	\$ 68,750	\$ 2,000	\$ 110,000
1.16	Gates	17	EA	\$ 2,000	\$ 34,000	\$ 2,500	\$ 42,500	\$ 4,500	\$ 76,500
1.17	Concrete Washout Station	40	EA	\$ -	\$ -	\$ 1,850	\$ 74,000	\$ 1,850	\$ 74,000
TOTAL - CLEARING & ACCESS:					\$ 75,250		\$ 41,489,402		\$ 41,564,652
2. FOUNDATIONS									
2.1	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°)	4	EA	\$ 9,391	\$ 37,565	\$ 63,861	\$ 255,442	\$ 73,252	\$ 293,007
2.2	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	10	EA	\$ 3,622	\$ 36,218	\$ 24,628	\$ 246,279	\$ 28,250	\$ 282,497
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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			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 - FOUNDATIONS:					\$ 3,930,221		\$ 14,264,968		\$ 18,195,189
3. STRUCTURES									
3.1	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) 80'	4	Structure	\$ 69,079	\$ 276,316	\$ 41,447	\$ 165,790	\$ 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	\$ 1,669,928	\$ 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	\$ 527,761	\$ 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	\$ 2,508,770	\$ 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	\$ 2,740,033	\$ 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	\$ 1,857,689	\$ 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	\$ 11,131,952	\$ 127,404	\$ 29,685,207
3.9	Remove Existing Foundation	50	EA	\$ -	\$ -	\$ 7,500	\$ 375,000	\$ 7,500	\$ 375,000
3.10	Remove Existing Structure and Accessories	994	EA	\$ -	\$ -	\$ 12,500	\$ 12,425,000	\$ 12,500	\$ 12,425,000
3.11	Install Grounding and Grounding Accessories	399	Pole	\$ 506	\$ 201,894	\$ 5,539	\$ 2,209,862	\$ 6,045	\$ 2,411,756
3.12									
3.13									
3.14									
3.15									
TOTAL - STRUCTURES:					\$ 34,672,483		\$ 35,692,215		\$ 70,364,698
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	345kv - (1) 954kcmil 54/7 ACSS "Cardinal"	4,563,821	LF	\$ 1.90	\$ 8,671,260	\$ 5.00	\$ 22,819,105	\$ 6.90	\$ 31,490,365
4.2	(1) OPGW 36 Fiber AC-33/38/571	390,298	LF	\$ 1.35	\$ 526,902	\$ 5.00	\$ 1,951,490	\$ 6.35	\$ 2,478,392
4.3	(1) 3/8" EHS7 Steel	371,448	LF	\$ 0.47	\$ 174,581	\$ 5.00	\$ 1,857,240	\$ 5.47	\$ 2,031,821
4.4									
4.5									
4.6									
4.7	Remove Existing Conductor and Accessories	140.0	Mile	\$ -	\$ -	\$ 30,000	\$ 4,200,000	\$ 30,000.00	\$ 4,200,000
4.8	Remove Existing OPGW and Accessories	140.0	Mile	\$ -	\$ -	\$ 12,000	\$ 1,680,000	\$ 12,000.00	\$ 1,680,000
4.9	Remove Existing OHSW and Accessories	140.0	Mile	\$ -	\$ -	\$ 12,000	\$ 1,680,000	\$ 12,000.00	\$ 1,680,000
4.10									
4.11									
4.12									
4.13	Rider Poles (187 Locations)	93	Set	\$ 1,750	\$ 162,750	\$ 3,500	\$ 325,500	\$ 5,250.00	\$ 488,250
4.14	Rider Poles - Relocated	94	Set	\$ -	\$ -	\$ 3,500	\$ 329,000	\$ 3,500.00	\$ 329,000
4.15									
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 9,535,493		\$ 34,842,335		\$ 44,377,828
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	3,180	Assembly	\$ 1,800	\$ 5,724,000	\$ 720	\$ 2,289,600	\$ 2,520	\$ 8,013,600

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
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	1,050	Assembly	\$ 1,800	\$ 1,890,000	\$ 720	\$ 756,000	\$ 2,520	\$ 2,646,000
5.4	OPGW Assembly - Tangent	344	Assembly	\$ 200	\$ 68,800	\$ 150	\$ 51,600	\$ 350	\$ 120,400
5.5	OPGW Assembly - Angle / DE	47	Assembly	\$ 250	\$ 11,750	\$ 150	\$ 7,050	\$ 400	\$ 18,800
5.6	OHSW Assembly - Tangent	344	Assembly	\$ 200	\$ 68,800	\$ 150	\$ 51,600	\$ 350	\$ 120,400
5.7	OHSW Assembly - Angle / DE	47	Assembly	\$ 250	\$ 11,750	\$ 150	\$ 7,050	\$ 400	\$ 18,800
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)	504	Assembly	\$ 1,800	\$ 907,200	\$ 720	\$ 362,880	\$ 2,520	\$ 1,270,080
5.15	Replace - Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	156	Assembly	\$ 1,800	\$ 280,800	\$ 720	\$ 112,320	\$ 2,520	\$ 393,120
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 - INSULATORS, FITTINGS, HARDWARE:					\$ 10,485,160		\$ 4,867,934		\$ 15,353,094
A. Transmission Line Edic to Princetown					\$ 58,698,607		\$ 131,156,854		\$ 189,855,461
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 1,898,555	\$ 1,898,555	\$ 1,898,555	\$ 1,898,555
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			\$ 7,215,931	\$ 7,215,931	\$ 7,215,931	\$ 7,215,931
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 1,898,555	\$ 1,898,555	\$ 1,898,555	\$ 1,898,555
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,898,555	\$ 1,898,555	\$ 1,898,555	\$ 1,898,555
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 9,492,773	\$ 9,492,773	\$ 9,492,773	\$ 9,492,773
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 569,566	\$ 569,566	\$ 569,566	\$ 569,566
6.7	Geotech	67	Location	\$ -	\$ -	\$ 3,500	\$ 234,500	\$ 3,500	\$ 234,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 1,328,988	\$ 1,328,988	\$ 1,328,988	\$ 1,328,988
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	\$ -	\$ -	\$ 569,566	\$ 569,566	\$ 569,566	\$ 569,566
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	\$ 4,695,889	\$ 4,695,889	\$ -	\$ -	\$ 4,695,889	\$ 4,695,889
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 189,855	\$ 189,855	\$ 189,855	\$ 189,855
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 4,695,889		\$ 51,914,090		\$ 56,609,978

NAT & NYPA - T026 - (Segment A, Base)

B. Transmission Line Princetown to Rotterdam

Estimate Revision: **4** Total: \$ **24,782,939**

NAT & NYPA - T026 - (Segment 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	\$ 1,210,631	\$ 557,892	\$ 1,768,523
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 498,571	\$ 3,775,787	\$ 4,274,357
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 6,730,705	\$ 18,052,235	\$ 24,782,939
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 6,730,705	\$ 18,052,235	\$ 24,782,939

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. Transmission 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	Access Road	5,280	LF	\$ -	\$ -	\$ 45	\$ 237,600	\$ 45	\$ 237,600
1.4	Silt Fence	26,400	LF	\$ -	\$ -	\$ 4	\$ 105,600	\$ 4	\$ 105,600
1.5	Matting - Access and ROW	21,120	LF	\$ -	\$ -	\$ 70	\$ 1,478,400	\$ 70	\$ 1,478,400
1.6	Matting - To Work Area	2,775	LF	\$ -	\$ -	\$ 70	\$ 194,250	\$ 70	\$ 194,250
1.7	Snow Removal	5	Mile	\$ -	\$ -	\$ 16,000	\$ 80,000	\$ 16,000	\$ 80,000
1.8	ROW Restoration	5	Mile	\$ -	\$ -	\$ 10,000	\$ 50,000	\$ 10,000	\$ 50,000
1.9	Work Pads	185,000	SF	\$ -	\$ -	\$ 4	\$ 651,200	\$ 4	\$ 651,200
1.10	Restoration for Work Pad areas	37,000	SF	\$ -	\$ -	\$ 0.2	\$ 5,550	\$ 0	\$ 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	\$ 45,800	\$ 4,580	\$ 45,800
1.14	Maintenance and Protection of Traffic on Public Roads	10	EA	\$ -	\$ -	\$ 4,130	\$ 41,300	\$ 4,130	\$ 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 - CLEARING & ACCESS:					\$ 6,000		\$ 3,038,200		\$ 3,044,200
2. FOUNDATIONS									
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	\$ 82,247	\$ 22,608	\$ 90,432
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	\$ 34,595	\$ 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 - FOUNDATIONS:					\$ 417,002		\$ 3,778,708		\$ 4,195,711
3. STRUCTURES									
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	\$ 226,677	\$ 453,354
3.4	2x 1-CKT 345KV VERTICAL TANGENT DEADEND (0°-5°) - 115'	4	Structure	\$ 109,816	\$ 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	\$ 232,656	\$ 465,312	\$ 139,594	\$ 279,187	\$ 372,250	\$ 744,499
3.6	2x 1-CKT 345KV 3-POLE LARGE ANGLE DEADEND (60°-90°) - 115'	1	Structure	\$ 176,342	\$ 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	\$ 99,493	\$ 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	\$ 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 - STRUCTURES PRINCETOWN TO NEW SCOTLAND:					\$ 3,876,135		\$ 4,280,943		\$ 8,157,078
4. CONDUCTOR, 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: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 722,365		\$ 2,620,705		\$ 3,343,070
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	348.0	Assembly	\$ 1,800	\$ 626,400	\$ 720	\$ 250,560	\$ 2,520	\$ 876,960
5.2	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	58	Assembly	\$ 200	\$ 11,600	\$ 150	\$ 8,700	\$ 350	\$ 20,300
5.4	OPGW Assembly - Angle / DE	16	Assembly	\$ 250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.5	OHSW Assembly - Tangent	58	Assembly	\$ 200	\$ 11,600	\$ 150	\$ 8,700	\$ 350	\$ 20,300
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	\$ 35	\$ 29,820	\$ 35	\$ 29,820	\$ 70	\$ 59,640
5.11	Shieldwire / OPGW Dampers, Misc. Fittings	116	EA	\$ 27	\$ 3,132	\$ 35	\$ 4,060	\$ 62	\$ 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	\$ 5,030	\$ 1,776	\$ 8,880
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 1,210,631		\$ 557,892		\$ 1,768,523
B. Transmission Line Princetown to Rotterdam					\$ 6,232,134		\$ 14,276,448		\$ 20,508,582
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 205,086	\$ 205,086	\$ 205,086	\$ 205,086
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			\$ 779,480	\$ 779,480	\$ 779,480	\$ 779,480
6.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 205,086	\$ 205,086	\$ 205,086	\$ 205,086
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 205,086	\$ 205,086	\$ 205,086	\$ 205,086
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,025,429	\$ 1,025,429	\$ 1,025,429	\$ 1,025,429
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 61,526	\$ 61,526	\$ 61,526	\$ 61,526
6.7	Geotech	5	Location	\$ -	\$ -	\$ 3,500	\$ 17,500	\$ 3,500	\$ 17,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 143,560	\$ 143,560	\$ 143,560	\$ 143,560
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	\$ -	\$ -	\$ 61,526	\$ 61,526	\$ 61,526	\$ 61,526
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ 498,571	\$ 498,571	\$ -	\$ -	\$ 498,571	\$ 498,571
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 20,509	\$ 20,509	\$ 20,509	\$ 20,509
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 498,571		\$ 3,775,787		\$ 4,274,357

NAT & NYPA - T027 - (Segment A, Double Circuit)

C. Transmission Line Princetown to New Scotland

Estimate Revision: **4**

Total: \$ **83,438,294**

NAT & NYPA - T027 - (Segment A, Double Circuit)			
	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	\$ 4,281,513	\$ 2,004,689	\$ 6,286,202
6. MOB/DEMOMB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,964,135	\$ 12,069,001	\$ 14,033,136
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 26,515,817	\$ 56,922,477	\$ 83,438,294
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 26,515,817	\$ 56,922,477	\$ 83,438,294

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. Transmission 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)	64.0	Acre	\$ -	\$ -	\$ 5,000	\$ 320,000	\$ 5,000	\$ 320,000
1.3	Permanent Access Road	20,803.2	LF	\$ -	\$ -	\$ 45	\$ 936,144	\$ 45	\$ 936,144
1.4	Silt Fence	104,016.0	LF	\$ -	\$ -	\$ 4	\$ 416,064	\$ 4	\$ 416,064
1.5	Matting - Access and ROW	83,212.8	LF	\$ -	\$ -	\$ 70	\$ 5,824,896	\$ 70	\$ 5,824,896
1.6	Matting - To Work Area	12,450	LF	\$ -	\$ -	\$ 70	\$ 871,500	\$ 70	\$ 871,500
1.7	Snow Removal	19.7	Mile	\$ -	\$ -	\$ 16,000	\$ 315,200	\$ 16,000	\$ 315,200
1.8	ROW Restoration	19.7	Mile	\$ -	\$ -	\$ 10,000	\$ 197,000	\$ 10,000	\$ 197,000
1.9	Work Pads	830,000	SF	\$ -	\$ -	\$ 4	\$ 2,921,600	\$ 4	\$ 2,921,600
1.10	Restoration for Work Pad areas	166,000	SF	\$ -	\$ -	\$ 0.2	\$ 24,900	\$ 0	\$ 24,900
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 - CLEARING & ACCESS:					\$ 31,000		\$ 12,160,694		\$ 12,191,694
2. FOUNDATIONS									
2.1	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	2	EA	\$ 4,993	\$ 9,985	\$ 33,950	\$ 67,900	\$ 38,942	\$ 77,885
2.2	1-CKT 345KV VERTICAL TANGENT (0°-1°)	33	EA	\$ 4,364	\$ 144,020	\$ 29,677	\$ 979,338	\$ 34,041	\$ 1,123,358
2.3	2-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	7	EA	\$ 3,880	\$ 27,162	\$ 26,386	\$ 184,700	\$ 30,266	\$ 211,862
2.4	2-CKT 345KV VERTICAL TANGENT (0°-1°)	105	EA	\$ 2,848	\$ 299,001	\$ 19,364	\$ 2,033,204	\$ 22,211	\$ 2,332,205
2.5	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	3	EA	\$ 58,386	\$ 175,157	\$ 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	CY	\$ -	\$ -	\$ 2,000	\$ 1,967,400	\$ 2,000	\$ 1,967,400
2.8									
2.9									
2.10									
2.11									
2.12									
2.13									
2.14									
2.15									

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
2.16									
2.17									
2.18									
2.19									
2.20									
2.21									
2.22									
2.23									
TOTAL - FOUNDATIONS:					\$ 1,906,579		\$ 6,818,398		\$ 8,724,977
3. STRUCTURES									
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	\$ 1,866,787	\$ 33,942	\$ 1,120,072	\$ 90,511	\$ 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	\$ 1,930,015	\$ 321,669	\$ 5,146,706
3.5	2-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) 115'-165'	7	Structure	\$ 124,542	\$ 871,794	\$ 74,725	\$ 523,076	\$ 199,267	\$ 1,394,870
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	\$ 7,500	\$ 930,000
3.8	Remove Existing Lattice Structure and Accessories	30	EA	\$ -	\$ -	\$ 12,500	\$ 375,000	\$ 12,500	\$ 375,000
3.9	Remove Existing Structure and Accessories	127	EA	\$ -	\$ -	\$ 12,500	\$ 1,587,500	\$ 12,500	\$ 1,587,500
3.10	Install Grounding and Grounding Accessories	166	Pole	\$ 506	\$ 83,996	\$ 5,539	\$ 919,391	\$ 6,045	\$ 1,003,387
3.11									
TOTAL - STRUCTURES:					\$ 14,926,511		\$ 12,717,400		\$ 27,643,911
4. CONDUCTOR, 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	\$ 345,030	\$ 5.00	\$ 1,277,890	\$ 6.35	\$ 1,622,920
4.3	(1) 3/8" EHS7 Steel	220,651	LF	\$ 0.47	\$ 103,706	\$ 5.00	\$ 1,103,255	\$ 5.47	\$ 1,206,961
4.4	Remove Existing Conductor and Accessories	17.2	Mile	\$ -	\$ -	\$ 30,000	\$ 516,000	\$ 30,000.00	\$ 516,000
4.5	Remove Existing OPGW and Accessories	17.2	Mile	\$ -	\$ -	\$ 12,000	\$ 206,400	\$ 12,000.00	\$ 206,400
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 - CONDUCTOR, SHIELDWIRE, OPGW:					\$ 3,406,079		\$ 11,152,295		\$ 14,558,374
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	1,470	Assembly	\$ 1,800	\$ 2,646,000	\$ 720	\$ 1,058,400	\$ 2,520	\$ 3,704,400
5.2	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	524	Assembly	\$ 1,800	\$ 943,200	\$ 720	\$ 377,280	\$ 2,520	\$ 1,320,480
5.3	Single Ckt. Dead End Vertical (345kV) (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.5	OPGW Assembly - Tangent	147	Assembly	\$ 200	\$ 29,400	\$ 150	\$ 22,050	\$ 350	\$ 51,450
5.6	OPGW Assembly - Angle / DE	19	Assembly	\$ 250	\$ 4,750	\$ 150	\$ 2,850	\$ 400	\$ 7,600
5.7	OHSW Assembly - Tangent	147	Assembly	\$ 200	\$ 29,400	\$ 150	\$ 22,050	\$ 350	\$ 51,450
5.8	OHSW Assembly - Angle / DE	19	Assembly	\$ 250	\$ 4,750	\$ 150	\$ 2,850	\$ 400	\$ 7,600
5.9	OPGW Splice Boxes	8	Assembly	\$ 1,746	\$ 13,969	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161
5.10	OPGW Splice & Test	8	EA	\$ 2,520	\$ 20,160	\$ 2,520	\$ 20,160	\$ 5,040	\$ 40,320
5.11	Spacer - Conductor	8,395	EA	\$ 50	\$ 419,750	\$ 35	\$ 293,825	\$ 85	\$ 713,575
5.12	Vibration Dampers - Conductor	1,536	EA	\$ 35	\$ 53,760	\$ 35	\$ 53,760	\$ 70	\$ 107,520
5.13	Shieldwire / OPGW Dampers, Misc. Fittings	293	EA	\$ 27	\$ 7,911	\$ 35	\$ 10,255	\$ 62	\$ 18,166
5.14	Guys, Anchors, and Accessories	60.0	EA	\$ 719	\$ 43,140	\$ 883	\$ 52,997	\$ 1,602	\$ 96,137
5.15	Misc. materials (Signs and Markers)	19.9	Mile	\$ 770	\$ 15,323	\$ 1,006	\$ 20,019	\$ 1,776	\$ 35,342
5.16	Jumpers at Existing Structures (New Cable to Existing)	2	EA	\$ 25,000	\$ 50,000	\$ 25,000	\$ 50,000	\$ 50,000	\$ 100,000
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 4,281,513		\$ 2,004,689		\$ 6,286,202
C. Transmission Line Princetown to New Scotland					\$ 24,551,683		\$ 44,853,476		\$ 69,405,158
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									

Item	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	\$ -	\$ -	\$ 694,052	\$ 694,052	\$ 694,052	\$ 694,052
	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			\$ 2,637,917	\$ 2,637,917	\$ 2,637,917	\$ 2,637,917
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 694,052	\$ 694,052	\$ 694,052	\$ 694,052
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 694,052	\$ 694,052	\$ 694,052	\$ 694,052
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,470,258	\$ 3,470,258	\$ 3,470,258	\$ 3,470,258
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 208,215	\$ 208,215	\$ 208,215	\$ 208,215
6.7	Geotech	20	Location	\$ -	\$ -	\$ 3,500	\$ 70,000	\$ 3,500	\$ 70,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 485,836	\$ 485,836	\$ 485,836	\$ 485,836
	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	\$ -	\$ -	\$ 208,215	\$ 208,215	\$ 208,215	\$ 208,215
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	\$ 1,964,135	\$ 1,964,135	\$ -	\$ -	\$ 1,964,135	\$ 1,964,135
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ 69,405	\$ 69,405	\$ 69,405	\$ 69,405
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,964,135		\$ 12,069,001		\$ 14,033,136

NAT & NYPA - T027 - (Segment A, Double Circuit)

D. Rotterdam Substation - Install

Estimate Revision: **4** Total: \$ **54,001,428**

NAT & NYPA - T027 - (Segment A, Double Circuit)			
	Supply	Installation	Total
D. Rotterdam Substation - Install			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ 2,896,891	\$ 7,763,755	\$ 10,660,646
2. SUBSTATION FOUNDATIONS	\$ 2,443,003	\$ 2,616,200	\$ 5,059,203
3. SUBSTATION STRUCTURES	\$ 944,980	\$ 944,980	\$ 1,889,960
4. MAJOR EQUIPMENT	\$ 11,915,000	\$ 2,970,000	\$ 14,885,000
5. SMALL EQUIPMENT / 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/DEMOMB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,965,087	\$ 8,307,867	\$ 10,272,954
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 26,528,676	\$ 27,472,752	\$ 54,001,428
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 26,528,676	\$ 27,472,752	\$ 54,001,428

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
D. Rotterdam 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	\$ -		\$ 1,800,000	\$ 1,800,000	\$ 1,800,000	\$ 1,800,000
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 2,896,891		\$ 7,763,755		\$ 10,660,646
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	Material 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	\$ 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	\$ 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								
2.5a	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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 2,443,003		\$ 2,616,200		\$ 5,059,203
3. SUBSTATION STRUCTURES									
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	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	\$ 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	\$ -	\$ 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	\$ -	\$ 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	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ 944,980	\$ 944,980		\$ 1,889,960	
4. MAJOR EQUIPMENT									
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	\$ 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	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 11,915,000	\$ 2,970,000		\$ 14,885,000	

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 EQUIPMENT / 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
5.1h	Station Service Transformers	1	EA	\$ 200,000	\$ 200,000	\$ 50,000	\$ 50,000	\$ 250,000	\$ 250,000
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	\$ 50,000
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		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	\$ 96,000
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	\$ 8,000	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 1,994,540		\$ 1,060,500		\$ 3,055,040
6. CONTROL HOUSE / 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

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.9	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 - CONTROL HOUSE / PANELS / GENERATOR					\$ 2,927,500		\$ 1,477,500		\$ 4,405,000
7. MISC ITEMS									
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	\$ 173,250	\$ 32.58	\$ 814,500	\$ 40	\$ 987,750
7.5	Strain Bus Insulators - 345kV	48	EA	\$ 2,000	\$ 96,000	\$ 1,050	\$ 50,400	\$ 3,050	\$ 146,400
7.6	Strain Bus Insulators - 230kV	6	EA	\$ 1,400	\$ 8,400	\$ 750	\$ 4,500	\$ 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									
TOTAL - MISC ITEMS					\$ 1,441,675		\$ 2,331,950		\$ 3,773,625
D. Rotterdam Substation - Install					\$ 24,563,589		\$ 19,164,885		\$ 43,728,474
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 437,285	\$ 437,285	\$ 437,285	\$ 437,285
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			\$ 1,662,010	\$ 1,662,010	\$ 1,662,010	\$ 1,662,010
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 437,285	\$ 437,285	\$ 437,285	\$ 437,285
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 437,285	\$ 437,285	\$ 437,285	\$ 437,285
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,498,278	\$ 3,498,278	\$ 3,498,278	\$ 3,498,278
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 306,099	\$ 306,099	\$ 306,099	\$ 306,099
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 1,093,212	\$ 1,093,212	\$ 1,093,212	\$ 1,093,212
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 131,185	\$ 131,185	\$ 131,185	\$ 131,185

Item	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	\$ -	\$ -	\$ 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		\$ -	\$ 43,728	\$ 43,728	\$ 43,728	\$ 43,728
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,965,087		\$ 8,307,867		\$ 10,272,954

NAT & NYPA - T027 - (Segment A, Double Circuit)

E. Rotterdam Substation - Removal

Estimate Revision: **4** Total: \$ **4,159,934**

NAT & NYPA - T027 - (Segment 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 EQUIPMENT	\$ -	\$ 147,000	\$ 147,000
5. SMALL EQUIPMENT / 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

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. Rotterdam 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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ 1,472,750		\$ 1,472,750
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ 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		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	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 - SUBSTATION FOUNDATIONS					\$ -		\$ 617,400		\$ 617,400
3. SUBSTATION STRUCTURES									
3.1	345kV								
3.1a	Substation A-Frame Structures - Stand alone	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
3.1b	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 - SUBSTATION STRUCTURES					\$ -		\$ 534,900		\$ 534,900
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT					\$ -		\$ 147,000		\$ 147,000
5. SMALL EQUIPMENT / 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
5.2g	Wave Traps	3	EA	\$ -	\$ -	\$ 2,500	\$ 7,500	\$ 2,500	\$ 7,500
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	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 - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 169,500		\$ 169,500
6. CONTROL HOUSE / PANELS / GENERATOR									
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 - CONTROL 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	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 ITEMS					\$ -		\$ 519,480		\$ 519,480
E. Rotterdam Substation - Removal					\$ -		\$ 3,611,030		\$ 3,611,030
8. MOB/DEMOB, 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	\$ -	\$ -	\$ 137,246	\$ 137,246	\$ 137,246	\$ 137,246
8.3	Utility PM and Project Oversight	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:					\$ -		\$ 548,904		\$ 548,904

NAT & NYPA - T026 - (Segment A, Base)

F. Edic Substation - Install

Estimate Revision: **4**

Total: \$ **6,418,249**

NAT & NYPA - T026 - (Segment A, Base)			
	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 EQUIPMENT	\$ 600,000	\$ 240,000	\$ 840,000
5. SMALL EQUIPMENT / 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	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 Substation - 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									
1.14									
1.15									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 99,300		\$ 396,250		\$ 495,550
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)	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	42	EA	\$ 4,482	\$ 188,244	\$ 4,800	\$ 201,600	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ 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	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION 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. SUBSTATION STRUCTURES									
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	7	EA	\$ 14,800	\$ 103,600	\$ 14,800	\$ 103,600	\$ 29,600	\$ 207,200
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	17	EA	\$ 3,700	\$ 62,900	\$ 3,700	\$ 62,900	\$ 7,400	\$ 125,800
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	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ 299,700		\$ 299,700		\$ 599,400
4. MAJOR EQUIPMENT									
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	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 - MAJOR EQUIPMENT					\$ 600,000		\$ 240,000		\$ 840,000
5. SMALL EQUIPMENT / 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	5	EA	\$ 35,000	\$ 175,000	\$ 17,500	\$ 87,500	\$ 52,500	\$ 262,500
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	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000
5.1f	Arresters	9	EA	\$ 6,500	\$ 58,500	\$ 1,500	\$ 13,500	\$ 8,000	\$ 72,000
5.1g	Wave Traps	2	EA	\$ 13,000	\$ 26,000	\$ 8,000	\$ 16,000	\$ 21,000	\$ 42,000
5.1h	Station Service Transformers	0	EA	\$ 200,000	\$ -	\$ 50,000	\$ -	\$ 250,000	\$ -
5.1j									
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 645,500		\$ 315,000		\$ 960,500
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -
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	\$ 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	\$ -
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 313,850		\$ 138,850		\$ 452,700
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	1	L.S.	\$ 44,400.00	\$ 44,400	\$ 81,600.00	\$ 81,600	\$ 126,000	\$ 126,000
7.2	Rigid Bus, Fittings & Insulators	1	L.S.	\$ 75,042.00	\$ 75,042	\$ 142,260.00	\$ 142,260	\$ 217,302	\$ 217,302
7.3	Strain Bus, Connectors & Insulators	1	L.S.	\$ 58,950.00	\$ 58,950	\$ 80,025.00	\$ 80,025	\$ 138,975	\$ 138,975
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	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
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 ITEMS					\$ 292,289		\$ 689,000		\$ 981,289
F. Edic Substation - Install					\$ 2,676,429		\$ 2,534,800		\$ 5,211,229
8. MOB/DEMOB, 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									
8.2	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	\$ 198,066
8.3	Utility PM and Project Oversight	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									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 416,898	\$ 416,898	\$ 416,898	\$ 416,898
8.6	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	\$ 130,281
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 15,634	\$ 15,634	\$ 15,634	\$ 15,634
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
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	\$ 214,114	\$ 214,114	\$ -	\$ -	\$ 214,114	\$ 214,114
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 5,211	\$ 5,211	\$ 5,211	\$ 5,211
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 214,114		\$ 992,905		\$ 1,207,020

NAT & NYPA - T026 - (Segment A, Base)

G. Edic Substation - Removal

Estimate Revision: **4**

Total: \$ **140,423**

NAT & NYPA - T026 - (Segment A, Base)			
	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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ -	\$ 129,923	\$ 140,423
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ -	\$ 129,923	\$ 140,423

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
G. Edic 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.			\$ -	\$ -	\$ 75	\$ -	\$ 75	\$ -
1.3	Substation Fence	575	LF	\$ -	\$ -	\$ 150	\$ 86,250	\$ 150	\$ 86,250
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 PREP/ GRADING/ FENCING / CIVIL						\$ -	\$ 86,250		\$ 86,250
2. SUBSTATION FOUNDATIONS									
2.1 345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$ -	\$ -	\$ 14,000	\$ 14,000	\$ 14,000	\$ 14,000
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		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	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 14,000		\$ 14,000
3. SUBSTATION 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	3	EA	\$ -	\$ -	\$ 2,250	\$ 6,750	\$ 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	\$ -	\$ 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	\$ -
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	\$ -	\$ 2,250	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 6,750		\$ 6,750
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
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	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		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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 4,500		\$ 4,500
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	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
6.2	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 - CONTROL 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	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	\$ -
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
G. Edic Substation - Removal					\$ -		\$ 122,000		\$ 122,000
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 1,220	\$ 1,220	\$ 1,220	\$ 1,220
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		\$ -	\$ 4,637	\$ 4,637	\$ 4,637	\$ 4,637
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 1,220	\$ 1,220	\$ 1,220	\$ 1,220
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,220	\$ 1,220	\$ 1,220	\$ 1,220
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 9,760	\$ 9,760	\$ 9,760	\$ 9,760
8.6	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 854	\$ -	\$ 854	\$ -
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 3,050	\$ -	\$ 3,050	\$ -
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 366	\$ 366	\$ 366	\$ 366
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	\$ -	\$ -	\$ 122	\$ -	\$ 122	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 18,423		\$ 18,423

NAT & NYPA - T027 - (Segment A, Double Circuit)

H. New Scotland Substation - Install

Estimate Revision: **4**

Total: \$ **9,382,733**

<i>NAT & NYPA - T027 - (Segment A, Double Circuit)</i>			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
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 EQUIPMENT	\$ 800,000	\$ 320,000	\$ 1,120,000
5. SMALL EQUIPMENT / 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

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
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	CY	\$ 27	\$ 32,400	\$ 75	\$ 90,000	\$ 102	\$ 122,400
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 PREP/ GRADING/ FENCING / CIVIL					\$ 32,400		\$ 90,000		\$ 122,400
2. SUBSTATION FOUNDATIONS									
2.1 345kV									
2.1a	Circuit Breaker Foundations	4	EA	\$ 14,940	\$ 59,760	\$ 16,000	\$ 64,000	\$ 30,940	\$ 123,760
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	24	EA	\$ 4,482	\$ 107,568	\$ 4,800	\$ 115,200	\$ 9,282	\$ 222,768
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	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	\$ 4,800	\$ 100,800	\$ 9,282	\$ 194,922
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									
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	\$ -	\$ 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)	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	\$ 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 - SUBSTATION FOUNDATIONS					\$ 615,528		\$ 659,200		\$ 1,274,728
3. SUBSTATION STRUCTURES									
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	4	EA	\$ 14,800	\$ 59,200	\$ 14,800	\$ 59,200	\$ 29,600	\$ 118,400
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	21	EA	\$ 3,700	\$ 77,700	\$ 3,700	\$ 77,700	\$ 7,400	\$ 155,400
3.1g	Instrument Transformer Stand	21	EA	\$ 1,850	\$ 38,850	\$ 1,850	\$ 38,850	\$ 3,700	\$ 77,700
3.1h	Arrester Stand	6	EA	\$ 1,850	\$ 11,100	\$ 1,850	\$ 11,100	\$ 3,700	\$ 22,200
3.1j	Wave Trap Stand	3	EA	\$ 7,400	\$ 22,200	\$ 7,400	\$ 22,200	\$ 14,800	\$ 44,400
3.1k	Lightning Masts - 70'	2	EA	\$ 6,475	\$ 12,950	\$ 6,475	\$ 12,950	\$ 12,950	\$ 25,900
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	\$ -

Item	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	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 - SUBSTATION STRUCTURES						\$ 296,000	\$ 296,000		\$ 592,000
4. MAJOR EQUIPMENT									
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	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	\$ -	\$ 112,000	\$ -
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAJOR EQUIPMENT						\$ 800,000	\$ 320,000		\$ 1,120,000
5. SMALL EQUIPMENT / 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	4	EA	\$ 35,000	\$ 140,000	\$ 17,500	\$ 70,000	\$ 52,500	\$ 210,000
5.1c	VT'S	6	EA	\$ 13,000	\$ 78,000	\$ 12,000	\$ 72,000	\$ 25,000	\$ 150,000
5.1d	CT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000
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	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 EQUIPMENT / MATERIALS					\$ 590,500		\$ 329,500		\$ 920,000
6. CONTROL HOUSE / PANELS / GENERATOR									
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	8	EA	\$ 35,000	\$ 280,000	\$ 15,000	\$ 120,000	\$ 50,000	\$ 400,000
6.3	125VDC Batteries	1	EA	\$ 75,000	\$ 75,000	\$ 25,000	\$ 25,000	\$ 100,000	\$ 100,000
6.4	Control Cables	1	LS	\$ 338,300	\$ 338,300	\$ 472,500	\$ 472,500	\$ 810,800	\$ 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	\$ -	\$ 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 - CONTROL HOUSE / PANELS / GENERATOR					\$ 937,050		\$ 660,000		\$ 1,597,050
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	1,500	LF	\$ 185.00	\$ 277,500	\$ 170.00	\$ 255,000	\$ 355	\$ 532,500
7.2	Rigid Bus, Fittings & Insulators	800	LF	\$ 125.07	\$ 100,056	\$ 237.10	\$ 189,680	\$ 362	\$ 289,736
7.3	Strain Bus, Connectors & Insulators	500	LF	\$ 39.30	\$ 19,650	\$ 53.35	\$ 26,675	\$ 93	\$ 46,325
7.4	Grounding System	7,500	LF	\$ 6.93	\$ 51,975	\$ 32.58	\$ 244,350	\$ 40	\$ 296,325
7.5	Strain Bus Insulators - 345kV	36	EA	\$ 2,000	\$ 72,000	\$ 1,050	\$ 37,800	\$ 3,050	\$ 109,800
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	\$ 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	Install new communication tower foundation.	1	LS			\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000
7.13	Relocate existing 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					\$ 826,181		\$ 1,183,505		\$ 2,009,686
H. New Scotland Substation - Install					\$ 4,097,659		\$ 3,538,205		\$ 7,635,864
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 76,359	\$ 76,359	\$ 76,359	\$ 76,359
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			\$ 290,220	\$ 290,220	\$ 290,220	\$ 290,220
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 76,359	\$ 76,359	\$ 76,359	\$ 76,359
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 76,359	\$ 76,359	\$ 76,359	\$ 76,359
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 610,869	\$ 610,869	\$ 610,869	\$ 610,869
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 53,451	\$ 53,451	\$ 53,451	\$ 53,451
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 190,897	\$ 190,897	\$ 190,897	\$ 190,897
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	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
8.11	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	\$ 327,813	\$ 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

NAT & NYPA - T027 - (Segment A, Double Circuit)

I. New Scotland Substation - Removal

Estimate Revision: **4**

Total: \$ **93,577**

<i>NAT & NYPA - T027 - (Segment A, Double Circuit)</i>			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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:	\$ -	\$ 12,277	\$ 12,277
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ -	\$ 93,577	\$ 93,577
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ -	\$ 93,577	\$ 93,577

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. New Scotland 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 PREP/ 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	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	\$ -	
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	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	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
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	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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 28,800		\$ 28,800	
3. SUBSTATION 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	12	EA	\$ -	\$ -	\$ 2,250	\$ 27,000	\$ 2,250	\$ 27,000	
3.1g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
3.1h	Arrester Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
3.1j	Wave Trap Stand	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
3.1k	Lightning Masts - 70'	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	\$ -	
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	\$ -	\$ 2,250	\$ -	
3.2g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ 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
3.2h	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 27,000		\$ 27,000
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3f	Arresters	0	EA	\$ -	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 4,500		\$ 4,500
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 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 - CONTROL 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	1	LS	\$ -	\$ -	\$ 21,000.00	\$ 21,000	\$ 21,000	\$ 21,000
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					\$ -		\$ 21,000		\$ 21,000
I. New Scotland Substation - Removal					\$ -		\$ 81,300		\$ 81,300
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	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			\$ 3,090	\$ 3,090	\$ 3,090	\$ 3,090
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 813	\$ 813	\$ 813	\$ 813
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 813	\$ 813	\$ 813	\$ 813
Engineering									
8.5	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									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 244	\$ 244	\$ 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		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	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

NAT & NYPA - T027 - (Segment A, Double Circuit)

J. Porter Substation - Install

Estimate Revision: **4**

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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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

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
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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ -		\$ -
2. SUBSTATION 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									
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	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	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)	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	\$ 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	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS						\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
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								
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	\$ -

Item	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	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 - SUBSTATION STRUCTURES					\$ -		\$ -		\$ -
4. MAJOR EQUIPMENT									
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	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 - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / MATERIALS									
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	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	0	EA	\$ -	\$ -	\$ 12,000	\$ -	\$ 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		0	EA	\$ 15,000	\$ -	\$ 7,500	\$ -	\$ 22,500	\$ -
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	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 EQUIPMENT / MATERIALS					\$ -		\$ -		\$ -
6. CONTROL HOUSE / 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 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 - CONTROL 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	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 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									
7.23									
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/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	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
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 719	\$ 719	\$ 719	\$ 719
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 5,753	\$ 5,753	\$ 5,753	\$ 5,753
8.6	LIDAR	-	LS	\$ -	\$ -	\$ 216	\$ -	\$ 216	\$ -
8.7	Geotech	-	EA	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500	\$ -
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 503	\$ 503	\$ 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	TOTAL
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 - T026 - (Segment A, Base)

K. Porter Substation - Removal

Estimate Revision: **4**

Total: \$ **545,937**

NAT & NYPA - T026 - (Segment A, Base)			
	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 EQUIPMENT	\$ -	\$ 43,500	\$ 43,500
5. SMALL EQUIPMENT / 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)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ -	\$ 545,937	\$ 545,937
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ -	\$ 545,937	\$ 545,937

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
K. Porter 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 PREP/ 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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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

Item	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	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		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	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 (40'x125')	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 126,600		\$ 126,600
3. SUBSTATION 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Shared Column	5	EA	\$ -	\$ -	\$ 27,000	\$ 135,000	\$ 27,000	\$ 135,000
3.2c	Switch Stands	6	EA	\$ -	\$ -	\$ 9,750	\$ 58,500	\$ 9,750	\$ 58,500
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	\$ -	\$ 2,250	\$ -
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

Item	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	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 - SUBSTATION STRUCTURES					\$ -		\$ 206,100		\$ 206,100
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT					\$ -		\$ 43,500		\$ 43,500
5. SMALL EQUIPMENT / 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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ 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	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	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 EQUIPMENT / MATERIALS					\$ -		\$ 59,500		\$ 59,500
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 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 - CONTROL 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	1	LS.	\$ -	\$ -	\$ 18,937.50	\$ 18,938	\$ 18,938	\$ 18,938
7.3	Strain Bus, Connectors & Insulators	1	LS.	\$ -	\$ -	\$ 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 - MISC ITEMS					\$ -		\$ 38,613		\$ 38,613
K. Porter Substation - Removal					\$ -		\$ 474,313		\$ 474,313
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 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		\$ -	\$ 18,027	\$ 18,027	\$ 18,027	\$ 18,027
8.3	Utility PM and Project Oversight	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	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 71,625		\$ 71,625

NAT & NYPA - T027 - (Segment A, Double Circuit)

L. Interconnection Edic Station

Estimate Revision: **4** Total: \$ **2,104,121**

NAT & NYPA - T027 - (Segment A, Double Circuit)			
	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/DEMOP, 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

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
L. Interconnection Edic 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 - CLEARING & ACCESS					\$ -		\$ 367,850		\$ 367,850
2. FOUNDATIONS									
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									
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									
2.15									
TOTAL - FOUNDATIONS					\$ 168,366		\$ 170,169		\$ 338,536
3. STRUCTURES									
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	\$ 121,678	\$ 324,475	\$ 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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.13				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.14				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.15				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - STRUCTURES					\$ 501,469		\$ 321,821		\$ 823,289
4. CONDUCTOR, 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									
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kV Mono Pole Vertical Tangent - V-String								
5.2	115kV Mono Pole Vertical Tangent - V-String								
5.3	Single Ckt. Dead End Vertical (345kV) (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								
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.8	OPGW Splice Boxes	-	Set	\$ 1,746	\$ -	\$ 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	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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 160,000		\$ 94,400		\$ 254,400
L. Interconnection Edic Station					\$ 829,835		\$ 954,240		\$ 1,784,075
6. MOB/DEMOB, 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 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			\$ 67,808	\$ 67,808	\$ 67,808	\$ 67,808
6.3	Utility PM and Project Oversight	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	\$ 66,387	\$ -	\$ -	\$ 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		\$ 253,659		\$ 320,046

NAT & NYPA - T026 - (Segment A, Base)

M. Interconnection New Scotland Station

Estimate
Revision: 4

Total: \$ 3,171,702

NAT & NYPA - T026 - (Segment A, Base)			
	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	\$ 396,814	\$ 495,231
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,328,622	\$ 1,843,079	\$ 3,171,702
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,328,622	\$ 1,843,079	\$ 3,171,702

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. Interconnection 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 - CLEARING & ACCESS					\$ -		\$ 367,850		\$ 367,850
2. FOUNDATIONS									
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									

Item	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 - FOUNDATIONS					\$ 365,657		\$ 473,093		\$ 838,749
3. STRUCTURES									
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	\$ 5,060	\$ 5,539	\$ 55,385	\$ 6,045	\$ 60,445
3.4									
3.5									
3.6									
3.7									
3.8									
3.9									
3.10									
3.11									
3.12									
3.13									
3.14									
3.15									
TOTAL - STRUCTURES					\$ 655,465		\$ 445,628		\$ 1,101,092
4. CONDUCTOR, SHIELDWIRE, OPGW									
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	\$ 705	\$ 5.00	\$ 7,500	\$ 5.47	\$ 8,205
4.5	Remove Existing 345kv Cable From Existing Structures	0.3	Mile	\$ -	\$ -	\$ 30,000	\$ 7,500	\$ 30,000.00	\$ 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									
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 3,555		\$ 26,100		\$ 29,655
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kv Mono Pole Vertical Tangent - V-String	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	115kv Mono Pole Vertical Tangent - V-String	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.3	345kv Dead-end & Angle Insulators	60	Assembly	\$ 2,540	\$ 152,400	\$ 1,350	\$ 81,000	\$ 3,890	\$ 233,400
5.4	115kv Dead-end & Angle Insulators	-	Assembly	\$ 1,270	\$ -	\$ 725	\$ -	\$ 1,995	\$ -
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	-	Assembly	\$ 250	\$ -	\$ 150	\$ -	\$ 400	\$ -
5.7	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 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	9	EA	\$ 50	\$ 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	\$ -
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	\$ 50,000	\$ 100,000	\$ 100,000
5.17									
5.18									
5.19									
5.20									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 205,530		\$ 133,595		\$ 339,125
M. Interconnection New Scotland Station					\$ 1,230,206		\$ 1,446,265		\$ 2,676,471
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 26,765	\$ 26,765	\$ 26,765	\$ 26,765
Project Management, Material Handling & Amenities									

Item	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			\$ 101,726	\$ 101,726	\$ 101,726	\$ 101,726
6.3	Utility PM and Project Oversight	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
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	\$ 98,416	\$ 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	\$ 2,676	\$ 2,676
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 98,416		\$ 396,814		\$ 495,231

NAT & NYPA - T026 - (Segment A, Base)

N. Interconnection Rotterdam Station

Estimate Revision: **4** Total: \$ **4,579,273**

NAT & NYPA - T026 - (Segment A, Base)			
	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	\$ 134,320	\$ 300,050
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 77,642	\$ 563,379	\$ 641,020
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,048,161	\$ 3,531,112	\$ 4,579,273
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,048,161	\$ 3,531,112	\$ 4,579,273

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 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	\$ -	\$ -	\$ 4	\$ 19,200	\$ 4	\$ 19,200
1.5	Matting - Access and ROW	4,800.0	LF	\$ -	\$ -	\$ 70	\$ 336,000	\$ 70	\$ 336,000
1.6	Matting - To Work Area	2,400.0	LF	\$ -	\$ -	\$ 70	\$ 168,000	\$ 70	\$ 168,000
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	1.0	Mile	\$ -	\$ -	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
1.9	Work Pads	160,000.0	SF	\$ -	\$ -	\$ 4	\$ 563,200	\$ 4	\$ 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	\$ -
TOTAL - CLEARING & ACCESS				\$ -	\$ -	\$ 1,233,050	\$ 1,233,050	\$ 1,233,050	\$ 1,233,050
2. FOUNDATIONS									
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	\$ 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 - FOUNDATIONS					\$ 192,145		\$ 325,963		\$ 518,108
3. STRUCTURES									
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	\$ 7,100
3.3	15kv 3-CKT DE - WOOD POLE	2	Pole	\$ 3,500	\$ 7,000	\$ 3,600	\$ 7,200	\$ 7,100	\$ 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	2	Pole	\$ 4,500	\$ 9,000	\$ 4,400	\$ 8,800	\$ 8,900	\$ 17,800
3.6	115kv 1-CKT DE - WOOD POLE	11	Pole	\$ 5,500	\$ 60,500	\$ 5,000	\$ 55,000	\$ 10,500	\$ 115,500
3.7	115kv 2-CKT TANGENT - WOOD POLE	4	Pole	\$ 5,500	\$ 22,000	\$ 5,000	\$ 20,000	\$ 10,500	\$ 42,000
3.8	115kv 2-CKT DE - STEEL POLE	4	Pole	\$ 98,883	\$ 395,530	\$ 59,330	\$ 237,318	\$ 158,212	\$ 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 - STRUCTURES					\$ 546,722		\$ 837,150		\$ 1,383,872
4. CONDUCTOR, SHIELDWIRE, OPGW									
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	\$ 5.47	\$ 42,666
4.5	Remove Existing Cable	6.6	Mile	\$ -	\$ -	\$ 30,000	\$ 197,700	\$ 30,000.00	\$ 197,700
4.6	Remove Existing EHV	2.2	Mile	\$ -	\$ -	\$ 12,000	\$ 26,400	\$ 12,000.00	\$ 26,400
4.7	15kv - (1) 477kcmil 26/7 ACSR "Hawk"	9,630	LF	\$ 1.62	\$ 15,601	\$ 5.00	\$ 48,150	\$ 6.62	\$ 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		-			\$ -		\$ -		\$ -
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 65,923		\$ 437,250		\$ 503,173
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Conductor, 115kv, 3PH, Tangent - Insulator	33	Assembly	\$ 1,000	\$ 33,000	\$ 720	\$ 23,760	\$ 1,720	\$ 56,760
5.2	Conductor, 115kv, 3PH, DE/Side - Insulator	66	Assembly	\$ 1,000	\$ 66,000	\$ 720	\$ 47,520	\$ 1,720	\$ 113,520
5.3	Conductor, 15kv, 3PH, Tangent - Insulator	12	Assembly	\$ 100	\$ 1,200	\$ 75	\$ 900	\$ 175	\$ 2,100
5.4	Conductor, 15kv, 3PH, DE/Side - Insulator	18	Assembly	\$ 100	\$ 1,800	\$ 75	\$ 1,350	\$ 175	\$ 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	\$ 400	\$ 75	\$ 300	\$ 175	\$ 700
5.8	OPGW Assembly - Tangent	2	Assembly	\$ 200	\$ 400	\$ 150	\$ 300	\$ 350	\$ 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	\$ -
5.13	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
5.14	Vibration Dampers - Conductor	-	EA	\$ 35	\$ -	\$ 35	\$ -	\$ 70	\$ -
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	\$ -	\$ 1,776	\$ -
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					\$ -		\$ -		\$ -
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 165,730		\$ 134,320		\$ 300,050
N. Interconnection Rotterdam Station					\$ 970,519		\$ 2,967,733		\$ 3,938,252
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
	Contractor Mobilization / Demobilization								

Item	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	\$ -	\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383
	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			\$ 149,683	\$ 149,683	\$ 149,683	\$ 149,683
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 196,913	\$ 196,913	\$ 196,913	\$ 196,913
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 11,815	\$ 11,815	\$ 11,815	\$ 11,815
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 27,568	\$ 27,568	\$ 27,568	\$ 27,568
	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	\$ -	\$ -	\$ 11,815	\$ 11,815	\$ 11,815	\$ 11,815
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			\$ 3,938	\$ 3,938	\$ 3,938	\$ 3,938
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 77,642		\$ 563,379		\$ 641,020

NAT & NYPA - T026 - (Segment A, Base)

System Upgrade Facilities (Various Stations for Edic/Marcy to New Scotland)

Estimate Revision: **19-4**

Total: \$ 6,899,000

SYSTEM UPGRADE 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
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	\$ -	\$ -	\$ -	\$ -		\$ -
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 SS5 - TOTAL:				\$ -		\$ -		\$ -
STATIONS SUF DIRECT TOTAL:									\$ 5,519,000
STATIONS SUF INDIRECT TOTAL:									\$ 1,380,000
STATIONS SUF TOTAL									\$ 6,899,000

NAT & NYPA - T027 - (Segment A, Double Circuit)

Q. Princetown Substation GIS - Install

Estimate Revision: **4**

Total: \$ **37,290,171**

NAT & NYPA - T027 - (Segment A, Double 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 EQUIPMENT	\$ 12,700,000	\$ 4,266,670	\$ 16,966,670
5. SMALL EQUIPMENT / 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

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. Princetown 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 PREP/ GRADING/ FENCING / CIVIL					\$ 176,795		\$ 963,025		\$ 1,139,820
2. SUBSTATION 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	\$ 418,320	\$ 28,000	\$ 448,000	\$ 54,145	\$ 866,320
2.1e	Switch Stand Foundations	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1f	Station Service Transformer Stand Foundation	1	EA	\$ 2,988	\$ 2,988	\$ 3,200	\$ 3,200	\$ 6,188	\$ 6,188
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	\$ 26,892	\$ 4,800	\$ 28,800	\$ 9,282	\$ 55,692
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	\$ -	\$ 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)	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	\$ 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	1	EA	\$ 912,910	\$ 912,910	\$ 977,680	\$ 977,680	\$ 1,890,590	\$ 1,890,590
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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 1,377,110	\$ 1,474,680	\$ 2,851,790		
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	6	EA	\$ 37,000	\$ 222,000	\$ 37,000	\$ 222,000	\$ 74,000	\$ 444,000
3.1c	Switch Stands	0	EA	\$ 14,800	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
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	0	EA	\$ 3,700	\$ -	\$ 3,700	\$ -	\$ 7,400	\$ -
3.1g	Instrument Transformer Stand	36	EA	\$ 1,850	\$ 66,600	\$ 1,850	\$ 66,600	\$ 3,700	\$ 133,200
3.1h	Arrester Stand	18	EA	\$ 1,850	\$ 33,300	\$ 1,850	\$ 33,300	\$ 3,700	\$ 66,600
3.1j	Wave Trap Stand	6	EA	\$ 7,400	\$ 44,400	\$ 7,400	\$ 44,400	\$ 14,800	\$ 88,800
3.1k	Lightning Masts	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	\$ -	\$ 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	\$ -

Item	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	\$ -	\$ 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 - SUBSTATION STRUCTURES					\$ 381,100		\$ 381,100		\$ 762,200	
4. MAJOR EQUIPMENT										
4.1	345kV									
4.1a	Circuit Breakers	0	EA	\$ 220,000	\$ -	\$ 80,000	\$ -	\$ 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	\$ -	\$ 750,000	\$ -	\$ 4,050,000	\$ -	
4.1d	345 kV - 115 kV Auto Transformer	0	EA	\$ 3,300,000	\$ -	\$ 750,000	\$ -	\$ 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									
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 - MAJOR EQUIPMENT					\$ 12,700,000		\$ 4,266,670		\$ 16,966,670	
5. SMALL EQUIPMENT / MATERIALS										
5.1	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	\$ -	\$ 15,000	\$ -	\$ 50,000	\$ -	
5.1c	VT'S	18	EA	\$ 25,000	\$ 450,000	\$ 12,000	\$ 216,000	\$ 37,000	\$ 666,000	
5.1d	CT'S	18	EA	\$ 13,000	\$ 234,000	\$ 8,000	\$ 144,000	\$ 21,000	\$ 378,000	
5.1e	CCVT'S	0	EA	\$ 13,000	\$ -	\$ 8,000	\$ -	\$ 21,000	\$ -	
5.1f	Arresters	18	EA	\$ 6,500	\$ 117,000	\$ 1,500	\$ 27,000	\$ 8,000	\$ 144,000	
5.1g	Wave Traps	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 48,000	\$ 21,000	\$ 126,000	
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
5.2j										
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	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	

Item	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 EQUIPMENT / MATERIALS					\$ 1,319,000		\$ 590,000		\$ 1,909,000
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	1	EA	\$ 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	\$ 35,000	\$ 1,085,000	\$ 10,000	\$ 310,000	\$ 45,000	\$ 1,395,000
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 - CONTROL 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	\$ 90,090	\$ 32.58	\$ 423,540	\$ 40	\$ 513,630
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	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 100,000	\$ 100,000
7.11	Misc. Materials (Above and Below Ground)	1	LS	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 100,000	\$ 100,000
7.12									
7.13									
7.14									
7.15									
7.16									
7.17									
7.18									
7.19									
7.20									
TOTAL - MISC ITEMS					\$ 358,177		\$ 733,260		\$ 1,091,437
Q. Princetown Substation GIS - Install					\$ 20,040,102		\$ 9,831,655		\$ 29,871,757
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 298,718	\$ 298,718	\$ 298,718	\$ 298,718
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	\$ -	\$ -	\$ 1,135,351	\$ 1,135,351	\$ 1,135,351	\$ 1,135,351
8.3	Utility PM and Project Oversight	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	LS	\$ -	\$ -	\$ 2,389,741	\$ 2,389,741	\$ 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
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 896,153	\$ 896,153	\$ 896,153	\$ 896,153
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 89,615	\$ 89,615	\$ 89,615	\$ 89,615

Item	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	\$ 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	\$ 1,603,208	\$ 1,603,208	\$ -	\$ -	\$ 1,603,208	\$ 1,603,208
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		\$ 7,418,414

NAT & NYPA - T027 - (Segment A, Double Circuit)

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 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 Oversight 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 (T028)			
Description		Total Amount (In thousand \$)	
Direct Cost	1	Transmission Lines	
	1.1	Clearing & Access	\$50,021
	1.2	Foundations	\$23,713
	1.3	Structures	\$60,645
	1.4	Conductor, Shiedwire and OPGW	\$35,494
	1.5	Insulators, Fitting and Hardwares	\$10,802
	Subtotal (1)		\$180,675
	2	Substations	
	2.1	Rotterdam Substation	\$47,340
	2.2	Edic Substation	\$2,153
	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	\$8,399	
Subtotal (2)		\$76,420	
Total (1+2)		\$257,094	
Contractors Mark-up (15% of Total 1+2)		\$38,564	
Total Direct Cost (A)		\$295,659	
Indirect Cost	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$2,571
	3.2	Project Management, Material Handling & Amenities	\$18,274
	3.3	Engineering	\$17,615
	3.4	Testing & Commissioning	\$1,815
	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$20,464
	3.6	Compensation for use of NYPA Structures (1 Ckt.)	\$8,919
	3.7	Legal, Env. Lisc. & Permit and Env. Mitigation	\$8,096
Total Indirect Cost (3)		\$77,755	
Subtotal Project Cost (B=A+3) 2017 \$		\$373,414	
	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 \$		\$381,140	
Total Project Cost 2018 \$		\$392,575	

NAT & NYPA - T028 - (Segment A, Enhanced)		
Estimate Revision: 4		
NAT & NYPA - T028 - (Segment A, Enhanced) - Direct Costs		Total Each Segment
Direct Labor, Material & Equipment Costs	A. Transmission Line Edic to Princetown	\$ 122,328,839
Direct Labor, Material & Equipment Costs	B. Transmission Line Princetown to Rotterdam	\$ 20,508,582
Direct Labor, Material & Equipment Costs	C. Transmission Line Princetown to New Scotland	\$ 37,837,229
Direct Labor, Material & Equipment Costs	D. Rotterdam Substation - Install	\$ 43,728,474
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	\$ 2,676,471
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	\$ 3,938,252
Direct Labor, Material & Equipment Costs	R. Princetown Switchyard - Install	\$ 12,718,239
SUBTOTAL:		\$ 262,613,405
CONTRACTOR MARK-UP (OH&P)		\$ 39,392,011
CONTINGENCY ON ENTIRE PROJECT		\$ -
TOTAL DIRECT:		\$ 302,005,415
NAT & NYPA - T028 - (Segment A, Enhanced) - Indirect Costs		Total Each Segment
Indirect Costs	A. Transmission Line Edic to Princetown	\$ 37,788,312
Indirect Costs	B. Transmission Line Princetown to Rotterdam	\$ 4,542,423
Indirect Costs	C. Transmission Line Princetown to New Scotland	\$ 9,177,032
Indirect Costs	D. Rotterdam Substation - Install	\$ 10,844,525
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	\$ 77,824
Indirect Costs	L. Interconnection Edic Station	\$ 343,365
Indirect Costs	M. Interconnection New Scotland Station	\$ 530,215
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	\$ 692,497
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 INDIRECT:		\$ 79,134,969
TOTAL ESTIMATED COST:		\$ 381,140,385

NAT & NYPA - T028 - (Segment A, Enhanced)

A. Transmission Line Edic to Princetown

Estimate Revision: **4** Total: \$ 160,117,152

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	\$ 4,680,711	\$ 2,243,484	\$ 6,924,195
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 2,207,417	\$ 35,580,895	\$ 37,788,312
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 29,800,129	\$ 130,317,022	\$ 160,117,152
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 29,800,129	\$ 130,317,022	\$ 160,117,152

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. Transmission 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	\$ 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	\$ 19,751,424	\$ 70	\$ 19,751,424
1.6	Matting - To Work Area	25,200.0	LF	\$ -	\$ -	\$ 70	\$ 1,764,000	\$ 70	\$ 1,764,000
1.7	Snow Removal	66.8	Mile	\$ -	\$ -	\$ 16,000	\$ 1,068,800	\$ 16,000	\$ 1,068,800
1.8	ROW Restoration	66.8	Mile	\$ -	\$ -	\$ 10,000	\$ 668,000	\$ 10,000	\$ 668,000
1.9	Work Pads	1,680,000.0	SF	\$ -	\$ -	\$ 4	\$ 5,913,600	\$ 4	\$ 5,913,600
1.10	Restoration for Work Pad areas	336,000.0	SF	\$ -	\$ -	\$ 0.15	\$ 50,400	\$ 0	\$ 50,400
1.11	Temporary Access Bridge	-	EA	\$ -	\$ -	\$ 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 on Public Roads	100	LS	\$ -	\$ -	\$ 4,130	\$ 413,000	\$ 4,130	\$ 413,000
1.15	Culverts / Misc. Access	10	EA	\$ 750	\$ 7,500	\$ 1,250	\$ 12,500	\$ 2,000	\$ 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 - CLEARING & ACCESS:					\$ 41,500		\$ 35,680,876		\$ 35,722,376
2. FOUNDATIONS									
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	\$ 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	\$ 15,740	\$ 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	\$ 2,613	\$ 26,437	\$ 26,437	\$ 29,049	\$ 29,049
2.14	Direct Embed Foundations - 6' x 28'	3	EA	\$ 2,707	\$ 8,121	\$ 27,416	\$ 82,247	\$ 30,123	\$ 90,368
2.15	Direct Embed Foundations - 6' x 29'	3	EA	\$ 2,896	\$ 8,687	\$ 29,374	\$ 88,122	\$ 32,270	\$ 96,809
2.16	Direct Embed Foundations - 6' x 33'	3	EA	\$ 3,273	\$ 9,820	\$ 33,290	\$ 99,871	\$ 36,564	\$ 109,691
2.17	Direct Embed Foundations - 7' x 27'	2	EA	\$ 3,337	\$ 6,673	\$ 37,316	\$ 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

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	CY	\$ -	\$ -	\$ 2,000	\$ 2,684,000	\$ 2,000	\$ 2,684,000
TOTAL - FOUNDATIONS:					\$ 3,098,282		\$ 10,723,946		\$ 13,822,229
3. STRUCTURES									
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	\$ 130,388	\$ 521,552
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	\$ 634,809	\$ 63,481	\$ 380,885	\$ 169,282	\$ 1,015,694
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	\$ 1,125,629
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	\$ 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	\$ 284,841
3.36	Remove Existing Foundation	50	EA	\$ -	\$ -	\$ 7,500	\$ 375,000	\$ 7,500	\$ 375,000
3.37	Remove Existing Structure and Accessories	994	EA	\$ -	\$ -	\$ 12,500	\$ 12,425,000	\$ 12,500	\$ 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	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Sum	Labor & Equipment Supply Rate	Labor & Equipment Sum	Total Unit Rate	TOTAL
TOTAL - STRUCTURES:					\$ 14,839,646		\$ 25,190,231		\$ 40,029,876
4. CONDUCTOR, 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
4.2	(1) OPGW 36 Fiber AC-33/38/571 (Edic to 12.6 Miles)	301,954	LF	\$ 1.35	\$ 407,638	\$ 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	\$ 127,678	\$ 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	\$ 12,000.00	\$ 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									
4.13	Rider Poles (187 Locations)	93	Set	\$ 1,750	\$ 162,750	\$ 3,500	\$ 325,500	\$ 5,250.00	\$ 488,250
4.14	Rider Poles - Relocated	94	Set	\$ -	\$ -	\$ 3,500	\$ 329,000	\$ 3,500.00	\$ 329,000
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 4,932,573		\$ 20,897,590		\$ 25,830,163
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	180	Assembly	\$ 1,800	\$ 324,000	\$ 720	\$ 129,600	\$ 2,520	\$ 453,600
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	1,104	Assembly	\$ 1,800	\$ 1,987,200	\$ 720	\$ 794,880	\$ 2,520	\$ 2,782,080
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	450	Assembly	\$ 1,800	\$ 810,000	\$ 720	\$ 324,000	\$ 2,520	\$ 1,134,000
5.4	OPGW Assembly - Tangent	310	Assembly	\$ 200	\$ 62,000	\$ 150	\$ 46,500	\$ 350	\$ 108,500
5.5	OPGW Assembly - Angle / DE	54	Assembly	\$ 250	\$ 13,500	\$ 150	\$ 8,100	\$ 400	\$ 21,600
5.6	OHSW Assembly - Tangent	310	Assembly	\$ 200	\$ 62,000	\$ 150	\$ 46,500	\$ 350	\$ 108,500
5.7	OHSW Assembly - Angle / DE	54	Assembly	\$ 250	\$ 13,500	\$ 150	\$ 8,100	\$ 400	\$ 21,600
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	5,244	EA	\$ 50	\$ 262,200	\$ 35	\$ 183,540	\$ 85	\$ 445,740
5.11	Vibration Dampers - Conductor	4,164	EA	\$ 35	\$ 145,740	\$ 35	\$ 145,740	\$ 70	\$ 291,480
5.12	Shield wire / OPGW Dampers, Misc. Fittings	1,087	EA	\$ 27	\$ 29,349	\$ 35	\$ 38,045	\$ 62	\$ 67,394
5.13	Replace - Mono Pole Vertical Tangent (1-Group of 18-Bells Each Assembly)	252	Assembly	\$ 1,800	\$ 453,600	\$ 720	\$ 181,440	\$ 2,520	\$ 635,040
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 - INSULATORS, FITTINGS, HARDWARE:					\$ 4,680,711		\$ 2,243,484		\$ 6,924,195
A. Transmission Line Edic to Princetown					\$ 27,592,712		\$ 94,736,127		\$ 122,328,839
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 1,223,288	\$ 1,223,288	\$ 1,223,288	\$ 1,223,288
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			\$ 6,248,361	\$ 6,248,361	\$ 6,248,361	\$ 6,248,361
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 1,223,288	\$ 1,223,288	\$ 1,223,288	\$ 1,223,288
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,223,288	\$ 1,223,288	\$ 1,223,288	\$ 1,223,288
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 6,116,442	\$ 6,116,442	\$ 6,116,442	\$ 6,116,442
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 366,987	\$ 366,987	\$ 366,987	\$ 366,987
6.7	Geotech	67	Location	\$ -	\$ -	\$ 3,500	\$ 234,500	\$ 3,500	\$ 234,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 856,302	\$ 856,302	\$ 856,302	\$ 856,302
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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
6.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 366,987	\$ 366,987	\$ 366,987	\$ 366,987
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	\$ 2,207,417	\$ 2,207,417	\$ -	\$ -	\$ 2,207,417	\$ 2,207,417
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 122,329	\$ 122,329	\$ 122,329	\$ 122,329
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:						\$ 2,207,417	\$ 35,580,895		\$ 37,788,312

NAT & NYPA - T028 - (Segment A, Enhanced)

B. Transmission Line Princetown to Rotterdam

Estimate
Revision: 4

Total: \$ 25,051,005

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	\$ 1,210,631	\$ 557,892	\$ 1,768,523
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 498,571	\$ 4,043,852	\$ 4,542,423
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 6,730,705	\$ 18,320,300	\$ 25,051,005
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 6,730,705	\$ 18,320,300	\$ 25,051,005

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
B. Transmission 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	\$ 237,600	\$ 45	\$ 237,600
1.4	Silt Fence	26,400	LF	\$ -	\$ -	\$ 4	\$ 105,600	\$ 4	\$ 105,600
1.5	Matting - Access and ROW	21,120	LF	\$ -	\$ -	\$ 70	\$ 1,478,400	\$ 70	\$ 1,478,400
1.6	Matting - To Work Area	2,775	LF	\$ -	\$ -	\$ 70	\$ 194,250	\$ 70	\$ 194,250
1.7	Snow Removal	5	Mile	\$ -	\$ -	\$ 16,000	\$ 80,000	\$ 16,000	\$ 80,000
1.8	ROW Restoration	5	Mile	\$ -	\$ -	\$ 10,000	\$ 50,000	\$ 10,000	\$ 50,000
1.9	Work Pads	185,000	SF	\$ -	\$ -	\$ 4	\$ 651,200	\$ 4	\$ 651,200
1.10	Restoration for Work Pad areas	37,000	SF	\$ -	\$ -	\$ 0.2	\$ 5,550	\$ 0	\$ 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	\$ 45,800	\$ 4,580	\$ 45,800
1.14	Maintenance and Protection of Traffic on Public Roads	10	EA	\$ -	\$ -	\$ 4,130	\$ 41,300	\$ 4,130	\$ 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 - CLEARING & ACCESS:					\$ 6,000		\$ 3,038,200		\$ 3,044,200
2. FOUNDATIONS									
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	\$ 82,247	\$ 22,608	\$ 90,432
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	\$ 34,595	\$ 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 - FOUNDATIONS:					\$ 417,002		\$ 3,778,708		\$ 4,195,711
3. STRUCTURES									
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	\$ 226,677	\$ 453,354
3.4	2x 1-CKT 345KV VERTICAL TANGENT DEADEND (0°-5°) - 115'	4	Structure	\$ 109,816	\$ 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	\$ 232,656	\$ 465,312	\$ 139,594	\$ 279,187	\$ 372,250	\$ 744,499
3.6	2x 1-CKT 345KV 3-POLE LARGE ANGLE DEADEND (60°-90°) - 115'	1	Structure	\$ 176,342	\$ 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	\$ 99,493	\$ 99,493	\$ 59,696	\$ 59,696	\$ 159,189	\$ 159,189
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	Material 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
TOTAL - STRUCTURES PRINCETOWN TO NEW SCOTLAND:					\$ 3,876,135		\$ 4,280,943		\$ 8,157,078
4. CONDUCTOR, 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: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 722,365		\$ 2,620,705		\$ 3,343,070
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	348.0	Assembly	\$ 1,800	\$ 626,400	\$ 720	\$ 250,560	\$ 2,520	\$ 876,960
5.2	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	58	Assembly	\$ 200	\$ 11,600	\$ 150	\$ 8,700	\$ 350	\$ 20,300
5.4	OPGW Assembly - Angle / DE	16	Assembly	\$ 250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.5	OHSW Assembly - Tangent	58	Assembly	\$ 200	\$ 11,600	\$ 150	\$ 8,700	\$ 350	\$ 20,300
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	\$ 35	\$ 29,820	\$ 35	\$ 29,820	\$ 70	\$ 59,640
5.11	Shieldwire / OPGW Dampers, Misc. Fittings	116	EA	\$ 27	\$ 3,132	\$ 35	\$ 4,060	\$ 62	\$ 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	\$ 5,030	\$ 1,776	\$ 8,880
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 1,210,631		\$ 557,892		\$ 1,768,523
B. Transmission Line Princetown to Rotterdam					\$ 6,232,134		\$ 14,276,448		\$ 20,508,582
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 205,086	\$ 205,086	\$ 205,086	\$ 205,086
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			\$ 1,047,546	\$ 1,047,546	\$ 1,047,546	\$ 1,047,546
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 205,086	\$ 205,086	\$ 205,086	\$ 205,086
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 205,086	\$ 205,086	\$ 205,086	\$ 205,086
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,025,429	\$ 1,025,429	\$ 1,025,429	\$ 1,025,429
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 61,526	\$ 61,526	\$ 61,526	\$ 61,526
6.7	Geotech	5	Location	\$ -	\$ -	\$ 3,500	\$ 17,500	\$ 3,500	\$ 17,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 143,560	\$ 143,560	\$ 143,560	\$ 143,560
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	\$ -	\$ -	\$ 61,526	\$ 61,526	\$ 61,526	\$ 61,526
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	\$ 498,571	\$ 498,571	\$ -	\$ -	\$ 498,571	\$ 498,571
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 20,509	\$ 20,509	\$ 20,509	\$ 20,509

Item	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 - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 498,571		\$ 4,043,852		\$ 4,542,423

NAT & NYPA - T028 - (Segment A, Enhanced)

C. Transmission Line Princetown to New Scotland

Estimate Revision: **4**

Total: \$ **47,014,261**

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	\$ 1,400,673	\$ 708,421	\$ 2,109,095
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 885,667	\$ 8,291,365	\$ 9,177,032
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 11,956,503	\$ 35,057,757	\$ 47,014,261
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 11,956,503	\$ 35,057,757	\$ 47,014,261

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. Transmission 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	\$ 936,144	\$ 45	\$ 936,144
1.4	Silt Fence	104,016.0	LF	\$ -	\$ -	\$ 4	\$ 416,064	\$ 4	\$ 416,064
1.5	Matting - Access and ROW	83,212.8	LF	\$ -	\$ -	\$ 70	\$ 5,824,896	\$ 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	\$ 16,000	\$ 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 - CLEARING & ACCESS:					\$ 31,000		\$ 11,223,694		\$ 11,254,694
2. FOUNDATIONS									
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	\$ 18,064	\$ 108,384	\$ 18,261	\$ 109,564	\$ 36,325	\$ 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	EA	\$ 29,270	\$ 87,811	\$ 29,589	\$ 88,767	\$ 58,860	\$ 176,579
2.18	Drilled Pier - 8' x 27'	1	EA	\$ 42,819	\$ 42,819	\$ 43,285	\$ 43,285	\$ 86,103	\$ 86,103
2.19	Drilled Pier - 8' x 83'	1	EA	\$ 128,456	\$ 128,456	\$ 172,020	\$ 172,020	\$ 300,475	\$ 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	\$ 158,454

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.22	Rock Excavation Adder	482.40	CY	\$ -	\$ -	\$ 2,000	\$ 964,800	\$ 2,000	\$ 964,800
TOTAL - FOUNDATIONS:					\$ 1,194,705		\$ 4,499,949		\$ 5,694,653
3. STRUCTURES									
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'	5	Structure	\$ 52,207	\$ 261,035	\$ 31,324	\$ 156,621	\$ 83,531	\$ 417,656
3.3	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 125'	8	Structure	\$ 55,685	\$ 445,480	\$ 33,411	\$ 267,288	\$ 89,096	\$ 712,768
3.4	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 130'	9	Structure	\$ 58,257	\$ 524,309	\$ 34,954	\$ 314,585	\$ 93,210	\$ 838,894
3.5	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 135'	4	Structure	\$ 60,884	\$ 243,534	\$ 36,530	\$ 146,120	\$ 97,414	\$ 389,654
3.6	1-CKT 345KV VERTICAL TANGENT (0°-1°) - 145'	1	Structure	\$ 64,473	\$ 64,473	\$ 38,684	\$ 38,684	\$ 103,156	\$ 103,156
3.7	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°) - 115'	1	Structure	\$ 72,039	\$ 72,039	\$ 43,223	\$ 43,223	\$ 115,262	\$ 115,262
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 TANGENT DEADEND (0°-5°) - 120'	1	Structure	\$ 58,164	\$ 58,164	\$ 34,898	\$ 34,898	\$ 93,062	\$ 93,062
3.10	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°) - 105'	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
3.12	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 89'	5	Structure	\$ 32,708	\$ 163,540	\$ 19,625	\$ 98,124	\$ 52,333	\$ 261,664
3.13	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 93'	5	Structure	\$ 34,540	\$ 172,698	\$ 20,724	\$ 103,619	\$ 55,263	\$ 276,316
3.14	1-CKT 345KV H-FRAME TANGENT (0°-1°) - 107'	5	Structure	\$ 45,936	\$ 229,678	\$ 27,561	\$ 137,807	\$ 73,497	\$ 367,484
3.15	1-CKT 345KV H-FRAME SMALL ANGLE (1°-15°) - 80'	3	Structure	\$ 55,241	\$ 165,723	\$ 33,145	\$ 99,434	\$ 88,386	\$ 265,157
3.16	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 80'	5	Structure	\$ 69,079	\$ 345,395	\$ 41,447	\$ 207,237	\$ 110,526	\$ 552,632
3.17	1-CKT 345KV 3-POLE TANGENT DEADEND (0°-5°) - 85'	1	Structure	\$ 75,739	\$ 75,739	\$ 45,443	\$ 45,443	\$ 121,182	\$ 121,182
3.18	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 80'	5	Structure	\$ 97,403	\$ 487,013	\$ 58,442	\$ 292,208	\$ 155,844	\$ 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	\$ 207,052
3.20	1-CKT 345KV 3-POLE MEDIUM ANGLE DEADEND (15°-60°) - 115'	1	Structure	\$ 178,026	\$ 178,026	\$ 106,815	\$ 106,815	\$ 284,841	\$ 284,841
3.21	2-CKT 115KV/345KV VERTICAL TANGENT (0°-1°) - 115'	7	Structure	\$ 54,631	\$ 382,414	\$ 32,778	\$ 229,448	\$ 87,409	\$ 611,862
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	\$ 278,092	\$ 278,092
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	\$ 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	\$ 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 - STRUCTURES:					\$ 6,879,617		\$ 5,578,039		\$ 12,457,656
4. CONDUCTOR, SHIELDWIRE, OPGW									
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
4.2	(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	\$ 30,000.00	\$ 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	\$ 43,750	\$ 3,500	\$ 87,500	\$ 5,250.00	\$ 131,250
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		\$ 6,321,132
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Double Ckt. Mono Pole Vertical Tangent - V-String (115kV) (1, Group of 10-Bells Each Assembly)	78	Assembly	\$ 1,000	\$ 78,000	\$ 720	\$ 56,160	\$ 1,720	\$ 134,160
5.2	Double Ckt. Mono Pole Vertical Tangent - V-String (345kV) (1, Group of 18-Bells Each Assembly)	78	Assembly	\$ 1,800	\$ 140,400	\$ 720	\$ 56,160	\$ 2,520	\$ 196,560
5.3	Double Ckt. Dead End Vertical (115kV) (1, Group of 10-Bells Each Assembly)	24	Assembly	\$ 1,000	\$ 24,000	\$ 720	\$ 17,280	\$ 1,720	\$ 41,280
5.4	Double Ckt. Dead End Vertical (345kV) (1, Group of 18-Bells Each Assembly)	60	Assembly	\$ 1,800	\$ 108,000	\$ 720	\$ 43,200	\$ 2,520	\$ 151,200
5.5	Single Ckt. Dead End Vertical (345kV) (1, Group of 18-Bells Each Assembly)	210	Assembly	\$ 1,800	\$ 378,000	\$ 720	\$ 151,200	\$ 2,520	\$ 529,200
5.6	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	244	Assembly	\$ 1,800	\$ 439,200	\$ 720	\$ 175,680	\$ 2,520	\$ 614,880

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.7	OPGW Assembly - Tangent	58	Assembly	\$ 200	\$ 11,600	\$ 150	\$ 8,700	\$ 350	\$ 20,300
5.8	OPGW Assembly - Angle / DE	16	Assembly	\$ 250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
5.9	OHSW Assembly - Tangent	58	Assembly	\$ 200	\$ 11,600	\$ 150	\$ 8,700	\$ 350	\$ 20,300
5.10	OHSW Assembly - Angle / DE	16	Assembly	\$ 250	\$ 4,000	\$ 150	\$ 2,400	\$ 400	\$ 6,400
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
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 1,400,673		\$ 708,421		\$ 2,109,095
C. Transmission Line Princetown to New Scotland					\$ 11,070,837		\$ 26,766,393		\$ 37,837,229
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 378,372	\$ 378,372	\$ 378,372	\$ 378,372
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			\$ 1,932,665	\$ 1,932,665	\$ 1,932,665	\$ 1,932,665
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 378,372	\$ 378,372	\$ 378,372	\$ 378,372
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 378,372	\$ 378,372	\$ 378,372	\$ 378,372
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,891,861	\$ 1,891,861	\$ 1,891,861	\$ 1,891,861
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 113,512	\$ 113,512	\$ 113,512	\$ 113,512
6.7	Geotech	20	Location	\$ -	\$ -	\$ 3,500	\$ 70,000	\$ 3,500	\$ 70,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 264,861	\$ 264,861	\$ 264,861	\$ 264,861
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	\$ -	\$ -	\$ 113,512	\$ 113,512	\$ 113,512	\$ 113,512
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	\$ 885,667	\$ 885,667	\$ -	\$ -	\$ 885,667	\$ 885,667
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 37,837	\$ 37,837	\$ 37,837	\$ 37,837
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 885,667		\$ 8,291,365		\$ 9,177,032

NAT & NYPA - T026 - (Segment A, Base)

D. Rotterdam Substation - Install

Estimate Revision: **4**

Total: \$ **54,572,999**

NAT & NYPA - T026 - (Segment A, Base)			
	Supply	Installation	Total
D. Rotterdam Substation - Install			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ 2,896,891	\$ 7,763,755	\$ 10,660,646
2. SUBSTATION FOUNDATIONS	\$ 2,443,003	\$ 2,616,200	\$ 5,059,203
3. SUBSTATION STRUCTURES	\$ 944,980	\$ 944,980	\$ 1,889,960
4. MAJOR EQUIPMENT	\$ 11,915,000	\$ 2,970,000	\$ 14,885,000
5. SMALL EQUIPMENT / 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	\$ 8,879,438	\$ 10,844,525
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 26,528,676	\$ 28,044,322	\$ 54,572,999
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 26,528,676	\$ 28,044,322	\$ 54,572,999

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
D. Rotterdam 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	\$ -		\$ 1,800,000	\$ 1,800,000	\$ 1,800,000	\$ 1,800,000
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 2,896,891		\$ 7,763,755		\$ 10,660,646
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

Item	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	\$ 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	\$ 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								
2.5a	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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 - SUBSTATION FOUNDATIONS					\$ 2,443,003		\$ 2,616,200		\$ 5,059,203
3. SUBSTATION 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	\$ 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	\$ -	\$ 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	\$ -	\$ 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	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ 944,980		\$ 944,980		\$ 1,889,960
4. MAJOR EQUIPMENT									
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	\$ 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								

Item	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 - MAJOR EQUIPMENT					\$ 11,915,000		\$ 2,970,000		\$ 14,885,000
5. SMALL EQUIPMENT / 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
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	\$ -	\$ 17,500	\$ -	\$ 45,500	\$ -
5.3c	VT'S	6	EA	\$ 13,000	\$ 78,000	\$ 8,000	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 1,994,540		\$ 1,060,500		\$ 3,055,040
6. CONTROL HOUSE / 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

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.7	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 - CONTROL HOUSE / PANELS / GENERATOR					\$ 2,927,500		\$ 1,477,500		\$ 4,405,000
7. MISC ITEMS									
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	\$ 173,250	\$ 32.58	\$ 814,500	\$ 40	\$ 987,750
7.5	Strain Bus Insulators - 345kV	48	EA	\$ 2,000	\$ 96,000	\$ 1,050	\$ 50,400	\$ 3,050	\$ 146,400
7.6	Strain Bus Insulators - 230kV	6	EA	\$ 1,400	\$ 8,400	\$ 750	\$ 4,500	\$ 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									
TOTAL - MISC ITEMS					\$ 1,441,675		\$ 2,331,950		\$ 3,773,625
D. Rotterdam Substation - Install					\$ 24,563,589		\$ 19,164,885		\$ 43,728,474
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 437,285	\$ 437,285	\$ 437,285	\$ 437,285
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			\$ 2,233,580	\$ 2,233,580	\$ 2,233,580	\$ 2,233,580
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 437,285	\$ 437,285	\$ 437,285	\$ 437,285
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 437,285	\$ 437,285	\$ 437,285	\$ 437,285
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,498,278	\$ 3,498,278	\$ 3,498,278	\$ 3,498,278
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 306,099	\$ 306,099	\$ 306,099	\$ 306,099
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 1,093,212	\$ 1,093,212	\$ 1,093,212	\$ 1,093,212

Item	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	\$ -	\$ -	\$ 131,185	\$ 131,185	\$ 131,185	\$ 131,185
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	\$ 1,965,087	\$ 1,965,087	\$ -	\$ -	\$ 1,965,087	\$ 1,965,087
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 43,728	\$ 43,728	\$ 43,728	\$ 43,728
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,965,087		\$ 8,879,438		\$ 10,844,525

NAT & NYPA - T028 - (Segment A, Enhanced)

E. Rotterdam Substation - Removal

Estimate Revision: **4** Total: \$ **4,207,133**

NAT & NYPA - T028 - (Segment 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 EQUIPMENT	\$ -	\$ 147,000	\$ 147,000
5. SMALL EQUIPMENT / 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	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. Rotterdam 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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ 1,472,750		\$ 1,472,750
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	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	\$ -	\$ -	\$ 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	Fuse Stand Foundations	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 - SUBSTATION FOUNDATIONS					\$ -		\$ 617,400		\$ 617,400
3. SUBSTATION 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 - SUBSTATION STRUCTURES					\$ -		\$ 534,900		\$ 534,900
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT					\$ -		\$ 147,000		\$ 147,000
5. SMALL EQUIPMENT / MATERIALS									
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									
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 - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 169,500		\$ 169,500
6. CONTROL HOUSE / PANELS / GENERATOR									
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 - CONTROL 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 & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	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. Rotterdam Substation - Removal					\$ -		\$ 3,611,030		\$ 3,611,030
8. MOB/DEMOB, 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 Oversight	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:					\$ -		\$ 596,103		\$ 596,103

NAT & NYPA - T028 - (Segment A, Enhanced)

F. Edic Substation - Install

Estimate Revision: **4**

Total: \$ **2,639,615**

NAT & NYPA - T028 - (Segment A, Enhanced)			
	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 EQUIPMENT	\$ 200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPMENT / 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	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
F. Edic 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	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 PREP/ GRADING/ FENCING / CIVIL					\$ 2,025		\$ 5,625		\$ 7,650
2. SUBSTATION 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	\$ -
2.2e	Switch Stand Foundations	0	EA	\$ 3,735	\$ -	\$ 4,000	\$ -	\$ 7,735	\$ -

Item	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	\$ -	\$ 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)	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	\$ 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	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 - 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	\$ -	\$ 74,000	\$ -
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	\$ -	\$ 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	\$ 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	\$ -	\$ 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	\$ -

Item	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	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 - SUBSTATION STRUCTURES					\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQUIPMENT									
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								
4.2a	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 - MAJOR EQUIPMENT					\$ 200,000		\$ 80,000		\$ 280,000
5. SMALL EQUIPMENT / 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	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	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1f	Arresters	6	EA	\$ 6,500	\$ 39,000	\$ 1,500	\$ 9,000	\$ 8,000	\$ 48,000
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									
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	\$ -	\$ 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 - SMALL EQUIPMENT / 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 HOUSE / 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	\$ -
TOTAL - CONTROL 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
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	\$ 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 ITEMS					\$ 339,357		\$ 507,880		\$ 847,237
F. Edic Substation - Install					\$ 1,139,730		\$ 977,455		\$ 2,117,185
8. MOB/DEMOB, 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
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$ 21,172
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 21,172	\$ 21,172	\$ 21,172	\$ 21,172
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 169,375	\$ 169,375	\$ 169,375	\$ 169,375
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 14,820	\$ 14,820	\$ 14,820	\$ 14,820
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 52,930	\$ 52,930	\$ 52,930	\$ 52,930
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	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
8.15	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

NAT & NYPA - T028 - (Segment A, Enhanced)

G. Edic Substation - Removal

Estimate Revision: **4**

Total: \$ **41,616**

NAT & NYPA - T028 - (Segment 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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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

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
G. Edic 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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ -		\$ -
2. SUBSTATION FOUNDATIONS									
2.1 345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$ -	\$ -	\$ 14,000	\$ 14,000	\$ 14,000	\$ 14,000
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		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	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ 2,400	\$ -
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	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 14,000		\$ 14,000
3. SUBSTATION 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	3	EA	\$ -	\$ -	\$ 2,250	\$ 6,750	\$ 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	\$ -	\$ 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	\$ -
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	\$ -	\$ 2,250	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 6,750		\$ 6,750
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
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	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		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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 4,500		\$ 4,500
6. CONTROL HOUSE / 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	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 - CONTROL 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	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	\$ -
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
G. Edic Substation - Removal					\$ -		\$ 35,750		\$ 35,750
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	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 Oversight	1	LS		\$ -	\$ 358	\$ 358	\$ 358	\$ 358
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 358	\$ 358	\$ 358	\$ 358
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,860	\$ 2,860	\$ 2,860	\$ 2,860
8.6	LIDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 250	\$ -	\$ 250	\$ -
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 894	\$ -	\$ 894	\$ -
Permitting and Additional Costs									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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:					\$ -		\$ 5,866		\$ 5,866

NAT & NYPA - T028 - (Segment A, Enhanced)

H. New Scotland Substation - Install

Estimate Revision: **4**

Total: \$ **6,443,406**

NAT & NYPA - T028 - (Segment A, Enhanced)			
	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 EQUIPMENT	\$ 600,000	\$ 240,000	\$ 840,000
5. SMALL EQUIPMENT / 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

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
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.	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 (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									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 4,050		\$ 11,250		\$ 15,300
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)	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	24	EA	\$ 4,482	\$ 107,568	\$ 4,800	\$ 115,200	\$ 9,282	\$ 222,768
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	12	EA	\$ 4,482	\$ 53,784	\$ 4,800	\$ 57,600	\$ 9,282	\$ 111,384
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		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	\$ 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	\$ -

Item	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	\$ -	\$ 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		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	\$ -	\$ 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	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 - SUBSTATION FOUNDATIONS					\$ 406,368		\$ 435,200		\$ 841,568
3. SUBSTATION STRUCTURES									
3.1	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	\$ -
3.1c	Switch Stands	4	EA	\$ 14,800	\$ 59,200	\$ 14,800	\$ 59,200	\$ 29,600	\$ 118,400
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	15	EA	\$ 3,700	\$ 55,500	\$ 3,700	\$ 55,500	\$ 7,400	\$ 111,000
3.1g	Instrument Transformer Stand	12	EA	\$ 1,850	\$ 22,200	\$ 1,850	\$ 22,200	\$ 3,700	\$ 44,400
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	\$ 14,800
3.1k	Lightning Masts - 70'	2	EA	\$ 6,475	\$ 12,950	\$ 6,475	\$ 12,950	\$ 12,950	\$ 25,900
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	\$ -

Item	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	\$ -	\$ 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 - SUBSTATION STRUCTURES					\$ 199,800		\$ 199,800		\$ 399,600
4. MAJOR EQUIPMENT									
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	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 - MAJOR EQUIPMENT					\$ 600,000		\$ 240,000		\$ 840,000
5. SMALL EQUIPMENT / 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	3	EA	\$ 35,000	\$ 105,000	\$ 17,500	\$ 52,500	\$ 157,500	\$ 157,500
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	EA	\$ 6,500	\$ 39,000	\$ 1,500	\$ 9,000	\$ 8,000	\$ 48,000
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									
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 EQUIPMENT / MATERIALS					\$ 353,000		\$ 192,500		\$ 545,500
6. CONTROL HOUSE / PANELS / GENERATOR									
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	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	\$ -
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 726,650		\$ 500,400		\$ 1,227,050
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	1	L.S.	\$ 55,500.00	\$ 55,500	\$ 76,500.00	\$ 76,500	\$ 132,000	\$ 132,000
7.2	Rigid Bus, Fittings & Insulators	1	L.S.	\$ 62,535.00	\$ 62,535	\$ 118,550.00	\$ 118,550	\$ 181,085	\$ 181,085
7.3	Strain Bus, Connectors & Insulators	1	L.S.	\$ 92,250.00	\$ 92,250	\$ 114,135.00	\$ 114,135	\$ 206,385	\$ 206,385
7.4	Grounding System	1	L.S.	\$ 10,395.00	\$ 10,395	\$ 48,870.00	\$ 48,870	\$ 59,265	\$ 59,265
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	\$ 125,000	\$ -	\$ 125,000	\$ -	\$ 250,000	\$ -
7.9	SSVT Service	0	LS	\$ 180,000	\$ -	\$ 180,000	\$ -	\$ 360,000	\$ -
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	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
H. New Scotland Substation - Install					\$ 2,815,548		\$ 2,367,205		\$ 5,182,753
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 51,828	\$ 51,828	\$ 51,828	\$ 51,828
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			\$ 264,727	\$ 264,727	\$ 264,727	\$ 264,727
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 51,828	\$ 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	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 36,279	\$ 36,279	\$ 36,279	\$ 36,279
Testing & Commissioning									
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 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	\$ -	\$ -	\$ 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	\$ 225,244	\$ -	\$ -	\$ 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		\$ 1,035,409		\$ 1,260,653

NAT & NYPA - T028 - (Segment A, Enhanced)

I. New Scotland Substation - Removal

Estimate Revision: **4**

Total: \$ **94,640**

NAT & NYPA - T028 - (Segment 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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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:

Item	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 Scotland 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 PREP/ 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	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	\$ -
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	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	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS						\$ -	\$ 28,800	\$ 28,800	\$ -
3. SUBSTATION 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	12	EA	\$ -	\$ -	\$ 2,250	\$ 27,000	\$ 2,250	\$ 27,000
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	\$ -	\$ 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	\$ -
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	\$ -	\$ 2,250	\$ -
3.2g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ 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
3.2h	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 27,000		\$ 27,000
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3f	Arresters	0	EA	\$ -	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 4,500		\$ 4,500
6. CONTROL HOUSE / 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	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 - CONTROL 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	1	LS	\$ -	\$ -	\$ 21,000.00	\$ 21,000	\$ 21,000	\$ 21,000
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					\$ -		\$ 21,000		\$ 21,000
I. New Scotland Substation - Removal					\$ -		\$ 81,300		\$ 81,300
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	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		\$ -	\$ 4,153	\$ 4,153	\$ 4,153	\$ 4,153
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 813	\$ 813	\$ 813	\$ 813
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 813	\$ 813	\$ 813	\$ 813
Engineering									
8.5	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									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 244	\$ 244	\$ 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		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS	\$ -	\$ -	\$ 81	\$ -	\$ 81	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 13,340		\$ 13,340

NAT & NYPA - T028 - (Segment A, Enhanced)

J. Porter Substation - Install

Estimate Revision: **4**

Total: \$ **86,710**

NAT & NYPA - T028 - (Segment A, Enhanced)			
	Supply	Installation	Total
J. Porter Substation - Install			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ -	\$ -	\$ -
2. SUBSTATION FOUNDATIONS	\$ -	\$ -	\$ -
3. SUBSTATION STRUCTURES	\$ -	\$ -	\$ -
4. MAJOR EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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

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
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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ -		\$ -
2. SUBSTATION 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									
				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ 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	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ -		\$ -
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
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								
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	\$ -

Item	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	\$ -	\$ 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 - SUBSTATION STRUCTURES					\$ -		\$ -		\$ -
4. MAJOR EQUIPMENT									
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	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	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	\$ -	\$ 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								
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	\$ 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	\$ 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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 EQUIPMENT / MATERIALS					\$ -		\$ -		\$ -
6. CONTROL HOUSE / 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	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 - CONTROL 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	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	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
J. Porter Substation - Install					\$ 15,008		\$ 56,904		\$ 71,912
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	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	\$ -	\$ -	\$ 3,673	\$ 3,673	\$ 3,673	\$ 3,673
8.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
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	\$ -	\$ 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	-	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

NAT & NYPA - T028 - (Segment A, Enhanced)

K. Porter Substation - Removal

Estimate Revision: **4**

Total: \$ **552,137**

NAT & NYPA - T028 - (Segment A, Enhanced)			
	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 EQUIPMENT	\$ -	\$ 43,500	\$ 43,500
5. SMALL EQUIPMENT / 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:	\$ -	\$ 552,137	\$ 552,137

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. Porter 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 PREP/ 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	\$ -

Item	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)	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								
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	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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 126,600		\$ 126,600
3. SUBSTATION 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Shared Column	5	EA	\$ -	\$ -	\$ 27,000	\$ 135,000	\$ 27,000	\$ 135,000
3.2c	Switch Stands	6	EA	\$ -	\$ -	\$ 9,750	\$ 58,500	\$ 9,750	\$ 58,500
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	\$ -	\$ 2,250	\$ -
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

Item	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	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 - SUBSTATION STRUCTURES					\$ -		\$ 206,100		\$ 206,100
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT					\$ -		\$ 43,500		\$ 43,500
5. SMALL EQUIPMENT / 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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j									
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	\$ 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	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	EA	\$ -	\$ -	\$ 2,500	\$ 5,000	\$ 2,500	\$ 5,000
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	\$ -	\$ 5,500	\$ -
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	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
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 59,500		\$ 59,500
6. CONTROL HOUSE / 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 Cable	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 - CONTROL 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	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 - MISC ITEMS					\$ -		\$ 38,613		\$ 38,613
K. Porter Substation - Removal					\$ -		\$ 474,313		\$ 474,313
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 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		\$ -	\$ 24,227	\$ 24,227	\$ 24,227	\$ 24,227
8.3	Utility PM and Project Oversight	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS	\$ -	\$ -	\$ 474	\$ -	\$ 474	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 77,824		\$ 77,824

NAT & NYPA - T028 - (Segment A, Enhanced)

L. Interconnection Edic Station

Estimate Revision: **4** Total: \$ **2,127,440**

NAT & NYPA - T028 - (Segment A, Enhanced)			
	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

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
L. Interconnection Edic 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 - CLEARING & ACCESS					\$ -	\$ -	\$ 367,850	\$ -	\$ 367,850
2. FOUNDATIONS									
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									
2.8									
2.9									
2.10									
2.11									
2.12									
2.13									
2.14									

Item	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 - FOUNDATIONS					\$ 168,366		\$ 170,169		\$ 338,536
3. STRUCTURES									
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	\$ 121,678	\$ 324,475	\$ 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					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 501,469		\$ 321,821		\$ 823,289
4. CONDUCTOR, 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									
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kv Mono Pole Vertical Tangent - V-String								
5.2	115kv Mono Pole Vertical Tangent - V-String								
5.3	Single Ckt. Dead End Vertical (345kv) (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								
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 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	\$ -	\$ 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	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 160,000		\$ 94,400		\$ 254,400
L. Interconnection Edic Station					\$ 829,835		\$ 954,240		\$ 1,784,075
6. MOB/DEMOB, 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			\$ 91,128	\$ 91,128	\$ 91,128	\$ 91,128

Item	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 Oversight	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	\$ 66,387	\$ -	\$ -	\$ 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

NAT & NYPA - T028 - (Segment A, Enhanced)

M. Interconnection New Scotland Station

Estimate
Revision: 4

Total: \$ 3,206,686

NAT & NYPA - T028 - (Segment A, Enhanced)			
	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	\$ 431,798	\$ 530,215
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,328,622	\$ 1,878,063	\$ 3,206,686
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,328,622	\$ 1,878,063	\$ 3,206,686

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. Interconnection 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 - CLEARING & ACCESS					\$ -	\$ -	\$ 367,850		\$ 367,850
2. FOUNDATIONS									
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									
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 - FOUNDATIONS					\$ 365,657		\$ 473,093		\$ 838,749
3. STRUCTURES									
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	Structure	\$ 506	\$ 5,060	\$ 5,539	\$ 55,385	\$ 6,045	\$ 60,445
3.4					\$ -		\$ -		
3.5					\$ -		\$ -		
3.6					\$ -		\$ -		
3.7					\$ -		\$ -		
3.8					\$ -		\$ -		
3.9					\$ -		\$ -		
3.10					\$ -		\$ -		
3.11					\$ -		\$ -		
3.12					\$ -		\$ -		
3.13					\$ -		\$ -		
3.14					\$ -		\$ -		
3.15					\$ -		\$ -		
TOTAL - STRUCTURES					\$ 655,465		\$ 445,628		\$ 1,101,092
4. CONDUCTOR, 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	\$ -	\$ 6.35	\$ -
4.3	(1) 3/8" EHS7 Steel	1,500	LF	\$ 0.47	\$ 705	\$ 5.00	\$ 7,500	\$ 5.47	\$ 8,205
4.5	Remove Existing 345kv Cable From Existing Structures	0.3	Mile	\$ -	\$ -	\$ 30,000	\$ 7,500	\$ 30,000.00	\$ 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									
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 3,555		\$ 26,100		\$ 29,655
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kv Mono Pole Vertical Tangent - V-String	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	115kv Mono Pole Vertical Tangent - V-String	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.3	345kv Dead-end & Angle Insulators	60	Assembly	\$ 2,540	\$ 152,400	\$ 1,350	\$ 81,000	\$ 3,890	\$ 233,400
5.4	115kv Dead-end & Angle Insulators	-	Assembly	\$ 1,270	\$ -	\$ 725	\$ -	\$ 1,995	\$ -
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	-	Assembly	\$ 250	\$ -	\$ 150	\$ -	\$ 400	\$ -
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	9	EA	\$ 50	\$ 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	\$ -
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	\$ 50,000	\$ 100,000	\$ 100,000
5.17					\$ -		\$ -		\$ -
5.18					\$ -		\$ -		\$ -
5.19					\$ -		\$ -		\$ -
5.20					\$ -		\$ -		\$ -
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 205,530		\$ 133,595		\$ 339,125
M. Interconnection New Scotland Station					\$ 1,230,206		\$ 1,446,265		\$ 2,676,471
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 26,765	\$ 26,765	\$ 26,765	\$ 26,765
Project Management, Material Handling & Amenities									

Item	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			\$ 136,710	\$ 136,710	\$ 136,710	\$ 136,710
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
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	\$ 98,416	\$ 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	\$ 2,676	\$ 2,676
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 98,416		\$ 431,798		\$ 530,215

NAT & NYPA - T028 - (Segment A, Enhanced)

System Upgrade Facilities (Various Stations for Edic/Marcy to New Scotland)

Estimate Revision: 4

Total: \$ 6,899,000

SYSTEM UPGRADE 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
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 tran	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

NAT & NYPA - T028 - (Segment A, Enhanced)

N. Interconnection Rotterdam Station

Estimate Revision: 4

Total: \$ 4,630,749

NAT & NYPA - T028 - (Segment A, Enhanced)			
	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	\$ 134,320	\$ 300,050
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 77,642	\$ 614,855	\$ 692,497
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,048,161	\$ 3,582,588	\$ 4,630,749
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,048,161	\$ 3,582,588	\$ 4,630,749

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 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	\$ -	\$ -	\$ 4	\$ 19,200	\$ 4	\$ 19,200
1.5	Matting - Access and ROW	4,800.0	LF	\$ -	\$ -	\$ 70	\$ 336,000	\$ 70	\$ 336,000
1.6	Matting - To Work Area	2,400.0	LF	\$ -	\$ -	\$ 70	\$ 168,000	\$ 70	\$ 168,000
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	1.0	Mile	\$ -	\$ -	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
1.9	Work Pads	160,000.0	SF	\$ -	\$ -	\$ 4	\$ 563,200	\$ 4	\$ 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	\$ -
TOTAL - CLEARING & ACCESS					\$ -	\$ -	\$ 1,233,050		\$ 1,233,050
2. FOUNDATIONS									
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	\$ 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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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 - FOUNDATIONS					\$ 192,145		\$ 325,963		\$ 518,108
3. STRUCTURES									
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	\$ 7,100
3.3	15kv 3-CKT DE - WOOD POLE	2	Pole	\$ 3,500	\$ 7,000	\$ 3,600	\$ 7,200	\$ 7,100	\$ 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	2	Pole	\$ 4,500	\$ 9,000	\$ 4,400	\$ 8,800	\$ 8,900	\$ 17,800
3.6	115kv 1-CKT DE - WOOD POLE	11	Pole	\$ 5,500	\$ 60,500	\$ 5,000	\$ 55,000	\$ 10,500	\$ 115,500
3.7	115kv 2-CKT TANGENT - WOOD POLE	4	Pole	\$ 5,500	\$ 22,000	\$ 5,000	\$ 20,000	\$ 10,500	\$ 42,000
3.8	115kv 2-CKT DE - STEEL POLE	4	Pole	\$ 98,883	\$ 395,530	\$ 59,330	\$ 237,318	\$ 158,212	\$ 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	Structure	\$ 506	\$ 16,192	\$ 5,539	\$ 177,232	\$ 6,045	\$ 193,424
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 546,722		\$ 837,150		\$ 1,383,872
4. CONDUCTOR, SHIELDWIRE, OPGW									
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	\$ 5.47	\$ 42,666
4.5	Remove Existing Cable	6.6	Mile	\$ -	\$ -	\$ 30,000	\$ 197,700	\$ 30,000.00	\$ 197,700
4.6	Remove Existing EH7	2.2	Mile	\$ -	\$ -	\$ 12,000	\$ 26,400	\$ 12,000.00	\$ 26,400
4.7	15kv - (1) 477kcmil 26/7 ACSR "Hawk"	9,630	LF	\$ 1.62	\$ 15,601	\$ 5.00	\$ 48,150	\$ 6.62	\$ 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		-			\$ -		\$ -		\$ -
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 65,923		\$ 437,250		\$ 503,173
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Conductor, 115kv, 3PH, Tangent - Insulator	33	Assembly	\$ 1,000	\$ 33,000	\$ 720	\$ 23,760	\$ 1,720	\$ 56,760
5.2	Conductor, 115kv, 3PH, DE/Side - Insulator	66	Assembly	\$ 1,000	\$ 66,000	\$ 720	\$ 47,520	\$ 1,720	\$ 113,520
5.3	Conductor, 15kv, 3PH, Tangent - Insulator	12	Assembly	\$ 100	\$ 1,200	\$ 75	\$ 900	\$ 175	\$ 2,100
5.4	Conductor, 15kv, 3PH, DE/Side - Insulator	18	Assembly	\$ 100	\$ 1,800	\$ 75	\$ 1,350	\$ 175	\$ 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	\$ 400	\$ 75	\$ 300	\$ 175	\$ 700
5.8	OPGW Assembly - Tangent	2	Assembly	\$ 200	\$ 400	\$ 150	\$ 300	\$ 350	\$ 700
5.9	OSHW Assembly - Tangent	11	Assembly	\$ 250	\$ 2,750	\$ 150	\$ 1,650	\$ 400	\$ 4,400
5.10	OSHW Assembly - Angle / DE	38	Assembly	\$ 250	\$ 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	\$ -	\$ 35	\$ -	\$ 85	\$ -
5.14	Vibration Dampers - Conductor	-	EA	\$ 35	\$ -	\$ 35	\$ -	\$ 70	\$ -
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	\$ -	\$ 1,776	\$ -
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					\$ -		\$ -		\$ -
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 165,730		\$ 134,320		\$ 300,050
N. Interconnection Rotterdam Station					\$ 970,519		\$ 2,967,733		\$ 3,938,252
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383
Project Management, Material Handling & Amenities									

Item	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			\$ 201,160	\$ 201,160	\$ 201,160	\$ 201,160
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 196,913	\$ 196,913	\$ 196,913	\$ 196,913
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 11,815	\$ 11,815	\$ 11,815	\$ 11,815
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 27,568	\$ 27,568	\$ 27,568	\$ 27,568
	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	\$ -	\$ -	\$ 11,815	\$ 11,815	\$ 11,815	\$ 11,815
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		\$ -	\$ 3,938	\$ 3,938	\$ 3,938	\$ 3,938
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 77,642		\$ 614,855		\$ 692,497

NAT & NYPA - T028 - (Segment A, Enhanced)

Q. Princetown Switchyard - Install

Estimate Revision: **4**

Total: \$ **15,967,903**

NAT & NYPA - T028 - (Segment A, Enhanced)			
	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 EQUIPMENT	\$ 800,000	\$ 320,000	\$ 1,120,000
5. SMALL EQUIPMENT / 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. Princetown 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	\$ 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									
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 163,560		\$ 909,775		\$ 1,073,335
2. SUBSTATION FOUNDATIONS									
2.1 765kV									
2.1a	Circuit Breaker Foundations		EA.	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
2.1b	Capacitor Bank Foundations		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1c	Caisson DE Foundations (for DE A frame str. - stand alone)		EA.	\$ 52,290	\$ -	\$ 56,000	\$ -	\$ 108,290	\$ -
2.1d	Caisson DE Foundations (for DE A frame str. - shared column)		EA.	\$ 52,290	\$ -	\$ 56,000	\$ -	\$ 108,290	\$ -
2.1e	Switch Stand Foundations		EA.	\$ 8,964	\$ -	\$ 8,964	\$ -	\$ 17,928	\$ -
2.1f	Fuse Stand Foundations		EA.	\$ 8,964	\$ -	\$ 8,964	\$ -	\$ 17,928	\$ -
2.1g	Bus Support 1ph 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	\$ -
2.1m	Wave Trap Stand Foundations		EA.	\$ 8,964	\$ -	\$ 8,964	\$ -	\$ 17,928	\$ -
2.1n	Misc. Structure Foundations		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p									
2.2 345kV									
2.2a	Circuit Breaker Foundations	4	EA.	\$ 14,940	\$ 59,760	\$ 14,940	\$ 59,760	\$ 29,880	\$ 119,520
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)	16	EA.	\$ 26,145	\$ 418,320	\$ 26,145	\$ 418,320	\$ 52,290	\$ 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	\$ 4,482	\$ 215,136	\$ 8,964	\$ 430,272
2.2f	Fuse Stand Foundations	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
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	\$ 4,482	\$ 161,352	\$ 8,964	\$ 322,704
2.2k	Arrester Stand Foundations	12	EA.	\$ 4,482	\$ 53,784	\$ 4,482	\$ 53,784	\$ 8,964	\$ 107,568
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	\$ -	\$ 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	\$ 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	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								
2.5a	Control House / Pad - 25' x 50'	1	EA	\$ 17,928	\$ 17,928	\$ 19,200	\$ 19,200	\$ 37,128	\$ 37,128
2.5b	Generator Foundation	1	EA	\$ 16,434	\$ 16,434	\$ 17,600	\$ 17,600	\$ 34,034	\$ 34,034
2.5c	Station Service Distribution Line - 3ph.	1	LS	\$ -	\$ -	\$ 15,120	\$ 15,120	\$ 15,120	\$ 15,120
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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 1,193,706		\$ 1,213,490		\$ 2,407,196
3. SUBSTATION STRUCTURES									
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	\$ -	\$ 111,000	\$ -	\$ 222,000	\$ -
3.1c	Switch Stands		EA.	\$ 22,200	\$ -	\$ 22,200	\$ -	\$ 44,400	\$ -
3.1d	Station Service Transformer Stand		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 1ph (High Bus)		EA.	\$ 7,400	\$ -	\$ 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	\$ -	\$ 7,400	\$ -
3.1j	Wave Trap Stand		EA.	\$ 9,250	\$ -	\$ 9,250	\$ -	\$ 18,500	\$ -
3.1k	Lightning Mast		EA.	\$ 9,250	\$ -	\$ 9,250	\$ -	\$ 18,500	\$ -
3.2	345kV								
3.2a	Substation A-Frame Structures - Stand alone	4	EA	\$ 37,000	\$ 148,000	\$ 37,000	\$ 148,000	\$ 74,000	\$ 296,000
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	\$ 14,800	\$ 118,400	\$ 29,600	\$ 236,800
3.2d	Station Service Transformer Stand	1	EA	\$ 14,800	\$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600	\$ 29,600
3.2e	Bus Support 3ph	0	EA	\$ 5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
3.2f	Bus Support 1 Ph	39	EA	\$ 3,700	\$ 144,300	\$ 3,700	\$ 144,300	\$ 7,400	\$ 288,600
3.2g	Instrument Transformer Stand	36	EA	\$ 1,850	\$ 66,600	\$ 1,850	\$ 66,600	\$ 3,700	\$ 133,200
3.2h	Arrester Stand	12	EA	\$ 1,850	\$ 22,200	\$ 1,850	\$ 22,200	\$ 3,700	\$ 44,400
3.2j	Wave Trap Stand	4	EA	\$ 7,400	\$ 29,600	\$ 7,400	\$ 29,600	\$ 14,800	\$ 59,200
3.2k	Misc. Structures	6	EA	\$ 6,475	\$ 38,850	\$ 6,475	\$ 38,850	\$ 12,950	\$ 77,700

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								
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 - SUBSTATION STRUCTURES					\$ 582,750		\$ 582,750		\$ 1,165,500
4. MAJOR EQUIPMENT									
4.2	345kV								
4.2a	Circuit Breakers	4	EA	\$ 200,000	\$ 800,000	\$ 80,000	\$ 320,000	\$ 280,000	\$ 1,120,000
4.2b	Capacitor Banks		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 - MAJOR EQUIPMENT					\$ 800,000		\$ 320,000		\$ 1,120,000
5. SMALL EQUIPMENT / MATERIALS									
5.2	345kV								
5.2a	Line Switches - 3ph w/ motor operator	4	EA	\$ 40,000	\$ 160,000	\$ 15,000	\$ 60,000	\$ 55,000	\$ 220,000
5.2b	Disconnect Switches - 3ph w/ manual operator	8	EA	\$ 35,000	\$ 280,000	\$ 17,500	\$ 140,000	\$ 52,500	\$ 420,000
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									
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 - SMALL EQUIPMENT / MATERIALS					\$ 1,382,000		\$ 636,000		\$ 2,018,000
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	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
6.4	Control Cables	1	LS	\$ 281,050	\$ 281,050	\$ 281,050	\$ 281,050	\$ 562,100	\$ 562,100
6.5	SCADA and Communications	0	EA	\$ 35,000	\$ -	\$ 12,500	\$ -	\$ 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
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 1,621,800		\$ 1,043,550		\$ 2,665,350
7. MISC ITEMS 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
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	\$ 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									
7.25									
7.26									
7.27									
7.28									
7.29									
TOTAL - MISC ITEMS					\$ 895,854		\$ 1,373,004		\$ 2,268,858
Q. Princetown Switchyard - Install					\$ 6,639,670		\$ 6,078,569		\$ 12,718,239
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 127,182	\$ 127,182	\$ 127,182	\$ 127,182
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			\$ 649,627	\$ 649,627	\$ 649,627	\$ 649,627
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 127,182	\$ 127,182	\$ 127,182	\$ 127,182
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 127,182	\$ 127,182	\$ 127,182	\$ 127,182
Engineering									
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 - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 531,174		\$ 2,718,490		\$ 3,249,664

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.).
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 4.44% 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 Oversight 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.

ITC (T031)			
Description		Total Amount (In thousand \$)	
Direct Cost	1	Transmission Lines	
	1.1	Clearing & Access	\$53,084
	1.2	Foundations	\$43,503
	1.3	Structures	\$80,620
	1.4	Conductor, Shiedwire and OPGW	\$41,525
	1.5	Insulators, Fitting and Hardwares	\$20,528
	Subtotal (1)		\$239,260
	2	Substations	
	2.1	Rotterdam Substation	\$19,805
	2.2	Edic Substation	\$2,185
	2.3	Princetown Substation	\$27,974
	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	\$8,399	
Subtotal (2)		\$62,523	
Total (1+2)		\$301,784	
Contractors Mark-up (15% of Total 1+2)		\$45,268	
Total Direct Cost (A)		\$347,051	
Indirect Cost	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$3,018
	3.2	Project Management, Material Handling & Amenities	\$19,047
	3.3	Engineering	\$19,947
	3.4	Testing & Commissioning	\$1,560
	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$20,824
	3.6	Compensation for use of NYPA Structures (1 Ckt.)	\$8,919
	3.7	Legal, Env. Lisc. & Permit and Env. Mitigation	\$7,941
Total Indirect Cost (3)		\$81,256	
Subtotal Project Cost (B=A+3) 2017 \$		\$428,307	
	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 \$		\$428,307	
Total Project Cost 2018 \$		\$441,156	

ITC - T031 - (Segment A)

Estimate Revision: 4

<i>ITC - T031 - (Segment A) - Direct Costs</i>		<i>Total Each Segment</i>
Direct Labor, Material & Equipment Costs	A. Transmission Line Edic to Princetown	\$ 149,555,097
Direct Labor, Material & Equipment Costs	B. Transmission Line Princetown to Rotterdam	\$ 26,232,966
Direct Labor, Material & Equipment Costs	C. Transmission Line Princetown to New Scotland	\$ 63,472,326
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	\$ 3,938,252
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:		\$ 301,783,627
CONTRACTOR MARK-UP (OH&P)		\$ 45,267,544
CONTINGENCY ON ENTIRE PROJECT		\$ -
TOTAL DIRECT:		\$ 347,051,171
<i>ITC - T031 - (Segment A) - Indirect Costs</i>		<i>Total Each Segment</i>
Indirect Costs	A. Transmission Line Edic to Princetown	\$ 39,727,536
Indirect Costs	B. Transmission Line Princetown to Rotterdam	\$ 5,281,078
Indirect Costs	C. Transmission Line Princetown to New Scotland	\$ 13,589,100
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	\$ 661,129
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. Lic. & Permit., and Envir. Mitigation)	\$ 7,940,904
TOTAL INDIRECT:		\$ 81,256,103
TOTAL ESTIMATED COST		\$ 428,307,274

ITC - T031 - (Segment A)

A. Transmission Line Edic to Princetown

Estimate Revision: **4** Total: \$ **189,282,633**

ITC - T031 - (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	\$ 8,803,969	\$ 3,728,730	\$ 12,532,699
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 3,245,891	\$ 36,481,646	\$ 39,727,536
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 43,819,522	\$ 145,463,111	\$ 189,282,633
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 43,819,522	\$ 145,463,111	\$ 189,282,633

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. Transmission 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		\$ -	\$ 5,000	\$ 770,000	\$ 5,000	\$ 770,000
1.3	Access Road	70,963.2	LF	\$ -	\$ -	\$ 45	\$ 3,193,344	\$ 45	\$ 3,193,344
1.4	Silt Fence	354,816.0	LF	\$ -	\$ -	\$ 4	\$ 1,419,264	\$ 4	\$ 1,419,264
1.5	Matting - Access and ROW	283,852.8	LF	\$ -	\$ -	\$ 70	\$ 19,869,696	\$ 70	\$ 19,869,696
1.6	Matting - To Work Area	25,200.0	LF	\$ -	\$ -	\$ 70	\$ 1,764,000	\$ 70	\$ 1,764,000
1.7	Snow Removal	67.2	Mile	\$ -	\$ -	\$ 16,000	\$ 1,075,200	\$ 16,000	\$ 1,075,200
1.8	ROW Restoration	67.2	Mile	\$ -	\$ -	\$ 10,000	\$ 672,000	\$ 10,000	\$ 672,000
1.9	Work Pads	2,225,000.0	SF	\$ -	\$ -	\$ 4	\$ 7,832,000	\$ 4	\$ 7,832,000
1.10	Restoration for Work Pad areas	445,000.0	SF	\$ -	\$ -	\$ 0.15	\$ 66,750	\$ 0	\$ 66,750
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	100	EA	\$ -	\$ -	\$ 4,130	\$ 413,000	\$ 4,130	\$ 413,000
1.15	Culverts / Misc. Access	55	EA	\$ 750	\$ 41,250	\$ 1,250	\$ 68,750	\$ 2,000	\$ 110,000
1.16	Gates	17	EA	\$ 2,000	\$ 34,000	\$ 2,500	\$ 42,500	\$ 4,500	\$ 76,500
1.17	Concrete Washout Station	40	EA	\$ -	\$ -	\$ 1,850	\$ 74,000	\$ 1,850	\$ 74,000
TOTAL - CLEARING & ACCESS:					\$ 75,250		\$ 37,260,504		\$ 37,335,754
2. FOUNDATIONS									
2.1	<i>Direct Embed</i> - 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	<i>Drilled Pier</i> - 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	<i>Drilled Pier</i> - 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	CY	\$ -	\$ -	\$ 2,000	\$ 2,684,000	\$ 2,000	\$ 2,684,000
2.9									
2.10									
TOTAL - FOUNDATIONS:					\$ 6,908,556		\$ 17,295,145		\$ 24,203,701
3. STRUCTURES									
3.1	<i>Direct Embed</i> - 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	<i>Drilled Pier</i> - 345KV SC Steel 3-Pole Deadend	30	Structure	\$ 52,170	\$ 1,565,100	\$ 31,302	\$ 939,060	\$ 83,472	\$ 2,504,160
3.3	<i>Drilled Pier</i> - 345KV SC Steel 3-Pole Storm Deadend	12	Structure	\$ 52,170	\$ 626,040	\$ 31,302	\$ 375,624	\$ 83,472	\$ 1,001,664
3.4									

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 - STRUCTURES:					\$ 19,810,382		\$ 29,562,906		\$ 49,373,288
4. CONDUCTOR, 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	\$ 12,000.00	\$ 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									
4.13									
4.14									
4.15									
4.16	Rider Poles (187 Locations)	93	Set	\$ 1,750	\$ 162,750	\$ 3,500	\$ 325,500	\$ 5,250.00	\$ 488,250
4.17	Rider Poles - Relocated	94	Set	\$ -	\$ -	\$ 3,500	\$ 329,000	\$ 3,500.00	\$ 329,000
4.18									
4.19									
4.20									
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 4,975,475		\$ 21,134,180		\$ 26,109,655
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (6-Assemblies Each Structure)	3,378	Assembly	\$ 1,800	\$ 6,080,400	\$ 720	\$ 2,432,160	\$ 2,520	\$ 8,512,560
5.2	Angle - V-String	-	Assembly	\$ 1,800	\$ -	\$ 1,040	\$ -	\$ 2,840	\$ -
5.3	H-Frame - Tangent Insulators (3-Assemblies Each Structure)	-	Assembly	\$ 1,800	\$ -	\$ 1,040	\$ -	\$ 2,840	\$ -
5.4	Dead-end & Angle Insulators (18-Assemblies Each Structure)	660	Assembly	\$ 2,540	\$ 1,676,400	\$ 720	\$ 475,200	\$ 3,260	\$ 2,151,600
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	\$ 12,600	\$ 400	\$ 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	\$ 400	\$ 33,600
5.9	OPGW Splice Boxes	27	Set	\$ 1,746	\$ 47,146	\$ 2,145	\$ 57,915	\$ 3,891	\$ 105,061
5.10	OPGW Splice & Test	27	EA	\$ 2,520	\$ 68,040	\$ 989	\$ 26,712	\$ 3,509	\$ 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	\$ 92,225	\$ 70	\$ 184,450
5.13	Shield wire / OPGW Dampers, Misc. Fittings	1,332	EA	\$ 27	\$ 35,964	\$ 35	\$ 46,620	\$ 62	\$ 82,584
5.14	Jumpers at Existing Structures (New Cable to Existing)	-	EA	\$ 25,000	\$ -	\$ 25,000	\$ -	\$ 50,000	\$ -
5.15		-		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.16		-		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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 - INSULATORS, FITTINGS, HARDWARE:					\$ 8,803,969		\$ 3,728,730		\$ 12,532,699
A. Transmission Line Edic to Princetown					\$ 40,573,632		\$ 108,981,465		\$ 149,555,097
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 1,495,551	\$ 1,495,551	\$ 1,495,551	\$ 1,495,551
Project Management, Material Handling & Amenities									

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
6.2	Project Management & Staffing (includes PM, Field Engineers / Supervision, Scheduler and Cost Manager, SHEQ Staff, and Admin Staff)	1	LS			\$ 6,447,844	\$ 6,447,844	\$ 6,447,844	\$ 6,447,844
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 1,495,551	\$ 1,495,551	\$ 1,495,551	\$ 1,495,551
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,495,551	\$ 1,495,551	\$ 1,495,551	\$ 1,495,551
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 7,477,755	\$ 7,477,755	\$ 7,477,755	\$ 7,477,755
6.6	LiDAR	1	LS	\$ 448,665	\$ -	\$ 448,665	\$ 448,665	\$ 448,665	\$ 448,665
6.7	Geotech	67	Location	\$ -	\$ -	\$ 3,500	\$ 234,500	\$ 3,500	\$ 234,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 1,046,886	\$ 1,046,886	\$ 1,046,886	\$ 1,046,886
	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	\$ -	\$ -	\$ 448,665	\$ 448,665	\$ 448,665	\$ 448,665
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	\$ 6,782,000
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	\$ 3,245,891	\$ 3,245,891	\$ -	\$ -	\$ 3,245,891	\$ 3,245,891
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ 149,555	\$ 149,555	\$ 149,555	\$ 149,555
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 3,245,891		\$ 36,481,646		\$ 39,727,536

ITC - T031 - (Segment A)

B. Transmission Line Princetown to Rotterdam

Estimate Revision: **4**

Total: \$ **31,514,044**

ITC - T031 - (Segment 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	\$ 1,432,692	\$ 626,684	\$ 2,059,376
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 644,684	\$ 4,636,394	\$ 5,281,078
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 8,703,232	\$ 22,810,812	\$ 31,514,044
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 8,703,232	\$ 22,810,812	\$ 31,514,044

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. Transmission 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	\$ 237,600	\$ 45	\$ 237,600
1.4	Silt Fence	26,400.0	LF	\$ -	\$ -	\$ 4	\$ 105,600	\$ 4	\$ 105,600
1.5	Matting - Access and ROW	21,120.0	LF	\$ -	\$ -	\$ 70	\$ 1,478,400	\$ 70	\$ 1,478,400
1.6	Matting - To Work Area	2,775.0	LF	\$ -	\$ -	\$ 70	\$ 194,250	\$ 70	\$ 194,250
1.7	Snow Removal	5.0	Mile	\$ -	\$ -	\$ 16,000	\$ 80,000	\$ 16,000	\$ 80,000
1.8	ROW Restoration	5.0	Mile	\$ -	\$ -	\$ 10,000	\$ 50,000	\$ 10,000	\$ 50,000
1.9	Work Pads	505,000.0	SF	\$ -	\$ -	\$ 4	\$ 1,777,600	\$ 4	\$ 1,777,600
1.10	Restoration for Work Pad areas	101,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 15,150	\$ 0	\$ 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	\$ 119,770	\$ 4,130	\$ 119,770
1.15	Gates	-	EA	\$ 2,000	\$ -	\$ 2,500	\$ -	\$ 4,500	\$ -
1.16	Culverts / Misc. Access	3.0	EA	\$ 750	\$ 2,250	\$ 1,250	\$ 3,750	\$ 2,000	\$ 6,000
1.17	Concrete Washout Station	3.0	EA	\$ -	\$ -	\$ 1,850	\$ 5,550	\$ 1,850	\$ 5,550
TOTAL - CLEARING & ACCESS:					\$ 2,250	\$ 4,182,670	\$ 4,184,920	\$ 4,184,920	\$ 4,184,920
2. FOUNDATIONS									
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 - FOUNDATIONS:					\$ 1,369,010	\$ 5,146,318	\$ 6,515,328	\$ 6,515,328	\$ 6,515,328
3. STRUCTURES									
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	\$ 52,170	\$ 313,020	\$ 31,302	\$ 187,812	\$ 83,472	\$ 500,832
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									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.7	Remove Existing Foundation	22	EA	\$ -	\$ -	\$ 7,500	\$ 165,000	\$ 7,500	\$ 165,000
3.8	Remove Existing Structure and Accessories	109	EA	\$ -	\$ -	\$ 12,500	\$ 1,362,500	\$ 12,500	\$ 1,362,500
3.9									
3.10	Install Grounding and Grounding Accessories	210	Pole	\$ 506	\$ 106,260	\$ 5,539	\$ 1,163,085	\$ 6,045	\$ 1,269,345
TOTAL - STRUCTURES PRINCETOWN TO NEW SCOTLAND:					\$ 4,480,770		\$ 5,315,291		\$ 9,796,061
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	345kV - (1) 954kcmil 54/7 ACSR "Cardinal"	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	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
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 773,826		\$ 2,903,455		\$ 3,677,281
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (6-Assemblies Each Structure)	558	Assembly	\$ 1,800	\$ 1,004,400	\$ 720	\$ 401,760	\$ 2,520	\$ 1,406,160
5.2	Angle - V-String	-	Assembly	\$ 1,800	\$ -	\$ 1,040	\$ -	\$ 2,840	\$ -
5.3	H-Frame - Tangent Insulators (3-Assemblies Each Structure)	-	Assembly	\$ 1,800	\$ -	\$ 1,040	\$ -	\$ 2,840	\$ -
5.4	Dead-end & Angle Insulators (18-Assemblies Each Structure)	96	Assembly	\$ 2,540	\$ 243,840	\$ 720	\$ 69,120	\$ 3,260	\$ 312,960
5.5	OPGW Assembly - Tangent	93	Assembly	\$ 200	\$ 18,600	\$ 150	\$ 13,950	\$ 350	\$ 32,550
5.6	OPGW Assembly - Angle / DE	8	Assembly	\$ 250	\$ 2,000	\$ 150	\$ 1,200	\$ 400	\$ 3,200
5.7	OHSW Assembly - Tangent	93	Assembly	\$ 200	\$ 18,600	\$ 150	\$ 13,950	\$ 350	\$ 32,550
5.8	OHSW Assembly - Angle / DE	8	Assembly	\$ 250	\$ 2,000	\$ 150	\$ 1,200	\$ 400	\$ 3,200
5.9	OPGW Splice Boxes	8	Set	\$ 1,750	\$ 14,000	\$ 1,746	\$ 13,969	\$ 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	\$ 62	\$ 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	\$ 1,776	\$ 8,880
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 1,432,692		\$ 626,684		\$ 2,059,376
B. Transmission Line Princetown to Rotterdam					\$ 8,058,548		\$ 18,174,418		\$ 26,232,966
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 262,330	\$ 262,330	\$ 262,330	\$ 262,330
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			\$ 1,130,995	\$ 1,130,995	\$ 1,130,995	\$ 1,130,995
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 262,330	\$ 262,330	\$ 262,330	\$ 262,330
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 262,330	\$ 262,330	\$ 262,330	\$ 262,330
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,311,648	\$ 1,311,648	\$ 1,311,648	\$ 1,311,648
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 78,699	\$ 78,699	\$ 78,699	\$ 78,699
6.7	Geotech	5	Location	\$ -	\$ -	\$ 3,500	\$ 17,500	\$ 3,500	\$ 17,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 183,631	\$ 183,631	\$ 183,631	\$ 183,631
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	\$ -	\$ -	\$ 78,699	\$ 78,699	\$ 78,699	\$ 78,699
6.13	Real Estate Costs (New ROW)	1	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.14	Real Estate Costs (Incumbent Utility ROW)	1	LS	\$ -	\$ -	\$ 982,000	\$ 982,000	\$ 982,000	\$ 982,000

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
6.15	Legal Fees	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.18	Sales Tax on Materials	1	LS	\$ 644,684	\$ 644,684	\$ -	\$ -	\$ 644,684	\$ 644,684
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 26,233	\$ 26,233	\$ 26,233	\$ 26,233
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 644,684		\$ 4,636,394		\$ 5,281,078

ITC - T031 - (Segment A)

C. Transmission Line Princetown to New Scotland

Estimate Revision: **4**

Total: \$ **77,061,426**

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	\$ 4,182,458	\$ 1,753,268	\$ 5,935,726
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,874,187	\$ 11,714,913	\$ 13,589,100
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 25,301,521	\$ 51,759,905	\$ 77,061,426
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 25,301,521	\$ 51,759,905	\$ 77,061,426

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. Transmission 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	\$ 5,000	\$ 310,000
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	\$ 4	\$ 416,064
1.5	Matting - Access and ROW	83,212.8	LF	\$ -	\$ -	\$ 70	\$ 5,824,896	\$ 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	\$ 16,000	\$ 315,200
1.8	ROW Restoration	19.7	Mile	\$ -	\$ -	\$ 10,000	\$ 197,000	\$ 10,000	\$ 197,000
1.9	Work Pads	725,000	SF	\$ -	\$ -	\$ 4	\$ 2,552,000	\$ 4	\$ 2,552,000
1.10	Restoration for Work Pad areas	145,000	SF	\$ -	\$ -	\$ 0.2	\$ 21,750	\$ 0	\$ 21,750
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 - CLEARING & ACCESS:					\$ 31,000		\$ 11,532,694		\$ 11,563,694
2. FOUNDATIONS									
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	CY	\$ -	\$ -	\$ 2,000	\$ 964,800	\$ 2,000	\$ 964,800
2.6									
2.7									
2.8									
2.9									
2.10									
TOTAL - FOUNDATIONS:					\$ 5,878,220		\$ 6,905,973		\$ 12,784,193
3. STRUCTURES									
3.1	Drilled Pier - 345KV DC Steel Mono-Pole Delta - V-String - Tangent	131	Structure	\$ 69,005	\$ 9,039,655	\$ 41,403	\$ 5,423,793	\$ 110,408	\$ 14,463,448
3.2	Drilled Pier - 345KV DC Steel 2-Pole Delta - Deadend	10	Structure	\$ 103,970	\$ 1,039,700	\$ 62,382	\$ 623,820	\$ 166,352	\$ 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									

Item	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	Remove Existing Structure and Accessories	87	EA	\$ -	\$ -	\$ 12,500	\$ 1,087,500	\$ 12,500	\$ 1,087,500
3.7									
3.8	Install Grounding and Grounding Accessories	159	Pole	\$ 506	\$ 80,454	\$ 5,539	\$ 880,622	\$ 6,045	\$ 961,076
3.9									
3.10									
3.11									
3.12									
3.13									
3.14									
3.15									
3.16									
3.17									
3.18									
3.19									
3.20									
TOTAL - STRUCTURES:					\$ 10,575,689		\$ 10,875,263		\$ 21,450,952
4. CONDUCTOR, SHIELDWIRE, OPGW									
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
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	\$ 5.00	\$ 551,630	\$ 5.47	\$ 603,483
4.4	Remove Existing Conductor and Accessories	20.0	Mile	\$ -	\$ -	\$ 30,000	\$ 600,000	\$ 30,000.00	\$ 600,000
4.5	Remove Existing OPGW and Accessories	20.0	Mile	\$ -	\$ -	\$ 12,000	\$ 240,000	\$ 12,000.00	\$ 240,000
4.6	Remove Existing OHSW and Accessories	20.0	Mile	\$ -	\$ -	\$ 12,000	\$ 240,000	\$ 12,000.00	\$ 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									
TOTAL - CONDUCTOR, SHIELDWIRE, OPGW:					\$ 2,759,967		\$ 8,977,795		\$ 11,737,762
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (6-Assemblies Each Structure)	1,572	Assembly	\$ 1,800	\$ 2,829,600	\$ 720	\$ 1,131,840	\$ 2,520	\$ 3,961,440
5.2	Angle - V-String	-	Assembly	\$ 1,800	\$ -	\$ 1,040	\$ -	\$ 2,840	\$ -
5.3	H-Frame - Tangent Insulators (3-Assemblies Each Structure)	-	Assembly	\$ 1,800	\$ -	\$ 1,040	\$ -	\$ 2,840	\$ -
5.4	Dead-end & Angle Insulators (18-Assemblies Each Structure)	336	Assembly	\$ 2,540	\$ 853,440	\$ 720	\$ 241,920	\$ 3,260	\$ 1,095,360
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	\$ 150	\$ 4,200	\$ 400	\$ 11,200
5.7	OHSW Assembly - Tangent	131	Assembly	\$ 200	\$ 26,200	\$ 150	\$ 19,650	\$ 350	\$ 45,850
5.8	OHSW Assembly - Angle / DE	28	Assembly	\$ 250	\$ 7,000	\$ 150	\$ 4,200	\$ 400	\$ 11,200
5.9	OPGW Splice Boxes	3	Set	\$ 1,746	\$ 5,238	\$ 2,145	\$ 6,435	\$ 3,891	\$ 11,673
5.10	OPGW Splice & Test	8	EA	\$ 2,520	\$ 20,160	\$ 989	\$ 7,915	\$ 3,509	\$ 28,075
5.11	Spacer - Conductor	6,533	EA	\$ 50	\$ 326,650	\$ 35	\$ 228,655	\$ 85	\$ 555,305
5.12	Vibration Dampers - Conductor	1,573	EA	\$ 35	\$ 55,055	\$ 35	\$ 55,055	\$ 70	\$ 110,110
5.13	Shieldwire / OPGW Dampers, Misc. Fittings	398	EA	\$ 27	\$ 10,746	\$ 35	\$ 13,930	\$ 62	\$ 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 - INSULATORS, FITTINGS, HARDWARE:					\$ 4,182,458		\$ 1,753,268		\$ 5,935,726
C. Transmission Line Princetown to New Scotland					\$ 23,427,334		\$ 40,044,992		\$ 63,472,326
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 634,723	\$ 634,723	\$ 634,723	\$ 634,723
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			\$ 2,736,514	\$ 2,736,514	\$ 2,736,514	\$ 2,736,514
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 634,723	\$ 634,723	\$ 634,723	\$ 634,723
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 634,723	\$ 634,723	\$ 634,723	\$ 634,723
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,173,616	\$ 3,173,616	\$ 3,173,616	\$ 3,173,616

Item	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	\$ -	\$ -	\$ 190,417	\$ 190,417	\$ 190,417	\$ 190,417
6.7	Geotech	20	Location	\$ -	\$ -	\$ 3,500	\$ 70,000	\$ 3,500	\$ 70,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 444,306	\$ 444,306	\$ 444,306	\$ 444,306
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	\$ -	\$ -	\$ 190,417	\$ 190,417	\$ 190,417	\$ 190,417
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	\$ 1,874,187	\$ 1,874,187	\$ -	\$ -	\$ 1,874,187	\$ 1,874,187
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 63,472	\$ 63,472	\$ 63,472	\$ 63,472
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,874,187	\$ -	\$ 11,714,913		\$ 13,589,100

ITC - T031 - (Segment A)

D. Rotterdam Substation - Install

Estimate Revision: **4**

Total: \$ **24,565,575**

ITC - T031 - (Segment 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 EQUIPMENT	\$ 7,515,000	\$ 1,820,000	\$ 9,335,000
5. SMALL EQUIPMENT / 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	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
D. Rotterdam 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	CY	\$ 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 PREP/ 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 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	\$ 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)	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	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	9	EA	\$ 3,735	\$ 33,615	\$ 4,000	\$ 36,000	\$ 7,735	\$ 69,615
2.2j	Instrument Transformer Stand Foundations	3	EA	\$ 3,735	\$ 11,205	\$ 4,000	\$ 12,000	\$ 7,735	\$ 23,205
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		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	\$ 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	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	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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 1,035,342		\$ 1,108,800		\$ 2,144,142
3. SUBSTATION STRUCTURES									
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

Item	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	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	\$ 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	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ 432,900		\$ 432,900		\$ 865,800
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT					\$ 7,515,000		\$ 1,820,000		\$ 9,335,000
5. SMALL EQUIPMENT / 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	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
5.1g	Wave Traps	2	EA	\$ 13,000	\$ 26,000	\$ 8,000	\$ 16,000	\$ 21,000	\$ 42,000
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	2	EA	\$ 30,000	\$ 60,000	\$ 17,500	\$ 35,000	\$ 47,500	\$ 95,000
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	3	EA	\$ 10,000	\$ 30,000	\$ 6,000	\$ 18,000	\$ 16,000	\$ 48,000
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	\$ -	\$ 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 - SMALL EQUIPMENT / MATERIALS					\$ 673,000		\$ 333,000		\$ 1,006,000
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$ -	\$ -	\$ 85,000	\$ -	\$ 85,000	\$ -
6.2	Protection and Telecom Equipment Panels	8	EA	\$ 35,000	\$ 280,000	\$ 10,000	\$ 80,000	\$ 45,000	\$ 360,000
6.3	125VDC Batteries	0	EA	\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	Control Cables	1	LS	\$ 438,900	\$ 438,900	\$ 438,900	\$ 438,900	\$ 877,800	\$ 877,800
6.5	SCADA and Communications	1	EA	\$ 75,000	\$ 75,000	\$ 100,000	\$ 100,000	\$ 175,000	\$ 175,000
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	\$ -
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 893,900		\$ 818,900		\$ 1,712,800
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	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	\$ 40	\$ 316,080
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	\$ -
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. Rotterdam Substation - Install					\$ 11,484,542		\$ 8,320,390		\$ 19,804,932
8. MOB/DEMOB, 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 Oversight	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	\$ 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									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 59,415	\$ 59,415	\$ 59,415	\$ 59,415
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -	\$ 82,500	\$ 82,500	\$ 82,500	\$ 82,500
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	\$ 918,763	\$ 918,763	\$ -	\$ -	\$ 918,763	\$ 918,763
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 19,805	\$ 19,805	\$ 19,805	\$ 19,805

Item	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 - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 918,763		\$ 3,841,880		\$ 4,760,643

ITC - T031 - (Segment A)

F. Edic Substation - Install

Estimate Revision: **4**

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 EQUIPMENT	\$ 200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPMENT / 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:	\$ 1,230,530	\$ 1,429,769	\$ 2,660,300

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
F. Edic 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	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									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 2,025		\$ 5,625		\$ 7,650
2. SUBSTATION 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		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	\$ -

Item	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	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		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	\$ -	\$ 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	\$ 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 (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	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b	60' Lightning 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	\$ -	\$ 74,000	\$ -
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	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
3.1e									
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	\$ 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	\$ -	\$ 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	\$ -

Item	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	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 - SUBSTATION STRUCTURES					\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQUIPMENT									
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								
4.2a	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 - MAJOR EQUIPMENT					\$ 200,000		\$ 80,000		\$ 280,000
5. SMALL EQUIPMENT / 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	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	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1f	Arresters	6	EA	\$ 6,500	\$ 39,000	\$ 1,500	\$ 9,000	\$ 8,000	\$ 48,000
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									
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 EQUIPMENT / MATERIALS					\$ 280,000		\$ 133,500		\$ 413,500	
6. CONTROL HOUSE / 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	\$ 68,500	\$ 68,500	\$ 100,800	\$ 100,800	\$ 169,300	\$ 169,300	
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 - CONTROL HOUSE / PANELS / GENERATOR					\$ 173,500		\$ 130,800		\$ 304,300	
7. MISC ITEMS										
7.1	Conduit & Cable Trench System	800	L.S.	\$ 185.00	\$ 148,000	\$ 170.00	\$ 136,000	\$ 355	\$ 284,000	
7.2	Rigid Bus, Fittings & Insulators	0	L.S.	\$ 125.07	\$ -	\$ 237.10	\$ -	\$ 362	\$ -	
7.3	Strain Bus, Connectors & Insulators	2,500.0	L.S.	\$ 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	
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 ITEMS					\$ 339,357		\$ 507,880		\$ 847,237	
F. Edic Substation - Install					\$ 1,139,380		\$ 1,009,405		\$ 2,148,785	
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
Contractor Mobilization / Demobilization										
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 21,488	\$ 21,488	\$ 21,488	\$ 21,488	
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			\$ 92,642	\$ 92,642	\$ 92,642	\$ 92,642	
8.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 21,488	\$ 21,488	\$ 21,488	\$ 21,488	
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 21,488	\$ 21,488	\$ 21,488	\$ 21,488	
Engineering										
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 171,903	\$ 171,903	\$ 171,903	\$ 171,903	
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000	
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 15,041	\$ 15,041	\$ 15,041	\$ 15,041	
Testing & Commissioning										
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 53,720	\$ 53,720	\$ 53,720	\$ 53,720	
Permitting and Additional Costs										
8.10	Environmental Licensing & Permitting Costs	-	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
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ 91,150	\$ -	\$ -	\$ 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:					\$ 91,150		\$ 420,364		\$ 511,515

ITC - T031 - (Segment A)

G. Edic Substation - Removal

Estimate Revision: **4**

Total: \$ **41,562**

<i>ITC - T031 - (Segment A)</i>			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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:	\$ -	\$ 5,612	\$ 5,612
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ -	\$ 41,562	\$ 41,562
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ -	\$ 41,562	\$ 41,562

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
G. Edic 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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ -		\$ -
2. SUBSTATION FOUNDATIONS									
2.1 345kV									
2.1a	Circuit Breaker Foundations	1	EA	\$ -	\$ -	\$ 14,200	\$ 14,200	\$ 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		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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ 2,400	\$ -
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	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	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	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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 14,200		\$ 14,200
3. SUBSTATION 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	3	EA	\$ -	\$ -	\$ 2,250	\$ 6,750	\$ 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	\$ -	\$ 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	\$ -
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	\$ -	\$ 2,250	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 6,750		\$ 6,750
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	3	EA	\$ -	\$ -	\$ 1,500	\$ 4,500	\$ 1,500	\$ 4,500
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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 4,500		\$ 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. CONTROL HOUSE / 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	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 - CONTROL 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	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	\$ -
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
G. Edic Substation - Removal					\$ -		\$ 35,950		\$ 35,950
8. MOB/DEMOB, 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			\$ 1,550	\$ 1,550	\$ 1,550	\$ 1,550
8.3	Utility PM and Project Oversight	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:					\$ -		\$ 5,612		\$ 5,612

ITC - T031 - (Segment A)

H. New Scotland Substation - Install

Estimate Revision: **4**

Total: \$ **4,466,540**

<i>ITC - T031 - (Segment A)</i>			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
H. New Scotland Substation - Install			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ 4,050	\$ 112,750	\$ 116,800
2. SUBSTATION FOUNDATIONS	\$ 283,113	\$ 303,200	\$ 586,313
3. SUBSTATION STRUCTURES	\$ 114,700	\$ 114,700	\$ 229,400
4. MAJOR EQUIPMENT	\$ 200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPMENT / MATERIALS	\$ 260,500	\$ 129,000	\$ 389,500
6. CONTROL HOUSE / PANELS	\$ 471,950	\$ 210,700	\$ 682,650
7. MISC ITEMS	\$ 596,373	\$ 733,493	\$ 1,329,866
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 154,455	\$ 697,556	\$ 852,011
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 2,085,140	\$ 2,381,399	\$ 4,466,540
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 2,085,140	\$ 2,381,399	\$ 4,466,540

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
H. New Scotland Substation - Install									
1. SITE PREP/ GRADING/ FENCING / CIVIL									
1.1	Site Works including clearing, sediment controls, rough grading, and final grading.	0.50	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 PREP/ GRADING/ FENCING / CIVIL					\$ 4,050		\$ 112,750		\$ 116,800
2. SUBSTATION 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	\$ 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	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	9	EA	\$ 4,482	\$ 40,338	\$ 4,800	\$ 43,200	\$ 9,282	\$ 83,538
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	\$ -

Item	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	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)	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	\$ 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	\$ 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	\$ 10,458	\$ 5,600	\$ 11,200	\$ 10,829	\$ 21,658
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 283,113		\$ 303,200		\$ 586,313
3. SUBSTATION STRUCTURES									
3.1	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	\$ -
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	\$ -	\$ 14,800	\$ -	\$ 29,600	\$ -
3.1e	Bus Support 3ph	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1f	Bus Support 1 Ph	9	EA	\$ 3,700	\$ 33,300	\$ 3,700	\$ 33,300	\$ 7,400	\$ 66,600
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	\$ 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	\$ -	\$ 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	\$ -

Item	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	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 - SUBSTATION STRUCTURES						\$ 114,700	\$ 114,700		\$ 229,400
4. MAJOR EQUIPMENT									
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								
4.2a	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 - MAJOR EQUIPMENT						\$ 200,000	\$ 80,000		\$ 280,000
5. SMALL EQUIPMENT / 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	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	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1f	Arresters	3	EA	\$ 6,500	\$ 19,500	\$ 1,500	\$ 4,500	\$ 8,000	\$ 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									
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	\$ 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	\$ 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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 EQUIPMENT / MATERIALS					\$ 260,500		\$ 129,000		\$ 389,500
6. CONTROL HOUSE / PANELS / GENERATOR									
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	3	EA	\$ 35,000	\$ 105,000	\$ 15,000	\$ 45,000	\$ 50,000	\$ 150,000
6.3	125VDC Batteries	0	EA	\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 100,000	\$ -
6.4	Control Cables	1	LS	\$ 123,200	\$ 123,200	\$ 123,200	\$ 123,200	\$ 246,400	\$ 246,400
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 - CONTROL HOUSE / PANELS / GENERATOR					\$ 471,950		\$ 210,700		\$ 682,650
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	180.0	LF	\$ 125.07	\$ 22,513	\$ 237.10	\$ 42,678	\$ 362	\$ 65,191
7.3	Strain Bus, Connectors & Insulators	100.0	LF	\$ 39.30	\$ 3,930	\$ 53.35	\$ 5,335	\$ 93	\$ 9,265
7.4	Grounding System	1,000.0	LF	\$ 6.93	\$ 6,930	\$ 32.58	\$ 32,580	\$ 40	\$ 39,510
7.5	Strain Bus Insulators - 345kV	18	EA	\$ 2,000	\$ 36,000	\$ 1,050	\$ 18,900	\$ 3,050	\$ 54,900
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									
7.11	Control Conduits from Trench to Equipment	1	LS	\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$ 250,000
7.12	Misc. Materials (Above and Below Ground)	1	LS	\$ 180,000	\$ 180,000	\$ 180,000	\$ 180,000	\$ 360,000	\$ 360,000
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 ITEMS					\$ 596,373		\$ 733,493		\$ 1,329,866
H. New Scotland Substation - Install					\$ 1,930,686		\$ 1,683,843		\$ 3,614,529
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 36,145	\$ 36,145	\$ 36,145	\$ 36,145
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			\$ 155,835	\$ 155,835	\$ 155,835	\$ 155,835
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 36,145	\$ 36,145	\$ 36,145	\$ 36,145
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 36,145	\$ 36,145	\$ 36,145	\$ 36,145
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 289,162	\$ 289,162	\$ 289,162	\$ 289,162
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 25,302	\$ 25,302	\$ 25,302	\$ 25,302
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 90,363	\$ 90,363	\$ 90,363	\$ 90,363
Permitting and Additional Costs									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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

ITC - T031 - (Segment A)

J. Porter Substation - Install

Estimate Revision: **4**

Total: \$ 86,137

<i>ITC - T031 - (Segment A)</i>			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
J. Porter Substation - Install			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ -	\$ -	\$ -
2. SUBSTATION FOUNDATIONS	\$ -	\$ -	\$ -
3. SUBSTATION STRUCTURES	\$ -	\$ -	\$ -
4. MAJOR EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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

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
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									
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	\$ 14,940	\$ -	\$ 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		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	\$ -

Item	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	\$ -
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		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	\$ -	\$ 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	\$ 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	0	EA	\$ 5,229	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS									
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
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								
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	\$ -

Item	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	\$ -	\$ 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 - SUBSTATION STRUCTURES					\$ -		\$ -		\$ -
4. MAJOR EQUIPMENT									
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	\$ -	\$ 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 - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	\$ -	\$ 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								
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	\$ 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	\$ 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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 EQUIPMENT / MATERIALS					\$ -		\$ -		\$ -
6. CONTROL HOUSE / 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	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 - CONTROL 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	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 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									
TOTAL - MISC ITEMS					\$ 15,008		\$ 56,904		\$ 71,912
J. Porter Substation - Install					\$ 15,008		\$ 56,904		\$ 71,912
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	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	\$ -	\$ -	\$ 3,100	\$ 3,100	\$ 3,100	\$ 3,100
8.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 719	\$ 719	\$ 719	\$ 719
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.15	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

ITC - T031 - (Segment A)

K. Porter Substation - Removal

Estimate Revision: **4**

Total: \$ **548,359**

<i>ITC - T031 - (Segment A)</i>			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
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 EQUIPMENT	\$ -	\$ 43,500	\$ 43,500
5. SMALL EQUIPMENT / 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:	\$ -	\$ 74,047	\$ 74,047
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ -	\$ 548,359	\$ 548,359
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. Porter 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 PREP/ 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		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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ 2,400	\$ -
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	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	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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 126,600		\$ 126,600
3. SUBSTATION 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 27,000	\$ -
3.2b	Substation A-Frame Structures - Shared Column	5	EA	\$ -	\$ -	\$ 27,000	\$ 135,000	\$ 27,000	\$ 135,000
3.2c	Switch Stands	6	EA	\$ -	\$ -	\$ 9,750	\$ 58,500	\$ 9,750	\$ 58,500
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	\$ -	\$ 2,250	\$ -
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	\$ -
3.2k	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 206,100		\$ 206,100
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT					\$ -		\$ 43,500		\$ 43,500
5. SMALL EQUIPMENT / 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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.1j									
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	\$ 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	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	EA	\$ -	\$ -	\$ 2,500	\$ 5,000	\$ 2,500	\$ 5,000
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	\$ -	\$ 5,500	\$ -
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 59,500		\$ 59,500
6. CONTROL HOUSE / 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONTROL 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	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 - MISC ITEMS					\$ -		\$ 38,613		\$ 38,613
K. Porter Substation - Removal					\$ -		\$ 474,313		\$ 474,313
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 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	\$ -	\$ -	\$ 20,449	\$ 20,449	\$ 20,449	\$ 20,449
8.3	Utility PM and Project Oversight	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS	\$ -	\$ -	\$ 474	\$ -	\$ 474	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 74,047		\$ 74,047

ITC - T031 - (Segment A)

L. Interconnection Edic Station

Estimate Revision: 4

Total: \$ 2,113,230

ITC - T031 - (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	\$ 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	\$ 2,113,230

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
L. Interconnection Edic 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 - CLEARING & ACCESS					\$ -		\$ 367,850		\$ 367,850
2. FOUNDATIONS									
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									
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 - FOUNDATIONS					\$ 168,366		\$ 170,169		\$ 338,536
3. STRUCTURES									
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	\$ 121,678	\$ 324,475	\$ 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									
3.13									
3.14									
3.15									
TOTAL - STRUCTURES					\$ 501,469		\$ 321,821		\$ 823,289
4. CONDUCTOR, SHIELDWIRE, OPGW									
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kv Mono Pole Vertical Tangent - V-String								
5.2	115kv Mono Pole Vertical Tangent - V-String								
5.3	Single Ckt. Dead End Vertical (345kv) (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								
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 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	\$ -	\$ 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	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 160,000		\$ 94,400		\$ 254,400
L. Interconnection Edic Station					\$ 829,835		\$ 954,240		\$ 1,784,075
6. MOB/DEMOB, 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			\$ 76,918	\$ 76,918	\$ 76,918	\$ 76,918
6.3	Utility PM and Project Oversight	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

Item	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								
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	\$ 66,387	\$ -	\$ -	\$ 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		\$ 262,769		\$ 329,155

ITC - T031 - (Segment A)

M. Interconnection New Scotland Station

Estimate
Revision: 4

Total: \$ 3,185,368

ITC - T031 - (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	\$ 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

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. Interconnection 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 - CLEARING & ACCESS					\$ -		\$ 367,850		\$ 367,850
2. FOUNDATIONS									
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									

Item	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 - FOUNDATIONS					\$ 365,657		\$ 473,093		\$ 838,749
3. STRUCTURES									
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	\$ 5,060	\$ 5,539	\$ 55,385	\$ 6,045	\$ 60,445
3.4					\$ -		\$ -		
3.5									
3.6					\$ -		\$ -		
3.7					\$ -		\$ -		
3.8					\$ -		\$ -		
3.9					\$ -		\$ -		
3.10					\$ -		\$ -		
3.11					\$ -		\$ -		
3.12					\$ -		\$ -		
3.13					\$ -		\$ -		
3.14					\$ -		\$ -		
3.15					\$ -		\$ -		
TOTAL - STRUCTURES					\$ 655,465		\$ 445,628		\$ 1,101,092
4. CONDUCTOR, 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	\$ -	\$ 6.35	\$ -
4.3	(1) 3/8" EHS7 Steel	1,500	LF	\$ 0.47	\$ 705	\$ 5.00	\$ 7,500	\$ 5.47	\$ 8,205
4.5	Remove Existing 345kV Cable From Existing Structures	0.3	Mile	\$ -	\$ -	\$ 30,000	\$ 7,500	\$ 30,000.00	\$ 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									
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 3,555		\$ 26,100		\$ 29,655
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kV Mono Pole Vertical Tangent - V-String	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	115kV Mono Pole Vertical Tangent - V-String	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.3	345kV Dead-end & Angle Insulators	60	Assembly	\$ 2,540	\$ 152,400	\$ 1,350	\$ 81,000	\$ 3,890	\$ 233,400
5.4	115kV Dead-end & Angle Insulators	-	Assembly	\$ 1,270	\$ -	\$ 725	\$ -	\$ 1,995	\$ -
5.5	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.6	OPGW Assembly - Angle / DE	-	Assembly	\$ 250	\$ -	\$ 150	\$ -	\$ 400	\$ -
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	9	EA	\$ 50	\$ 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	\$ -
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	\$ 50,000	\$ 100,000	\$ 100,000
5.17					\$ -		\$ -		\$ -
5.18					\$ -		\$ -		\$ -
5.19					\$ -		\$ -		\$ -
5.20					\$ -		\$ -		\$ -
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 205,530		\$ 133,595		\$ 339,125
M. Interconnection New Scotland Station					\$ 1,230,206		\$ 1,446,265		\$ 2,676,471
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Job / Demob	1	LS	\$ -	\$ -	\$ 26,765	\$ 26,765	\$ 26,765	\$ 26,765
Project Management, Material Handling & Amenities									

Item	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 Oversight	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
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	\$ 98,416	\$ 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	\$ 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)

N. Interconnection Rotterdam Station

Estimate Revision: **4** Total: \$ **4,599,381**

NAT & NYPA - T026 - (Segment A, Base)			
	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	\$ 134,320	\$ 300,050
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 77,642	\$ 583,488	\$ 661,129
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,048,161	\$ 3,551,221	\$ 4,599,381
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,048,161	\$ 3,551,221	\$ 4,599,381

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 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	\$ -	\$ -	\$ 4	\$ 19,200	\$ 4	\$ 19,200
1.5	Matting - Access and ROW	4,800.0	LF	\$ -	\$ -	\$ 70	\$ 336,000	\$ 70	\$ 336,000
1.6	Matting - To Work Area	2,400.0	LF	\$ -	\$ -	\$ 70	\$ 168,000	\$ 70	\$ 168,000
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	1.0	Mile	\$ -	\$ -	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
1.9	Work Pads	160,000.0	SF	\$ -	\$ -	\$ 4	\$ 563,200	\$ 4	\$ 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	\$ -
TOTAL - CLEARING & ACCESS					\$ -		\$ 1,233,050		\$ 1,233,050
2. FOUNDATIONS									
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	\$ 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					\$ -		\$ -		\$ -

Item	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 - FOUNDATIONS					\$ 192,145		\$ 325,963		\$ 518,108
3. STRUCTURES									
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	\$ 7,100
3.3	15kv 3-CKT DE - WOOD POLE	2	Pole	\$ 3,500	\$ 7,000	\$ 3,600	\$ 7,200	\$ 7,100	\$ 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	2	Pole	\$ 4,500	\$ 9,000	\$ 4,400	\$ 8,800	\$ 8,900	\$ 17,800
3.6	115kv 1-CKT DE - WOOD POLE	11	Pole	\$ 5,500	\$ 60,500	\$ 5,000	\$ 55,000	\$ 10,500	\$ 115,500
3.7	115kv 2-CKT TANGENT - WOOD POLE	4	Pole	\$ 5,500	\$ 22,000	\$ 5,000	\$ 20,000	\$ 10,500	\$ 42,000
3.8	115kv 2-CKT DE - STEEL POLE	4	Pole	\$ 98,883	\$ 395,530	\$ 59,330	\$ 237,318	\$ 158,212	\$ 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					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 546,722		\$ 837,150		\$ 1,383,872
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	345kv - (1) 954kcmil 54/7 ACSR "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	\$ 5.47	\$ 42,666
4.5	Remove Existing Cable	6.6	Mile	\$ -	\$ -	\$ 30,000	\$ 197,700	\$ 30,000.00	\$ 197,700
4.6	Remove Existing EH7	2.2	Mile	\$ -	\$ -	\$ 12,000	\$ 26,400	\$ 12,000.00	\$ 26,400
4.7	15kv - (1) 477kcmil 26/7 ACSR "Hawk"	9,630	LF	\$ 1.62	\$ 15,601	\$ 5.00	\$ 48,150	\$ 6.62	\$ 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		-							
4.10	Rider Poles - Relocated	-	Set	\$ -	\$ -	\$ 3,500	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 65,923		\$ 437,250		\$ 503,173
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Conductor, 115KV, 3PH, Tangent - Insulator	33	Assembly	\$ 1,000	\$ 33,000	\$ 720	\$ 23,760	\$ 1,720	\$ 56,760
5.2	Conductor, 115KV, 3PH, DE/Side - Insulator	66	Assembly	\$ 1,000	\$ 66,000	\$ 720	\$ 47,520	\$ 1,720	\$ 113,520
5.3	Conductor, 15kv, 3PH, Tangent - Insulator	12	Assembly	\$ 100	\$ 1,200	\$ 75	\$ 900	\$ 175	\$ 2,100
5.4	Conductor, 15kv, 3PH, DE/Side - Insulator	18	Assembly	\$ 100	\$ 1,800	\$ 75	\$ 1,350	\$ 175	\$ 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	\$ 400	\$ 75	\$ 300	\$ 175	\$ 700
5.8	OPGW Assembly - Tangent	2	Assembly	\$ 200	\$ 400	\$ 150	\$ 300	\$ 350	\$ 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	\$ 1,750	\$ -	\$ 1,746	\$ -	\$ 3,496	\$ -
5.12	OPGW Splice & Test	-	EA	\$ 1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	\$ -
5.13	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
5.14	Vibration Dampers - Conductor	-	EA	\$ 35	\$ -	\$ 35	\$ -	\$ 70	\$ -
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	\$ -	\$ 1,776	\$ -
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					\$ -		\$ -		\$ -
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 165,730		\$ 134,320		\$ 300,050
N. Interconnection Rotterdam Station					\$ 970,519		\$ 2,967,733		\$ 3,938,252
6. MOB/DEMOB, 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	\$ -	\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383
	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			\$ 169,792	\$ 169,792	\$ 169,792	\$ 169,792
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 39,383	\$ 39,383	\$ 39,383	\$ 39,383
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 196,913	\$ 196,913	\$ 196,913	\$ 196,913
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 11,815	\$ 11,815	\$ 11,815	\$ 11,815
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 27,568	\$ 27,568	\$ 27,568	\$ 27,568
	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	\$ -	\$ -	\$ 11,815	\$ 11,815	\$ 11,815	\$ 11,815
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		\$ -	\$ 3,938	\$ 3,938	\$ 3,938	\$ 3,938
	TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 77,642		\$ 583,488		\$ 661,129

ITC - T031 - (Segment A)

Q. Princetown Switchyard - Install

Estimate Revision: **4**

Total: \$ **34,974,270**

<i>ITC - T031 - (Segment A)</i>			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
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 EQUIPMENT	\$ 2,400,000	\$ 960,000	\$ 3,360,000
5. SMALL EQUIPMENT / 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:	\$ 15,678,719	\$ 19,295,552	\$ 34,974,270

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
Q. Princetown Switchyard - Install									
1. SITE PREP/ GRADING/ FENCING / CIVIL									
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
1.2	Station stone within substation fence.	2,000	CY	\$ 27	\$ 54,000	\$ 75	\$ 150,000	\$ 102	\$ 204,000
1.3	Substation Fence	2,300	LF	\$ 100	\$ 230,000	\$ 100	\$ 230,000	\$ 200	\$ 460,000
1.4									
1.5									
1.6	Permanent Access Road - 20'-Wide (Extend Existing)	310	LF	\$ 35	\$ 10,850	\$ 285	\$ 88,350	\$ 320	\$ 99,200
1.7									
1.8									
1.9									
1.10									
1.11									
1.12									
1.13									
1.14									
1.15									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 294,850		\$ 2,117,725		\$ 2,412,575
2. SUBSTATION FOUNDATIONS									
2.1 765kV									
2.1a	Circuit Breaker Foundations		EA.	\$ 22,410	\$ -	\$ 24,000	\$ -	\$ 46,410	\$ -
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)		EA.	\$ 52,290	\$ -	\$ 56,000	\$ -	\$ 108,290	\$ -
2.1d	Caisson DE Foundations (for DE A frame str. - shared column)		EA.	\$ 52,290	\$ -	\$ 56,000	\$ -	\$ 108,290	\$ -
2.1e	Switch Stand Foundations		EA.	\$ 8,964	\$ -	\$ 8,964	\$ -	\$ 17,928	\$ -
2.1f	Station Service Transformer Stand Foundation	0	EA	\$ 4,482	\$ -	\$ 4,800	\$ -	\$ 9,282	\$ -
2.1g	Bus Support 1ph Foundations (High Bus)		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1h	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		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
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)	32	EA.	\$ 26,145	\$ 836,640	\$ 26,145	\$ 836,640	\$ 52,290	\$ 1,673,280
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	\$ 645,408	\$ 4,482	\$ 645,408	\$ 8,964	\$ 1,290,816
2.2f	Station Service Transformer Stand Foundation	6	EA.	\$ 4,482	\$ 26,892	\$ 4,482	\$ 26,892	\$ 8,964	\$ 53,784
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	\$ 4,482	\$ 385,452	\$ 8,964	\$ 770,904
2.2j	Instrument Transformer Stand Foundations	78	EA.	\$ 4,482	\$ 349,596	\$ 4,482	\$ 349,596	\$ 8,964	\$ 699,192
2.2k	Arrester Stand Foundations	24	EA.	\$ 4,482	\$ 107,568	\$ 4,482	\$ 107,568	\$ 8,964	\$ 215,136
2.2m	Wave Trap Stand Foundations	8	EA.	\$ 4,482	\$ 35,856	\$ 4,482	\$ 35,856	\$ 8,964	\$ 71,712
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	\$ -	\$ 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	\$ 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	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								
2.5a	Control House / Pad - 35' x 95'	1	EA	\$ 100,845	\$ 100,845	\$ 108,000	\$ 108,000	\$ 208,845	\$ 208,845
2.5b	Generator Foundation	1	EA	\$ 16,434	\$ 16,434	\$ 17,600	\$ 17,600	\$ 34,034	\$ 34,034
2.5c	Station Service Distribution Line - 3ph.	1	LS	\$ -	\$ -	\$ 45,240	\$ 45,240	\$ 45,240	\$ 45,240
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	9	EA	\$ 5,229	\$ 47,061	\$ 5,600	\$ 50,400	\$ 10,829	\$ 97,461
2.6b				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 2,731,032		\$ 2,787,932		\$ 5,518,964
3.	SUBSTATION STRUCTURES								
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	\$ -	\$ 111,000	\$ -	\$ 222,000	\$ -
3.1c	Switch Stands		EA.	\$ 22,200	\$ -	\$ 22,200	\$ -	\$ 44,400	\$ -
3.1d	Station Service Transformer Stand		EA.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1e	Bus Support 1ph (High Bus)		EA.	\$ 7,400	\$ -	\$ 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	\$ -	\$ 7,400	\$ -
3.1j	Wave Trap Stand		EA.	\$ 9,250	\$ -	\$ 9,250	\$ -	\$ 18,500	\$ -
3.1k	Lightning Mast		EA.	\$ 9,250	\$ -	\$ 9,250	\$ -	\$ 18,500	\$ -
3.2	345kV								
3.2a	Substation A-Frame Structures - Stand alone	8	EA	\$ 37,000	\$ 296,000	\$ 37,000	\$ 296,000	\$ 74,000	\$ 592,000
3.2b	Substation A-Frame Structures - Shared Column	0	EA	\$ 37,000	\$ -	\$ 37,000	\$ -	\$ 74,000	\$ -
3.2c	Switch Stands	24	EA	\$ 14,800	\$ 355,200	\$ 14,800	\$ 355,200	\$ 29,600	\$ 710,400
3.2d	Station Service Transformer Stand	1	EA	\$ 14,800	\$ 14,800	\$ 14,800	\$ 14,800	\$ 29,600	\$ 29,600
3.2e	Bus Support 3ph	0	EA	\$ 5,550	\$ -	\$ 5,550	\$ -	\$ 11,100	\$ -
3.2f	Bus Support 1 Ph	86	EA	\$ 3,700	\$ 318,200	\$ 3,700	\$ 318,200	\$ 7,400	\$ 636,400

Item	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	\$ -	\$ 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 - SUBSTATION STRUCTURES					\$ 1,315,350		\$ 1,315,350		\$ 2,630,700
4. MAJOR EQUIPMENT									
4.2	345kV								
4.2a	Circuit Breakers	12	EA	\$ 200,000	\$ 2,400,000	\$ 80,000	\$ 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 - MAJOR EQUIPMENT					\$ 2,400,000		\$ 960,000		\$ 3,360,000
5. SMALL EQUIPMENT / MATERIALS									
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	\$ 17,500	\$ 420,000	\$ 52,500	\$ 1,260,000
5.2c	VT'S	24	EA	\$ 25,000	\$ 600,000	\$ 12,000	\$ 288,000	\$ 37,000	\$ 888,000
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	\$ -	\$ 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 EQUIPMENT / MATERIALS					\$ 2,922,000		\$ 1,410,000		\$ 4,332,000
6. CONTROL HOUSE / 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	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,000
6.4	Control Cables	1	LS	\$ 1,004,850	\$ 1,004,850	\$ 1,004,850	\$ 1,004,850	\$ 2,009,700	\$ 2,009,700
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

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL	
6.10	Generator	1	EA	\$ 100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$ 180,000	
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 3,361,350		\$ 2,023,350		\$ 5,384,700	
7. MISC ITEMS 765kV										
7.1	Conduit & Cable Trench System		LF	\$ 185.00	\$ -	\$ 231.27	\$ -	\$ 416.27	\$ -	
7.2	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	\$ -	
7.6	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 345kV										
7.15	Conduit & Cable Trench System	2,500	LF	\$ 125.07	\$ 312,675	\$ 170.00	\$ 425,000	\$ 295	\$ 737,675	
7.16	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	\$ -	
7.18	Grounding System	31,000	LF	\$ 6.93	\$ 214,830	\$ 32.58	\$ 1,009,980	\$ 40	\$ 1,224,810	
7.19	Strain Bus Insulators - 345kV	0	EA	\$ 2,000	\$ -	\$ 1,050	\$ -	\$ 3,050	\$ -	
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	\$ 247,500	\$ 247,500	\$ 247,500	\$ 247,500	\$ 495,000	\$ 495,000	
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 ITEMS					\$ 1,492,750		\$ 2,842,330		\$ 4,335,080	
Q. Princetown Switchyard - Install					\$ 14,517,332		\$ 13,456,687		\$ 27,974,019	
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:										
Contractor Mobilization / Demobilization										
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 279,740	\$ 279,740	\$ 279,740	\$ 279,740	
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			\$ 1,206,058	\$ 1,206,058	\$ 1,206,058	\$ 1,206,058	
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 279,740	\$ 279,740	\$ 279,740	\$ 279,740	
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 279,740	\$ 279,740	\$ 279,740	\$ 279,740	
Engineering										
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,237,922	\$ 2,237,922	\$ 2,237,922	\$ 2,237,922	
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000	
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 195,818	\$ 195,818	\$ 195,818	\$ 195,818	
Testing & Commissioning										
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 699,350	\$ 699,350	\$ 699,350	\$ 699,350	
Permitting and Additional Costs										
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 83,922	\$ 83,922	\$ 83,922	\$ 83,922	
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
8.14	Real Estate Costs (Incumbent Utility)	1	LS	\$ -	\$ -	\$ 534,600	\$ 534,600	\$ 534,600	\$ 534,600	

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
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	\$ -	\$ -	\$ 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		\$ 5,838,865		\$ 7,000,251

ITC - T031 - (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 3.698% 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 Oversight 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.



National Grid and NY Transco (T019)			
Description		Total Amount (In thousand \$)	
Direct Cost	1	Transmission Lines	
	1.1	Clearing & Access	\$34,641
	1.2	Foundations	\$44,405
	1.3	Structures	\$56,279
	1.4	Conductor, Shiedwire and OPGW	\$30,070
	1.5	Insulators, Fitting and Hardwares	\$10,334
	Subtotal (1)		\$175,729
	2	Substations	
	2.1	Knickerbocker Substation	\$26,306
	2.2	East Greenbush Substation	\$61
	2.3	Schodack Substation	\$2,226
	2.4	Churchtown Substation	\$14,616
	2.5	Pleasant Valley Substation	\$6,939
	2.6	Substation Interconnections	\$5,689
Subtotal (2)		\$55,838	
Total (1+2)		\$231,566	
Contractors Mark-up (15% of Total 1+2)		\$34,735	
Total Direct Cost (A)		\$266,301	
Indirect Cost	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$2,316
	3.2	Project Management, Material Handling & Amenities	\$16,122
	3.3	Engineering	\$15,485
	3.4	Testing & Commissioning	\$1,324
	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$16,963
	3.6	Legal, Env. Lisc. & Permit and Env. Mitigation	\$7,428
Total Indirect Cost (3)		\$59,638	
Subtotal Project Cost (B=A+3) 2017 \$		\$325,939	
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 \$		\$331,442	
Total Project Cost 2018 \$		\$341,385	

NG & NY Transco - T019 - (Segment B)

Estimate Revision: 4

<i>NG & NY Transco - T019 - (Segment B)</i>		<i>Total Each Segment</i>
Direct Labor, Material & Equipment Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 70,368,639
Direct Labor, Material & Equipment Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 100,618,567
Direct Labor, Material & Equipment Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 4,741,561
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	\$ 3,076,009
Direct Labor, Material & Equipment Costs	M. Interconnection Churchtown Station	\$ 1,989,695
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)	\$ 774,000
SUBTOTAL:		\$ 235,495,490
CONTRACTOR MARK-UP (OH&P)		\$ 35,324,323
CONTINGENCY ON ENTIRE PROJECT		\$ -
TOTAL DIRECT:		\$ 270,819,813

<i>NG & NY Transco - T019 - (Segment B)</i>		<i>Total Each Segment</i>
Indirect Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 15,504,660
Indirect Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 22,415,336
Indirect Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 942,806
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	\$ 561,193
Indirect Costs	M. Interconnection Churchtown Station	\$ 341,938
Indirect Costs	N. Interconnection Milan Station	\$ 113,831
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 INDIRECT :		\$ 60,621,755
TOTAL ESTIMATED COST :		\$ 331,441,569

NG & NY Transco - T019 - (Segment B)

A. Transmission Line Knickerbocker to Churchtown

Estimate Revision: **4** Total: \$ **85,873,299**

NG & NY Transco - T019 - (Segment 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	\$ 3,015,761	\$ 1,375,543	\$ 4,391,305
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,962,140	\$ 13,542,520	\$ 15,504,660
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 26,488,891	\$ 59,384,407	\$ 85,873,299
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 26,488,891	\$ 59,384,407	\$ 85,873,299

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. Transmission Line Knickerbocker to Churchtown									
1. CLEARING & 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	\$ 45	\$ 1,040,688
1.4	Silt Fence	115,632	LF	\$ -	\$ -	\$ 4.00	\$ 462,528	\$ 4	\$ 462,528
1.5	Matting - Access and ROW	92,506	LF	\$ -	\$ -	\$ 70.00	\$ 6,475,392	\$ 70	\$ 6,475,392
1.6	Matting - To Work Area	16,575	LF	\$ -	\$ -	\$ 70.00	\$ 1,160,250	\$ 70	\$ 1,160,250
1.7	Snow Removal	21.9	Mile	\$ -	\$ -	\$ 16,000	\$ 350,400	\$ 16,000	\$ 350,400
1.8	ROW Restoration	21.9	Mile	\$ -	\$ -	\$ 10,000	\$ 219,000	\$ 10,000	\$ 219,000
1.9	Work Pads	850,000	SF	\$ -	\$ -	\$ 3.52	\$ 2,992,000	\$ 4	\$ 2,992,000
1.10	Restoration for Work Pad areas	170,000	SF	\$ -	\$ -	\$ 0.15	\$ 25,500	\$ 0	\$ 25,500
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	\$ 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 - CLEARING & ACCESS:					\$ 11,500		\$ 13,799,703		\$ 13,811,203
2. FOUNDATIONS									
2.1	Drilled Pier - 115/345kV Double Ckt H- Pole Angle/DE	3	EA	\$ 133,937	\$ 401,811	\$ 135,372	\$ 406,115	\$ 269,309	\$ 807,926
2.2	Drilled Pier - 115/345kV Double Ckt Single Pole Angle/ DE	21	EA	\$ 156,123	\$ 3,278,583	\$ 157,795	\$ 3,313,695	\$ 313,918	\$ 6,592,278
2.3	Drilled Pier - 115/345kV Double Ckt Single Pole Tangent	133	EA	\$ 35,333	\$ 4,699,302	\$ 35,712	\$ 4,749,630	\$ 71,045	\$ 9,448,932
2.4	Drilled Pier - 115kV Single Circuit H-Pole Angle/ DE	2	EA	\$ 125,720	\$ 251,440	\$ 127,067	\$ 254,133	\$ 252,787	\$ 505,573
2.5	Drilled Pier - 115kV Single Circuit H-Pole Tangent	2	EA	\$ 81,348	\$ 162,697	\$ 82,220	\$ 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	CY	\$ -	\$ -	\$ 2,000	\$ 1,164,000	\$ 2,000	\$ 1,164,000
2.9									
2.10									
2.11									
2.12									
2.13									
2.14									
2.15									
2.16									

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									
2.18									
TOTAL - FOUNDATIONS:					\$ 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	170	Pole	\$ 506	\$ 86,020	\$ 5,539	\$ 941,545	\$ 6,045	\$ 1,027,565
3.15									
TOTAL - STRUCTURES:					\$ 9,422,041		\$ 10,929,158		\$ 20,351,199
4. CONDUCTOR, SHIELDWIRE, OPGW									
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
4.2	(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 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: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 2,367,420		\$ 8,759,465		\$ 11,126,885
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	846	Assembly	\$ 1,800	\$ 1,522,800	\$ 720	\$ 609,120	\$ 2,520	\$ 2,131,920
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	336	Assembly	\$ 1,800	\$ 604,800	\$ 720	\$ 241,920	\$ 2,520	\$ 846,720
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	429	Assembly	\$ 900	\$ 386,100	\$ 360	\$ 154,440	\$ 1,260	\$ 540,540
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	129	Assembly	\$ 900	\$ 116,100	\$ 360	\$ 46,440	\$ 1,260	\$ 162,540
5.6	OPGW Assembly - Tangent	135	Assembly	\$ 200	\$ 27,000	\$ 150	\$ 20,250	\$ 350	\$ 47,250
5.7	OPGW Assembly - Angle / DE	35	Assembly	\$ 250	\$ 8,750	\$ 150	\$ 5,250	\$ 400	\$ 14,000
5.8	OHSW Assembly - Tangent	135	Assembly	\$ 200	\$ 27,000	\$ 150	\$ 20,250	\$ 350	\$ 47,250
5.9	OHSW Assembly - Angle / DE	35	Assembly	\$ 250	\$ 8,750	\$ 150	\$ 5,250	\$ 400	\$ 14,000
5.10	OPGW Splice Boxes	8	Set	\$ 1,746	\$ 13,969	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161
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	1,971	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

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
5.15	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 - INSULATORS, FITTINGS, HARDWARE:					\$ 3,015,761		\$ 1,375,543		\$ 4,391,305
A. Transmission Line Knickerbocker to Churchtown					\$ 24,526,751		\$ 45,841,888		\$ 70,368,639
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 703,686	\$ 703,686	\$ 703,686	\$ 703,686
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			\$ 3,491,868	\$ 3,491,868	\$ 3,491,868	\$ 3,491,868
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 703,686	\$ 703,686	\$ 703,686	\$ 703,686
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 703,686	\$ 703,686	\$ 703,686	\$ 703,686
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,518,432	\$ 3,518,432	\$ 3,518,432	\$ 3,518,432
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 211,106	\$ 211,106	\$ 211,106	\$ 211,106
6.7	Geotech	22	Location	\$ -	\$ -	\$ 3,500	\$ 77,000	\$ 3,500	\$ 77,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 492,580	\$ 492,580	\$ 492,580	\$ 492,580
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	\$ -	\$ -	\$ 211,106	\$ 211,106	\$ 211,106	\$ 211,106
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	\$ 1,962,140	\$ 1,962,140	\$ -	\$ -	\$ 1,962,140	\$ 1,962,140
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 70,369	\$ 70,369	\$ 70,369	\$ 70,369
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,962,140		\$ 13,542,520		\$ 15,504,660

NG & NY Transco - T019 - (Segment B)

B. Transmission Line Churchtown to Pleasant Valley

Estimate Revision: **4** Total: \$ **123,033,903**

NG & NY Transco - T019 - (Segment 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	\$ 3,967,819	\$ 1,815,942	\$ 5,783,761
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 2,026,746	\$ 20,388,590	\$ 22,415,336
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 27,361,066	\$ 95,672,837	\$ 123,033,903
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 27,361,066	\$ 95,672,837	\$ 123,033,903

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
B. Transmission 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	\$ 45	\$ 1,534,896
1.4	Silt Fence	170,544.0	LF	\$ -	\$ -	\$ 4	\$ 682,176	\$ 4	\$ 682,176
1.5	Matting - Access and ROW	136,435	LF	\$ -	\$ -	\$ 70	\$ 9,550,464	\$ 70	\$ 9,550,464
1.6	Matting - To Work Area	16,275.0	LF	\$ -	\$ -	\$ 70	\$ 1,139,250	\$ 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	\$ 10,000	\$ 323,000
1.9	Work Pads	1,155,000.0	SF	\$ -	\$ -	\$ 4	\$ 4,065,600	\$ 4	\$ 4,065,600
1.10	Restoration for Work Pad areas	231,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 34,650	\$ 0	\$ 34,650
1.11	Temporary Access Bridge	14	EA	\$ -	\$ -	\$ 20,035	\$ 280,490	\$ 20,035	\$ 280,490
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	12	EA	\$ -	\$ -	\$ 4,580	\$ 54,960	\$ 4,580	\$ 54,960
1.14	Maintenance and Protection of Traffic on Public Roads	86	EA	\$ -	\$ -	\$ 4,130	\$ 355,180	\$ 4,130	\$ 355,180
1.15	Gates	4	EA	\$ 2,000	\$ 8,000	\$ 2,500	\$ 10,000	\$ 4,500	\$ 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 - CLEARING & ACCESS:					\$ 14,000		\$ 19,410,966		\$ 19,424,966
2. FOUNDATIONS									
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	CY	\$ -	\$ -	\$ 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 - FOUNDATIONS:					\$ 5,416,314		\$ 17,138,320		\$ 22,554,633
3. STRUCTURES									
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

Item	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 Single Circuit Single Pole Angle/ DE	3	Structure	\$ 79,163	\$ 237,490	\$ 47,498	\$ 142,494	\$ 126,661	\$ 379,984
3.4	345kV Single Circuit Single Pole DE	1	Structure	\$ 82,952	\$ 82,952	\$ 49,771	\$ 49,771	\$ 132,723	\$ 132,723
3.5									
3.6									
3.7									
3.8									
3.9									
3.10									
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									
3.15	Install Grounding and Grounding Accessories	231	Pole	\$ 506	\$ 116,886	\$ 5,539	\$ 1,279,394	\$ 6,045	\$ 1,396,280
3.16									
3.17									
TOTAL - STRUCTURES PRINCTOWN TO NEW SCOTLAND:					\$ 12,430,954		\$ 21,953,334		\$ 34,384,288
4. CONDUCTOR, SHIELDWIRE, OPGW									
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	\$ 5.47	\$ 991,651
4.5	Remove Existing 115kV Cable From Existing Structures	130.4	Mile	\$ -	\$ -	\$ 30,000	\$ 3,912,000	\$ 30,000.00	\$ 3,912,000
4.6	Remove Existing OPGW Cable and Accessories	32.6	Mile	\$ -	\$ -	\$ 12,000	\$ 390,600	\$ 12,000.00	\$ 390,600
4.7	Remove Existing OHSW and Accessories	32.6	Mile	\$ -	\$ -	\$ 12,000	\$ 391,200	\$ 12,000.00	\$ 391,200
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									
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	\$ 150,500	\$ 5,250.00	\$ 225,750
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 3,505,234		\$ 14,965,685		\$ 18,470,919
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	1,010	Assembly	\$ 1,800	\$ 1,818,000	\$ 720	\$ 727,200	\$ 2,520	\$ 2,545,200
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	312	Assembly	\$ 1,800	\$ 561,600	\$ 720	\$ 224,640	\$ 2,520	\$ 786,240
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	1,010	Assembly	\$ 900	\$ 909,000	\$ 360	\$ 363,600	\$ 1,260	\$ 1,272,600
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	168	Assembly	\$ 900	\$ 151,200	\$ 360	\$ 60,480	\$ 1,260	\$ 211,680
5.6	OPGW Assembly - Tangent	202	Assembly	\$ 200	\$ 40,400	\$ 150	\$ 30,300	\$ 350	\$ 70,700
5.7	OPGW Assembly - Angle / DE	29	Assembly	\$ 250	\$ 7,250	\$ 150	\$ 4,350	\$ 400	\$ 11,600
5.8	OHSW Assembly - Tangent	202	Assembly	\$ 200	\$ 40,400	\$ 150	\$ 30,300	\$ 350	\$ 70,700
5.9	OHSW Assembly - Angle / DE	29	Assembly	\$ 250	\$ 7,250	\$ 150	\$ 4,350	\$ 400	\$ 11,600
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	\$ 35	\$ 189,490	\$ 85	\$ 460,190
5.13	Vibration Dampers - Conductor	1,949	EA	\$ 35	\$ 68,215	\$ 35	\$ 68,215	\$ 70	\$ 136,430
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	657	EA	\$ 27	\$ 17,739	\$ 35	\$ 22,995	\$ 62	\$ 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	\$ 1,006	\$ 32,494	\$ 1,776	\$ 57,365
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 3,967,819		\$ 1,815,942		\$ 5,783,761
B. Transmission Line Churchtown to Pleasant Valley					\$ 25,334,321		\$ 75,284,247		\$ 100,618,567
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 1,006,186	\$ 1,006,186	\$ 1,006,186	\$ 1,006,186
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			\$ 4,992,945	\$ 4,992,945	\$ 4,992,945	\$ 4,992,945
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 1,006,186	\$ 1,006,186	\$ 1,006,186	\$ 1,006,186

Item	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	\$ -	\$ -	\$ 1,006,186	\$ 1,006,186	\$ 1,006,186	\$ 1,006,186
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 5,030,928	\$ 5,030,928	\$ 5,030,928	\$ 5,030,928
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 301,856	\$ 301,856	\$ 301,856	\$ 301,856
6.7	Geotech	33.0	Location	\$ -	\$ -	\$ 3,500	\$ 115,500	\$ 3,500	\$ 115,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 704,330	\$ 704,330	\$ 704,330	\$ 704,330
	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	\$ -	\$ -	\$ 301,856	\$ 301,856	\$ 301,856	\$ 301,856
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	\$ 2,026,746	\$ 2,026,746	\$ -	\$ -	\$ 2,026,746	\$ 2,026,746
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 100,619	\$ 100,619	\$ 100,619	\$ 100,619
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 2,026,746	\$ -	\$ 20,388,590	\$ -	\$ 22,415,336

NG & NY Transco - T019 - (Segment B)

C. Blue Stores Junction to Blue Stores Substation

Estimate Revision: **4**

Total: \$ **5,684,366**

NG & NY Transco - T019 - (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	\$ 104,544	\$ 54,696	\$ 159,240
6. MOB/DEMOMB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 81,811	\$ 860,995	\$ 942,806
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,104,450	\$ 4,579,917	\$ 5,684,366
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,104,450	\$ 4,579,917	\$ 5,684,366

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 Stores 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	\$ 20,000	\$ 5,000	\$ 20,000
1.3	Access Road	2,218	LF	\$ -	\$ -	\$ 45	\$ 99,792	\$ 45	\$ 99,792
1.4	Silt Fence	11,088.0	LF	\$ -	\$ -	\$ 4	\$ 44,352	\$ 4	\$ 44,352
1.5	Matting - Access and ROW	8,870	LF	\$ -	\$ -	\$ 70	\$ 620,928	\$ 70	\$ 620,928
1.6	Matting - To Work Area	1,800.0	LF	\$ -	\$ -	\$ 70	\$ 126,000	\$ 70	\$ 126,000
1.7	Snow Removal	2.1	Mile	\$ -	\$ -	\$ 16,000	\$ 33,600	\$ 16,000	\$ 33,600
1.8	ROW Restoration	2.1	Mile	\$ -	\$ -	\$ 10,000	\$ 21,000	\$ 10,000	\$ 21,000
1.9	Work Pads	120,000.0	SF	\$ -	\$ -	\$ 4	\$ 422,400	\$ 4	\$ 422,400
1.10	Restoration for Work Pad areas	24,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 3,600	\$ 0	\$ 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	EA	\$ -	\$ -	\$ 4,580	\$ 4,580	\$ 4,580	\$ 4,580
1.14	Maintenance and Protection of Traffic on Public Roads	2	EA	\$ -	\$ -	\$ 4,130	\$ 8,260	\$ 4,130	\$ 8,260
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	-	EA	\$ -	\$ -	\$ 1,850	\$ -	\$ 1,850	\$ -
TOTAL - CLEARING & ACCESS:					\$ -	\$ -	\$ 1,404,512	\$ -	\$ 1,404,512
2. FOUNDATIONS									
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									

Item	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 - FOUNDATIONS:					\$ 236,848		\$ 925,954		\$ 1,162,802
3. STRUCTURES									
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	\$ 199,960	\$ 29,624	\$ 533,226
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									
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									
3.11									
3.12									
3.13									
3.14									
3.15									
TOTAL - STRUCTURES:					\$ 596,484		\$ 946,665		\$ 1,543,149
4. CONDUCTOR, 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	\$ -	\$ 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									
TOTAL - CONDUCTOR, SHIELDWIRE, OPGW:					\$ 84,763		\$ 387,095		\$ 471,858
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	54	Assembly	\$ 900	\$ 48,600	\$ 360	\$ 19,440	\$ 1,260	\$ 68,040
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	36	Assembly	\$ 900	\$ 32,400	\$ 360	\$ 12,960	\$ 1,260	\$ 45,360
5.6	OPGW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
5.7	OPGW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.8	OHSW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
5.9	OHSW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
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	\$ 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									
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 104,544		\$ 54,696		\$ 159,240
C. Blue Stores Junction to Blue Stores Substation					\$ 1,022,639		\$ 3,718,922		\$ 4,741,561
6. MOB/DEMOB, 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	\$ -	\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
	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			\$ 235,288	\$ 235,288	\$ 235,288	\$ 235,288
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 237,078	\$ 237,078	\$ 237,078	\$ 237,078
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 14,225	\$ 14,225	\$ 14,225	\$ 14,225
6.7	Geotech	2	Location	\$ -	\$ -	\$ 3,500	\$ 7,000	\$ 3,500	\$ 7,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 33,191	\$ 33,191	\$ 33,191	\$ 33,191
	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	\$ -	\$ -	\$ 14,225	\$ 14,225	\$ 14,225	\$ 14,225
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	\$ 81,811	\$ 81,811	\$ -	\$ -	\$ 81,811	\$ 81,811
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 4,742	\$ 4,742	\$ 4,742	\$ 4,742
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 81,811		\$ 860,995		\$ 942,806

NG & NY Transco - T019 - (Segment B)

D. Knickerbocker 345kV Substation - Install

Estimate Revision: **4** Total: \$ **32,913,517**

NG & NY Transco - T019 - (Segment B)			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
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 EQUIPMENT	\$ 7,100,000	\$ 940,000	\$ 8,040,000
5. SMALL EQUIPMENT / 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

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
D. Knickerbocker 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	\$ 27	\$ 105,300	\$ 75	\$ 292,500	\$ 102	\$ 397,800
1.3	Substation Fence	2,100	LF	\$ 100	\$ 210,000	\$ 100	\$ 210,000	\$ 200	\$ 420,000
1.4									
1.5									
1.6	Permanent Access Road - 20'-Wide	600	LF	\$ 35	\$ 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	\$ 2,000	\$ 2,000	\$ 2,500	\$ 2,500	\$ 4,500	\$ 4,500
1.9	Culverts / Misc. Access	1	EA	\$ 750	\$ 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 PREP/ GRADING/ FENCING / CIVIL					\$ 339,050		\$ 4,006,475		\$ 4,345,525
2. SUBSTATION FOUNDATIONS									
2.1 345kV									
2.1a	Circuit Breaker Foundations	3	EA	\$ 14,940	\$ 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)	18	EA	\$ 26,145	\$ 470,610	\$ 28,000	\$ 504,000	\$ 54,145	\$ 974,610
2.1e	Switch Stand Foundations	90	EA	\$ 4,482	\$ 403,380	\$ 4,800	\$ 432,000	\$ 9,282	\$ 835,380
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	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 - SUBSTATION FOUNDATIONS					\$ 1,920,103		\$ 2,065,950		\$ 3,986,053
3. SUBSTATION STRUCTURES									
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	\$ -
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 - SUBSTATION STRUCTURES					\$ 912,975		\$ 912,975		\$ 1,825,950
4. MAJOR EQUIPMENT									
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	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	\$ -
4.3	115kV								
4.3a	Circuit Breakers	0	EA	\$ 52,000	\$ -	\$ 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
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 7,100,000		\$ 940,000		\$ 8,040,000
5. SMALL EQUIPMENT / 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
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 - SMALL EQUIPMENT / MATERIALS					\$ 1,206,500		\$ 534,500		\$ 1,741,000
6. CONTROL HOUSE / 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	\$ 415,800	\$ 831,600	\$ 831,600
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

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
6.10	Generator	1	EA	\$ 100,000	\$ 100,000	\$ 80,000	\$ 80,000	\$ 180,000	\$ 180,000
TOTAL - CONTROL 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	\$ 372,750
7.2	Rigid Bus, Fittings & Insulators	1,900.0	LF	\$ 125.07	\$ 237,633	\$ 237.10	\$ 450,490	\$ 362	\$ 688,123
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	\$ 1,027,260
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		\$ 2,913,133
D. Knickerbocker 345kV Substation - Install					\$ 14,589,491		\$ 11,716,770		\$ 26,306,261
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 263,063	\$ 263,063	\$ 263,063	\$ 263,063
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			\$ 1,305,382	\$ 1,305,382	\$ 1,305,382	\$ 1,305,382
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 263,063	\$ 263,063	\$ 263,063	\$ 263,063
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 263,063	\$ 263,063	\$ 263,063	\$ 263,063
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,104,501	\$ 2,104,501	\$ 2,104,501	\$ 2,104,501
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 184,144	\$ 184,144	\$ 184,144	\$ 184,144
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 657,657	\$ 657,657	\$ 657,657	\$ 657,657
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	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
8.11	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	\$ 1,167,159	\$ -	\$ -	\$ 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:					\$ 1,167,159		\$ 5,440,097		\$ 6,607,256

NG & NY Transco - T019 - (Segment B)

E. Greenbush Substation - Removal

Estimate Revision: **4**

Total: \$ **71,152**

NG & NY Transco - T019 - (Segment 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 EQUIPMENT	\$ -	\$ 7,000	\$ 7,000
5. SMALL EQUIPMENT / 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

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. Greenbush 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 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 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									
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	\$ -

Item	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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	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	EA	\$ -	\$ -	\$ 2,400	\$ 4,800	\$ 2,400	\$ 4,800
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	\$ -	\$ 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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 12,000		\$ 12,000
3. SUBSTATION 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	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	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2c	Switch Stands	0	EA	\$ -	\$ -	\$ 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	0	EA	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ -		\$ -
4. MAJOR EQUIPMENT									
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ 7,000		\$ 7,000
5. SMALL EQUIPMENT / 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	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	\$ -	\$ 5,500	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3d	CT'S	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3e	CCVT'S	2	EA	\$ -	\$ -	\$ 17,500	\$ 35,000	\$ 17,500	\$ 35,000
5.3f	Arresters	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / 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. CONTROL HOUSE / PANELS / GENERATOR									
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 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ -		\$ 7,200		\$ 7,200
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.2	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					\$ -		\$ -		\$ -
E. Greenbush Substation - Removal					\$ -		\$ 61,200		\$ 61,200
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	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 Oversight	1	LS		\$ -	\$ 612	\$ 612	\$ 612	\$ 612
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 612	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 184	\$ 184	\$ 184	\$ 184
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS	\$ -	\$ -	\$ 61	\$ -	\$ 61	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 9,952		\$ 9,952

NG & NY Transco - T019 - (Segment B)

F. Schodack Substation - Install

Estimate Revision: **4**

Total: \$ **2,579,857**

NG & NY Transco - T019 - (Segment 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 EQUIPMENT	\$ 104,000	\$ 120,000	\$ 224,000
5. SMALL EQUIPMENT / 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

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
F. Schodack 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									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 4,050		\$ 11,250		\$ 15,300
2. SUBSTATION 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	\$ -
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	\$ -

Item	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								
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	\$ -
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	4	EA	\$ 2,988	\$ 11,952	\$ 3,200	\$ 12,800	\$ 6,188	\$ 24,752
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	4	EA	\$ 2,988	\$ 11,952	\$ 3,200	\$ 12,800	\$ 6,188	\$ 24,752
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	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 - SUBSTATION FOUNDATIONS					\$ 201,690	\$ 216,000	\$ 417,690		
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
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								
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	2	EA	\$ 18,500	\$ 37,000	\$ 18,500	\$ 37,000	\$ 37,000	\$ 74,000

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	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	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ 60,680		\$ 60,680		\$ 121,360
4. MAJOR EQUIPMENT									
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	\$ -	\$ 80,000	\$ -
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	\$ -	\$ 60,000	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 104,000		\$ 120,000		\$ 224,000
5. SMALL EQUIPMENT / MATERIALS									
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	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	0	EA	\$ 25,000	\$ -	\$ 12,000	\$ -	\$ 37,000	\$ -
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	\$ -
5.2 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	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	\$ 8,000	\$ 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	6	EA	\$ 8,000	\$ 48,000	\$ 8,000	\$ 48,000	\$ 16,000	\$ 96,000
5.3f	Arresters	6	EA	\$ 3,420	\$ 20,520	\$ 6,000	\$ 36,000	\$ 9,420	\$ 56,520
5.3g	Wave Traps	2	EA	\$ 13,000	\$ 26,000	\$ 8,000	\$ 16,000	\$ 21,000	\$ 42,000
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 316,520		\$ 226,000		\$ 542,520
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -

Item	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	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	\$ -
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 192,815		\$ 147,815		\$ 340,630
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	530	LF	\$ 185.00	\$ 98,050	\$ 170.00	\$ 90,100	\$ 355	\$ 188,150
7.2	Rigid Bus, Fittings & Insulators	0	LF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7.3	Strain Bus, Connectors & Insulators	300	LF	\$ 39.30	\$ 11,790	\$ 53.35	\$ 16,005	\$ 93	\$ 27,795
7.4	Grounding System	800	LF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	24	EA	\$ 1,000	\$ 24,000	\$ 550	\$ 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	\$ -	\$ 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									
TOTAL - MISC ITEMS					\$ 168,552		\$ 259,305		\$ 427,857
F. Schodack Substation - Install					\$ 1,048,307		\$ 1,041,050		\$ 2,089,357
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	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			\$ 103,679	\$ 103,679	\$ 103,679	\$ 103,679
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 20,894	\$ 20,894	\$ 20,894	\$ 20,894
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 20,894	\$ 20,894	\$ 20,894	\$ 20,894
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 167,149	\$ 167,149	\$ 167,149	\$ 167,149
8.6	LIDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 14,625	\$ 14,625	\$ 14,625	\$ 14,625
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 52,234	\$ 52,234	\$ 52,234	\$ 52,234
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 6,268	\$ 6,268	\$ 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

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS		\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 83,865		\$ 406,636		\$ 490,500

NG & NY Transco - T019 - (Segment B)

G. Schodack Substation - Removal

Estimate Revision: **4**

Total: \$ **158,349**

NG & NY Transco - T019 - (Segment B)			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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

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
G. Schodack 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 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 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									
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	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	\$ -	\$ 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	\$ -	\$ -	\$ 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	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	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	Steele 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	\$ -	\$ 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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 62,400		\$ 62,400
3. SUBSTATION 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	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	\$ -
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	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	\$ -
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	\$ -	\$ 2,250	\$ -
3.2g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ 1,050	\$ -	\$ 1,050	\$ -
3.2h	Arrester Stand	0	EA	\$ -	\$ -	\$ 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
3.2j	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	6	EA	\$ -	\$ -	\$ 12,300	\$ 73,800	\$ 12,300	\$ 73,800
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 73,800		\$ 73,800
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	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	\$ -	\$ 5,500	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ -		\$ -
6. CONTROL HOUSE / 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	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 - CONTROL 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 ITEMS					\$ -		\$ -		\$ -
G. Schodack Substation - Removal					\$ -		\$ 136,200		\$ 136,200
8. MOB/DEMOB, 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									
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 Oversight	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	\$ 1,362
Engineering									
8.5	Design Engineering	1.0	LS	\$ -	\$ -	\$ 10,896	\$ 10,896	\$ 10,896	\$ 10,896
8.6	LIDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 953	\$ -	\$ 953	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 409	\$ 409	\$ 409	\$ 409
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	\$ -	\$ -	\$ 136	\$ -	\$ 136	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 22,149		\$ 22,149

NG & NY Transco - T019 - (Segment B)

H. Churchtown Substation - Install

Estimate Revision: **4**

Total: \$ 16,935,106

NG & NY Transco - T019 - (Segment 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 EQUIPMENT	\$ 416,000	\$ 480,000	\$ 896,000
5. SMALL EQUIPMENT / 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:	\$ 6,800,701	\$ 10,092,345	\$ 16,935,106

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
H. Churchtown 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 PREP/ GRADING/ FENCING / CIVIL					\$ 162,650		\$ 1,693,950		\$ 1,856,600
2. SUBSTATION 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	\$ -

Item	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	\$ -
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	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	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3d	Caisson DE Foundations (for DE A frame str. - shared column)	22	EA	\$ 16,434	\$ 361,548	\$ 17,600	\$ 387,200	\$ 34,034	\$ 748,748
2.3e	Switch Stand Foundations	34	EA	\$ 2,988	\$ 101,592	\$ 3,200	\$ 108,800	\$ 6,188	\$ 210,392
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	\$ 3,200	\$ 64,000	\$ 6,188	\$ 123,760
2.3h	Bus Support 1 Ph Foundations	36	EA	\$ 2,988	\$ 107,568	\$ 3,200	\$ 115,200	\$ 6,188	\$ 222,768
2.3j	Instrument Transformer Stand Foundations	51	EA	\$ 2,988	\$ 152,388	\$ 3,200	\$ 163,200	\$ 6,188	\$ 315,588
2.3k	Arrester Stand Foundations	15	EA	\$ 2,988	\$ 44,820	\$ 3,200	\$ 48,000	\$ 6,188	\$ 92,820
2.3m	Wave Trap Stand Foundations	5	EA	\$ 2,988	\$ 14,940	\$ 3,200	\$ 16,000	\$ 6,188	\$ 30,940
2.3n	Station Service Foundations	1	EA	\$ 3,735	\$ 3,735	\$ 4,000	\$ 4,000	\$ 7,735	\$ 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								
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 - 1ph.	0	LS	\$ -	\$ -	\$ 6,500	\$ -	\$ 6,500	\$ -
2.6	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	1	EA	\$ 5,229	\$ 5,229	\$ 5,600	\$ 5,600	\$ 10,829	\$ 10,829
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 943,027		\$ 1,009,800		\$ 1,952,827
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
3.1j	Wave Trap Stand	0	EA	\$ 7,400	\$ -	\$ 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	\$ -	\$ 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	\$ -

Item	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	8	EA	\$ 18,500	\$ 148,000	\$ 18,500	\$ 148,000	\$ 37,000	\$ 296,000
3.3c	Switch Stands	17	EA	\$ 7,955	\$ 135,235	\$ 7,955	\$ 135,235	\$ 15,910	\$ 270,470
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3e	Bus Support 3ph	10	EA	\$ 3,330	\$ 33,300	\$ 3,330	\$ 33,300	\$ 6,660	\$ 66,600
3.3f	Bus Support 1 Ph	36	EA	\$ 1,850	\$ 66,600	\$ 1,850	\$ 66,600	\$ 3,700	\$ 133,200
3.3g	Instrument Transformer Stand	51	EA	\$ 740	\$ 37,740	\$ 740	\$ 37,740	\$ 1,480	\$ 75,480
3.3h	Arrester Stand	15	EA	\$ 740	\$ 11,100	\$ 740	\$ 11,100	\$ 1,480	\$ 22,200
3.3j	Wave Trap Stand	5	EA	\$ 3,700	\$ 18,500	\$ 3,700	\$ 18,500	\$ 7,400	\$ 37,000
3.3k	Lightning Mast	1	EA	\$ 6,475	\$ 6,475	\$ 6,475	\$ 6,475	\$ 12,950	\$ 12,950
3.3l	Station Service Transformer Support Stand	1	EA	\$ 1,110	\$ 1,110	\$ 1,110	\$ 1,110	\$ 2,220	\$ 2,220
TOTAL - SUBSTATION STRUCTURES					\$ 458,060		\$ 458,060		\$ 916,120
4. MAJOR EQUIPMENT									
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	\$ -	\$ 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 - MAJOR EQUIPMENT					\$ 416,000		\$ 480,000		\$ 896,000
5. SMALL EQUIPMENT / MATERIALS									
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	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	0	EA	\$ 25,000	\$ -	\$ 12,000	\$ -	\$ 37,000	\$ -
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	\$ -
5.2 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	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
5.3d	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	\$ 168,000	\$ 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	\$ 40,000	\$ 21,000	\$ 105,000
5.3h	Station Service Transformers	1	EA	\$ 75,000	\$ 75,000	\$ 35,000	\$ 35,000	\$ 110,000	\$ 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
5.3j	Fuses	3	EA	\$ 7,500	\$ 22,500	\$ 3,600	\$ 10,800	\$ 11,100	\$ 33,300
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 1,384,800		\$ 938,800		\$ 2,323,600
6. CONTROL HOUSE / 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	26	EA	\$ 35,000	\$ 910,000	\$ 12,500	\$ 325,000	\$ 47,500	\$ 1,235,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,000
6.4	Control Cables	1	LS	\$ 398,475	\$ 398,475	\$ 398,475	\$ 398,475	\$ 796,950	\$ 796,950
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
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 2,115,975		\$ 1,453,475		\$ 3,569,450
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	400.0	LF	\$ 185.00	\$ 74,000	\$ 170.00	\$ 68,000	\$ 355	\$ 142,000
7.2	Rigid Bus, Fittings & Insulators	1,250.0	LF	\$ 125.07	\$ 156,338	\$ 237.10	\$ 296,375	\$ 362	\$ 452,713
7.3	Strain Bus, Connectors & Insulators	2,025.0	LF	\$ 39.30	\$ 79,583	\$ 53.35	\$ 108,034	\$ 93	\$ 187,616
7.4	Grounding System	10,600.0	LF	\$ 6.93	\$ 73,458	\$ 32.58	\$ 345,348	\$ 40	\$ 418,806
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	72	EA	\$ 1,000	\$ 72,000	\$ 550	\$ 39,600	\$ 1,550	\$ 111,600
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 ITEMS					\$ 855,378		\$ 1,282,357		\$ 2,137,735
H. Churchtown Substation - Install					\$ 6,335,890		\$ 7,316,442		\$ 13,652,332
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 136,523	\$ 136,523	\$ 136,523	\$ 136,523
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			\$ 677,463	\$ 677,463	\$ 677,463	\$ 677,463
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 136,523	\$ 136,523	\$ 136,523	\$ 136,523
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 136,523	\$ 136,523	\$ 136,523	\$ 136,523
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,092,187	\$ 1,092,187	\$ 1,092,187	\$ 1,092,187
8.6	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	Site	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 95,566	\$ 95,566	\$ 95,566	\$ 95,566

Item	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	\$ -	\$ -	\$ 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/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 506,871		\$ 2,775,903		\$ 3,282,774

NG & NY Transco - T019 - (Segment B)

I. Churchtown Substation - Removal

Estimate Revision: **4** 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
3. SUBSTATION STRUCTURES	\$ -	\$ 252,600	\$ 252,600
4. MAJOR EQUIPMENT	\$ -	\$ 24,600	\$ 24,600
5. SMALL EQUIPMENT / 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:	\$ -	\$ 156,716	\$ 156,716
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ -	\$ 1,120,394	\$ 1,120,394
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ -	\$ 1,120,394	\$ 1,120,394

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
I. Churchtown 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	\$ -	\$ -	\$ 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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ 111,000		\$ 111,000
2. SUBSTATION 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2h	Bus Support 1 Ph Foundations		EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2j	Instrument Transformer Stand Foundations		EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2k	Arrester Stand Foundations		EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2m	Wave Trap Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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
2.4	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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 340,400		\$ 340,400
3. SUBSTATION STRUCTURES									
3.1	345kV								
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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	\$ 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
3.4l	Lightning Mast	4	EA	\$ -	\$ -	\$ 6,450	\$ 25,800	\$ 6,450	\$ 25,800
TOTAL - SUBSTATION STRUCTURES					\$ -	\$ -	\$ 252,600	\$ -	\$ 252,600
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT					\$ -	\$ -	\$ 24,600	\$ -	\$ 24,600
5. SMALL EQUIPMENT / 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		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 - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 60,000		\$ 60,000
6. CONTROL HOUSE / 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONTROL 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. Churchtown Substation - Removal					\$ -		\$ 963,678		\$ 963,678
8. MOB/DEMOB, 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 Oversight	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	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 156,716		\$ 156,716

NG & NY Transco - T019 - (Segment B)

J. Pleasant Valley Substation - Install

Estimate Revision: **4**

Total: \$ **8,652,672**

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 EQUIPMENT	\$ 1,380,000	\$ 400,000	\$ 1,780,000
5. SMALL EQUIPMENT / 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

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
J. Pleasant 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									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 92,400		\$ 380,000		\$ 472,400
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)	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	\$ 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	25	EA	\$ 4,482	\$ 112,050	\$ 4,800	\$ 120,000	\$ 9,282	\$ 232,050
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	9	EA	\$ 4,482	\$ 40,338	\$ 4,800	\$ 43,200	\$ 9,282	\$ 83,538
2.1m	Wave Trap Stand Foundations	1	EA	\$ 4,482	\$ 4,482	\$ 4,800	\$ 4,800	\$ 9,282	\$ 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	\$ -

Item	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	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)	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	\$ 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 Addition Foundation (20-ft x 50-ft)	1	EA	\$ 51,368	\$ 51,368	\$ 53,700	\$ 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	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 414,410		\$ 442,500		\$ 856,910
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	\$ -	\$ 74,000	\$ -
3.1c	Switch Stands	3	EA	\$ 14,800	\$ 44,400	\$ 14,800	\$ 44,400	\$ 29,600	\$ 88,800
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	25	EA	\$ 3,700	\$ 92,500	\$ 3,700	\$ 92,500	\$ 7,400	\$ 185,000
3.1g	Instrument Transformer Stand	15	EA	\$ 1,850	\$ 27,750	\$ 1,850	\$ 27,750	\$ 3,700	\$ 55,500
3.1h	Arrester Stand	9	EA	\$ 1,850	\$ 16,650	\$ 1,850	\$ 16,650	\$ 3,700	\$ 33,300
3.1j	Wave Trap Stand	1	EA	\$ 7,400	\$ 7,400	\$ 7,400	\$ 7,400	\$ 14,800	\$ 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	\$ -	\$ 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	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
3.2e	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 - SUBSTATION STRUCTURES					\$ 188,700		\$ 188,700		\$ 377,400
4. MAJOR EQUIPMENT									
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	\$ 160,000	\$ 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	\$ -	\$ 330,000	\$ -
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 - MAJOR EQUIPMENT					\$ 1,380,000		\$ 400,000		\$ 1,780,000
5. SMALL EQUIPMENT / 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	3	EA	\$ 35,000	\$ 105,000	\$ 17,500	\$ 52,500	\$ 52,500	\$ 157,500
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	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1f	Arresters	9	EA	\$ 6,500	\$ 58,500	\$ 1,500	\$ 13,500	\$ 8,000	\$ 72,000
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	\$ -
5.2	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	\$ -

Item	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	\$ -
5.3g	Wave Traps	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 369,500		\$ 173,000		\$ 542,500
6. CONTROL HOUSE / 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	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.10	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
TOTAL - CONTROL 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	\$ 170.00	\$ 204,000	\$ 355	\$ 426,000
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	\$ -
7.9	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	\$ 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					\$ 740,939		\$ 988,454		\$ 1,729,393
J. Pleasant Valley Substation - Install					\$ 3,932,349		\$ 2,966,554		\$ 6,898,903
8. MOB/DEMOb, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 68,989	\$ 68,989	\$ 68,989	\$ 68,989
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			\$ 342,341	\$ 342,341	\$ 342,341	\$ 342,341
8.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 68,989	\$ 68,989	\$ 68,989	\$ 68,989
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 68,989	\$ 68,989	\$ 68,989	\$ 68,989
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 551,912	\$ 551,912	\$ 551,912	\$ 551,912
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	TOTAL
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	\$ 314,588	\$ 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

NG & NY Transco - T019 - (Segment B)

K. Pleasant Valley Substation - Removal

Estimate
Revision: **4**

Total: \$ **47,977**

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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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. Pleasant 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									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ 40,500		\$ 40,500
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	Reactor 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ -	\$ 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	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	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	\$ -	\$ 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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS									
				\$ -		\$ -		\$ -	
3. SUBSTATION 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.1g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ 1,050	\$ -	\$ 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	\$ -
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	\$ -	\$ 2,250	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ -		\$ -
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ 14,500	\$ -	\$ 14,500	\$ -
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 - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	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	\$ -	\$ 5,500	\$ -
5.2c	VT'S	0	EA	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ -		\$ -
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	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
6.2	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 - CONTROL 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	L.S.	\$ -	\$ -	\$ 18,937.50	\$ -	\$ 18,938	\$ -
7.3	Strain Bus, Connectors & Insulators	0	L.S.	\$ -	\$ -	\$ 19,675.00	\$ -	\$ 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 - MISC ITEMS					\$ -		\$ -		\$ -
K. Pleasant Valley Substation - Removal					\$ -		\$ 40,500		\$ 40,500
8. MOB/DEMOB, 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 Oversight	1	LS		\$ -	\$ 405	\$ 405	\$ 405	\$ 405
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 405	\$ 405	\$ 405	\$ 405
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,240	\$ 3,240	\$ 3,240	\$ 3,240
8.6	LIDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 284	\$ 284	\$ 284	\$ 284
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ 1,013	\$ -	\$ 1,013	\$ -
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 122	\$ 122	\$ 122	\$ 122
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	\$ -	\$ -	\$ 41	\$ -	\$ 41	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 7,477		\$ 7,477

NG & NY Transco - T019 - (Segment B)

Interconnection Knickerbocker Station

Estimate Revision: **4**

Total: \$ **3,637,202**

NG & NY Transco - T019 - (Segment B)			
	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	\$ 136,100	\$ 55,320	\$ 191,420
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 115,909	\$ 445,284	\$ 561,193
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,564,765	\$ 2,072,437	\$ 3,637,202
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,564,765	\$ 2,072,437	\$ 3,637,202

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
L. Interconnection Knickerbocker 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	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 - CLEARING & ACCESS				\$ -	\$ -	\$ 436,850	\$ 436,850	\$ -	\$ 436,850
2. FOUNDATIONS									
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									
2.5	Rock Excavation Adder	-	CY	\$ -	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.6				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.7				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.8				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.9				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.10					\$ -		\$ -		\$ -
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -
2.15					\$ -		\$ -		\$ -
TOTAL - FOUNDATIONS					\$ 756,457		\$ 764,558		\$ 1,521,015
3. STRUCTURES									
3.1	115kV Single Circuit Single Pole Angle/DE	1	Structure	\$ 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	\$ 62,817	\$ 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	\$ 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					\$ 556,300		\$ 370,424		\$ 926,724
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	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	\$ -
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	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	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	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	12	Assembly	\$ 900	\$ 10,800	\$ 360	\$ 4,320	\$ 1,260	\$ 15,120
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	15	Assembly	\$ 900	\$ 13,500	\$ 360	\$ 5,400	\$ 1,260	\$ 18,900
5.6	OPGW Assembly - Tangent	2	Assembly	\$ 200	\$ 400	\$ 150	\$ 300	\$ 350	\$ 700
5.7	OPGW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.8	OHSW Assembly - Tangent	2	Assembly	\$ 200	\$ 400	\$ 150	\$ 300	\$ 350	\$ 700
5.9	OHSW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.10	OPGW Splice Boxes	-	Set	\$ 1,750	\$ -	\$ 1,746	\$ -	\$ 3,496	\$ -
5.11	OPGW Splice & Test	-	EA	\$ 1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	\$ -
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 136,100		\$ 55,320		\$ 191,420
L. Interconnection Knickerbocker Station					\$ 1,448,857		\$ 1,627,152		\$ 3,076,009
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 30,760	\$ 30,760	\$ 30,760	\$ 30,760

Item	Item 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			\$ 152,639	\$ 152,639	\$ 152,639	\$ 152,639
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 30,760	\$ 30,760	\$ 30,760	\$ 30,760
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 30,760	\$ 30,760	\$ 30,760	\$ 30,760
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 153,800	\$ 153,800	\$ 153,800	\$ 153,800
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 9,228	\$ 9,228	\$ 9,228	\$ 9,228
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 21,532	\$ 21,532	\$ 21,532	\$ 21,532
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	\$ -	\$ -	\$ 9,228	\$ 9,228	\$ 9,228	\$ 9,228
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	\$ 115,909	\$ 115,909	\$ -	\$ -	\$ 115,909	\$ 115,909
6.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 3,076	\$ 3,076	\$ 3,076	\$ 3,076
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 115,909		\$ 445,284		\$ 561,193

NG & NY Transco - T019 - (Segment B)

M. Interconnection Churchtown Station

Estimate
Revision: 4

Total: \$ 2,331,633

NG & NY Transco - T019 - (Segment B)			
	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	\$ 127,400	\$ 51,780	\$ 179,180
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 52,673	\$ 289,265	\$ 341,938
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 711,081	\$ 1,620,552	\$ 2,331,633
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 711,081	\$ 1,620,552	\$ 2,331,633

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. Interconnection 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	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 - CLEARING & ACCESS					\$ -	\$ -	\$ 436,850		\$ 436,850
2. FOUNDATIONS									
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	200	CY	\$ -	\$ -	\$ 2,000	\$ 400,000	\$ 2,000	\$ 400,000
2.6				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.7				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.8				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.9				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.10				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

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
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -
2.15					\$ -		\$ -		\$ -
TOTAL - FOUNDATIONS					\$ 212,820		\$ 615,100		\$ 827,920
3. STRUCTURES									
3.1	115kV Single Circuit Single Pole Angle/ DE	4	Structure	\$ 49,216	\$ 196,864	\$ 29,530	\$ 118,118	\$ 78,746	\$ 314,982
3.2	115kV Single Circuit Single Pole Tangent	3	Structure	\$ 39,261	\$ 117,782	\$ 23,556	\$ 70,669	\$ 62,817	\$ 188,451
3.3									
3.4									
3.5	Install Grounding and Grounding Accessories	7	Pole	\$ 506	\$ 3,542	\$ 5,539	\$ 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					\$ 318,188		\$ 227,557		\$ 545,745
4. CONDUCTOR, 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	-	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	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	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	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	18	Assembly	\$ 900	\$ 16,200	\$ 360	\$ 6,480	\$ 1,260	\$ 22,680
5.6	OPGW Assembly - Tangent	3	Assembly	\$ 200	\$ 600	\$ 150	\$ 450	\$ 350	\$ 1,050
5.7	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.8	OHSW Assembly - Tangent	3	Assembly	\$ 200	\$ 600	\$ 150	\$ 450	\$ 350	\$ 1,050
5.9	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.10	OPGW Splice Boxes	-	Set	\$ 1,750	\$ -	\$ 1,746	\$ -	\$ 3,496	\$ -
5.11	OPGW Splice & Test	-	EA	\$ 1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	\$ -
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 127,400		\$ 51,780		\$ 179,180
M. Interconnection Churchtown Station					\$ 658,408		\$ 1,331,287		\$ 1,989,695
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
6.1	Contractor Mobilization / Demobilization								
	Mob / Demob	1	LS	\$ -	\$ -	\$ 19,897	\$ 19,897	\$ 19,897	\$ 19,897
	Project Management, Material Handling & Amenities								

Item	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			\$ 98,734	\$ 98,734	\$ 98,734	\$ 98,734
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 19,897	\$ 19,897	\$ 19,897	\$ 19,897
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 19,897	\$ 19,897	\$ 19,897	\$ 19,897
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 99,485	\$ 99,485	\$ 99,485	\$ 99,485
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 5,969	\$ 5,969	\$ 5,969	\$ 5,969
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 13,928	\$ 13,928	\$ 13,928	\$ 13,928
	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	\$ -	\$ -	\$ 5,969	\$ 5,969	\$ 5,969	\$ 5,969
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	\$ 52,673	\$ 52,673	\$ -	\$ -	\$ 52,673	\$ 52,673
6.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 1,990	\$ 1,990	\$ 1,990	\$ 1,990
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 52,673		\$ 289,265		\$ 341,938

NG & NY Transco - T019 - (Segment B)

N. Interconnection Milan Station

Estimate Revision: **4** Total: \$ **737,259**

NG & NY Transco - T019 - (Segment 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	\$ 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	\$ 93,038	\$ 113,831
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 280,695	\$ 456,563	\$ 737,259
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 280,695	\$ 456,563	\$ 737,259

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 & 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 - CLEARING & ACCESS					\$ -	\$ -	\$ 121,100	\$ -	\$ 121,100
2. FOUNDATIONS									
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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 - FOUNDATIONS					\$ 84,375		\$ 135,279		\$ 219,654
3. STRUCTURES									
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									
3.3									
3.4					\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	2	Pole	\$ 506	\$ 1,012	\$ 5,539	\$ 11,077	\$ 6,045	\$ 12,089
3.6					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 130,328		\$ 88,667		\$ 218,994
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	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	\$ -
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	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	24	Assembly	\$ 1,800	\$ 43,200	\$ 720	\$ 17,280	\$ 2,520	\$ 60,480
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.6	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.7	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.8	OHSW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.9	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.10	OPGW Splice Boxes	-	Set	\$ 1,750	\$ -	\$ 1,746	\$ -	\$ 3,496	\$ -
5.11	OPGW Splice & Test	-	EA	\$ 1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	\$ -
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 45,200		\$ 18,480		\$ 63,680
N. Interconnection Milan Station					\$ 259,903		\$ 363,525		\$ 623,428
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
6.1	Contractor Mobilization / Demobilization	1	LS	\$ -	\$ -	\$ 6,234	\$ 6,234	\$ 6,234	\$ 6,234
	Project Management, Material Handling & Amenities								

Item	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			\$ 30,936	\$ 30,936	\$ 30,936	\$ 30,936
6.3	Utility PM and Project Oversight	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		-	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	\$ 20,792	\$ 93,038	\$ 93,038	\$ 113,831	\$ 113,831

NG & NY Transco - T019 - (Segment B)

O. System Upgrade Facilities (Cricket Valley to Long Mt. Line)

Estimate
Revision: **4**

Total: \$ 3,155,160

SYSTEM UPGRADE 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 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 2156kcmil 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

NG & NY Transco - T019 - (Segment B)

System Upgrade Facilities (Various Stations for Knickerbocker to Pleasant Valley)

Estimate Revision: **4**

Total: \$ 774,000

SYSTEM UPGRADE 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	Replace Disconnect Switch and Wavetrap on Roseton to East Fishkill #305 345kV Line	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 222,449	\$ 223,000
SUF SS1	Removals	1	LS	\$ -	\$ -	\$ -	\$ -	\$ 33,480	\$ 34,000
SUF SS1	Engineering, T&C, PM, Indirects (25%)		LS %						\$ 65,000
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	SUF SS2 - 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

NG & NY Transco - T019 - (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 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.
14	An allowance of 1% for Utility PM and Project Oversight 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.
27	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.
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 \$)	
Direct Cost	1	Transmission Lines	
	1.1	Clearing & Access	\$33,783
	1.2	Foundations	\$17,271
	1.3	Structures	\$58,961
	1.4	Conductor, Shiedwire and OPGW	\$25,925
	1.5	Insulators, Fitting and Hardwares	\$9,756
	Subtotal (1)		\$145,696
	2	Substations	
	2.1	Knickerbocker Substation	\$15,110
	2.2	East Greenbush Substation	\$61
	2.3	Schodack Substation	\$0
	2.4	Churchtown Substation	\$14,897
	2.5	Pleasant Valley Substation	\$2,798
	2.6	Substation Interconnections	\$7,378
Subtotal (2)		\$40,244	
Total (1+2)		\$185,940	
Contractors Mark-up (15% of Total 1+2)		\$27,891	
Total Direct Cost (A)		\$213,832	
Indirect Cost	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$1,859
	3.2	Project Management, Material Handling & Amenities	\$15,279
	3.3	Engineering	\$12,296
	3.4	Testing & Commissioning	\$920
	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$10,600
	3.6	Legal, Env. Lisc. & Permit and Env. Mitigation	\$7,628
Total Indirect Cost (3)		\$48,581	
Subtotal Project Cost (B=A+3) 2017 \$		\$262,413	
	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 \$		\$266,830	
Total Project Cost 2018 \$		\$274,835	

NextEra T022 (Segment B)

Estimate Revision: 4

<i>NextEra T022 (Segment B) - Direct Costs</i>		<i>Total Each Segment</i>
Direct Labor, Material & Equipment Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 60,030,975
Direct Labor, Material & Equipment Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 80,923,912
Direct Labor, Material & Equipment Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 4,741,561
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	I.	\$ -
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	\$ 1,640,685
Direct Labor, Material & Equipment Costs	M. Interconnection Churchtown Station	\$ 5,113,541
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:		\$ 189,095,622
CONTRACTOR MARK-UP (OH&P)		\$ 28,364,343
CONTINGENCY ON ENTIRE PROJECT		\$ -
TOTAL DIRECT:		\$ 217,459,965

<i>NextEra T022 (Segment B) - Indirect Costs</i>		<i>Total Each Segment</i>
Indirect Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 13,291,961
Indirect Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 16,796,566
Indirect Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 1,002,296
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	I.	\$ -
Indirect Costs	J. Pleasant Valley Substation - Install	\$ 728,283
Indirect Costs	K. Pleasant Valley Substation - Removal	\$ -
Indirect Costs	L. Interconnection Knickerbocker Station	\$ 314,622
Indirect Costs	M. Interconnection Churchtown Station	\$ 980,289
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 INDIRECT:		\$ 49,369,821

TOTAL ESTIMATED COST: \$ 266,829,786

NextEra T022 (Segment B)

A. Transmission Line Knickerbocker to Churchtown

Estimate Revision: 4

Total: \$ 73,322,936

NextEra T022 (Segment 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	\$ 3,183,960	\$ 1,618,738	\$ 4,802,699
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,011,984	\$ 12,279,977	\$ 13,291,961
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 13,661,778	\$ 59,661,158	\$ 73,322,936
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 13,661,778	\$ 59,661,158	\$ 73,322,936

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. Transmission 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	\$ 45	\$ 1,040,688
1.4	Silt Fence	115,632	LF	\$ -	\$ -	\$ 4.00	\$ 462,528	\$ 4	\$ 462,528
1.5	Matting - Access and ROW	92,506	LF	\$ -	\$ -	\$ 70.00	\$ 6,475,392	\$ 70	\$ 6,475,392
1.6	Matting - To Work Area	11,925	LF	\$ -	\$ -	\$ 70.00	\$ 834,750	\$ 70	\$ 834,750
1.7	Snow Removal	21.9	Mile	\$ -	\$ -	\$ 16,000	\$ 350,400	\$ 16,000	\$ 350,400
1.8	ROW Restoration	21.9	Mile	\$ -	\$ -	\$ 10,000	\$ 219,000	\$ 10,000	\$ 219,000
1.9	Work Pads	795,000	SF	\$ -	\$ -	\$ 3.52	\$ 2,798,400	\$ 4	\$ 2,798,400
1.10	Restoration for Work Pad areas	159,000	SF	\$ -	\$ -	\$ 0.15	\$ 23,850	\$ 0	\$ 23,850
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	\$ 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 - CLEARING & ACCESS:					\$ 11,500		\$ 13,043,953		\$ 13,055,453
2. FOUNDATIONS									
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	CY	\$ -	\$ -	\$ 2,000	\$ 873,000	\$ 2,000	\$ 873,000
2.5									
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 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 - FOUNDATIONS:					\$ 1,519,868		\$ 4,432,528		\$ 5,952,396
3. STRUCTURES									
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	\$ 31,080	\$ 82,880	\$ 82,880
3.3	115/345KV D/C TANGENT, CONCRETE	145	Structure	\$ 21,709	\$ 3,147,869	\$ 91,587	\$ 13,280,072	\$ 113,296	\$ 16,427,940
3.4	Remove Existing Concrete 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	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									
TOTAL - STRUCTURES:					\$ 4,990,679		\$ 19,604,107		\$ 24,594,786
4. CONDUCTOR, SHIELDWIRE, OPGW									
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
4.2	(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	\$ 0.47	\$ 57,065	\$ 5.00	\$ 607,070	\$ 5.47	\$ 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) 795kcmil 26/7 ACSS "Drake"	364,241	LF	\$ 1.72	\$ 626,495	\$ 5.00	\$ 1,821,205	\$ 6.72	\$ 2,447,700
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 CONDUCTOR, SHIELDWIRE, OPGW:					\$ 2,943,787		\$ 8,681,855		\$ 11,625,642
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kV Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	870	Assembly	\$ 1,800	\$ 1,566,000	\$ 720	\$ 626,400	\$ 2,520	\$ 2,192,400
5.2	115kV Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	870	Assembly	\$ 900	\$ 783,000	\$ 560	\$ 487,200	\$ 1,460	\$ 1,270,200
5.3	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
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	117	Assembly	\$ 900	\$ 105,300	\$ 560	\$ 65,520	\$ 1,460	\$ 170,820
5.5				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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
5.9	OPGW Assembly - Angle / DE	34	Assembly	\$ 250	\$ 8,500	\$ 150	\$ 5,100	\$ 400	\$ 13,600

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	\$ 200	\$ 29,000	\$ 150	\$ 21,750	\$ 350	\$ 50,750
5.11	OHSW Assembly - Angle / DE	34	Assembly	\$ 250	\$ 8,500	\$ 150	\$ 5,100	\$ 400	\$ 13,600
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 - INSULATORS, FITTINGS, HARDWARE:					\$ 3,183,960		\$ 1,618,738		\$ 4,802,699
A. Transmission Line Knickerbocker to Churchtown					\$ 12,649,795		\$ 47,381,181		\$ 60,030,975
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 600,310	\$ 600,310	\$ 600,310	\$ 600,310
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			\$ 3,732,066	\$ 3,732,066	\$ 3,732,066	\$ 3,732,066
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 600,310	\$ 600,310	\$ 600,310	\$ 600,310
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 600,310	\$ 600,310	\$ 600,310	\$ 600,310
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,001,549	\$ 3,001,549	\$ 3,001,549	\$ 3,001,549
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 180,093	\$ 180,093	\$ 180,093	\$ 180,093
6.7	Geotech	22	Location	\$ -	\$ -	\$ 3,500	\$ 77,000	\$ 3,500	\$ 77,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 420,217	\$ 420,217	\$ 420,217	\$ 420,217
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	\$ -	\$ -	\$ 180,093	\$ 180,093	\$ 180,093	\$ 180,093
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	\$ 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	\$ 1,011,984	\$ 1,011,984	\$ -	\$ -	\$ 1,011,984	\$ 1,011,984
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 60,031	\$ 60,031	\$ 60,031	\$ 60,031
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,011,984		\$ 12,279,977		\$ 13,291,961

NextEra T022 (Segment B)

B. Transmission Line Churchtown to Pleasant Valley

Estimate
Revision: **4**

Total: \$ 97,720,478

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	\$ 5,447,370	\$ 27,375,569	\$ 32,822,939
4. CONDUCTOR, SHIELDWIRE, OPGW	\$ 3,493,383	\$ 10,334,110	\$ 13,827,493
5. INSULATORS, FITTINGS, HARDWARE	\$ 3,267,334	\$ 1,526,528	\$ 4,793,863
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,066,260	\$ 15,730,306	\$ 16,796,566
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 14,394,508	\$ 83,325,971	\$ 97,720,478
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 14,394,508	\$ 83,325,971	\$ 97,720,478

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. Transmission 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	\$ 5,000	\$ 315,000
1.3	Permanent Access Road	34,108.8	LF	\$ -	\$ -	\$ 45	\$ 1,534,896	\$ 45	\$ 1,534,896
1.4	Silt Fence	170,544.0	LF	\$ -	\$ -	\$ 4	\$ 682,176	\$ 4	\$ 682,176
1.5	Matting - Access and ROW	136,435.2	LF	\$ -	\$ -	\$ 70	\$ 9,550,464	\$ 70	\$ 9,550,464
1.6	Matting - To Work Area	18,450.0	LF	\$ -	\$ -	\$ 70	\$ 1,291,500	\$ 70	\$ 1,291,500
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	\$ 10,000	\$ 323,000
1.9	Work Pads	1,230,000.0	SF	\$ -	\$ -	\$ 4	\$ 4,329,600	\$ 4	\$ 4,329,600
1.10	Restoration for Work Pad areas	246,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 36,900	\$ 0	\$ 36,900
1.11	Temporary Access Bridge	14	EA	\$ -	\$ -	\$ 20,035	\$ 280,490	\$ 20,035	\$ 280,490
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	12	EA	\$ -	\$ -	\$ 4,580	\$ 54,960	\$ 4,580	\$ 54,960
1.14	Maintenance and Protection of Traffic on Public Roads	86	EA	\$ -	\$ -	\$ 4,130	\$ 355,180	\$ 4,130	\$ 355,180
1.15	Gates	4	EA	\$ 2,000	\$ 8,000	\$ 2,500	\$ 10,000	\$ 4,500	\$ 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 - CLEARING & ACCESS:					\$ 14,000		\$ 19,309,466		\$ 19,323,466
2. FOUNDATIONS									
2.1	Drilled Pier - 345KV S/C DEADEND, STEEL	17	EA	\$ 43,731	\$ 743,425	\$ 44,199	\$ 751,387	\$ 87,930	\$ 1,494,811
2.2	Direct Embed - 345KV S/C TANGENT, CONCRETE	229	EA	\$ 1,584	\$ 362,736	\$ 10,771	\$ 2,466,605	\$ 12,355	\$ 2,829,341
2.3									
2.4									
2.5	Rock Excavation Adder	2,916.0	CY	\$ -	\$ -	\$ 2,000	\$ 5,832,000	\$ 2,000	\$ 5,832,000
2.6									
2.7									
2.8									
2.9									
2.10									
2.11									
2.12									
TOTAL - FOUNDATIONS:					\$ 1,106,161		\$ 9,049,991		\$ 10,156,152

Item	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									
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	\$ 19,536	\$ 4,473,744	\$ 82,418	\$ 18,873,608	\$ 101,954	\$ 23,347,352
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									
TOTAL - STRUCTURES PRINCETOWN TO NEW SCOTLAND:					\$ 5,447,370		\$ 27,375,569		\$ 32,822,939
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	345KV - (1) 1,033kcmil 54/7 ACSS "Curlew"	1,094,386	LF	\$ 2.82	\$ 3,086,169	\$ 5.00	\$ 5,471,930	\$ 7.82	\$ 8,558,099
4.2	(1) OPGW 36 Fiber AC-33/38/571	182,398	LF	\$ 1.35	\$ 246,237	\$ 5.00	\$ 911,990	\$ 6.35	\$ 1,158,227
4.3	(1) 3/8" EHS7 Steel	182,398	LF	\$ 0.47	\$ 85,727	\$ 5.00	\$ 911,990	\$ 5.47	\$ 997,717
4.5	Remove Existing 115kV Cable From Existing Structures	65.2	Mile	\$ -	\$ -	\$ 30,000	\$ 1,956,000	\$ 30,000.00	\$ 1,956,000
4.6	Remove Existing OPGW Cable and Accessories	32.6	Mile	\$ -	\$ -	\$ 12,000	\$ 390,600	\$ 12,000.00	\$ 390,600
4.7	Remove Existing OHSW and Accessories	32.6	Mile	\$ -	\$ -	\$ 12,000	\$ 390,600	\$ 12,000.00	\$ 390,600
4.8	115kV - (1) 795kcmil 26/7 ACSS "Drake"	-	LF	\$ 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	\$ 3,500	\$ 150,500	\$ 5,250.00	\$ 225,750
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 3,493,383		\$ 10,334,110		\$ 13,827,493
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kV Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	1,374	Assembly	\$ 1,800	\$ 2,473,200	\$ 720	\$ 989,280	\$ 2,520	\$ 3,462,480
5.2	115kV Mono Pole Vertical Tangent - V-String (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)	153	Assembly	\$ 1,800	\$ 275,400	\$ 720	\$ 110,160	\$ 2,520	\$ 385,560
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.5	OPGW Assembly - Tangent	229	Assembly	\$ 200	\$ 45,800	\$ 150	\$ 34,350	\$ 350	\$ 80,150
5.6	OPGW Assembly - Angle / DE	34	Assembly	\$ 250	\$ 8,500	\$ 150	\$ 5,100	\$ 400	\$ 13,600
5.7	OHSW Assembly - Tangent	229	Assembly	\$ 200	\$ 45,800	\$ 150	\$ 34,350	\$ 350	\$ 80,150
5.8	OHSW Assembly - Angle / DE	34	Assembly	\$ 250	\$ 8,500	\$ 150	\$ 5,100	\$ 400	\$ 13,600
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	\$ 30,240	\$ 2,520	\$ 30,240	\$ 5,040	\$ 60,480
5.11	Spacer - Conductor	5,414	EA	\$ 50	\$ 270,700	\$ 35	\$ 189,490	\$ 85	\$ 460,190
5.12	Vibration Dampers - Conductor	1,299	EA	\$ 35	\$ 45,465	\$ 35	\$ 45,465	\$ 70	\$ 90,930
5.13	Shieldwire / OPGW Dampers, Misc. Fittings	656	EA	\$ 27	\$ 17,712	\$ 35	\$ 22,960	\$ 62	\$ 40,672
5.14	Guys, Anchors, and Accessories	-	EA	\$ 720	\$ -	\$ 885	\$ -	\$ 1,605	\$ -
5.15	Misc. materials (Signs and Markers)	32.6	Mile	\$ 770	\$ 25,064	\$ 1,006	\$ 32,745	\$ 1,776	\$ 57,809
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 3,267,334		\$ 15,266,528		\$ 4,793,863
B. Transmission Line Churchtown to Pleasant Valley					\$ 13,328,248		\$ 67,595,664		\$ 80,923,912
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 809,239	\$ 809,239	\$ 809,239	\$ 809,239
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			\$ 5,030,959	\$ 5,030,959	\$ 5,030,959	\$ 5,030,959

Item	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 Oversight	1	LS		\$ -	\$ 809,239	\$ 809,239	\$ 809,239	\$ 809,239
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 809,239	\$ 809,239	\$ 809,239	\$ 809,239
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 4,046,196	\$ 4,046,196	\$ 4,046,196	\$ 4,046,196
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 242,772	\$ 242,772	\$ 242,772	\$ 242,772
6.7	Geotech	33	Location	\$ -	\$ -	\$ 3,500	\$ 115,500	\$ 3,500	\$ 115,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 566,467	\$ 566,467	\$ 566,467	\$ 566,467
	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	\$ -	\$ -	\$ 242,772	\$ 242,772	\$ 242,772	\$ 242,772
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	\$ 1,066,260	\$ 1,066,260	\$ -	\$ -	\$ 1,066,260	\$ 1,066,260
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ 80,924	\$ 80,924	\$ 80,924	\$ 80,924
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,066,260		\$ 15,730,306		\$ 16,796,566

NextEra T022 (Segment B)

C. Blue Stores Junction to Blue Stores Substation

Estimate Revision: **4**

Total: \$ **5,743,856**

NextEra T022 (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	\$ 104,544	\$ 54,696	\$ 159,240
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 81,811	\$ 920,485	\$ 1,002,296
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,104,450	\$ 4,639,407	\$ 5,743,856
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,104,450	\$ 4,639,407	\$ 5,743,856

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 Stores 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	\$ 20,000	\$ 5,000	\$ 20,000
1.3	Permanent Access Road	2,217.6	LF	\$ -	\$ -	\$ 45	\$ 99,792	\$ 45	\$ 99,792
1.4	Silt Fence	11,088.0	LF	\$ -	\$ -	\$ 4	\$ 44,352	\$ 4	\$ 44,352
1.5	Matting - Access and ROW	8,870.4	LF	\$ -	\$ -	\$ 70	\$ 620,928	\$ 70	\$ 620,928
1.6	Matting - To Work Area	1,800.0	LF	\$ -	\$ -	\$ 70	\$ 126,000	\$ 70	\$ 126,000
1.7	Snow Removal	2.1	Mile	\$ -	\$ -	\$ 16,000	\$ 33,600	\$ 16,000	\$ 33,600
1.8	ROW Restoration	2.1	Mile	\$ -	\$ -	\$ 10,000	\$ 21,000	\$ 10,000	\$ 21,000
1.9	Work Pads	120,000.0	SF	\$ -	\$ -	\$ 4	\$ 422,400	\$ 4	\$ 422,400
1.10	Restoration for Work Pad areas	24,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 3,600	\$ 0	\$ 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	EA	\$ -	\$ -	\$ 4,580	\$ 4,580	\$ 4,580	\$ 4,580
1.14	Maintenance and Protection of Traffic on Public Roads	2	EA	\$ -	\$ -	\$ 4,130	\$ 8,260	\$ 4,130	\$ 8,260
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	-	EA	\$ -	\$ -	\$ 1,850	\$ -	\$ 1,850	\$ -
TOTAL - CLEARING & ACCESS:					\$ -		\$ 1,404,512		\$ 1,404,512
2. FOUNDATIONS									
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 - FOUNDATIONS:					\$ 236,848		\$ 925,954		\$ 1,162,802
3. STRUCTURES									
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	\$ 199,960	\$ 29,624	\$ 533,226
3.3	Remove Existing Structure and Accessories	-	EA	\$ -	\$ -	\$ 7,500	\$ -	\$ 7,500	\$ -
3.4	Install Grounding and Grounding Accessories	27	EA	\$ -	\$ -	\$ 12,500	\$ 337,500	\$ 12,500	\$ 337,500
3.5									
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 - STRUCTURES:					\$ 596,484		\$ 946,665		\$ 1,543,149
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	345kV - (1) 954kcmil 54/7 ACSR "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	\$ -
4.4	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									
TOTAL - CONDUCTOR, SHIELDWIRE, OPGW:					\$ 84,763		\$ 387,095		\$ 471,858
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	54	Assembly	\$ 900	\$ 48,600	\$ 360	\$ 19,440	\$ 1,260	\$ 68,040
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	36	Assembly	\$ 900	\$ 32,400	\$ 360	\$ 12,960	\$ 1,260	\$ 45,360
5.6	OPGW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
5.7	OPGW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.8	OHSW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
5.9	OHSW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
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	\$ 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									
5.19									
5.20									
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 104,544		\$ 54,696		\$ 159,240

Item	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 Stores Junction to Blue Stores Substation					\$ 1,022,639		\$ 3,718,922		\$ 4,741,561
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
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			\$ 294,778	\$ 294,778	\$ 294,778	\$ 294,778
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 237,078	\$ 237,078	\$ 237,078	\$ 237,078
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 14,225	\$ 14,225	\$ 14,225	\$ 14,225
6.7	Geotech	2	Location	\$ -	\$ -	\$ 3,500	\$ 7,000	\$ 3,500	\$ 7,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 33,191	\$ 33,191	\$ 33,191	\$ 33,191
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	\$ -	\$ -	\$ 14,225	\$ 14,225	\$ 14,225	\$ 14,225
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	\$ 81,811	\$ 81,811	\$ -	\$ -	\$ 81,811	\$ 81,811
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 4,742	\$ 4,742	\$ 4,742	\$ 4,742
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 81,811		\$ 920,485		\$ 1,002,296

NextEra T022 (Segment B)

D. Knickerbocker 345kV Substation - Install

Estimate Revision: **4** Total: \$ **19,118,107**

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 EQUIPMENT	\$ 600,000	\$ 240,000	\$ 840,000
5. SMALL EQUIPMENT / 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	\$ 3,439,415	\$ 4,008,194
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 7,678,517	\$ 11,439,590	\$ 19,118,107
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 7,678,517	\$ 11,439,590	\$ 19,118,107

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
D. Knickerbocker 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 PREP/ 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	\$ 54,145
2.6b				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 1,572,935		\$ 1,694,150		\$ 3,267,085
3. SUBSTATION STRUCTURES									
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	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 - SUBSTATION STRUCTURES					\$ 727,975	\$ 727,975	\$ 1,455,950		
4. MAJOR EQUIPMENT									
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	\$ -
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	\$ -

Item	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 - MAJOR EQUIPMENT					\$ 600,000		\$ 240,000		\$ 840,000
5. SMALL EQUIPMENT / 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 - SMALL EQUIPMENT / MATERIALS					\$ 1,086,500		\$ 489,500		\$ 1,576,000
6. CONTROL HOUSE / 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	\$ 765,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,000
6.4	Control Cables	1	LS	\$ 317,625	\$ 317,625	\$ 317,625	\$ 317,625	\$ 635,250	\$ 635,250
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

Item	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 - CONTROL HOUSE / PANELS / GENERATOR					\$ 1,837,125		\$ 1,227,625		\$ 3,064,750
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	1,050	LF	\$ 185.00	\$ 194,250	\$ 170.00	\$ 178,500	\$ 355	\$ 372,750
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
7.4	Grounding System	16,500	LF	\$ 6.93	\$ 114,345	\$ 32.58	\$ 537,570	\$ 40	\$ 651,915
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	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					\$ 1,061,528		\$ 1,684,810		\$ 2,746,338
D. Knickerbocker 345kV Substation - Install					\$ 7,109,738		\$ 8,000,175		\$ 15,109,913
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 151,099	\$ 151,099	\$ 151,099	\$ 151,099
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			\$ 939,368	\$ 939,368	\$ 939,368	\$ 939,368
8.3	Utility PM and Project Oversight	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
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 105,769	\$ 105,769	\$ 105,769	\$ 105,769
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 377,748	\$ 377,748	\$ 377,748	\$ 377,748
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	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
8.11	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	\$ 568,779	\$ 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		\$ 3,439,415		\$ 4,008,194

NextEra T022 (Segment B)

E. Greenbush Substation - Removal

Estimate Revision: **4**

Total: \$ **72,410**

NextEra T022 (Segment 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 EQUIPMENT	\$ -	\$ 7,000	\$ 7,000
5. SMALL EQUIPMENT / 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	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. Greenbush 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 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 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	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	\$ -	\$ 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	\$ -	\$ -	\$ 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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
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	EA	\$ -	\$ -	\$ 2,400	\$ 4,800	\$ 2,400	\$ 4,800
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	\$ -	\$ 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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 12,000		\$ 12,000
3. SUBSTATION 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	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	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2c	Switch Stands	0	EA	\$ -	\$ -	\$ 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	0	EA	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	\$ -
3.2g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ 1,050	\$ -	\$ 1,050	\$ -
3.2h	Arrester Stand	0	EA	\$ -	\$ -	\$ 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
3.2j	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 - SUBSTATION STRUCTURES					\$ -		\$ -		\$ -
4. MAJOR EQUIPMENT									
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ 7,000		\$ 7,000
5. SMALL EQUIPMENT / 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	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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	2	EA	\$ -	\$ -	\$ 17,500	\$ 35,000	\$ 17,500	\$ 35,000
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	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
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 35,000		\$ 35,000
6. CONTROL HOUSE / PANELS / GENERATOR									
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	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 - CONTROL HOUSE / PANELS / GENERATOR					\$ -		\$ 7,200		\$ 7,200
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.2	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					\$ -		\$ -		\$ -
E. Greenbush Substation - Removal					\$ -		\$ 61,200		\$ 61,200
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	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			\$ 3,805	\$ 3,805	\$ 3,805	\$ 3,805
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 612	\$ 612	\$ 612	\$ 612
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 612	\$ 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	1	Site	\$ -	\$ -	\$ 428	\$ 428	\$ 428	\$ 428
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 184	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.16	Allowance for Funds Used During Construction (AFUDC)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17	Carrying Charges	-	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	\$ 61	\$ 61
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 11,210		\$ 11,210

NextEra T022 (Segment B)

H. North Churchtown Substation - Install

Estimate Revision: **4**

Total: \$ 18,595,643

NextEra T022 (Segment 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 EQUIPMENT	\$ 260,000	\$ 300,000	\$ 560,000
5. SMALL EQUIPMENT / 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

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
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	\$ 27,000	\$ 75	\$ 75,000	\$ 102	\$ 102,000
1.3	Substation Fence	1,100	LF	\$ 100	\$ 110,000	\$ 100	\$ 110,000	\$ 200	\$ 220,000
1.4	Permanent Access Road - 20'-Wide	740	LF	\$ 35	\$ 25,900	\$ 285	\$ 210,900	\$ 320	\$ 236,800
1.5	Retaining Wall (1035' x Avg. of 7.15')	1	LS	\$ 313,823	\$ 313,823	\$ 485,213	\$ 485,213	\$ 799,036	\$ 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	\$ -	\$ -	\$ 55	\$ 159,500	\$ 55	\$ 159,500
1.9	Gates	1	EA	\$ 2,000	\$ 2,000	\$ 2,500	\$ 2,500	\$ 4,500	\$ 4,500
1.10	Culverts / Misc. Access	2	EA	\$ 750	\$ 1,500	\$ 1,250	\$ 2,500	\$ 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 PREP/ GRADING/ FENCING / CIVIL					\$ 941,645		\$ 2,992,813		\$ 3,934,458
2. SUBSTATION 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									
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	\$ -	\$ 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	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	\$ 17,600	\$ 140,800	\$ 34,034	\$ 272,272
2.3d	Caisson DE Foundations (for DE A frame str. - shared column)	24	EA	\$ 16,434	\$ 394,416	\$ 17,600	\$ 422,400	\$ 34,034	\$ 816,816
2.3e	Switch Stand Foundations	28	EA	\$ 2,988	\$ 83,664	\$ 3,200	\$ 89,600	\$ 6,188	\$ 173,264
2.3f	Fuse Stand Foundations	2	EA	\$ 2,988	\$ 5,976	\$ 3,200	\$ 6,400	\$ 6,188	\$ 12,376
2.3g	Bus Support 3ph Foundations	14	EA	\$ 2,988	\$ 41,832	\$ 3,200	\$ 44,800	\$ 6,188	\$ 86,632
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	45	EA	\$ 2,988	\$ 134,460	\$ 3,200	\$ 144,000	\$ 6,188	\$ 278,460
2.3k	Arrester Stand Foundations	15	EA	\$ 2,988	\$ 44,820	\$ 3,200	\$ 48,000	\$ 6,188	\$ 92,820
2.3m	Wave Trap Stand Foundations	10	EA	\$ 2,988	\$ 29,880	\$ 3,200	\$ 32,000	\$ 6,188	\$ 61,880
2.3n	Station Service Foundations	1	EA	\$ 3,735	\$ 3,735	\$ 4,000	\$ 4,000	\$ 7,735	\$ 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								
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 - 1ph.	1	LS	\$ -	\$ -	\$ 6,500	\$ 6,500	\$ 6,500	\$ 6,500
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 - SUBSTATION FOUNDATIONS					\$ 1,001,293		\$ 1,078,700		\$ 2,079,993
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
3.1j	Wave Trap Stand	0	EA	\$ 7,400	\$ -	\$ 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	\$ -	\$ 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	\$ -	\$ -	\$ 1,078,700	\$ -	\$ 1,078,700	\$ -
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	\$ -

Item	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	8	EA	\$ 18,500	\$ 148,000	\$ 18,500	\$ 148,000	\$ 37,000	\$ 296,000
3.3c	Switch Stands	14	EA	\$ 7,955	\$ 111,370	\$ 7,955	\$ 111,370	\$ 15,910	\$ 222,740
3.3d	Fuse Stand	1	EA	\$ 7,955	\$ 7,955	\$ 7,955	\$ 7,955	\$ 15,910	\$ 15,910
3.3e	Bus Support 3ph	7	EA	\$ 3,330	\$ 23,310	\$ 3,330	\$ 23,310	\$ 6,660	\$ 46,620
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	45	EA	\$ 740	\$ 33,300	\$ 740	\$ 33,300	\$ 1,480	\$ 66,600
3.3h	Arrester Stand	15	EA	\$ 740	\$ 11,100	\$ 740	\$ 11,100	\$ 1,480	\$ 22,200
3.3j	Wave Trap Stand	5	EA	\$ 3,700	\$ 18,500	\$ 3,700	\$ 18,500	\$ 7,400	\$ 37,000
3.3k	Lightning Mast	2	EA	\$ 6,475	\$ 12,950	\$ 6,475	\$ 12,950	\$ 12,950	\$ 25,900
3.3l	Station Service Transformer Support Stand	1	EA	\$ 1,110	\$ 1,110	\$ 1,110	\$ 1,110	\$ 2,220	\$ 2,220
TOTAL - SUBSTATION STRUCTURES					\$ 432,345		\$ 432,345		\$ 864,690
4. MAJOR EQUIPMENT									
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	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	5	EA	\$ 52,000	\$ 260,000	\$ 60,000	\$ 300,000	\$ 112,000	\$ 560,000
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 260,000		\$ 300,000		\$ 560,000
5. SMALL EQUIPMENT / MATERIALS									
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	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	0	EA	\$ 25,000	\$ -	\$ 12,000	\$ -	\$ 37,000	\$ -
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	\$ -
5.2	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	5	EA	\$ 33,000	\$ 165,000	\$ 15,000	\$ 75,000	\$ 48,000	\$ 240,000
5.3b	Disconnect Switches - 3ph w/ manual operator	10	EA	\$ 28,000	\$ 280,000	\$ 17,500	\$ 175,000	\$ 45,500	\$ 455,000
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	15	EA	\$ 8,000	\$ 120,000	\$ 8,000	\$ 120,000	\$ 16,000	\$ 240,000
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	\$ 40,000	\$ 21,000	\$ 105,000
5.3h	Station Service Transformers	1	EA	\$ 75,000	\$ 75,000	\$ 35,000	\$ 35,000	\$ 110,000	\$ 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
5.3j	Fuses	3	EA	\$ 7,500	\$ 22,500	\$ 3,600	\$ 10,800	\$ 11,100	\$ 33,300
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 1,168,800		\$ 785,800		\$ 1,954,600
6. CONTROL HOUSE / 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	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	\$ 350,350	\$ 700,700	\$ 700,700
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
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 1,962,850		\$ 1,310,350		\$ 3,273,200
7. MISC ITEMS									
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	\$ 32.58	\$ 244,350	\$ 40	\$ 296,325
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	72	EA	\$ 1,000	\$ 72,000	\$ 550	\$ 39,600	\$ 1,550	\$ 111,600
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 ITEMS					\$ 972,988		\$ 1,257,365		\$ 2,230,353
H. North Churchtown Substation - Install					\$ 6,739,921		\$ 8,157,373		\$ 14,897,294
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 148,973	\$ 148,973	\$ 148,973	\$ 148,973
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			\$ 926,150	\$ 926,150	\$ 926,150	\$ 926,150
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 148,973	\$ 148,973	\$ 148,973	\$ 148,973
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 148,973	\$ 148,973	\$ 148,973	\$ 148,973
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,191,784	\$ 1,191,784	\$ 1,191,784	\$ 1,191,784
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 104,281	\$ 104,281	\$ 104,281	\$ 104,281

Item	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

NextEra T022 (Segment B)

J. Pleasant Valley Substation - Install

Estimate Revision: **4**

Total: \$ **3,526,235**

NextEra T022 (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 EQUIPMENT	\$ 200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPMENT / 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:	\$ 1,779,788	\$ 1,746,447	\$ 3,526,235

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
J. Pleasant 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 PREP/ GRADING/ FENCING / CIVIL					\$ 11,025		\$ 14,625		\$ 25,650
2. SUBSTATION 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	\$ -
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	\$ -

Item	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	\$ 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)	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	\$ 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	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p									
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 Addition Foundation (25-ft x 50-ft)	1	EA	\$ 61,079	\$ 61,079	\$ 64,100	\$ 64,100	\$ 125,179	\$ 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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 161,177		\$ 171,300		\$ 332,477
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	\$ -	\$ 74,000	\$ -
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	\$ -	\$ 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	\$ 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	\$ -	\$ 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	\$ -

Item	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	\$ -	\$ 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 - SUBSTATION STRUCTURES					\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQUIPMENT									
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	0	EA	\$ 370,000	\$ -	\$ 80,000	\$ -	\$ 450,000	\$ -
4.1c	Circuit Breakers - Cap Switching	0	EA	\$ 220,000	\$ -	\$ 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	\$ 115,000	\$ -	\$ 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 - MAJOR EQUIPMENT					\$ 200,000		\$ 80,000		\$ 280,000
5. SMALL EQUIPMENT / 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	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	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1f	Arresters	3	EA	\$ 6,500	\$ 19,500	\$ 1,500	\$ 4,500	\$ 8,000	\$ 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									
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 EQUIPMENT / MATERIALS					\$ 260,500		\$ 129,000		\$ 389,500
6. CONTROL HOUSE / 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	\$ 12,500	\$ 37,500	\$ 47,500	\$ 142,500
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	\$ 261,800
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	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.10	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
TOTAL - CONTROL 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	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									
7.18									
7.19									
7.20									
7.21									
7.22									
7.23									
7.24									
7.25									
TOTAL - MISC ITEMS					\$ 409,950		\$ 457,275		\$ 867,225
J. Pleasant Valley Substation - Install					\$ 1,647,952		\$ 1,150,000		\$ 2,797,952
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 27,980	\$ 27,980	\$ 27,980	\$ 27,980
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	\$ 173,946
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 27,980	\$ 27,980	\$ 27,980	\$ 27,980
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 27,980	\$ 27,980	\$ 27,980	\$ 27,980
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 223,836	\$ 223,836	\$ 223,836	\$ 223,836
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 19,586	\$ 19,586	\$ 19,586	\$ 19,586
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 69,949	\$ 69,949	\$ 69,949	\$ 69,949
Permitting and Additional Costs									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
8.10	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	\$ 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	\$ -	\$ 596,447	\$ -	\$ 728,283

NextEra T022 (Segment B)

Interconnection Knickerbocker Station

Estimate Revision: **4**

Total: \$ 1,955,307

NextEra T022 (Segment B)			
	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	\$ 133,750	\$ 56,706	\$ 190,456
6. MOB/DEMOb, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 54,898	\$ 259,724	\$ 314,622
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 741,122	\$ 1,214,185	\$ 1,955,307
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 741,122	\$ 1,214,185	\$ 1,955,307

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
L. Interconnection Knickerbocker 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	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 - CLEARING & ACCESS					\$ -		\$ 436,850		\$ 436,850
2. FOUNDATIONS									
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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 - FOUNDATIONS					\$ 238,638		\$ 241,194		\$ 479,832
3. STRUCTURES									
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					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 313,836		\$ 219,711		\$ 533,547
4. CONDUCTOR, 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	\$ -	\$ 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	\$ -
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	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	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)	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	72	Assembly	\$ 1,800	\$ 129,600	\$ 720	\$ 51,840	\$ 2,520	\$ 181,440
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	2	Assembly	\$ 250	\$ 500	\$ 150	\$ 300	\$ 400	\$ 800
5.7	OHSW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.8	OHSW Assembly - Angle / DE	2	Assembly	\$ 250	\$ 500	\$ 150	\$ 300	\$ 400	\$ 800
5.9	OPGW Splice Boxes	1	Set	\$ 1,750	\$ 1,750	\$ 1,746	\$ 1,746	\$ 3,496	\$ 3,496
5.10	OPGW Splice & Test	1	EA	\$ 1,400	\$ 1,400	\$ 2,520	\$ 2,520	\$ 3,920	\$ 3,920
5.11	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
5.12	Vibration Dampers - Conductor	-	EA	\$ 35	\$ -	\$ 35	\$ -	\$ 70	\$ -
5.13	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 - INSULATOR, FITTINGS, HARDWARE					\$ 133,750		\$ 56,706		\$ 190,456
L. Interconnection Knickerbocker Station					\$ 686,224		\$ 954,461		\$ 1,640,685
6. MOB/DEMOB, 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	\$ -	\$ -	\$ 16,407	\$ 16,407	\$ 16,407	\$ 16,407
	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			\$ 102,000	\$ 102,000	\$ 102,000	\$ 102,000
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 16,407	\$ 16,407	\$ 16,407	\$ 16,407
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 16,407	\$ 16,407	\$ 16,407	\$ 16,407
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 82,034	\$ 82,034	\$ 82,034	\$ 82,034
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 4,922	\$ 4,922	\$ 4,922	\$ 4,922
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 11,485	\$ 11,485	\$ 11,485	\$ 11,485
	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	\$ -	\$ -	\$ 4,922	\$ 4,922	\$ 4,922	\$ 4,922
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	\$ 54,898	\$ 54,898	\$ -	\$ -	\$ 54,898	\$ 54,898
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ 1,641	\$ 1,641	\$ 1,641	\$ 1,641
	TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:				\$ 54,898		\$ 259,724		\$ 314,622

NextEra T022 (Segment B)

M. Interconnection Churchtown Station

Estimate Revision: **4** Total: \$ **6,093,830**

NextEra T022 (Segment 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	\$ 885,174	\$ 687,622	\$ 1,572,796
4. CONDUCTOR, SHIELDWIRE, OPGW	\$ -	\$ -	\$ -
5. INSULATORS, FITTINGS, HARDWARE	\$ 481,350	\$ 200,586	\$ 681,936
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 178,212	\$ 802,077	\$ 980,289
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 2,405,865	\$ 3,687,966	\$ 6,093,830
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 2,405,865	\$ 3,687,966	\$ 6,093,830

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. Interconnection 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	\$ 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 - CLEARING & ACCESS				\$ -	\$ -	\$ 712,850	\$ 712,850	\$ -	\$ 712,850
2. FOUNDATIONS									
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	CY	\$ -	\$ -	\$ 2,000	\$ 400,000	\$ 2,000	\$ 400,000
2.6				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.7					\$ -		\$ -		\$ -
2.8					\$ -		\$ -		\$ -
2.9					\$ -		\$ -		\$ -
2.10					\$ -		\$ -		\$ -
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -
2.15					\$ -		\$ -		\$ -
TOTAL - FOUNDATIONS					\$ 861,128		\$ 1,284,831		\$ 2,145,960
3. STRUCTURES									
3.1	345KV S/C DEADEND, STEEL	17	Structure	\$ 49,950	\$ 849,150	\$ 29,970	\$ 509,490	\$ 79,920	\$ 1,358,640
3.2	115KV DELTA S/C TANGENT, CONCRETE	2	Structure	\$ 13,205	\$ 26,410	\$ 36,450	\$ 72,900	\$ 49,655	\$ 99,310
3.3									
3.4					\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	19	Pole	\$ 506	\$ 9,614	\$ 5,539	\$ 105,232	\$ 6,045	\$ 114,846
3.6					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 885,174		\$ 687,622		\$ 1,572,796
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	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	\$ -
4.8	115kv - (1) 795kcmil 26/7 ACSS "Drake"	-	LF	\$ 1.72	\$ -	\$ 5.00	\$ -	\$ 6.72	\$ -
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: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	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)	12	Assembly	\$ 900	\$ 10,800	\$ 560	\$ 6,720	\$ 1,460	\$ 17,520
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	\$ 642,600
5.4	115kv Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.5	OPGW Assembly - Tangent	16	Assembly	\$ 200	\$ 3,200	\$ 150	\$ 2,400	\$ 350	\$ 5,600
5.6	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.7	OHSW Assembly - Tangent	16	Assembly	\$ 200	\$ 3,200	\$ 150	\$ 2,400	\$ 350	\$ 5,600
5.8	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.9	OPGW Splice Boxes	1	Set	\$ 1,750	\$ 1,750	\$ 1,746	\$ 1,746	\$ 3,496	\$ 3,496
5.10	OPGW Splice & Test	1	EA	\$ 1,400	\$ 1,400	\$ 2,520	\$ 2,520	\$ 3,920	\$ 3,920
5.11	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
5.12	Vibration Dampers - Conductor	-	EA	\$ 35	\$ -	\$ 35	\$ -	\$ 70	\$ -
5.13	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 - INSULATOR, FITTINGS, HARDWARE					\$ 481,350		\$ 200,586		\$ 681,936

Item	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. Interconnection Churchtown Station					\$ 2,227,652		\$ 2,885,889		\$ 5,113,541
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 51,135	\$ 51,135	\$ 51,135	\$ 51,135
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			\$ 317,904	\$ 317,904	\$ 317,904	\$ 317,904
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 51,135	\$ 51,135	\$ 51,135	\$ 51,135
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 51,135	\$ 51,135	\$ 51,135	\$ 51,135
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 255,677	\$ 255,677	\$ 255,677	\$ 255,677
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 15,341	\$ 15,341	\$ 15,341	\$ 15,341
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 35,795	\$ 35,795	\$ 35,795	\$ 35,795
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	\$ -	\$ -	\$ 15,341	\$ 15,341	\$ 15,341	\$ 15,341
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	\$ 178,212	\$ 178,212	\$ -	\$ -	\$ 178,212	\$ 178,212
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 5,114	\$ 5,114	\$ 5,114	\$ 5,114
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 178,212		\$ 802,077		\$ 980,289

NextEra T022 (Segment B)

N. Interconnection Milan Station

Estimate Revision: **4** Total: \$ **745,080**

NextEra T022 (Segment 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	\$ 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

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 & 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 - CLEARING & ACCESS					\$ -		\$ 121,100		\$ 121,100
2. FOUNDATIONS									
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					\$ -		\$ -		\$ -

Item	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 - FOUNDATIONS					\$ 84,375		\$ 135,279		\$ 219,654
3. STRUCTURES									
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									
3.3									
3.4					\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	2	Pole	\$ 506	\$ 1,012	\$ 5,539	\$ 11,077	\$ 6,045	\$ 12,089
3.6					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 130,328		\$ 88,667		\$ 218,994
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	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	\$ -
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	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -	\$ -	\$ -	\$ -	\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	24	Assembly	\$ 1,800	\$ 43,200	\$ 720	\$ 17,280	\$ 2,520	\$ 60,480
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.6	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.7	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.8	OHSW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.9	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.10	OPGW Splice Boxes	-	Set	\$ 1,750	\$ -	\$ 1,746	\$ -	\$ 3,496	\$ -
5.11	OPGW Splice & Test	-	EA	\$ 1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	\$ -
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 45,200		\$ 18,480		\$ 63,680
N. Interconnection Milan Station					\$ 259,903		\$ 363,525		\$ 623,428
6. MOB/DEMOB, 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	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			\$ 38,758	\$ 38,758	\$ 38,758	\$ 38,758
6.3	Utility PM and Project Oversight	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	\$ 20,792	\$ 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		\$ 100,860		\$ 121,652

NextEra - T022 - (Segment B)

O. System Upgrade Facilities (Cricket Valley to Long Mt. Line)

Estimate
Revision: **4**

Total: \$ 3,943,950

SYSTEM UPGRADE 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 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 2156kcmil 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 (AAE 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 Oversight 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.
28	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.
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.



NextEra Energy (T023)			
Description		Total Amount (In thousand \$)	
Direct Cost	1	Transmission Lines	
	1.1	Clearing & Access	\$34,215
	1.2	Foundations	\$21,257
	1.3	Structures	\$67,904
	1.4	Conductor, Shiedwire and OPGW	\$30,529
	1.5	Insulators, Fitting and Hardwares	\$10,956
	Subtotal (1)		\$164,861
	2	Substations	
	2.1	Knickerbocker Substation	\$15,110
	2.2	East Greenbush Substation	\$61
	2.3	Schodack Substation	\$0
	2.4	Churchtown Substation	\$13,040
	2.5	Pleasant Valley Substation	\$2,798
	2.6	Substation Interconnections	\$6,697
Subtotal (2)		\$37,706	
Total (1+2)		\$202,567	
Contractors Mark-up (15% of Total 1+2)		\$30,385	
Total Direct Cost (A)		\$232,952	
Indirect Cost	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$2,026
	3.2	Project Management, Material Handling & Amenities	\$16,683
	3.3	Engineering	\$13,243
	3.4	Testing & Commissioning	\$874
	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$12,951
	3.6	Legal, Env. Lisc. & Permit and Env. Mitigation	\$7,628
Total Indirect Cost (3)		\$53,404	
Subtotal Project Cost (B=A+3) 2017 \$		\$286,356	
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 \$		\$290,773	
Total Project Cost 2018 \$		\$299,497	

NextEra T023 (Segment B Alternate)

Estimate Revision: 4

<i>NextEra T023 (Segment B Alternate) - Direct Costs</i>		<i>Total Each Segment</i>
Direct Labor, Material & Equipment Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 60,195,975
Direct Labor, Material & Equipment Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 99,923,738
Direct Labor, Material & Equipment Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 4,741,561
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	\$ 1,640,685
Direct Labor, Material & Equipment Costs	M. Interconnection Churchtown Station	\$ 4,432,776
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:		\$ 205,722,172
CONTRACTOR MARK-UP (OH&P)		\$ 30,858,326
CONTINGENCY ON ENTIRE PROJECT		\$ -
TOTAL DIRECT:		\$ 236,580,498

<i>NextEra T023 (Segment B Alternate) - Indirect Costs</i>		<i>Total Each Segment</i>
Indirect Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 13,727,497
Indirect Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 21,750,752
Indirect Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 1,003,223
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	\$ 314,943
Indirect Costs	M. Interconnection Churchtown Station	\$ 862,867
Indirect Costs	N. Interconnection Milan Station	\$ 121,774
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 INDIRECT:		\$ 54,192,906

TOTAL ESTIMATED COST: \$ 290,773,403

NextEra T023 (Segment B Alternate)

A. Transmission Line Knickerbocker to Churchtown

Estimate Revision: 4

Total: \$ 73,923,472

NextEra T023 (Segment B Alternate)			
	Supply	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	\$ 3,183,960	\$ 1,618,738	\$ 4,802,699
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,011,984	\$ 12,715,514	\$ 13,727,497
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 13,661,778	\$ 60,261,694	\$ 73,923,472
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 13,661,778	\$ 60,261,694	\$ 73,923,472

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. Transmission 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	\$ 1,040,688	\$ 45	\$ 1,040,688
1.4	Silt Fence	115,632	LF	\$ -	\$ -	\$ 4.00	\$ 462,528	\$ 4	\$ 462,528
1.5	Matting - Access and ROW	92,506	LF	\$ -	\$ -	\$ 70.00	\$ 6,475,392	\$ 70	\$ 6,475,392
1.6	Matting - To Work Area	11,925	LF	\$ -	\$ -	\$ 70.00	\$ 834,750	\$ 70	\$ 834,750
1.7	Snow Removal	21.9	Mile	\$ -	\$ -	\$ 16,000	\$ 350,400	\$ 16,000	\$ 350,400
1.8	ROW Restoration	21.9	Mile	\$ -	\$ -	\$ 10,000	\$ 219,000	\$ 10,000	\$ 219,000
1.9	Work Pads	795,000	SF	\$ -	\$ -	\$ 3.52	\$ 2,798,400	\$ 4	\$ 2,798,400
1.10	Restoration for Work Pad areas	159,000	SF	\$ -	\$ -	\$ 0.15	\$ 23,850	\$ 0	\$ 23,850
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	\$ 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 - CLEARING & ACCESS:					\$ 11,500		\$ 13,208,953		\$ 13,220,453
2. FOUNDATIONS									
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	CY	\$ -	\$ -	\$ 2,000	\$ 873,000	\$ 2,000	\$ 873,000
2.5									
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 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 - FOUNDATIONS:					\$ 1,519,868		\$ 4,432,528		\$ 5,952,396
3. STRUCTURES									
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	\$ 31,080	\$ 82,880	\$ 82,880
3.3	115/345KV D/C TANGENT, CONCRETE	145	Structure	\$ 21,709	\$ 3,147,869	\$ 91,587	\$ 13,280,072	\$ 113,296	\$ 16,427,940
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	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									
TOTAL - STRUCTURES:					\$ 4,990,679		\$ 19,604,107		\$ 24,594,786
4. CONDUCTOR, SHIELDWIRE, OPGW									
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
4.2	(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	\$ 0.47	\$ 57,065	\$ 5.00	\$ 607,070	\$ 5.47	\$ 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) 795kcmil 26/7 ACSS "Drake"	364,241	LF	\$ 1.72	\$ 626,495	\$ 5.00	\$ 1,821,205	\$ 6.72	\$ 2,447,700
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: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 2,943,787		\$ 8,681,855		\$ 11,625,642
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kV Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	870	Assembly	\$ 1,800	\$ 1,566,000	\$ 720	\$ 626,400	\$ 2,520	\$ 2,192,400
5.2	115kV Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	870	Assembly	\$ 900	\$ 783,000	\$ 560	\$ 487,200	\$ 1,460	\$ 1,270,200
5.3	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
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	117	Assembly	\$ 900	\$ 105,300	\$ 560	\$ 65,520	\$ 1,460	\$ 170,820
5.5				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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
5.9	OPGW Assembly - Angle / DE	34	Assembly	\$ 250	\$ 8,500	\$ 150	\$ 5,100	\$ 400	\$ 13,600

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	\$ 200	\$ 29,000	\$ 150	\$ 21,750	\$ 350	\$ 50,750
5.11	OHSW Assembly - Angle / DE	34	Assembly	\$ 250	\$ 8,500	\$ 150	\$ 5,100	\$ 400	\$ 13,600
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 - INSULATORS, FITTINGS, HARDWARE:					\$ 3,183,960		\$ 1,618,738		\$ 4,802,699
A. Transmission Line Knickerbocker to Churchtown					\$ 12,649,795		\$ 47,546,181		\$ 60,195,975
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 601,960	\$ 601,960	\$ 601,960	\$ 601,960
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			\$ 3,754,092	\$ 3,754,092	\$ 3,754,092	\$ 3,754,092
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 601,960	\$ 601,960	\$ 601,960	\$ 601,960
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 601,960	\$ 601,960	\$ 601,960	\$ 601,960
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,009,799	\$ 3,009,799	\$ 3,009,799	\$ 3,009,799
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 180,588	\$ 180,588	\$ 180,588	\$ 180,588
6.7	Geotech	22	Location	\$ -	\$ -	\$ 3,500	\$ 77,000	\$ 3,500	\$ 77,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 421,372	\$ 421,372	\$ 421,372	\$ 421,372
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	\$ -	\$ -	\$ 180,588	\$ 180,588	\$ 180,588	\$ 180,588
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	\$ 1,011,984	\$ 1,011,984	\$ -	\$ -	\$ 1,011,984	\$ 1,011,984
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 60,196	\$ 60,196	\$ 60,196	\$ 60,196
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,011,984		\$ 12,715,514		\$ 13,727,497

NextEra T023 (Segment B Alternate)

B. Transmission Line Churchtown to Pleasant Valley

Estimate Revision: **4** Total: \$ **121,674,490**

NextEra T023 (Segment B Alternate)			
	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	\$ 4,007,134	\$ 1,986,848	\$ 5,993,983
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,271,727	\$ 20,479,025	\$ 21,750,752
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 17,168,315	\$ 104,506,175	\$ 121,674,490
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 17,168,315	\$ 104,506,175	\$ 121,674,490

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. Transmission 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	\$ 1,534,896	\$ 45	\$ 1,534,896
1.4	Silt Fence	170,544.0	LF	\$ -	\$ -	\$ 4	\$ 682,176	\$ 4	\$ 682,176
1.5	Matting - Access and ROW	136,435.2	LF	\$ -	\$ -	\$ 70	\$ 9,550,464	\$ 70	\$ 9,550,464
1.6	Matting - To Work Area	18,750.0	LF	\$ -	\$ -	\$ 70	\$ 1,312,500	\$ 70	\$ 1,312,500
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	\$ 10,000	\$ 323,000
1.9	Work Pads	1,250,000.0	SF	\$ -	\$ -	\$ 4	\$ 4,400,000	\$ 4	\$ 4,400,000
1.10	Restoration for Work Pad areas	250,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 37,500	\$ 0	\$ 37,500
1.11	Temporary Access Bridge	14	EA	\$ -	\$ -	\$ 20,035	\$ 280,490	\$ 20,035	\$ 280,490
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	12	EA	\$ -	\$ -	\$ 4,580	\$ 54,960	\$ 4,580	\$ 54,960
1.14	Maintenance and Protection of Traffic on Public Roads	86	EA	\$ -	\$ -	\$ 4,130	\$ 355,180	\$ 4,130	\$ 355,180
1.15	Gates	4	EA	\$ 2,000	\$ 8,000	\$ 2,500	\$ 10,000	\$ 4,500	\$ 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 - CLEARING & ACCESS:					\$ 14,000		\$ 19,576,466		\$ 19,590,466
2. FOUNDATIONS									
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	CY	\$ -	\$ -	\$ 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 - FOUNDATIONS:					\$ 1,639,170		\$ 12,502,886		\$ 14,142,057

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
3. STRUCTURES									
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									
3.12	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	\$ 6,045	\$ 1,511,125
3.15									
3.16									
3.17									
TOTAL - STRUCTURES PRINCTOWN TO NEW SCOTLAND:					\$ 6,814,286		\$ 34,951,509		\$ 41,765,796
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	345KV - (1) 1,033kcmil 54/7 ACSS "Curlew"	1,094,386	LF	\$ 1.90	\$ 2,079,333	\$ 5.00	\$ 5,471,930	\$ 6.90	\$ 7,551,263
4.2	(1) OPGW 36 Fiber AC-33/38/571	182,398	LF	\$ 1.35	\$ 246,237	\$ 5.00	\$ 911,990	\$ 6.35	\$ 1,158,227
4.3	(1) 3/8" EHS7 Steel	182,398	LF	\$ 0.47	\$ 85,727	\$ 5.00	\$ 911,990	\$ 5.47	\$ 997,717
4.5	Remove Existing 115kV Cable From Existing Structures	130.4	Mile	\$ -	\$ -	\$ 30,000	\$ 3,912,000	\$ 30,000.00	\$ 3,912,000
4.6	Remove Existing OPGW Cable and Accessories	32.6	Mile	\$ -	\$ -	\$ 12,000	\$ 390,600	\$ 12,000.00	\$ 390,600
4.7	Remove Existing OHSW and Accessories	32.6	Mile	\$ -	\$ -	\$ 12,000	\$ 390,600	\$ 12,000.00	\$ 390,600
4.8	115kV - (1) 795kcmil 26/7 ACSS "Drake"	543,866	LF	\$ 1.72	\$ 935,450	\$ 5.00	\$ 2,719,330	\$ 6.72	\$ 3,654,780
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	\$ 3,500	\$ 150,500	\$ 5,250.00	\$ 225,750
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 3,421,997		\$ 15,009,440		\$ 18,431,437
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kV Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	1,374	Assembly	\$ 1,800	\$ 2,473,200	\$ 720	\$ 989,280	\$ 2,520	\$ 3,462,480
5.2	115kV Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	687	Assembly	\$ 900	\$ 618,300	\$ 560	\$ 384,720	\$ 1,460	\$ 1,003,020
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	153	Assembly	\$ 1,800	\$ 275,400	\$ 720	\$ 110,160	\$ 2,520	\$ 385,560
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	135	Assembly	\$ 900	\$ 121,500	\$ 560	\$ 75,600	\$ 1,460	\$ 197,100
5.5	OPGW Assembly - Tangent	229	Assembly	\$ 200	\$ 45,800	\$ 150	\$ 34,350	\$ 350	\$ 80,150
5.6	OPGW Assembly - Angle / DE	34	Assembly	\$ 250	\$ 8,500	\$ 150	\$ 5,100	\$ 400	\$ 13,600
5.7	OHSW Assembly - Tangent	229	Assembly	\$ 200	\$ 45,800	\$ 150	\$ 34,350	\$ 350	\$ 80,150
5.8	OHSW Assembly - Angle / DE	34	Assembly	\$ 250	\$ 8,500	\$ 150	\$ 5,100	\$ 400	\$ 13,600
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	\$ 30,240	\$ 2,520	\$ 30,240	\$ 5,040	\$ 60,480
5.11	Spacer - Conductor	5,414	EA	\$ 50	\$ 270,700	\$ 35	\$ 189,490	\$ 85	\$ 460,190
5.12	Vibration Dampers - Conductor	1,299	EA	\$ 35	\$ 45,465	\$ 35	\$ 45,465	\$ 70	\$ 90,930
5.13	Shieldwire / OPGW Dampers, Misc. Fittings	656	EA	\$ 27	\$ 17,712	\$ 35	\$ 22,960	\$ 62	\$ 40,672
5.14	Guys, Anchors, and Accessories	-	EA	\$ 720	\$ -	\$ 885	\$ -	\$ 1,605	\$ -
5.15	Misc. materials (Signs and Markers)	32.6	Mile	\$ 770	\$ 25,064	\$ 1,006	\$ 32,745	\$ 1,776	\$ 57,809
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 4,007,134		\$ 1,986,848		\$ 5,993,983
B. Transmission Line Churchtown to Pleasant Valley					\$ 15,896,588		\$ 84,027,150		\$ 99,923,738
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 999,237	\$ 999,237	\$ 999,237	\$ 999,237
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			\$ 6,231,694	\$ 6,231,694	\$ 6,231,694	\$ 6,231,694

Item	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 Oversight	1	LS		\$ -	\$ 999,237	\$ 999,237	\$ 999,237	\$ 999,237
6.4	Site Accommodation, Facilities, Storage Engineering	1	LS	\$ -	\$ -	\$ 999,237	\$ 999,237	\$ 999,237	\$ 999,237
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 4,996,187	\$ 4,996,187	\$ 4,996,187	\$ 4,996,187
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 299,771	\$ 299,771	\$ 299,771	\$ 299,771
6.7	Geotech	33	Location	\$ -	\$ -	\$ 3,500	\$ 115,500	\$ 3,500	\$ 115,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 699,466	\$ 699,466	\$ 699,466	\$ 699,466
	Testing & Commissioning								
6.9	Testing & Commissioning of T-Line and Equipment Permitting and Additional Costs	1	LS	\$ -	\$ -	\$ 40,000	\$ 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	\$ -	\$ -	\$ 299,771	\$ 299,771	\$ 299,771	\$ 299,771
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	\$ 1,271,727	\$ 1,271,727	\$ -	\$ -	\$ 1,271,727	\$ 1,271,727
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 99,924	\$ 99,924	\$ 99,924	\$ 99,924
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,271,727		\$ 20,479,025		\$ 21,750,752

NextEra T023 (Segment B Alternate)

C. Blue Stores Junction to Blue Stores Substation

Estimate Revision: **4** Total: \$ **5,744,783**

NextEra T023 (Segment B Alternate)			
	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	\$ 104,544	\$ 54,696	\$ 159,240
6. MOB/DEMOMB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 81,811	\$ 921,412	\$ 1,003,223
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,104,450	\$ 4,640,334	\$ 5,744,783
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,104,450	\$ 4,640,334	\$ 5,744,783

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 Stores 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	\$ 20,000	\$ 5,000	\$ 20,000
1.3	Permanent Access Road	2,218	LF	\$ -	\$ -	\$ 45	\$ 99,792	\$ 45	\$ 99,792
1.4	Silt Fence	11,088.0	LF	\$ -	\$ -	\$ 4	\$ 44,352	\$ 4	\$ 44,352
1.5	Matting - Access and ROW	8,870	LF	\$ -	\$ -	\$ 70	\$ 620,928	\$ 70	\$ 620,928
1.6	Matting - To Work Area	1,800.0	LF	\$ -	\$ -	\$ 70	\$ 126,000	\$ 70	\$ 126,000
1.7	Snow Removal	2.1	Mile	\$ -	\$ -	\$ 16,000	\$ 33,600	\$ 16,000	\$ 33,600
1.8	ROW Restoration	2.1	Mile	\$ -	\$ -	\$ 10,000	\$ 21,000	\$ 10,000	\$ 21,000
1.9	Work Pads	120,000.0	SF	\$ -	\$ -	\$ 4	\$ 422,400	\$ 4	\$ 422,400
1.10	Restoration for Work Pad areas	24,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 3,600	\$ 0	\$ 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	EA	\$ -	\$ -	\$ 4,580	\$ 4,580	\$ 4,580	\$ 4,580
1.14	Maintenance and Protection of Traffic on Public Roads	2	EA	\$ -	\$ -	\$ 4,130	\$ 8,260	\$ 4,130	\$ 8,260
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	-	EA	\$ -	\$ -	\$ 1,850	\$ -	\$ 1,850	\$ -
TOTAL - CLEARING & ACCESS:					\$ -	\$ -	\$ 1,404,512	\$ -	\$ 1,404,512
2. FOUNDATIONS									
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 - FOUNDATIONS:					\$ 236,848		\$ 925,954		\$ 1,162,802
3. STRUCTURES									
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	\$ 199,960	\$ 29,624	\$ 533,226
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									
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 - STRUCTURES:					\$ 596,484		\$ 946,665		\$ 1,543,149
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	345kV - (1) 954kcmil 54/7 ACSR "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	\$ -
4.4	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									
TOTAL - CONDUCTOR, SHIELDWIRE, OPGW:					\$ 84,763		\$ 387,095		\$ 471,858
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	54	Assembly	\$ 900	\$ 48,600	\$ 360	\$ 19,440	\$ 1,260	\$ 68,040
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	36	Assembly	\$ 900	\$ 32,400	\$ 360	\$ 12,960	\$ 1,260	\$ 45,360
5.6	OPGW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
5.7	OPGW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.8	OHSW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
5.9	OHSW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
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	\$ 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									
5.19									
5.20									
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 104,544		\$ 54,696		\$ 159,240

Item	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 Stores Junction to Blue Stores Substation					\$ 1,022,639		\$ 3,718,922		\$ 4,741,561
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
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			\$ 295,705	\$ 295,705	\$ 295,705	\$ 295,705
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 237,078	\$ 237,078	\$ 237,078	\$ 237,078
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 14,225	\$ 14,225	\$ 14,225	\$ 14,225
6.7	Geotech	2	Location	\$ -	\$ -	\$ 3,500	\$ 7,000	\$ 3,500	\$ 7,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 33,191	\$ 33,191	\$ 33,191	\$ 33,191
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	\$ -	\$ -	\$ 14,225	\$ 14,225	\$ 14,225	\$ 14,225
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	\$ 81,811	\$ 81,811	\$ -	\$ -	\$ 81,811	\$ 81,811
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 4,742	\$ 4,742	\$ 4,742	\$ 4,742
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 81,811		\$ 921,412		\$ 1,003,223

NextEra T023 (Segment B Alternate)

D. Knickerbocker 345kV Substation - Install

Estimate Revision: **4** Total: \$ **19,121,061**

NextEra T023 (Segment B Alternate)			
	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 EQUIPMENT	\$ 600,000	\$ 240,000	\$ 840,000
5. SMALL EQUIPMENT / 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/DEMOP, 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 Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
D. Knickerbocker 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 PREP/ 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	\$ -
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	\$ 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	\$ 54,145
2.6b				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 1,572,935		\$ 1,694,150		\$ 3,267,085
3. SUBSTATION STRUCTURES									
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

Item	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	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 - SUBSTATION STRUCTURES					\$ 727,975	\$ 727,975		\$ 1,455,950	
4. MAJOR EQUIPMENT									
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	\$ -
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 - MAJOR EQUIPMENT					\$ 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 EQUIPMENT / 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
5.1j									
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	\$ -	\$ 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	\$ 10,000	\$ -	\$ 8,000	\$ -	\$ 18,000	\$ -
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ 1,500	\$ -	\$ 1,500	\$ -	\$ 3,000	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 1,086,500		\$ 489,500		\$ 1,576,000
6. CONTROL HOUSE / 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	\$ 765,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,000
6.4	Control Cables	1	LS	\$ 317,625	\$ 317,625	\$ 317,625	\$ 317,625	\$ 635,250	\$ 635,250
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
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 1,837,125		\$ 1,227,625		\$ 3,064,750

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
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	1,050	LF	\$ 185.00	\$ 194,250	\$ 170.00	\$ 178,500	\$ 355	\$ 372,750
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
7.4	Grounding System	16,500	LF	\$ 6.93	\$ 114,345	\$ 32.58	\$ 537,570	\$ 40	\$ 651,915
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	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					\$ 1,061,528		\$ 1,684,810		\$ 2,746,338
D. Knickerbocker 345kV Substation - Install					\$ 7,109,738		\$ 8,000,175		\$ 15,109,913
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 151,099	\$ 151,099	\$ 151,099	\$ 151,099
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			\$ 942,322	\$ 942,322	\$ 942,322	\$ 942,322
8.3	Utility PM and Project Oversight	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
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 105,769	\$ 105,769	\$ 105,769	\$ 105,769
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 377,748	\$ 377,748	\$ 377,748	\$ 377,748
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ -	\$ 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

NextEra T023 (Segment B Alternate)

H. North Churchtown Substation - Install

Estimate Revision: **4**

Total: \$ 16,285,817

NextEra T023 (Segment B Alternate)			
	Supply	Installation	Total
H. North Churchtown Substation - Install			
1. SITE PREP/ GRADING/ FENCING / CIVIL	\$ 919,243	\$ 2,855,295	\$ 3,774,539
2. SUBSTATION FOUNDATIONS	\$ 773,458	\$ 834,700	\$ 1,608,158
3. SUBSTATION STRUCTURES	\$ 208,000	\$ 338,365	\$ 676,730
4. MAJOR EQUIPMENT	\$ 208,000	\$ 240,000	\$ 448,000
5. SMALL EQUIPMENT / MATERIALS	\$ 954,540	\$ 637,800	\$ 1,592,340
6. CONTROL HOUSE / PANELS	\$ 1,962,850	\$ 1,310,350	\$ 3,273,200
7. MISC ITEMS	\$ 731,113	\$ 935,704	\$ 1,666,817
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 471,006	\$ 2,775,028	\$ 3,246,034
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 6,228,210	\$ 9,927,242	\$ 16,285,817
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 6,228,210	\$ 9,927,242	\$ 16,285,817

Description of Work:

H. North Churchtown Substation - Install

Item	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. 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	\$ 97,000	\$ 100	\$ 97,000	\$ 200	\$ 194,000
1.4	Permanent Access Road - 20'-Wide	650	LF	\$ 35	\$ 22,750	\$ 285	\$ 185,250	\$ 320	\$ 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	\$ 55	\$ 83,600
1.9	Gates	1	EA	\$ 2,000	\$ 2,000	\$ 2,500	\$ 2,500	\$ 4,500	\$ 4,500
1.10	Culverts / Misc. Access	2	EA	\$ 750	\$ 1,500	\$ 1,250	\$ 2,500	\$ 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 PREP/ GRADING/ FENCING / CIVIL					\$ 919,243		\$ 2,855,295		\$ 3,774,539
2. SUBSTATION 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	\$ -

Item	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	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	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	\$ -	\$ 17,600	\$ -	\$ 34,034	\$ -
2.3d	Caisson DE Foundations (for DE A frame str. - shared column)	24	EA	\$ 16,434	\$ 394,416	\$ 17,600	\$ 422,400	\$ 34,034	\$ 816,816
2.3e	Switch Stand Foundations	24	EA	\$ 2,988	\$ 71,712	\$ 3,200	\$ 76,800	\$ 6,188	\$ 148,512
2.3f	Fuse Stand Foundations	2	EA	\$ 2,988	\$ 5,976	\$ 3,200	\$ 6,400	\$ 6,188	\$ 12,376
2.3g	Bus Support 3ph Foundations	8	EA	\$ 2,988	\$ 23,904	\$ 3,200	\$ 25,600	\$ 6,188	\$ 49,504
2.3h	Bus Support 1 Ph Foundations	12	EA	\$ 2,988	\$ 35,856	\$ 3,200	\$ 38,400	\$ 6,188	\$ 74,256
2.3j	Instrument Transformer Stand Foundations	36	EA	\$ 2,988	\$ 107,568	\$ 3,200	\$ 115,200	\$ 6,188	\$ 222,768
2.3k	Arrester Stand Foundations	12	EA	\$ 2,988	\$ 35,856	\$ 3,200	\$ 38,400	\$ 6,188	\$ 74,256
2.3m	Wave Trap Stand Foundations	8	EA	\$ 2,988	\$ 23,904	\$ 3,200	\$ 25,600	\$ 6,188	\$ 49,504
2.3n	Station Service Foundations	1	EA	\$ 3,735	\$ 3,735	\$ 4,000	\$ 4,000	\$ 7,735	\$ 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								
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 - 1ph.	1	LS	\$ -	\$ -	\$ 6,500	\$ 6,500	\$ 6,500	\$ 6,500
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 - SUBSTATION FOUNDATIONS					\$ 773,458		\$ 834,700		\$ 1,608,158
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
3.1j	Wave Trap Stand	0	EA	\$ 7,400	\$ -	\$ 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	\$ -	\$ 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	\$ -

Item	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	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3b	Substation A-Frame Structures - Shared Column	8	EA	\$ 18,500	\$ 148,000	\$ 18,500	\$ 148,000	\$ 37,000	\$ 296,000
3.3c	Switch Stands	12	EA	\$ 7,955	\$ 95,460	\$ 7,955	\$ 95,460	\$ 15,910	\$ 190,920
3.3d	Fuse Stand	1	EA	\$ 7,955	\$ 7,955	\$ 7,955	\$ 7,955	\$ 15,910	\$ 15,910
3.3e	Bus Support 3ph	4	EA	\$ 3,330	\$ 13,320	\$ 3,330	\$ 13,320	\$ 6,660	\$ 26,640
3.3f	Bus Support 1 Ph	12	EA	\$ 1,850	\$ 22,200	\$ 1,850	\$ 22,200	\$ 3,700	\$ 44,400
3.3g	Instrument Transformer Stand	36	EA	\$ 740	\$ 26,640	\$ 740	\$ 26,640	\$ 1,480	\$ 53,280
3.3h	Arrester Stand	12	EA	\$ 740	\$ 8,880	\$ 740	\$ 8,880	\$ 1,480	\$ 17,760
3.3j	Wave Trap Stand	4	EA	\$ 3,700	\$ 14,800	\$ 3,700	\$ 14,800	\$ 7,400	\$ 29,600
3.3k	Lightning Mast	0	EA	\$ 6,475	\$ -	\$ 6,475	\$ -	\$ 12,950	\$ -
3.3l	Station Service Transformer Support Stand	1	EA	\$ 1,110	\$ 1,110	\$ 1,110	\$ 1,110	\$ 2,220	\$ 2,220
TOTAL - SUBSTATION STRUCTURES					\$ 338,365		\$ 338,365		\$ 676,730
4. MAJOR EQUIPMENT									
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	\$ -	\$ 80,000	\$ -
4.3	115kV								
4.3a	Circuit Breakers	4	EA	\$ 52,000	\$ 208,000	\$ 60,000	\$ 240,000	\$ 112,000	\$ 448,000
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 208,000		\$ 240,000		\$ 448,000
5. SMALL EQUIPMENT / MATERIALS									
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	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	0	EA	\$ 25,000	\$ -	\$ 12,000	\$ -	\$ 37,000	\$ -
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								
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	4	EA	\$ 33,000	\$ 132,000	\$ 15,000	\$ 60,000	\$ 48,000	\$ 192,000
5.3b	Disconnect Switches - 3ph w/ manual operator	8	EA	\$ 28,000	\$ 224,000	\$ 17,500	\$ 140,000	\$ 45,500	\$ 364,000
5.3c	VT'S	12	EA	\$ 13,000	\$ 156,000	\$ 8,000	\$ 96,000	\$ 21,000	\$ 252,000
5.3d	CT'S	12	EA	\$ 13,000	\$ 156,000	\$ 8,000	\$ 96,000	\$ 21,000	\$ 252,000
5.3e	CCVT'S	12	EA	\$ 8,000	\$ 96,000	\$ 8,000	\$ 96,000	\$ 16,000	\$ 192,000
5.3f	Arresters	12	EA	\$ 3,420	\$ 41,040	\$ 6,000	\$ 72,000	\$ 9,420	\$ 113,040
5.3g	Wave Traps	4	EA	\$ 13,000	\$ 52,000	\$ 8,000	\$ 32,000	\$ 21,000	\$ 84,000

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
5.3h	Station Service Transformers	1	EA	\$ 75,000	\$ 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
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 954,540		\$ 637,800		\$ 1,592,340
6. CONTROL HOUSE / 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	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	\$ 350,350	\$ 700,700	\$ 700,700
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
TOTAL - CONTROL HOUSE / PANELS / GENERATOR					\$ 1,962,850		\$ 1,310,350		\$ 3,273,200
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	600.0	LF	\$ 185.00	\$ 111,000	\$ 170.00	\$ 102,000	\$ 355	\$ 213,000
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	1,000.0	LF	\$ 39.30	\$ 39,300	\$ 53.35	\$ 53,350	\$ 93	\$ 92,650
7.4	Grounding System	4,800.0	LF	\$ 6.93	\$ 33,264	\$ 32.58	\$ 156,384	\$ 40	\$ 189,648
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	60	EA	\$ 1,000	\$ 60,000	\$ 550	\$ 33,000	\$ 1,550	\$ 93,000
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					\$ 731,113		\$ 935,704		\$ 1,666,817
H. North Churchtown Substation - Install									
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 5,887,569		\$ 7,152,214		\$ 13,039,784
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 130,398	\$ 130,398	\$ 130,398	\$ 130,398
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			\$ 813,220	\$ 813,220	\$ 813,220	\$ 813,220
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 130,398	\$ 130,398	\$ 130,398	\$ 130,398
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 130,398	\$ 130,398	\$ 130,398	\$ 130,398
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,043,183	\$ 1,043,183	\$ 1,043,183	\$ 1,043,183
8.6	LIDAR	-	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
8.7	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

NextEra T023 (Segment B Alternate)

I. Greenbush Substation - Removal

Estimate Revision: **4** Total: \$ **70,639**

NextEra T023 (Segment B 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 EQUIPMENT	\$ -	\$ 7,000	\$ 7,000
5. SMALL EQUIPMENT / 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

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. Greenbush 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 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 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	\$ -

Item	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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
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	EA	\$ -	\$ -	\$ 2,400	\$ 4,800	\$ 2,400	\$ 4,800
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	\$ -	\$ 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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 12,000		\$ 12,000
3. SUBSTATION 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	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	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2c	Switch Stands	0	EA	\$ -	\$ -	\$ 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	0	EA	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	\$ -
3.2g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ 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
3.2h	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ -		\$ -
4. MAJOR EQUIPMENT									
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ 7,000		\$ 7,000
5. SMALL EQUIPMENT / 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	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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	2	EA	\$ -	\$ -	\$ 17,500	\$ 35,000	\$ 17,500	\$ 35,000
5.3f	Arresters	0	EA	\$ -	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 35,000		\$ 35,000
6. CONTROL HOUSE / PANELS / GENERATOR									
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	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 - CONTROL HOUSE / PANELS / GENERATOR					\$ -		\$ 7,200		\$ 7,200
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.2	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					\$ -		\$ -		\$ -
I. Greenbush Substation - Removal					\$ -		\$ 61,200		\$ 61,200
8. MOB/DEMOB, 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, 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
8.5	LIDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.6	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.10	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17	Fees for permits, including roadway, railroad, building or other local permits	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 9,439		\$ 9,439

NextEra T023 (Segment B Alternate)

J. Pleasant Valley Substation - Install

Estimate Revision: **4**

Total: \$ **3,526,782**

NextEra T023 (Segment B Alternate)			
	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 EQUIPMENT	\$ 200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPMENT / 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

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
J. Pleasant 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 PREP/ GRADING/ FENCING / CIVIL					\$ 11,025		\$ 14,625		\$ 25,650
2. SUBSTATION 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	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	\$ -

Item	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	\$ -
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)	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	\$ 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 Addition Foundation (25-ft x 50-ft)	1	EA	\$ 61,079	\$ 61,079	\$ 64,100	\$ 64,100	\$ 125,179	\$ 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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 161,177		\$ 171,300		\$ 332,477
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	\$ -	\$ 74,000	\$ -
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	\$ -	\$ 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	\$ 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	\$ -	\$ 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	\$ -

Item	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	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 - SUBSTATION STRUCTURES						\$ 44,400	\$ 44,400		\$ 88,800
4. MAJOR EQUIPMENT									
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	0	EA	\$ 370,000	\$ -	\$ 80,000	\$ -	\$ 450,000	\$ -
4.1c	Circuit Breakers - Cap Switching	0	EA	\$ 220,000	\$ -	\$ 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	\$ 250,000	\$ -	\$ 80,000	\$ -	\$ 330,000	\$ -
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 - MAJOR EQUIPMENT						\$ 200,000	\$ 80,000		\$ 280,000
5. SMALL EQUIPMENT / 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	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	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1f	Arresters	3	EA	\$ 6,500	\$ 19,500	\$ 1,500	\$ 4,500	\$ 8,000	\$ 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									
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 260,500		\$ 129,000		\$ 389,500
6. CONTROL HOUSE / 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	\$ 12,500	\$ 37,500	\$ 47,500	\$ 142,500
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	\$ 261,800
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	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.10	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
TOTAL - CONTROL 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	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									
7.18									
7.19									
7.20									
7.21									
7.22									
7.23									
7.24									
7.25									
TOTAL - MISC ITEMS					\$ 409,950		\$ 457,275		\$ 867,225
J. Pleasant Valley Substation - Install					\$ 1,647,952		\$ 1,150,000		\$ 2,797,952
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 27,980	\$ 27,980	\$ 27,980	\$ 27,980
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			\$ 174,493	\$ 174,493	\$ 174,493	\$ 174,493
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 27,980	\$ 27,980	\$ 27,980	\$ 27,980
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 27,980	\$ 27,980	\$ 27,980	\$ 27,980
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 223,836	\$ 223,836	\$ 223,836	\$ 223,836
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 19,586	\$ 19,586	\$ 19,586	\$ 19,586

Item	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	\$ -	\$ -	\$ 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

NextEra T023 (Segment B Alternate)

Interconnection Knickerbocker Station

Estimate
Revision:

4

Total: \$ 1,955,628

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	\$ 133,750	\$ 56,706	\$ 190,456
6. MOB/DEMOb, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 54,898	\$ 260,045	\$ 314,943
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 741,122	\$ 1,214,506	\$ 1,955,628
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 741,122	\$ 1,214,506	\$ 1,955,628

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
L. Interconnection Knickerbocker 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	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 - CLEARING & ACCESS					\$ -		\$ 436,850		\$ 436,850
2. FOUNDATIONS									
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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 - FOUNDATIONS					\$ 238,638		\$ 241,194		\$ 479,832
3. STRUCTURES									
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					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 313,836		\$ 219,711		\$ 533,547
4. CONDUCTOR, 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	\$ -	\$ 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	\$ -
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	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	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)	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	72	Assembly	\$ 1,800	\$ 129,600	\$ 720	\$ 51,840	\$ 2,520	\$ 181,440
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	2	Assembly	\$ 250	\$ 500	\$ 150	\$ 300	\$ 400	\$ 800
5.7	OHSW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.8	OHSW Assembly - Angle / DE	2	Assembly	\$ 250	\$ 500	\$ 150	\$ 300	\$ 400	\$ 800
5.9	OPGW Splice Boxes	1	Set	\$ 1,750	\$ 1,750	\$ 1,746	\$ 1,746	\$ 3,496	\$ 3,496
5.10	OPGW Splice & Test	1	EA	\$ 1,400	\$ 1,400	\$ 2,520	\$ 2,520	\$ 3,920	\$ 3,920
5.11	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
5.12	Vibration Dampers - Conductor	-	EA	\$ 35	\$ -	\$ 35	\$ -	\$ 70	\$ -
5.13	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 - INSULATOR, FITTINGS, HARDWARE					\$ 133,750		\$ 56,706		\$ 190,456
L. Interconnection Knickerbocker Station					\$ 686,224		\$ 954,461		\$ 1,640,685
6. MOB/DEMOB, 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	\$ -	\$ -	\$ 16,407	\$ 16,407	\$ 16,407	\$ 16,407
	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			\$ 102,321	\$ 102,321	\$ 102,321	\$ 102,321
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 16,407	\$ 16,407	\$ 16,407	\$ 16,407
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 16,407	\$ 16,407	\$ 16,407	\$ 16,407
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 82,034	\$ 82,034	\$ 82,034	\$ 82,034
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 4,922	\$ 4,922	\$ 4,922	\$ 4,922
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 11,485	\$ 11,485	\$ 11,485	\$ 11,485
	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	\$ -	\$ -	\$ 4,922	\$ 4,922	\$ 4,922	\$ 4,922
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	\$ 54,898	\$ 54,898	\$ -	\$ -	\$ 54,898	\$ 54,898
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ 1,641	\$ 1,641	\$ 1,641	\$ 1,641
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 54,898		\$ 260,045		\$ 314,943

NextEra T023 (Segment B Alternate)

M. Interconnection Churchtown Station

Estimate
Revision: 4

Total: \$ 5,295,643

NextEra T023 (Segment B Alternate)			
	Supply	Installation	Total
M. Interconnection Churchtown Station			
1. CLEARING & ACCESS	\$ -	\$ 712,850	\$ 712,850
2. FOUNDATIONS	\$ 758,142	\$ 859,756	\$ 1,617,898
3. STRUCTURES	\$ 838,481	\$ 581,612	\$ 1,420,092
4. CONDUCTOR, SHIELDWIRE, OPGW	\$ -	\$ -	\$ -
5. INSULATORS, FITTINGS, HARDWARE	\$ 481,350	\$ 200,586	\$ 681,936
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 166,238	\$ 696,629	\$ 862,867
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 2,244,210	\$ 3,051,433	\$ 5,295,643
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 2,244,210	\$ 3,051,433	\$ 5,295,643

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. Interconnection 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	\$ 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 - CLEARING & ACCESS					\$ -	\$ -	\$ 712,850		\$ 712,850
2. FOUNDATIONS									
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	CY	\$ -	\$ -	\$ 2,000	\$ 400,000	\$ 2,000	\$ 400,000
2.6					\$ -		\$ -		\$ -
2.7					\$ -		\$ -		\$ -
2.8					\$ -		\$ -		\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.9					\$ -		\$ -		\$ -
2.10					\$ -		\$ -		\$ -
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -
2.15					\$ -		\$ -		\$ -
TOTAL - FOUNDATIONS					\$ 758,142		\$ 859,756		\$ 1,617,898
3. STRUCTURES									
3.1	345KV S/C DEADEND, STEEL	15	Structure	\$ 55,393	\$ 830,891	\$ 33,236	\$ 498,534	\$ 88,628	\$ 1,329,425
3.2									
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					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 838,481		\$ 581,612		\$ 1,420,092
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	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" EH57 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) 795kcmil 26/7 ACSS "Drake"	-	LF	\$ 1.72	\$ -	\$ 5.00	\$ -	\$ 6.72	\$ -
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: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	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)	12	Assembly	\$ 900	\$ 10,800	\$ 560	\$ 6,720	\$ 1,460	\$ 17,520
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	\$ 642,600
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 560	\$ -	\$ 1,460	\$ -
5.5	OPGW Assembly - Tangent	16	Assembly	\$ 200	\$ 3,200	\$ 150	\$ 2,400	\$ 350	\$ 5,600
5.6	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.7	OHSW Assembly - Tangent	16	Assembly	\$ 200	\$ 3,200	\$ 150	\$ 2,400	\$ 350	\$ 5,600
5.8	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.9	OPGW Splice Boxes	1	Set	\$ 1,750	\$ 1,750	\$ 1,746	\$ 1,746	\$ 3,496	\$ 3,496
5.10	OPGW Splice & Test	1	EA	\$ 1,400	\$ 1,400	\$ 2,520	\$ 2,520	\$ 3,920	\$ 3,920
5.11	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
5.12	Vibration Dampers - Conductor	-	EA	\$ 35	\$ -	\$ 35	\$ -	\$ 70	\$ -
5.13	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 - INSULATOR, FITTINGS, HARDWARE					\$ 481,350		\$ 200,586		\$ 681,936
M. Interconnection Churchtown Station					\$ 2,077,972		\$ 2,354,804		\$ 4,432,776
6. MOB/DEMOB, 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	\$ -	\$ -	\$ 44,328	\$ 44,328	\$ 44,328	\$ 44,328
	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			\$ 276,448	\$ 276,448	\$ 276,448	\$ 276,448
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 44,328	\$ 44,328	\$ 44,328	\$ 44,328
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 44,328	\$ 44,328	\$ 44,328	\$ 44,328
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 221,639	\$ 221,639	\$ 221,639	\$ 221,639
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 13,298	\$ 13,298	\$ 13,298	\$ 13,298
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 31,029	\$ 31,029	\$ 31,029	\$ 31,029
	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	\$ -	\$ -	\$ 13,298	\$ 13,298	\$ 13,298	\$ 13,298
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	\$ 166,238	\$ 166,238	\$ -	\$ -	\$ 166,238	\$ 166,238
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 4,433	\$ 4,433	\$ 4,433	\$ 4,433
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 166,238		\$ 696,629		\$ 862,867

NextEra T023 (Segment B Alternate)

N. Interconnection Milan Station

Estimate Revision: **4** Total: \$ **745,202**

<i>NextEra T023 (Segment B Alternate)</i>			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
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	\$ 100,982	\$ 121,774
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 280,695	\$ 464,507	\$ 745,202
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 280,695	\$ 464,507	\$ 745,202

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 & 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 - CLEARING & ACCESS					\$ -		\$ 121,100		\$ 121,100
2. FOUNDATIONS									
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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 - FOUNDATIONS					\$ 84,375		\$ 135,279		\$ 219,654
3. STRUCTURES									
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									
3.3									
3.4					\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	2	Pole	\$ 506	\$ 1,012	\$ 5,539	\$ 11,077	\$ 6,045	\$ 12,089
3.6					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 130,328		\$ 88,667		\$ 218,994
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	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	\$ -
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	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	24	Assembly	\$ 1,800	\$ 43,200	\$ 720	\$ 17,280	\$ 2,520	\$ 60,480
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.6	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.7	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.8	OHSW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.9	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.10	OPGW Splice Boxes	-	Set	\$ 1,750	\$ -	\$ 1,746	\$ -	\$ 3,496	\$ -
5.11	OPGW Splice & Test	-	EA	\$ 1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	\$ -
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 45,200		\$ 18,480		\$ 63,680
N. Interconnection Milan Station					\$ 259,903		\$ 363,525		\$ 623,428
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 6,234	\$ 6,234	\$ 6,234	\$ 6,234

Item	Item 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			\$ 38,880	\$ 38,880	\$ 38,880	\$ 38,880
6.3	Utility PM and Project Oversight	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		-	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		\$ 100,982		\$ 121,774

NextEra - T023 - (Segment B)

O. System Upgrade Facilities (Cricket Valley to Long Mt. Line)

Estimate
Revision: 0

Total: \$ 3,943,950

SYSTEM UPGRADE 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 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 2156kcmil 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 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 Oversight 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.
26	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.
27	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.
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.



NY Power Authority and North American Transmission (T029)			
Description		Total Amount (In thousand \$)	
Direct Cost	1	Transmission Lines	
	1.1	Clearing & Access	\$33,958
	1.2	Foundations	\$17,769
	1.3	Structures	\$52,916
	1.4	Conductor, Shiedwire and OPGW	\$30,069
	1.5	Insulators, Fitting and Hardwares	\$9,844
	Subtotal (1)		\$144,556
	2	Substations	
	2.1	Knickerbocker Substation	\$14,982
	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	\$5,581
Subtotal (2)		\$41,573	
Total (1+2)		\$186,129	
Contractors Mark-up (15% of Total 1+2)		\$27,919	
Total Direct Cost (A)		\$214,049	
Indirect Cost	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$1,861
	3.2	Project Management, Material Handling & Amenities	\$15,211
	3.3	Engineering	\$12,412
	3.4	Testing & Commissioning	\$973
	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$14,067
	3.6	Legal, Env. Lisc. & Permit and Env. Mitigation	\$7,628
Total Indirect Cost (3)		\$52,151	
Subtotal Project Cost (B=A+3) 2017 \$		\$266,200	
	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 \$		\$286,878	
Total Project Cost 2018 \$		\$295,484	

NAT - NYPA - T029 - (Segment B)

Estimate Revision: 4

<i>NAT - NYPA - T029 - (Segment B) - Direct Costs</i>		<i>Total Each Segment</i>
Direct Labor, Material & Equipment Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 53,298,147
Direct Labor, Material & Equipment Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 86,516,236
Direct Labor, Material & Equipment Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 4,741,561
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	\$ 1,243,002
Direct Labor, Material & Equipment Costs	M. Interconnection Churchtown Station	\$ 1,844,071
Direct Labor, Material & Equipment Costs	N. Interconnection Pleasant Valley Station	\$ 1,819,180
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:		\$ 200,899,100
CONTRACTOR MARK-UP (OH&P)		\$ 30,134,865
CONTINGENCY ON ENTIRE PROJECT		\$ -
TOTAL DIRECT:		\$ 231,033,965

<i>NAT - NYPA - T029 - (Segment B) - Indirect Costs</i>		<i>Total Each Segment</i>
Indirect Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 12,827,742
Indirect Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 20,490,926
Indirect Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 1,000,169
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	\$ 226,495
Indirect Costs	M. Interconnection Churchtown Station	\$ 343,517
Indirect Costs	N. Interconnection Pleasant Valley Station	\$ 323,164
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. Lic. & Permit., and Envir. Mitigation)	\$ 7,627,609
TOTAL INDIRECT:		\$ 55,844,042

TOTAL ESTIMATED COST: \$ 286,878,006

NAT - NYPA - T029 - (Segment B)

A. Transmission Line Knickerbocker to Churchtown

Estimate Revision: **4**

Total: \$ 66,125,888

NAT - NYPA - T029 - (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	\$ 2,650,166	\$ 1,214,848	\$ 3,865,015
6. MOB/DEMOMB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,131,628	\$ 11,696,114	\$ 12,827,742
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 15,276,975	\$ 50,848,914	\$ 66,125,888
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 15,276,975	\$ 50,848,914	\$ 66,125,888

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. Transmission 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
1.3	Permanent Access Road	23,126	LF	\$ -	\$ -	\$ 45.00	\$ 1,040,688	\$ 45	\$ 1,040,688
1.4	Silt Fence	115,632	LF	\$ -	\$ -	\$ 4.00	\$ 462,528	\$ 4	\$ 462,528
1.5	Matting - Access and ROW	92,506	LF	\$ -	\$ -	\$ 70.00	\$ 6,475,392	\$ 70	\$ 6,475,392
1.6	Matting - To Work Area	12,075	LF	\$ -	\$ -	\$ 70.00	\$ 845,250	\$ 70	\$ 845,250
1.7	Snow Removal	21.9	Mile	\$ -	\$ -	\$ 16,000	\$ 350,400	\$ 16,000	\$ 350,400
1.8	ROW Restoration	21.9	Mile	\$ -	\$ -	\$ 10,000	\$ 219,000	\$ 10,000	\$ 219,000
1.9	Work Pads	805,000.0	SF	\$ -	\$ -	\$ 3.52	\$ 2,833,600	\$ 4	\$ 2,833,600
1.10	Restoration for Work Pad areas	161,000.0	SF	\$ -	\$ -	\$ 0.15	\$ 24,150	\$ 0	\$ 24,150
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	\$ 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 - CLEARING & ACCESS:					\$ 11,500		\$ 13,264,953		\$ 13,276,453
2. FOUNDATIONS									
2.1	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	1	EA	\$ 3,548	\$ 3,548	\$ 24,123	\$ 24,123	\$ 27,671	\$ 27,671
2.2	1-CKT 345KV VERTICAL TANGENT (0°-1°)	1	EA	\$ 2,929	\$ 2,929	\$ 19,916	\$ 19,916	\$ 22,844	\$ 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	\$ 201,201
2.4	2-CKT 115KV/345KV DELTA TANGENT (0°-1°)	129	EA	\$ 2,720	\$ 350,859	\$ 18,495	\$ 2,385,840	\$ 21,215	\$ 2,736,698
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
2.6	2-CKT 115KV/345KV DELTA TANGENT DEADEND (0°-5°)	10	EA	\$ 3,193	\$ 31,928	\$ 21,711	\$ 217,107	\$ 24,903	\$ 249,035
2.7	1-CKT 345KV VERTICAL LARGE ANGLE DEADEND (60°-90°)	1	EA	\$ 118,078	\$ 118,078	\$ 119,343	\$ 119,343	\$ 237,421	\$ 237,421
2.8	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	1	EA	\$ 93,345	\$ 93,345	\$ 94,345	\$ 94,345	\$ 187,690	\$ 187,690
2.9	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	CY	\$ -	\$ -	\$ 2,000	\$ 2,260,000	\$ 2,000	\$ 2,260,000
2.11									
2.12									

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
2.13									
2.14									
2.15									
2.16									
2.17									
2.18									
TOTAL - FOUNDATIONS:					\$ 1,222,467		\$ 5,948,438		\$ 7,170,905
3. STRUCTURES									
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
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
3.3	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	1	Structure	\$ 103,156	\$ 103,156	\$ 61,894	\$ 61,894	\$ 165,050	\$ 165,050
3.4	1-CKT 345KV VERTICAL TANGENT (0°-1°)	1	Structure	\$ 50,024	\$ 50,024	\$ 30,014	\$ 30,014	\$ 80,038	\$ 80,038
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
3.6	2-CKT 115KV/345KV DELTA SMALL ANGLE (1°-15°)	7	Structure	\$ 73,812	\$ 516,687	\$ 44,287	\$ 310,012	\$ 118,100	\$ 826,698
3.7	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
3.8	2-CKT 115KV/345KV DELTA TANGENT (0°-1°) HD	3	Structure	\$ 54,248	\$ 162,745	\$ 32,549	\$ 97,647	\$ 86,797	\$ 260,391
3.9	2-CKT 115KV/345KV DELTA TANGENT DEADEND (0°-5°)	10	Structure	\$ 57,554	\$ 575,535	\$ 34,532	\$ 345,321	\$ 92,086	\$ 920,856
3.10	Remove Existing Concrete Foundation	688	EA	\$ -	\$ -	\$ 3,250	\$ 2,236,000	\$ 3,250	\$ 2,236,000
3.11	Remove Existing Structure and Accessories	172	EA	\$ -	\$ -	\$ 12,500	\$ 2,150,000	\$ 12,500	\$ 2,150,000
3.12	Install Grounding and Grounding Accessories	161	Pole	\$ 506	\$ 81,466	\$ 5,539	\$ 891,699	\$ 6,045	\$ 973,165
3.13									
3.14									
3.15									
TOTAL - STRUCTURES:					\$ 7,893,794		\$ 9,965,095		\$ 17,858,889
4. CONDUCTOR, SHIELDWIRE, OPGW									
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
4.2	(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: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 2,367,420		\$ 8,759,465		\$ 11,126,885
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	846	Assembly	\$ 1,800	\$ 1,522,800	\$ 720	\$ 609,120	\$ 2,520	\$ 2,131,920
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	180	Assembly	\$ 1,800	\$ 324,000	\$ 720	\$ 129,600	\$ 2,520	\$ 453,600
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	417	Assembly	\$ 900	\$ 375,300	\$ 360	\$ 150,120	\$ 1,260	\$ 525,420
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	78	Assembly	\$ 900	\$ 70,200	\$ 360	\$ 28,080	\$ 1,260	\$ 98,280
5.6	OPGW Assembly - Tangent	141	Assembly	\$ 200	\$ 28,200	\$ 150	\$ 21,150	\$ 350	\$ 49,350
5.7	OPGW Assembly - Angle / DE	20	Assembly	\$ 250	\$ 5,000	\$ 150	\$ 3,000	\$ 400	\$ 8,000
5.8	OHSW Assembly - Tangent	141	Assembly	\$ 200	\$ 28,200	\$ 150	\$ 21,150	\$ 350	\$ 49,350
5.9	OHSW Assembly - Angle / DE	20	Assembly	\$ 250	\$ 5,000	\$ 150	\$ 3,000	\$ 400	\$ 8,000
5.10	OPGW Splice Boxes	8	Set	\$ 1,746	\$ 13,969	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161

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
5.11	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	\$ 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	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									
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		-		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.22									
5.23									
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 2,650,166		\$ 1,214,848		\$ 3,865,015
A. Transmission Line Knickerbocker to Churchtown					\$ 14,145,347		\$ 39,152,800		\$ 53,298,147
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 532,981	\$ 532,981	\$ 532,981	\$ 532,981
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			\$ 3,289,588	\$ 3,289,588	\$ 3,289,588	\$ 3,289,588
6.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 532,981	\$ 532,981	\$ 532,981	\$ 532,981
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 532,981	\$ 532,981	\$ 532,981	\$ 532,981
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,664,907	\$ 2,664,907	\$ 2,664,907	\$ 2,664,907
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 159,894	\$ 159,894	\$ 159,894	\$ 159,894
6.7	Geotech	25	Location	\$ -	\$ -	\$ 3,500	\$ 87,500	\$ 3,500	\$ 87,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 373,087	\$ 373,087	\$ 373,087	\$ 373,087
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	\$ -	\$ -	\$ 159,894	\$ 159,894	\$ 159,894	\$ 159,894
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	\$ 1,131,628	\$ 1,131,628	\$ -	\$ -	\$ 1,131,628	\$ 1,131,628
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 53,298	\$ 53,298	\$ 53,298	\$ 53,298
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,131,628		\$ 11,696,114		\$ 12,827,742

NAT - NYPA - T029 - (Segment B)

B. Transmission Line Churchtown to Pleasant Valley

Estimate Revision: **4**

Total: \$ 107,007,162

NAT - NYPA - T029 - (Segment B)			
	Supply	Installation	Total
B. Transmission Line Churchtown to Pleasant Valley			
1. CLEARING & ACCESS	\$ 14,000	\$ 19,263,286	\$ 19,277,286
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	\$ 3,992,719	\$ 1,827,402	\$ 5,820,121
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,615,075	\$ 18,875,852	\$ 20,490,926
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 21,803,508	\$ 85,203,654	\$ 107,007,162
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 21,803,508	\$ 85,203,654	\$ 107,007,162

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. Transmission Line Churchtown to Pleasant Valley									
1. CLEARING & 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	\$ 45	\$ 1,534,896
1.4	Silt Fence	170,544.0	LF	\$ -	\$ -	\$ 4	\$ 682,176	\$ 4	\$ 682,176
1.5	Matting - Access and ROW	136,435.2	LF	\$ -	\$ -	\$ 70	\$ 9,550,464	\$ 70	\$ 9,550,464
1.6	Matting - To Work Area	18,300.0	LF	\$ -	\$ -	\$ 70	\$ 1,281,000	\$ 70	\$ 1,281,000
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	\$ 10,000	\$ 323,000
1.9	Work Pads	1,220,000.0	SF	\$ -	\$ -	\$ 4	\$ 4,294,400	\$ 4	\$ 4,294,400
1.10	Restoration for Work Pad areas	244,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 36,600	\$ 0	\$ 36,600
1.11	Temporary Access Bridge	14	EA	\$ -	\$ -	\$ 20,035	\$ 280,490	\$ 20,035	\$ 280,490
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	12	EA	\$ -	\$ -	\$ 4,580	\$ 54,960	\$ 4,580	\$ 54,960
1.14	Maintenance and Protection of Traffic on Public Roads	-	LS	\$ -	\$ -	\$ 300,000	\$ -	\$ 300,000	\$ -
1.15	Gates	4	EA	\$ 2,000	\$ 8,000	\$ 2,500	\$ 10,000	\$ 4,500	\$ 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 - CLEARING & ACCESS:					\$ 14,000		\$ 19,263,286		\$ 19,277,286
2. FOUNDATIONS									
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	CY	\$ -	\$ -	\$ 2,000	\$ 5,328,000	\$ 2,000	\$ 5,328,000
2.10									

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
2.11									
2.12									
TOTAL - FOUNDATIONS:					\$ 832,267		\$ 8,602,686		\$ 9,434,954
3. STRUCTURES									
3.1	1-CKT 345KV VERTICAL SMALL ANGLE (1°-15°)	1	Structure	\$ 103,156	\$ 103,156	\$ 61,894	\$ 61,894	\$ 165,050	\$ 165,050
3.2	1-CKT 345KV VERTICAL TANGENT (0°-1°)	1	Structure	\$ 73,094	\$ 73,094	\$ 43,856	\$ 43,856	\$ 116,950	\$ 116,950
3.3	2-CKT 115KV/345KV DELTA SMALL ANGLE (1°-15°)	14	Structure	\$ 78,909	\$ 1,104,728	\$ 47,345	\$ 662,837	\$ 126,255	\$ 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	\$ 204,906	\$ 30,736	\$ 122,944	\$ 81,962	\$ 327,850
3.6	2-CKT 115KV/345KV DELTA TANGENT DEADEND (0°-5°)	29	Structure	\$ 59,830	\$ 1,735,060	\$ 35,898	\$ 1,041,036	\$ 95,727	\$ 2,776,095
3.7	1-CKT 345KV VERTICAL MEDIUM ANGLE DEADEND (15°-60°)	1	Structure	\$ 127,558	\$ 127,558	\$ 76,535	\$ 76,535	\$ 204,092	\$ 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									
3.17									
TOTAL - STRUCTURES PRINCETOWN TO NEW SCOTLAND:					\$ 11,844,213		\$ 21,669,343		\$ 33,513,556
4. CONDUCTOR, SHIELDWIRE, OPGW									
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	\$ 5.47	\$ 991,651
4.5	Remove Existing 115KV Cable From Existing Structures	130.4	Mile	\$ -	\$ -	\$ 30,000	\$ 3,912,000	\$ 30,000.00	\$ 3,912,000
4.6	Remove Existing OPGW Cable and Accessories	32.6	Mile	\$ -	\$ -	\$ 12,000	\$ 390,600	\$ 12,000.00	\$ 390,600
4.7	Remove Existing OHSW and Accessories	32.6	Mile	\$ -	\$ -	\$ 12,000	\$ 390,600	\$ 12,000.00	\$ 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									
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	\$ 150,500	\$ 5,250.00	\$ 225,750
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 3,505,234		\$ 14,965,085		\$ 18,470,319
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	1,158	Assembly	\$ 1,800	\$ 2,084,400	\$ 720	\$ 833,760	\$ 2,520	\$ 2,918,160
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	402	Assembly	\$ 1,800	\$ 723,600	\$ 720	\$ 289,440	\$ 2,520	\$ 1,013,400
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	615	Assembly	\$ 900	\$ 553,500	\$ 360	\$ 221,400	\$ 1,260	\$ 774,900
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	108	Assembly	\$ 900	\$ 97,200	\$ 360	\$ 38,880	\$ 1,260	\$ 136,080
5.6	OPGW Assembly - Tangent	207	Assembly	\$ 200	\$ 41,400	\$ 150	\$ 31,050	\$ 350	\$ 72,450
5.7	OPGW Assembly - Angle / DE	37	Assembly	\$ 250	\$ 9,250	\$ 150	\$ 5,550	\$ 400	\$ 14,800
5.8	OHSW Assembly - Tangent	207	Assembly	\$ 200	\$ 41,400	\$ 150	\$ 31,050	\$ 350	\$ 72,450
5.9	OHSW Assembly - Angle / DE	37	Assembly	\$ 250	\$ 9,250	\$ 150	\$ 5,550	\$ 400	\$ 14,800
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	\$ 35	\$ 189,490	\$ 85	\$ 460,190
5.13	Vibration Dampers - Conductor	1,949	EA	\$ 35	\$ 68,215	\$ 35	\$ 68,215	\$ 70	\$ 136,430
5.14	Shieldwire / OPGW Dampers, Misc. Fittings	657	EA	\$ 27	\$ 17,739	\$ 35	\$ 22,995	\$ 62	\$ 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	\$ 1,006	\$ 32,494	\$ 1,776	\$ 57,365
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 3,992,719		\$ 1,827,402		\$ 5,820,121
B. Transmission Line Churchtown to Pleasant Valley					\$ 20,188,433		\$ 66,327,803		\$ 86,516,236

Item	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. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 865,162	\$ 865,162	\$ 865,162	\$ 865,162
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			\$ 5,339,825	\$ 5,339,825	\$ 5,339,825	\$ 5,339,825
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 865,162	\$ 865,162	\$ 865,162	\$ 865,162
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 865,162	\$ 865,162	\$ 865,162	\$ 865,162
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 4,325,812	\$ 4,325,812	\$ 4,325,812	\$ 4,325,812
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 259,549	\$ 259,549	\$ 259,549	\$ 259,549
6.7	Geotech	33	Location	\$ -	\$ -	\$ 3,500	\$ 115,500	\$ 3,500	\$ 115,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 605,614	\$ 605,614	\$ 605,614	\$ 605,614
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	\$ -	\$ -	\$ 259,549	\$ 259,549	\$ 259,549	\$ 259,549
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	\$ 1,615,075	\$ 1,615,075	\$ -	\$ -	\$ 1,615,075	\$ 1,615,075
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 86,516	\$ 86,516	\$ 86,516	\$ 86,516
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,615,075		\$ 18,875,852		\$ 20,490,926

NG & NY Transco - T019 - (Segment B)

C. Blue Stores Junction to Blue Stores Substation

Estimate Revision: **4**

Total: \$ **5,741,730**

NG & NY Transco - T019 - (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	\$ 104,544	\$ 54,696	\$ 159,240
6. MOB/DEMOb, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 81,811	\$ 918,358	\$ 1,000,169
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,104,450	\$ 4,637,280	\$ 5,741,730
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,104,450	\$ 4,637,280	\$ 5,741,730

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 Stores 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	\$ 20,000	\$ 5,000	\$ 20,000
1.3	Access Road	2,218	LF	\$ -	\$ -	\$ 45	\$ 99,792	\$ 45	\$ 99,792
1.4	Silt Fence	11,088.0	LF	\$ -	\$ -	\$ 4	\$ 44,352	\$ 4	\$ 44,352
1.5	Matting - Access and ROW	8,870	LF	\$ -	\$ -	\$ 70	\$ 620,928	\$ 70	\$ 620,928
1.6	Matting - To Work Area	1,800.0	LF	\$ -	\$ -	\$ 70	\$ 126,000	\$ 70	\$ 126,000
1.7	Snow Removal	2.1	Mile	\$ -	\$ -	\$ 16,000	\$ 33,600	\$ 16,000	\$ 33,600
1.8	ROW Restoration	2.1	Mile	\$ -	\$ -	\$ 10,000	\$ 21,000	\$ 10,000	\$ 21,000
1.9	Work Pads	120,000.0	SF	\$ -	\$ -	\$ 4	\$ 422,400	\$ 4	\$ 422,400
1.10	Restoration for Work Pad areas	24,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 3,600	\$ 0	\$ 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	EA	\$ -	\$ -	\$ 4,580	\$ 4,580	\$ 4,580	\$ 4,580
1.14	Maintenance and Protection of Traffic on Public Roads	2	EA	\$ -	\$ -	\$ 4,130	\$ 8,260	\$ 4,130	\$ 8,260
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	-	EA	\$ -	\$ -	\$ 1,850	\$ -	\$ 1,850	\$ -
TOTAL - CLEARING & ACCESS:					\$ -		\$ 1,404,512		\$ 1,404,512
2. FOUNDATIONS									
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 - FOUNDATIONS:					\$ 236,848		\$ 925,954		\$ 1,162,802
3. STRUCTURES									
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	\$ 199,960	\$ 29,624	\$ 533,226
3.3	Remove Existing Structure and Accessories	-	EA	\$ -	\$ -	\$ 7,500	\$ -	\$ 7,500	\$ -
3.4	Install Grounding and Grounding Accessories	27	EA	\$ -	\$ -	\$ 12,500	\$ 337,500	\$ 12,500	\$ 337,500
3.5									
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									
3.11									
3.12									
3.13									
3.14									
3.15									
TOTAL - STRUCTURES:					\$ 596,484		\$ 946,665		\$ 1,543,149
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	345kV - (1) 954kcmil 54/7 ACSR "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	\$ 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									
TOTAL - CONDUCTOR, SHIELDWIRE, OPGW:					\$ 84,763		\$ 387,095		\$ 471,858
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	54	Assembly	\$ 900	\$ 48,600	\$ 360	\$ 19,440	\$ 1,260	\$ 68,040
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	36	Assembly	\$ 900	\$ 32,400	\$ 360	\$ 12,960	\$ 1,260	\$ 45,360
5.6	OPGW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
5.7	OPGW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.8	OHSW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
5.9	OHSW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
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	\$ 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									
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 104,544		\$ 54,696		\$ 159,240
C. Blue Stores Junction to Blue Stores Substation									
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,022,639		\$ 3,718,922		\$ 4,741,561
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
Project Management, Material Handling & Amenities									

Item	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			\$ 292,651	\$ 292,651	\$ 292,651	\$ 292,651
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 237,078	\$ 237,078	\$ 237,078	\$ 237,078
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 14,225	\$ 14,225	\$ 14,225	\$ 14,225
6.7	Geotech	2	Location	\$ -	\$ -	\$ 3,500	\$ 7,000	\$ 3,500	\$ 7,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 33,191	\$ 33,191	\$ 33,191	\$ 33,191
	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	\$ -	\$ -	\$ 14,225	\$ 14,225	\$ 14,225	\$ 14,225
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	\$ 81,811	\$ 81,811	\$ -	\$ -	\$ 81,811	\$ 81,811
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 4,742	\$ 4,742	\$ 4,742	\$ 4,742
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 81,811	\$ 918,358	\$ 918,358	\$ 918,358	\$ 1,000,169

NAT - NYPA - T029 - (Segment B)

D. Knickerbocker 345kV Substation - Install

Estimate Revision: **4**

Total: \$ **18,951,250**

NAT - NYPA - T029 - (Segment 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 EQUIPMENT	\$ 600,000	\$ 240,000	\$ 840,000
5. SMALL EQUIPMENT / 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/DEMOMB, 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	\$ -	\$ -	\$ -
TOTAL:	\$ 7,602,955	\$ 11,348,296	\$ 18,951,250

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
D. Knickerbocker 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 PREP/ GRADING/ FENCING / CIVIL					\$ 277,200		\$ 1,745,500		\$ 2,022,700
2. SUBSTATION FOUNDATIONS									
2.1 345kV									
2.1a	Circuit Breaker Foundations	3	EA	\$ 14,940	\$ 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	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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 1,467,421		\$ 1,581,150		\$ 3,048,571
3. SUBSTATION STRUCTURES									
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	2	EA	\$ 37,000	\$ 74,000	\$ 37,000	\$ 74,000	\$ 74,000	\$ 148,000
3.1c	Switch Stands	16	EA	\$ 14,800	\$ 236,800	\$ 14,800	\$ 236,800	\$ 29,600	\$ 473,600
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	63	EA	\$ 3,700	\$ 233,100	\$ 3,700	\$ 233,100	\$ 7,400	\$ 466,200
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	Misc. Structures	4	EA	\$ 6,475	\$ 25,900	\$ 6,475	\$ 25,900	\$ 12,950	\$ 51,800
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 - SUBSTATION STRUCTURES					\$ 710,400		\$ 710,400		\$ 1,420,800
4. MAJOR EQUIPMENT									
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	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	\$ 115,000	\$ -	\$ 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	\$ -

Item	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 - MAJOR EQUIPMENT					\$ 600,000		\$ 240,000		\$ 840,000
5. SMALL EQUIPMENT / 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	9	EA	\$ 35,000	\$ 315,000	\$ 17,500	\$ 157,500	\$ 52,500	\$ 472,500
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
5.1j									
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	\$ -	\$ 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 - SMALL EQUIPMENT / MATERIALS					\$ 1,191,500		\$ 542,000		\$ 1,733,500
6. CONTROL HOUSE / PANELS / GENERATOR									
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	\$ 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

Item	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 - CONTROL 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	\$ 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									
7.13									
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					\$ 1,114,327		\$ 1,890,902		\$ 3,005,229
D. Knickerbocker 345kV Substation - Install					\$ 7,039,773		\$ 7,942,227		\$ 14,982,000
8. MOB/DEMOB, 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 Oversight	1	LS		\$ -	\$ 149,820	\$ 149,820	\$ 149,820	\$ 149,820
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 149,820	\$ 149,820	\$ 149,820	\$ 149,820
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,198,560	\$ 1,198,560	\$ 1,198,560	\$ 1,198,560
8.6	LiDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 104,874	\$ 104,874	\$ 104,874	\$ 104,874
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 374,550	\$ 374,550	\$ 374,550	\$ 374,550
Permitting and Additional Costs									
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	\$ 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)	-	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

NAT - NYPA - T029 - (Segment B)

I. Greenbush Substation - Removal

Estimate Revision: **4**

Total: \$ **71,954**

NAT - NYPA - T029 - (Segment 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 EQUIPMENT	\$ -	\$ 7,000	\$ 7,000
5. SMALL EQUIPMENT / 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

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. Greenbush 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 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 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	\$ -

Item	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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
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	EA	\$ -	\$ -	\$ 2,400	\$ 4,800	\$ 2,400	\$ 4,800
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	\$ -	\$ 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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS						\$ -	\$ 12,000	\$ 12,000	\$ 12,000
3. SUBSTATION 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	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	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2c	Switch Stands	0	EA	\$ -	\$ -	\$ 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	0	EA	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	\$ -
3.2g	Instrument Transformer Stand	0	EA	\$ -	\$ -	\$ 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
3.2h	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ -		\$ -
4. MAJOR EQUIPMENT									
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ 7,000		\$ 7,000
5. SMALL EQUIPMENT / 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	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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	2	EA	\$ -	\$ -	\$ 17,500	\$ 35,000	\$ 17,500	\$ 35,000
5.3f	Arresters	0	EA	\$ -	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 35,000		\$ 35,000
6. CONTROL HOUSE / PANELS / GENERATOR									
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	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 - CONTROL HOUSE / PANELS / GENERATOR					\$ -		\$ 7,200		\$ 7,200
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.2	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					\$ -		\$ -		\$ -
I. Greenbush Substation - Removal					\$ -		\$ 61,200		\$ 61,200
8. MOB/DEMOB, 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 Oversight	1	LS		\$ -	\$ 612	\$ 612	\$ 612	\$ 612
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 612	\$ 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	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 184	\$ 184	\$ 184	\$ 184
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	\$ -	\$ -	\$ 61	\$ 61	\$ 61	\$ 61
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 10,754		\$ 10,754

NAT - NYPA - T029 - (Segment B)

F. Schodack Substation - Install

Estimate Revision: **4**

Total: \$ **2,621,224**

NAT - NYPA - T029 - (Segment 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 EQUIPMENT	\$ 104,000	\$ 120,000	\$ 224,000
5. SMALL EQUIPMENT / 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:	\$ 1,132,172	\$ 1,489,052	\$ 2,621,224

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
F. Schodack 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									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 4,050		\$ 11,250		\$ 15,300
2. SUBSTATION 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									
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	\$ -

Item	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								
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	\$ -
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	4	EA	\$ 2,988	\$ 11,952	\$ 3,200	\$ 12,800	\$ 6,188	\$ 24,752
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	4	EA	\$ 2,988	\$ 11,952	\$ 3,200	\$ 12,800	\$ 6,188	\$ 24,752
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	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 - SUBSTATION FOUNDATIONS					\$ 201,690	\$ 216,000	\$ 417,690		
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
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								
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	2	EA	\$ 18,500	\$ 37,000	\$ 18,500	\$ 37,000	\$ 37,000	\$ 74,000

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	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	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ 60,680		\$ 60,680		\$ 121,360
4. MAJOR EQUIPMENT									
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	\$ -	\$ 80,000	\$ -
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	\$ -	\$ 60,000	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 104,000		\$ 120,000		\$ 224,000
5. SMALL EQUIPMENT / MATERIALS									
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	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	0	EA	\$ 25,000	\$ -	\$ 12,000	\$ -	\$ 37,000	\$ -
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									
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	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	\$ 8,000	\$ 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	6	EA	\$ 8,000	\$ 48,000	\$ 8,000	\$ 48,000	\$ 16,000	\$ 96,000
5.3f	Arresters	6	EA	\$ 3,420	\$ 20,520	\$ 6,000	\$ 36,000	\$ 9,420	\$ 56,520
5.3g	Wave Traps	2	EA	\$ 13,000	\$ 26,000	\$ 8,000	\$ 16,000	\$ 21,000	\$ 42,000
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 316,520		\$ 226,000		\$ 542,520
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	CONTROL HOUSE	0	EA	\$ 551,250	\$ -	\$ 85,000	\$ -	\$ 636,250	\$ -

Item	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	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	\$ -
TOTAL - CONTROL 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	\$ 11,790	\$ 53.35	\$ 16,005	\$ 93	\$ 27,795
7.4	Grounding System	800.0	LF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	24	EA	\$ 1,000	\$ 24,000	\$ 550	\$ 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	\$ -	\$ 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 ITEMS					\$ 168,552		\$ 259,305		\$ 427,857
F. Schodack Substation - Install					\$ 1,048,307		\$ 1,041,050		\$ 2,089,357
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
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			\$ 128,956	\$ 128,956	\$ 128,956	\$ 128,956
8.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 20,894	\$ 20,894	\$ 20,894	\$ 20,894
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 20,894	\$ 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	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 14,625	\$ 14,625	\$ 14,625	\$ 14,625
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 52,234	\$ 52,234	\$ 52,234	\$ 52,234
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 6,268	\$ 6,268	\$ 6,268	\$ 6,268
8.13	Real Estate Costs (New)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.14	Real Estate Costs (Incumbent Utility)	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.15	Legal Fees	-	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
8.16	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	1	LS	\$ -	\$ -	\$ 2,089	\$ 2,089	\$ 2,089	\$ 2,089
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 83,865		\$ 448,002		\$ 531,867

NAT - NYPA - T029 - (Segment B)

G. Schodack Substation - Removal

Estimate Revision: **4**

Total: \$ **160,133**

NAT - NYPA - T029 - (Segment B)			
	Supply	Installation	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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / 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

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
G. Schodack 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 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 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	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ 2,400	\$ -
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	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	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	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	\$ -	\$ 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	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 62,400		\$ 62,400
3. SUBSTATION 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	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	\$ -
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	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	\$ -
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	\$ -	\$ 2,250	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	6	EA	\$ -	\$ -	\$ 12,300	\$ 73,800	\$ 12,300	\$ 73,800
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 73,800		\$ 73,800
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / 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
6. CONTROL HOUSE / 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.8	Security	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.9	Fire Alarm	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.10	Generator	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONTROL 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 ITEMS					\$ -		\$ -		\$ -
G. Schodack Substation - Removal					\$ -		\$ 136,200		\$ 136,200
8. MOB/DEMOB, 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									
8.2	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 Oversight	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	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 409	\$ 409	\$ 409	\$ 409
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		\$ -	\$ 136	\$ 136	\$ 136	\$ 136
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 23,933		\$ 23,933

NAT - NYPA - T029 - (Segment B)

H. Churchtown Substation - Install

Estimate Revision: **4**

Total: \$ **18,812,564**

NAT - NYPA - T029 - (Segment B)			
	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 EQUIPMENT	\$ 416,000	\$ 480,000	\$ 896,000
5. SMALL EQUIPMENT / 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 Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
H. Churchtown 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	\$ 27	\$ 24,300	\$ 75	\$ 67,500	\$ 102	\$ 91,800
1.3	Substation Fence	1,050	LF	\$ 100	\$ 105,000	\$ 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									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 133,850		\$ 2,459,550		\$ 2,593,400
2. SUBSTATION 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									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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								
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)	20	EA	\$ 16,434	\$ 328,680	\$ 17,600	\$ 352,000	\$ 34,034	\$ 680,680
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	\$ 3,200	\$ 6,400	\$ 6,188	\$ 12,376
2.3g	Bus Support 3ph Foundations	40	EA	\$ 2,988	\$ 119,520	\$ 3,200	\$ 128,000	\$ 6,188	\$ 247,520
2.3h	Bus Support 1 Ph Foundations	24	EA	\$ 2,988	\$ 71,712	\$ 3,200	\$ 76,800	\$ 6,188	\$ 148,512
2.3j	Instrument Transformer Stand Foundations	51	EA	\$ 2,988	\$ 152,388	\$ 3,200	\$ 163,200	\$ 6,188	\$ 315,588
2.3k	Arrester Stand Foundations	15	EA	\$ 2,988	\$ 44,820	\$ 3,200	\$ 48,000	\$ 6,188	\$ 92,820
2.3m	Wave Trap Stand Foundations	10	EA	\$ 2,988	\$ 29,880	\$ 3,200	\$ 32,000	\$ 6,188	\$ 61,880
2.3n	Station Service Foundations	1	EA	\$ 3,735	\$ 3,735	\$ 4,000	\$ 4,000	\$ 7,735	\$ 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								
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 - 1ph.	1	LS	\$ -	\$ -	\$ 6,500	\$ 6,500	\$ 6,500	\$ 6,500
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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 964,690		\$ 1,039,500		\$ 2,004,190
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
3.1j	Wave Trap Stand	0	EA	\$ 7,400	\$ -	\$ 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	\$ -	\$ 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								

Item	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	5	EA	\$ 18,500	\$ 92,500	\$ 18,500	\$ 92,500	\$ 37,000	\$ 185,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	16	EA	\$ 7,955	\$ 127,280	\$ 7,955	\$ 127,280	\$ 15,910	\$ 254,560
3.3d	Fuse Stand	1	EA	\$ 7,955	\$ 7,955	\$ 7,955	\$ 7,955	\$ 15,910	\$ 15,910
3.3e	Bus Support 3ph	20	EA	\$ 3,330	\$ 66,600	\$ 3,330	\$ 66,600	\$ 6,660	\$ 133,200
3.3f	Bus Support 1 Ph	24	EA	\$ 1,850	\$ 44,400	\$ 1,850	\$ 44,400	\$ 3,700	\$ 88,800
3.3g	Instrument Transformer Stand	51	EA	\$ 740	\$ 37,740	\$ 740	\$ 37,740	\$ 1,480	\$ 75,480
3.3h	Arrester Stand	15	EA	\$ 740	\$ 11,100	\$ 740	\$ 11,100	\$ 1,480	\$ 22,200
3.3j	Wave Trap Stand	5	EA	\$ 3,700	\$ 18,500	\$ 3,700	\$ 18,500	\$ 7,400	\$ 37,000
3.3k	Misc. Structures	4	EA	\$ 6,475	\$ 25,900	\$ 6,475	\$ 25,900	\$ 12,950	\$ 51,800
3.3l	Station Service Transformer Support Stand	1	EA	\$ 1,110	\$ 1,110	\$ 1,110	\$ 1,110	\$ 2,220	\$ 2,220
TOTAL - SUBSTATION STRUCTURES					\$ 433,085		\$ 433,085		\$ 866,170
4. MAJOR EQUIPMENT									
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	\$ -	\$ 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 - MAJOR EQUIPMENT					\$ 416,000		\$ 480,000		\$ 896,000
5. SMALL EQUIPMENT / MATERIALS									
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	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	0	EA	\$ 25,000	\$ -	\$ 12,000	\$ -	\$ 37,000	\$ -
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									
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	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
5.3d	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	\$ 168,000	\$ 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	\$ 40,000	\$ 21,000	\$ 105,000
5.3h	Station Service Transformers	1	EA	\$ 75,000	\$ 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
TOTAL - SMALL EQUIPMENT / 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 HOUSE / 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	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,000
6.4	Control Cables	1	LS	\$ 487,025	\$ 487,025	\$ 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
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 - CONTROL HOUSE / PANELS / GENERATOR					\$ 2,344,525		\$ 1,517,025		\$ 3,861,550
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	1,300.0	LF	\$ 185.00	\$ 240,500	\$ 170.00	\$ 221,000	\$ 355	\$ 461,500
7.2	Rigid Bus, Fittings & Insulators	1,800.0	LF	\$ 125.07	\$ 225,126	\$ 237.10	\$ 426,780	\$ 362	\$ 651,906
7.3	Strain Bus, Connectors & Insulators	1,000.0	LF	\$ 39.30	\$ 39,300	\$ 53.35	\$ 53,350	\$ 93	\$ 92,650
7.4	Grounding System	10,500.0	LF	\$ 6.93	\$ 72,765	\$ 32.58	\$ 342,090	\$ 40	\$ 414,855
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	36	EA	\$ 1,000	\$ 36,000	\$ 550	\$ 19,800	\$ 1,550	\$ 55,800
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					\$ 1,013,691		\$ 1,488,020		\$ 2,501,711
H. Churchtown Substation - Install					\$ 6,690,641		\$ 8,355,980		\$ 15,046,621
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	\$ 150,466
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			\$ 928,685	\$ 928,685	\$ 928,685	\$ 928,685
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 150,466	\$ 150,466	\$ 150,466	\$ 150,466
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 150,466	\$ 150,466	\$ 150,466	\$ 150,466
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,203,730	\$ 1,203,730	\$ 1,203,730	\$ 1,203,730
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 105,326	\$ 105,326	\$ 105,326	\$ 105,326

Item	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	\$ -	\$ -	\$ 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)	-	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	\$ 535,251	\$ 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		\$ 3,230,692		\$ 3,765,943

NAT - NYPA - T029 - (Segment B)

I. Churchtown Substation - Removal

Estimate Revision: **4**

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 EQUIPMENT	\$ -	\$ 24,600	\$ 24,600
5. SMALL EQUIPMENT / 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:	\$ -	\$ 1,032,084	\$ 1,032,084

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. Churchtown 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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ 25,900		\$ 25,900
2. SUBSTATION 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	\$ -
2.2k	Arrester Stand Foundations		EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2m	Wave Trap Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations		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
2.4	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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 340,400		\$ 340,400
3. SUBSTATION STRUCTURES									
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		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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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	\$ 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
3.4l	Lightning Mast	4	EA	\$ -	\$ -	\$ 6,450	\$ 25,800	\$ 6,450	\$ 25,800
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 252,600		\$ 252,600
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT					\$ -		\$ 24,600		\$ 24,600

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
5. SMALL EQUIPMENT / 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 - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 60,000		\$ 60,000
6. CONTROL HOUSE / 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		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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONTROL 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									
7.13									
7.14									
7.15									
TOTAL - MISC ITEMS					\$ -		\$ 25,078		\$ 25,078
I. Churchtown Substation - Removal					\$ -		\$ 878,578		\$ 878,578
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
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 Oversight	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	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			\$ 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

Estimate Revision: **4**

Total: \$ **3,524,980**

NAT - NYPA - T029 - (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 EQUIPMENT	\$ 200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPMENT / 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

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
J. Pleasant 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 PREP/ GRADING/ FENCING / CIVIL					\$ 11,025		\$ 14,625		\$ 25,650
2. SUBSTATION 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	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	\$ 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	\$ -

Item	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	\$ 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)	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	\$ 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	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.3p									
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 Addition Foundation (25-ft x 50-ft)	1	EA	\$ 61,079	\$ 61,079	\$ 64,100	\$ 64,100	\$ 125,179	\$ 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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 161,177		\$ 171,300		\$ 332,477
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	\$ -	\$ 74,000	\$ -
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	\$ -	\$ 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	\$ 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	\$ -	\$ 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	\$ -

Item	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	\$ -	\$ 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 - SUBSTATION STRUCTURES					\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQUIPMENT									
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								
4.2a	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	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 200,000		\$ 80,000		\$ 280,000
5. SMALL EQUIPMENT / 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	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	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.1f	Arresters	3	EA	\$ 6,500	\$ 19,500	\$ 1,500	\$ 4,500	\$ 8,000	\$ 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									
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 EQUIPMENT / MATERIALS					\$ 260,500		\$ 129,000		\$ 389,500
6. CONTROL HOUSE / 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	\$ 12,500	\$ 37,500	\$ 47,500	\$ 142,500
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	\$ 261,800
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	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.10	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
TOTAL - CONTROL 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	LS	\$ 15,008.40	\$ -	\$ 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
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									
7.18									
7.19									
7.20									
7.21									
7.22									
7.23									
7.24									
7.25									
TOTAL - MISC ITEMS					\$ 409,950		\$ 457,275		\$ 867,225
J. Pleasant Valley Substation - Install					\$ 1,647,952		\$ 1,150,000		\$ 2,797,952
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 27,980	\$ 27,980	\$ 27,980	\$ 27,980
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			\$ 172,691	\$ 172,691	\$ 172,691	\$ 172,691
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 27,980	\$ 27,980	\$ 27,980	\$ 27,980
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 27,980	\$ 27,980	\$ 27,980	\$ 27,980
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 223,836	\$ 223,836	\$ 223,836	\$ 223,836
8.6	LIDAR	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	EA	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 19,586	\$ 19,586	\$ 19,586	\$ 19,586
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	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

NAT - NYPA - T029 - (Segment B)

N. Interconnection Milan Station

Estimate Revision: **4** Total: \$ **804,582**

NAT - NYPA - T029 - (Segment 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. Interconnection 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 - CLEARING & ACCESS					\$ -		\$ 121,100		\$ 121,100
2. FOUNDATIONS									
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					\$ -		\$ -		\$ -

Item	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 - FOUNDATIONS					\$ 84,375		\$ 135,279		\$ 219,654
3. STRUCTURES									
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					\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	2	Pole	\$ 506	\$ 1,012	\$ 5,539	\$ 11,077	\$ 6,045	\$ 12,089
3.6					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 130,328		\$ 140,393		\$ 270,721
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	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	\$ -
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	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	24	Assembly	\$ 1,800	\$ 43,200	\$ 720	\$ 17,280	\$ 2,520	\$ 60,480
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.6	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.7	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.8	OHSW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.9	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.10	OPGW Splice Boxes	-	Set	\$ 1,750	\$ -	\$ 1,746	\$ -	\$ 3,496	\$ -
5.11	OPGW Splice & Test	-	EA	\$ 1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	\$ -
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 45,200		\$ 18,480		\$ 63,680
N. Interconnection Milan Station					\$ 259,903		\$ 415,251		\$ 675,154
6. MOB/DEMOb, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 6,752	\$ 6,752	\$ 6,752	\$ 6,752
Project Management, Material Handling & Amenities									

Item	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 Oversight	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

NAT - NYPA - T029 - (Segment B)

Interconnection Knickerbocker Station

Estimate
Revision: 4

Total: \$ 1,469,497

NAT - NYPA - T029 - (Segment B)			
	Supply	Installation	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	\$ 57,066	\$ 26,934	\$ 84,000
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 29,434	\$ 197,061	\$ 226,495
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 397,361	\$ 1,072,136	\$ 1,469,497
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 397,361	\$ 1,072,136	\$ 1,469,497

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
L. Interconnection Knickerbocker 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	675.0	LF	\$ -	\$ -	\$ 70	\$ 47,250	\$ 70	\$ 47,250
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mille	\$ -	\$ -	\$ 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	\$ 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	\$ 1,850	\$ 1,850	\$ 1,850
1.18				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1.19				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1.20	Crushed Rock	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEARING & ACCESS					\$ -		\$ 482,850		\$ 482,850
2. FOUNDATIONS									
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									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.9									
2.10									
2.11									
2.12									
2.13									
2.14									
2.15									
TOTAL - FOUNDATIONS					\$ 87,988		\$ 184,454		\$ 272,441
3. STRUCTURES									
3.1	1-CKT 115KV 3-POLE TANGENT DEADEND (0°-5°)	2	Structure	\$ 67,803	\$ 135,605	\$ 40,682	\$ 81,363	\$ 108,484	\$ 216,968
3.2	1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	1	Structure	\$ 82,714	\$ 82,714	\$ 49,628	\$ 49,628	\$ 132,342	\$ 132,342
3.3	Install Grounding and Grounding Accessories	9	Pole	\$ 506	\$ 4,554	\$ 5,539	\$ 49,847	\$ 6,045	\$ 54,401
3.4				\$ -			\$ -		\$ -
3.5									
3.6				\$ -			\$ -		\$ -
3.7				\$ -			\$ -		\$ -
3.8				\$ -			\$ -		\$ -
3.9				\$ -			\$ -		\$ -
3.10				\$ -			\$ -		\$ -
3.11				\$ -			\$ -		\$ -
3.12				\$ -			\$ -		\$ -
3.13				\$ -			\$ -		\$ -
3.14				\$ -			\$ -		\$ -
3.15				\$ -			\$ -		\$ -
TOTAL - STRUCTURES					\$ 222,873		\$ 180,838		\$ 403,710
4. CONDUCTOR, 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	-	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	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	18	Assembly	\$ 900	\$ 16,200	\$ 360	\$ 6,480	\$ 1,260	\$ 22,680
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	36	Assembly	\$ 900	\$ 32,400	\$ 360	\$ 12,960	\$ 1,260	\$ 45,360
5.6	OPGW Assembly - Tangent	3	Assembly	\$ 200	\$ 600	\$ 150	\$ 450	\$ 350	\$ 1,050
5.7	OPGW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.8	OHSW Assembly - Tangent	3	Assembly	\$ 200	\$ 600	\$ 150	\$ 450	\$ 350	\$ 1,050
5.9	OHSW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.10	OPGW Splice Boxes	1	Set	\$ 1,746	\$ 1,746	\$ 2,274	\$ 2,274	\$ 4,020	\$ 4,020
5.11	OPGW Splice & Test	1	EA	\$ 2,520	\$ 2,520	\$ 2,520	\$ 2,520	\$ 5,040	\$ 5,040
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 57,066		\$ 26,934		\$ 84,000
L. Interconnection Knickerbocker Station					\$ 367,927		\$ 875,075		\$ 1,243,002
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									

Item	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	\$ -	\$ -	\$ 12,430	\$ 12,430	\$ 12,430	\$ 12,430
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			\$ 76,719	\$ 76,719	\$ 76,719	\$ 76,719
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 12,430	\$ 12,430	\$ 12,430	\$ 12,430
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 12,430	\$ 12,430	\$ 12,430	\$ 12,430
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 62,150	\$ 62,150	\$ 62,150	\$ 62,150
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 3,729	\$ 3,729	\$ 3,729	\$ 3,729
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 8,701	\$ 8,701	\$ 8,701	\$ 8,701
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	\$ -	\$ -	\$ 3,729	\$ 3,729	\$ 3,729	\$ 3,729
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	\$ 29,434	\$ 29,434	\$ -	\$ -	\$ 29,434	\$ 29,434
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 1,243	\$ 1,243	\$ 1,243	\$ 1,243
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 29,434		\$ 197,061		\$ 226,495

NAT - NYPA - T029 - (Segment B)

M. Interconnection Churchtown Station

Estimate
Revision: 4

Total: \$ 2,187,589

NAT - NYPA - T029 - (Segment 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	\$ 106,866	\$ 47,274	\$ 154,140
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 52,858	\$ 290,660	\$ 343,517
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 713,579	\$ 1,474,010	\$ 2,187,589
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 713,579	\$ 1,474,010	\$ 2,187,589

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. Interconnection 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	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 - CLEARING & ACCESS					\$ -		\$ 551,850		\$ 551,850
2. FOUNDATIONS									
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	CY	\$ -	\$ -	\$ 2,000	\$ 100,000	\$ 2,000	\$ 100,000
2.4									
2.5									
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 - FOUNDATIONS					\$ 216,929		\$ 319,252		\$ 536,181
3. STRUCTURES									
3.1	1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	2	Structure	\$ 82,714	\$ 165,427	\$ 49,628	\$ 99,256	\$ 132,342	\$ 264,683
3.2	2x 1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	2	Structure	\$ 82,714	\$ 165,427	\$ 49,628	\$ 99,256	\$ 132,342	\$ 264,683
3.3	Install Grounding and Grounding Accessories	12	Pole	\$ 506	\$ 6,072	\$ 5,539	\$ 66,462	\$ 6,045	\$ 72,534
3.4					\$ -		\$ -		\$ -
3.5									
3.6									
3.7									
3.8									
3.9									
3.10									
3.11									
3.12									
3.13									
3.14									
3.15									
TOTAL - STRUCTURES					\$ 336,926		\$ 264,974		\$ 601,900
4. CONDUCTOR, 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	-	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	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	108	Assembly	\$ 900	\$ 97,200	\$ 360	\$ 38,880	\$ 1,260	\$ 136,080
5.6	OPGW Assembly - Tangent	6	Assembly	\$ 200	\$ 1,200	\$ 150	\$ 900	\$ 350	\$ 2,100
5.7	OPGW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.8	OHSW Assembly - Tangent	6	Assembly	\$ 200	\$ 1,200	\$ 150	\$ 900	\$ 350	\$ 2,100
5.9	OHSW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.10	OPGW Splice Boxes	1	Set	\$ 1,746	\$ 1,746	\$ 2,274	\$ 2,274	\$ 4,020	\$ 4,020
5.11	OPGW Splice & Test	1	EA	\$ 2,520	\$ 2,520	\$ 2,520	\$ 2,520	\$ 5,040	\$ 5,040
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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					\$ -		\$ -		\$ -
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 106,866		\$ 47,274		\$ 154,140
M. Interconnection Churchtown Station					\$ 660,721		\$ 1,183,350		\$ 1,844,071
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 18,441	\$ 18,441	\$ 18,441	\$ 18,441
Project Management, Material Handling & Amenities									

Item	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			\$ 113,817	\$ 113,817	\$ 113,817	\$ 113,817
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 18,441	\$ 18,441	\$ 18,441	\$ 18,441
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 18,441	\$ 18,441	\$ 18,441	\$ 18,441
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 92,204	\$ 92,204	\$ 92,204	\$ 92,204
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 5,532	\$ 5,532	\$ 5,532	\$ 5,532
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 12,908	\$ 12,908	\$ 12,908	\$ 12,908
	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	\$ -	\$ -	\$ 5,532	\$ 5,532	\$ 5,532	\$ 5,532
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	\$ 52,858	\$ 52,858	\$ -	\$ -	\$ 52,858	\$ 52,858
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ 1,844	\$ 1,844	\$ 1,844	\$ 1,844
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 52,858		\$ 290,660		\$ 343,517

NAT - NYPA - T029 - (Segment B)

M. Interconnection Churchtown Station

Estimate Revision: **4** Total: \$ **2,142,344**

NAT - NYPA - T029 - (Segment 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	\$ 92,066	\$ 41,694	\$ 133,760
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 36,380	\$ 286,784	\$ 323,164
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 491,137	\$ 1,651,208	\$ 2,142,344
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 491,137	\$ 1,651,208	\$ 2,142,344

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. Interconnection 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	1,125.0	LF	\$ -	\$ -	\$ 70	\$ 78,750	\$ 70	\$ 78,750
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	75,000.0	SF	\$ -	\$ -	\$ 4	\$ 264,000	\$ 4	\$ 264,000
1.10	Restoration for Work Pad areas	15,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 2,250	\$ 0	\$ 2,250
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 - CLEARING & ACCESS					\$ -		\$ 620,850		\$ 620,850
2. FOUNDATIONS									
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 Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.12									
2.13									
2.14									
2.15									
TOTAL - FOUNDATIONS					\$ 16,088		\$ 415,395		\$ 431,483
3. STRUCTURES									
3.1	1-CKT 115KV 3-POLE TANGENT DEADEND (0°-5°)	5	Structure	\$ 67,803	\$ 339,013	\$ 40,682	\$ 203,408	\$ 108,484	\$ 542,420
3.2	Install Grounding and Grounding Accessories	15	Pole	\$ 506	\$ 7,590	\$ 5,539	\$ 83,078	\$ 6,045	\$ 90,668
3.3									
3.4									
3.5									
3.6									
3.7									
3.8									
3.9									
3.10									
3.11									
3.12									
3.13									
3.14									
3.15									
TOTAL - STRUCTURES					\$ 346,603		\$ 286,485		\$ 633,088
4. CONDUCTOR, 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	-	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	\$ 1.72	\$ -	\$ 5.00	\$ -	\$ 6.72	\$ -
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: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	90	Assembly	\$ 900	\$ 81,000	\$ 360	\$ 32,400	\$ 1,260	\$ 113,400
5.6	OPGW Assembly - Tangent	14	Assembly	\$ 200	\$ 2,800	\$ 150	\$ 2,100	\$ 350	\$ 4,900
5.7	OPGW Assembly - Angle / DE	1	Assembly	\$ 250	\$ 250	\$ 150	\$ 150	\$ 400	\$ 400
5.8	OHSW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.9	OHSW Assembly - Angle / DE	15	Assembly	\$ 250	\$ 3,750	\$ 150	\$ 2,250	\$ 400	\$ 6,000
5.10	OPGW Splice Boxes	1	Set	\$ 1,746	\$ 1,746	\$ 2,274	\$ 2,274	\$ 4,020	\$ 4,020
5.11	OPGW Splice & Test	1	EA	\$ 2,520	\$ 2,520	\$ 2,520	\$ 2,520	\$ 5,040	\$ 5,040
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 92,066		\$ 41,694		\$ 133,760
M. Interconnection Churchtown Station					\$ 454,756		\$ 1,364,424		\$ 1,819,180
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 18,192	\$ 18,192	\$ 18,192	\$ 18,192
Project Management, Material Handling & Amenities									

Item	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			\$ 112,281	\$ 112,281	\$ 112,281	\$ 112,281
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 18,192	\$ 18,192	\$ 18,192	\$ 18,192
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 18,192	\$ 18,192	\$ 18,192	\$ 18,192
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 90,959	\$ 90,959	\$ 90,959	\$ 90,959
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 5,458	\$ 5,458	\$ 5,458	\$ 5,458
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 12,734	\$ 12,734	\$ 12,734	\$ 12,734
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	\$ -	\$ -	\$ 5,458	\$ 5,458	\$ 5,458	\$ 5,458
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	\$ 36,380	\$ 36,380	\$ -	\$ -	\$ 36,380	\$ 36,380
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 1,819	\$ 1,819	\$ 1,819	\$ 1,819
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 36,380	\$ 1,819	\$ 286,784		\$ 323,164

NAT & NYPA - T029 - (Segment B)

O. System Upgrade Facilities (Middletown to Shoemakerrner line and Cricket Valley to Long Mt. Line)

Estimate
Revision: **4**

Total: \$ 4,413,551

SYSTEM UPGRADE 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 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 1033.5kcmil 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 2156kcmil 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

NAT - NYPA - T029 - (Segment B)

System Upgrade Facilities (Various Stations for Knickerbocker to Pleasant Valley)

Estimate Revision: 4

Total: \$ 14,049,000

SYSTEM UPGRADE 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	\$ 10,879,000
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 - 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 Oversight 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.
27	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 ACSRS conductor and install new 2 bundle Bluejay 1113 ACSRS 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	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 ACSRS conductor and install new 2 bundle Rail 954 ACSRS 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 ACSRS conductor and install new single Thrasher 2312 ACSRS 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.



NY Power Authority and North American Transmission (T030)			
Description		Total Amount (In thousand \$)	
Direct Cost	1	Transmission Lines	
	1.1	Clearing & Access	\$34,378
	1.2	Foundations	\$18,131
	1.3	Structures	\$56,775
	1.4	Conductor, Shiedwire and OPGW	\$35,969
	1.5	Insulators, Fitting and Hardwares	\$10,473
	Subtotal (1)		\$155,727
	2	Substations	
	2.1	Knickerbocker Substation	\$14,982
	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	\$6,398
Subtotal (2)		\$42,455	
Total (1+2)		\$198,182	
Contractors Mark-up (15% of Total 1+2)		\$29,727	
Total Direct Cost (A)		\$227,910	
Indirect Cost	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$1,982
	3.2	Project Management, Material Handling & Amenities	\$15,498
	3.3	Engineering	\$13,105
	3.4	Testing & Commissioning	\$972
	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$14,352
	3.6	Legal, Env. Lisc. & Permit and Env. Mitigation	\$7,628
Total Indirect Cost (3)		\$53,537	
Subtotal Project Cost (B=A+3) 2017 \$		\$281,446	
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 \$		\$302,124	
Total Project Cost 2018 \$		\$311,188	

NAT - NYPA - T030 - (Segment B Enhanced)

Estimate Revision: 4

<i>NAT - NYPA - T030 - (Segment B Enhanced) - Direct Costs</i>		<i>Total Each Segment</i>
Direct Labor, Material & Equipment Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 57,474,887
Direct Labor, Material & Equipment Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 93,510,774
Direct Labor, Material & Equipment Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 4,741,561
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	\$ 1,299,017
Direct Labor, Material & Equipment Costs	M. Interconnection Churchtown Station	\$ 2,210,315
Direct Labor, Material & Equipment Costs	N. Interconnection Pleasant Valley Station	\$ 2,265,322
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:		\$ 212,952,041
CONTRACTOR MARK-UP (OH&P)		\$ 31,942,806
CONTINGENCY ON ENTIRE PROJECT		\$ -
TOTAL DIRECT:		\$ 244,894,848

<i>NAT - NYPA - T030 - (Segment B Enhanced) - Indirect Costs</i>		<i>Total Each Segment</i>
Indirect Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 13,397,530
Indirect Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 21,330,401
Indirect Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 983,484
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	\$ 232,936
Indirect Costs	M. Interconnection Churchtown Station	\$ 412,092
Indirect Costs	N. Interconnection Pleasant Valley Station	\$ 391,679
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. Lic. & Permit., and Envir. Mitigation)	\$ 7,627,609
TOTAL INDIRECT:		\$ 57,229,644

TOTAL ESTIMATED COST: \$ 302,124,491

NAT - NYPA - T030 - (Segment B Enhanced)

A. Transmission Line Knickerbocker to Churchtown

Estimate Revision: **4** Total: \$ **70,872,417**

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	\$ 2,805,461	\$ 1,290,763	\$ 4,096,225
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,263,766	\$ 12,133,764	\$ 13,397,530
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 17,060,841	\$ 53,811,576	\$ 70,872,417
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 17,060,841	\$ 53,811,576	\$ 70,872,417

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. Transmission 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
1.3	Permanent Access Road	23,126	LF		\$ -	\$ 45.00	\$ 1,040,688	\$ 45	\$ 1,040,688
1.4	Silt Fence	115,632	LF		\$ -	\$ 4.00	\$ 462,528	\$ 4	\$ 462,528
1.5	Matting - Access and ROW	92,506	LF		\$ -	\$ 70.00	\$ 6,475,392	\$ 70	\$ 6,475,392
1.6	Matting - To Work Area	12,075	LF		\$ -	\$ 70.00	\$ 845,250	\$ 70	\$ 845,250
1.7	Snow Removal	21.9	Mile		\$ -	\$ 16,000	\$ 350,400	\$ 16,000	\$ 350,400
1.8	ROW Restoration	21.9	Mile		\$ -	\$ 10,000	\$ 219,000	\$ 10,000	\$ 219,000
1.9	Work Pads	805,000	SF		\$ -	\$ 3.52	\$ 2,833,600	\$ 4	\$ 2,833,600
1.10	Restoration for Work Pad areas	161,000	SF		\$ -	\$ 0.15	\$ 24,150	\$ 0	\$ 24,150
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	\$ 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 - CLEARING & ACCESS:					\$ 11,500		\$ 13,264,953		\$ 13,276,453
2. FOUNDATIONS									
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	\$ 2,888	\$ 2,888	\$ 19,635	\$ 19,635	\$ 22,523	\$ 22,523
2.3	2-CKT 115KV/345KV DELTA SMALL ANGLE (1°-15°)	7	EA	\$ 3,713	\$ 25,988	\$ 25,245	\$ 176,715	\$ 28,958	\$ 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
2.9	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 - FOUNDATIONS:					\$ 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 - STRUCTURES:					\$ 8,858,578		\$ 10,543,966		\$ 19,402,544
4. CONDUCTOR, 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 - CONDUCTOR, SHIELDWIRE, OPGW:					\$ 2,905,216		\$ 10,613,935		\$ 13,519,151
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	846	Assembly	\$ 1,800	\$ 1,522,800	\$ 720	\$ 609,120	\$ 2,520	\$ 2,131,920
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)		Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	240	Assembly	\$ 1,800	\$ 432,000	\$ 720	\$ 172,800	\$ 2,520	\$ 604,800
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	444	Assembly	\$ 900	\$ 399,600	\$ 360	\$ 159,840	\$ 1,260	\$ 559,440
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	78	Assembly	\$ 900	\$ 70,200	\$ 360	\$ 28,080	\$ 1,260	\$ 98,280
5.6	OPGW Assembly - Tangent	141	Assembly	\$ 200	\$ 28,200	\$ 150	\$ 21,150	\$ 350	\$ 49,350
5.7	OPGW Assembly - Angle / DE	20	Assembly	\$ 250	\$ 5,000	\$ 150	\$ 3,000	\$ 400	\$ 8,000
5.8	OHSW Assembly - Tangent	141	Assembly	\$ 200	\$ 28,200	\$ 150	\$ 21,150	\$ 350	\$ 49,350
5.9	OHSW Assembly - Angle / DE	20	Assembly	\$ 250	\$ 5,000	\$ 150	\$ 3,000	\$ 400	\$ 8,000
5.10	OPGW Splice Boxes	8	Set	\$ 1,746	\$ 13,969	\$ 2,274	\$ 18,192	\$ 4,020	\$ 32,161
5.11	OPGW Splice & Test	8	EA	\$ 2,520	\$ 20,160	\$ 2,520	\$ 20,160	\$ 5,040	\$ 40,320

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
5.12	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									
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		-		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.22									
5.23									
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 2,805,461		\$ 1,290,763		\$ 4,096,225
A. Transmission Line Knickerbocker to Churchtown					\$ 15,797,075		\$ 41,677,812		\$ 57,474,887
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 574,749	\$ 574,749	\$ 574,749	\$ 574,749
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			\$ 3,345,125	\$ 3,345,125	\$ 3,345,125	\$ 3,345,125
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 574,749	\$ 574,749	\$ 574,749	\$ 574,749
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 574,749	\$ 574,749	\$ 574,749	\$ 574,749
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 2,873,744	\$ 2,873,744	\$ 2,873,744	\$ 2,873,744
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 172,425	\$ 172,425	\$ 172,425	\$ 172,425
6.7	Geotech	22	Location	\$ -	\$ -	\$ 3,500	\$ 77,000	\$ 3,500	\$ 77,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 402,324	\$ 402,324	\$ 402,324	\$ 402,324
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	\$ -	\$ -	\$ 172,425	\$ 172,425	\$ 172,425	\$ 172,425
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	\$ 1,263,766	\$ 1,263,766	\$ -	\$ -	\$ 1,263,766	\$ 1,263,766
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 57,475	\$ 57,475	\$ 57,475	\$ 57,475
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,263,766		\$ 12,133,764		\$ 13,397,530

NAT - NYPA - T030 - (Segment B Enhanced)

B. Transmission Line Churchtown to Pleasant Valley

Estimate Revision: **4**

Total: \$ 114,841,175

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	\$ 4,262,834	\$ 1,954,957	\$ 6,217,791
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 1,815,421	\$ 19,514,980	\$ 21,330,401
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 24,508,184	\$ 90,332,991	\$ 114,841,175
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 24,508,184	\$ 90,332,991	\$ 114,841,175

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. Transmission Line Churchtown to Pleasant Valley									
1. CLEARING & 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	\$ 1,534,896	\$ 45	\$ 1,534,896
1.4	Silt Fence	170,544.0	LF	\$ -	\$ -	\$ 4	\$ 682,176	\$ 4	\$ 682,176
1.5	Matting - Access and ROW	136,435	LF	\$ -	\$ -	\$ 70	\$ 9,550,464	\$ 70	\$ 9,550,464
1.6	Matting - To Work Area	18,300.0	LF	\$ -	\$ -	\$ 70	\$ 1,281,000	\$ 70	\$ 1,281,000
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	\$ 10,000	\$ 323,000
1.9	Work Pads	1,220,000.0	SF	\$ -	\$ -	\$ 4	\$ 4,294,400	\$ 4	\$ 4,294,400
1.10	Restoration for Work Pad areas	244,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 36,600	\$ 0	\$ 36,600
1.11	Temporary Access Bridge	14	EA	\$ -	\$ -	\$ 20,035	\$ 280,490	\$ 20,035	\$ 280,490
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	12	EA	\$ -	\$ -	\$ 4,580	\$ 54,960	\$ 4,580	\$ 54,960
1.14	Maintenance and Protection of Traffic on Public Roads	86	EA	\$ -	\$ -	\$ 4,130	\$ 355,180	\$ 4,130	\$ 355,180
1.15	Gates	4	EA	\$ 2,000	\$ 8,000	\$ 2,500	\$ 10,000	\$ 4,500	\$ 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 - CLEARING & ACCESS:					\$ 14,000		\$ 19,683,466		\$ 19,697,466
2. FOUNDATIONS									
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	Material Supply Rate	Material 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 - FOUNDATIONS:					\$ 830,338		\$ 8,957,307		\$ 9,787,645
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	\$ 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									
TOTAL - STRUCTURES PRINCTOWN TO NEW SCOTLAND:					\$ 13,291,751		\$ 22,537,866		\$ 35,829,617
4. CONDUCTOR, SHIELDWIRE, OPGW									
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	\$ 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	\$ 5.47	\$ 991,651
4.5	Remove Existing 115kv Cable From Existing Structures	130.4	Mile	\$ -	\$ -	\$ 30,000	\$ 3,912,000	\$ 30,000.00	\$ 3,912,000
4.6	Remove Existing OPGW Cable and Accessories	32.6	Mile	\$ -	\$ -	\$ 12,000	\$ 390,600	\$ 12,000.00	\$ 390,600
4.7	Remove Existing OHSW and Accessories	32.6	Mile	\$ -	\$ -	\$ 12,000	\$ 390,600	\$ 12,000.00	\$ 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									
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	\$ 150,500	\$ 5,250.00	\$ 225,750
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 4,293,840		\$ 17,684,415		\$ 21,978,255
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	1,248	Assembly	\$ 1,800	\$ 2,246,400	\$ 720	\$ 898,560	\$ 2,520	\$ 3,144,960
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)		Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	444	Assembly	\$ 1,800	\$ 799,200	\$ 720	\$ 319,680	\$ 2,520	\$ 1,118,880
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	615	Assembly	\$ 900	\$ 553,500	\$ 360	\$ 221,400	\$ 1,260	\$ 774,900
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	108	Assembly	\$ 900	\$ 97,200	\$ 360	\$ 38,880	\$ 1,260	\$ 136,080
5.6	OPGW Assembly - Tangent	207	Assembly	\$ 200	\$ 41,400	\$ 150	\$ 31,050	\$ 350	\$ 72,450
5.7	OPGW Assembly - Angle / DE	37	Assembly	\$ 250	\$ 9,250	\$ 150	\$ 5,550	\$ 400	\$ 14,800
5.8	OHSW Assembly - Tangent	207	Assembly	\$ 200	\$ 41,400	\$ 150	\$ 31,050	\$ 350	\$ 72,450
5.9	OHSW Assembly - Angle / DE	37	Assembly	\$ 250	\$ 9,250	\$ 150	\$ 5,550	\$ 400	\$ 14,800
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	\$ 35	\$ 189,490	\$ 85	\$ 460,190
5.13	Vibration Dampers - Conductor	2,878	EA	\$ 35	\$ 100,730	\$ 35	\$ 100,730	\$ 70	\$ 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	Material 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 - INSULATORS, FITTINGS, HARDWARE:					\$ 4,262,834		\$ 1,954,957		\$ 6,217,791
B. Transmission Line Churchtown to Pleasant Valley					\$ 22,692,763		\$ 70,818,011		\$ 93,510,774
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 935,108	\$ 935,108	\$ 935,108	\$ 935,108
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			\$ 5,442,467	\$ 5,442,467	\$ 5,442,467	\$ 5,442,467
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 935,108	\$ 935,108	\$ 935,108	\$ 935,108
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 935,108	\$ 935,108	\$ 935,108	\$ 935,108
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 4,675,539	\$ 4,675,539	\$ 4,675,539	\$ 4,675,539
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 280,532	\$ 280,532	\$ 280,532	\$ 280,532
6.7	Geotech	33	Location	\$ -	\$ -	\$ 3,500	\$ 115,500	\$ 3,500	\$ 115,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 654,575	\$ 654,575	\$ 654,575	\$ 654,575
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	\$ -	\$ -	\$ 280,532	\$ 280,532	\$ 280,532	\$ 280,532
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	\$ 5,127,000
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	\$ 1,815,421	\$ 1,815,421	\$ -	\$ -	\$ 1,815,421	\$ 1,815,421
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 93,511	\$ 93,511	\$ 93,511	\$ 93,511
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 1,815,421		\$ 19,514,980		\$ 21,330,401

NAT - NYPA - T030 - (Segment B Enhanced)

C. Blue Stores Junction to Blue Stores Substation

Estimate Revision: **4**

Total: \$ **5,725,044**

NAT - NYPA - T030 - (Segment B Enhanced)			
	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	\$ 104,544	\$ 54,696	\$ 159,240
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 81,811	\$ 901,673	\$ 983,484
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,104,450	\$ 4,620,595	\$ 5,725,044
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,104,450	\$ 4,620,595	\$ 5,725,044

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 Stores 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	\$ 20,000	\$ 5,000	\$ 20,000
1.3	Permanent Access Road	2,218	LF	\$ -	\$ -	\$ 45	\$ 99,792	\$ 45	\$ 99,792
1.4	Silt Fence	11,088.0	LF	\$ -	\$ -	\$ 4	\$ 44,352	\$ 4	\$ 44,352
1.5	Matting - Access and ROW	8,870	LF	\$ -	\$ -	\$ 70	\$ 620,928	\$ 70	\$ 620,928
1.6	Matting - To Work Area	1,800.0	LF	\$ -	\$ -	\$ 70	\$ 126,000	\$ 70	\$ 126,000
1.7	Snow Removal	2.1	Mile	\$ -	\$ -	\$ 16,000	\$ 33,600	\$ 16,000	\$ 33,600
1.8	ROW Restoration	2.1	Mile	\$ -	\$ -	\$ 10,000	\$ 21,000	\$ 10,000	\$ 21,000
1.9	Work Pads	120,000.0	SF	\$ -	\$ -	\$ 4	\$ 422,400	\$ 4	\$ 422,400
1.10	Restoration for Work Pad areas	24,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 3,600	\$ 0	\$ 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	EA	\$ -	\$ -	\$ 4,580	\$ 4,580	\$ 4,580	\$ 4,580
1.14	Maintenance and Protection of Traffic on Public Roads	2	EA	\$ -	\$ -	\$ 4,130	\$ 8,260	\$ 4,130	\$ 8,260
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	-	EA	\$ -	\$ -	\$ 1,850	\$ -	\$ 1,850	\$ -
TOTAL - CLEARING & ACCESS:					\$ -		\$ 1,404,512		\$ 1,404,512
2. FOUNDATIONS									
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	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									
2.14									
2.15									

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
TOTAL - FOUNDATIONS:					\$ 236,848		\$ 925,954		\$ 1,162,802
3. STRUCTURES									
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	\$ 199,960	\$ 29,624	\$ 533,226
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									
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									
3.11									
3.12									
3.13									
3.14									
3.15									
TOTAL - STRUCTURES:					\$ 596,484		\$ 946,665		\$ 1,543,149
4. CONDUCTOR, 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	\$ -	\$ 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									
TOTAL - CONDUCTOR, SHIELDWIRE, OPGW:					\$ 84,763		\$ 387,095		\$ 471,858
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	54	Assembly	\$ 900	\$ 48,600	\$ 360	\$ 19,440	\$ 1,260	\$ 68,040
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	36	Assembly	\$ 900	\$ 32,400	\$ 360	\$ 12,960	\$ 1,260	\$ 45,360
5.6	OPGW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
5.7	OPGW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.8	OHSW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
5.9	OHSW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
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	\$ 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									
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 104,544		\$ 54,696		\$ 159,240
C. Blue Stores Junction to Blue Stores Substation					\$ 1,022,639		\$ 3,718,922		\$ 4,741,561
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416

Item	Item 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			\$ 275,966	\$ 275,966	\$ 275,966	\$ 275,966
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 237,078	\$ 237,078	\$ 237,078	\$ 237,078
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 14,225	\$ 14,225	\$ 14,225	\$ 14,225
6.7	Geotech	2	Location	\$ -	\$ -	\$ 3,500	\$ 7,000	\$ 3,500	\$ 7,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 33,191	\$ 33,191	\$ 33,191	\$ 33,191
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	\$ -	\$ -	\$ 14,225	\$ 14,225	\$ 14,225	\$ 14,225
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	\$ 81,811	\$ 81,811	\$ -	\$ -	\$ 81,811	\$ 81,811
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 4,742	\$ 4,742	\$ 4,742	\$ 4,742
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 81,811	\$ 901,673	\$ 901,673	\$ 983,484	\$ 983,484

NAT - NYPA - T030 - (Segment B Enhanced)

D. Knickerbocker 345kV Substation - Install

Estimate Revision: **4** Total: \$ **18,891,529**

NAT - NYPA - T030 - (Segment B Enhanced)			
	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 EQUIPMENT	\$ 600,000	\$ 240,000	\$ 840,000
5. SMALL EQUIPMENT / 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 Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
D. Knickerbocker 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 PREP/ GRADING/ FENCING / CIVIL					\$ 277,200		\$ 1,745,500		\$ 2,022,700
2. SUBSTATION FOUNDATIONS									
2.1 345kV									
2.1a	Circuit Breaker Foundations	3	EA	\$ 14,940	\$ 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 Distribuion 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 - SUBSTATION FOUNDATIONS					\$ 1,467,421		\$ 1,581,150		\$ 3,048,571
3. SUBSTATION STRUCTURES									
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	2	EA	\$ 37,000	\$ 74,000	\$ 37,000	\$ 74,000	\$ 74,000	\$ 148,000
3.1c	Switch Stands	16	EA	\$ 14,800	\$ 236,800	\$ 14,800	\$ 236,800	\$ 29,600	\$ 473,600
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	63	EA	\$ 3,700	\$ 233,100	\$ 3,700	\$ 233,100	\$ 7,400	\$ 466,200
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	Misc. Structures	4	EA	\$ 6,475	\$ 25,900	\$ 6,475	\$ 25,900	\$ 12,950	\$ 51,800
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 - SUBSTATION STRUCTURES					\$ 710,400		\$ 710,400		\$ 1,420,800
4. MAJOR EQUIPMENT									
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	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	\$ 115,000	\$ -	\$ 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	\$ -

Item	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 - MAJOR EQUIPMENT					\$ 600,000		\$ 240,000		\$ 840,000
5. SMALL EQUIPMENT / 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	9	EA	\$ 35,000	\$ 315,000	\$ 17,500	\$ 157,500	\$ 52,500	\$ 472,500
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
5.1j									
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	\$ -	\$ 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 - SMALL EQUIPMENT / MATERIALS					\$ 1,191,500		\$ 542,000		\$ 1,733,500
6. CONTROL HOUSE / PANELS / GENERATOR									
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	\$ 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

Item	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 - CONTROL 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	\$ 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									
7.13									
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					\$ 1,114,327		\$ 1,890,902		\$ 3,005,229
D. Knickerbocker 345kV Substation - Install					\$ 7,039,773		\$ 7,942,227		\$ 14,982,000
8. MOB/DEMOB, 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 Oversight	1	LS		\$ -	\$ 149,820	\$ 149,820	\$ 149,820	\$ 149,820
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 149,820	\$ 149,820	\$ 149,820	\$ 149,820
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,198,560	\$ 1,198,560	\$ 1,198,560	\$ 1,198,560
8.6	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	2	EA	\$ -	\$ -	\$ 3,500	\$ 7,000	\$ 3,500	\$ 7,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 104,874	\$ 104,874	\$ 104,874	\$ 104,874
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 374,550	\$ 374,550	\$ 374,550	\$ 374,550
Permitting and Additional Costs									
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	\$ 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

NAT - NYPA - T030 - (Segment B Enhanced)

E. Greenbush Substation - Removal

Estimate Revision: **4**

Total: \$ **71,678**

NAT - NYPA - T030 - (Segment 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 EQUIPMENT	\$ -	\$ 7,000	\$ 7,000
5. SMALL EQUIPMENT / MATERIALS	\$ -	\$ 35,000	\$ 35,000
6. CONTROL HOUSE / PANELS	\$ -	\$ 7,200	\$ 7,200
7. MISC ITEMS	\$ -	\$ -	\$ -
8. MOB/DEMOMB, 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:

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
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E. Greenbush 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 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 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	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2n	Misc. Structure Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2p									
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	EA	\$ -	\$ -	\$ 2,400	\$ 4,800	\$ 2,400	\$ 4,800
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	\$ -	\$ 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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 12,000		\$ 12,000
3. SUBSTATION 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	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	0	EA	\$ -	\$ -	\$ 27,000	\$ -	\$ 27,000	\$ -
3.2c	Switch Stands	0	EA	\$ -	\$ -	\$ 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	0	EA	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.3	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ -		\$ -
4. MAJOR EQUIPMENT									
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ 7,000		\$ 7,000
5. SMALL EQUIPMENT / 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	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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	2	EA	\$ -	\$ -	\$ 17,500	\$ 35,000	\$ 17,500	\$ 35,000
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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 35,000		\$ 35,000
6. CONTROL HOUSE / 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	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	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 - CONTROL HOUSE / PANELS / GENERATOR					\$ -		\$ 7,200		\$ 7,200
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	0	EA	\$ -	\$ -	\$ 42,000.00	\$ -	\$ 42,000	\$ -
7.2	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					\$ -		\$ -		\$ -
E. Greenbush Substation - Removal					\$ -		\$ 61,200		\$ 61,200
8. MOB/DEMOB, 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			\$ 3,562	\$ 3,562	\$ 3,562	\$ 3,562
8.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 612	\$ 612	\$ 612	\$ 612
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 612	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 184	\$ 184	\$ 184	\$ 184
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS	\$ -	\$ -	\$ 61	\$ -	\$ 61	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 10,478		\$ 10,478

NAT - NYPA - T030 - (Segment B Enhanced)

F. Schodack Substation - Install

Estimate Revision: **4**

Total: \$ **2,597,782**

NAT - NYPA - T030 - (Segment B Enhanced)			
	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 EQUIPMENT	\$ 104,000	\$ 120,000	\$ 224,000
5. SMALL EQUIPMENT / 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

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
F. Schodack 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									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 4,050		\$ 11,250		\$ 15,300
2. SUBSTATION 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									
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	\$ -

Item	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	\$ -
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	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	\$ -
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	4	EA	\$ 2,988	\$ 11,952	\$ 3,200	\$ 12,800	\$ 6,188	\$ 24,752
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	4	EA	\$ 2,988	\$ 11,952	\$ 3,200	\$ 12,800	\$ 6,188	\$ 24,752
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	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 - SUBSTATION FOUNDATIONS					\$ 201,690		\$ 216,000		\$ 417,690
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
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								
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	\$ -

Item	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	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	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	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ 60,680		\$ 60,680		\$ 121,360
4. MAJOR EQUIPMENT									
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	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	2	EA	\$ 52,000	\$ 104,000	\$ 60,000	\$ 120,000	\$ 112,000	\$ 224,000
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 104,000		\$ 120,000		\$ 224,000
5. SMALL EQUIPMENT / MATERIALS									
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	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	0	EA	\$ 25,000	\$ -	\$ 12,000	\$ -	\$ 37,000	\$ -
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								
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	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	\$ 8,000	\$ 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	6	EA	\$ 8,000	\$ 48,000	\$ 8,000	\$ 48,000	\$ 16,000	\$ 96,000
5.3f	Arresters	6	EA	\$ 3,420	\$ 20,520	\$ 6,000	\$ 36,000	\$ 9,420	\$ 56,520
5.3g	Wave Traps	2	EA	\$ 13,000	\$ 26,000	\$ 8,000	\$ 16,000	\$ 21,000	\$ 42,000
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	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
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 316,520		\$ 226,000		\$ 542,520
6. CONTROL HOUSE / 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	\$ -
TOTAL - CONTROL 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	\$ 11,790	\$ 53.35	\$ 16,005	\$ 93	\$ 27,795
7.4	Grounding System	800.0	LF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	24	EA	\$ 1,000	\$ 24,000	\$ 550	\$ 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	\$ -	\$ 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 ITEMS					\$ 168,552		\$ 259,305		\$ 427,857
F. Schodack Substation - Install					\$ 1,048,307		\$ 1,041,050		\$ 2,089,357
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
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 Oversight	1	LS		\$ -	\$ 20,894	\$ 20,894	\$ 20,894	\$ 20,894
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 20,894	\$ 20,894	\$ 20,894	\$ 20,894
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 167,149	\$ 167,149	\$ 167,149	\$ 167,149
8.6	LIDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 14,625	\$ 14,625	\$ 14,625	\$ 14,625
Testing & Commissioning									
8.9	Testing & Commissioning of T-Line and Equipment	1	LS	\$ -	\$ -	\$ 52,234	\$ 52,234	\$ 52,234	\$ 52,234
Permitting and Additional Costs									
8.10	Environmental Licensing & Permitting Costs	-	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
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 6,268	\$ 6,268	\$ 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		\$ 424,560		\$ 508,425

NAT - NYPA - T030 - (Segment B Enhanced)

G. Schodack Substation - Removal

Estimate Revision: **4**

Total: \$ **159,518**

NAT - NYPA - T030 - (Segment B Enhanced)			
	Supply	Installation	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 EQUIPMENT	\$ -	\$ -	\$ -
5. SMALL EQUIPMENT / MATERIALS	\$ -	\$ -	\$ -
6. CONTROL HOUSE / PANELS	\$ -	\$ -	\$ -
7. MISC ITEMS	\$ -	\$ -	\$ -
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:			\$ 23,318
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ -	\$ 136,200	\$ 159,518
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ -	\$ 136,200	\$ 159,518

Description of Work:

G. Schodack Substation - Removal

1. SITE PREP/ GRADING/ FENCING / CIVIL

Item	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	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 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 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	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	\$ -	\$ 2,400	\$ -
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	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	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	Steele 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	\$ -	\$ 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	Lightning Mast Foundations								
2.6a	70' Lightning Mast Foundation	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 62,400		\$ 62,400
3. SUBSTATION 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	\$ -	\$ -	\$ 2,250	\$ -	\$ 2,250	\$ -
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	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	\$ -
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	\$ -	\$ 2,250	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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	6	EA	\$ -	\$ -	\$ 12,300	\$ 73,800	\$ 12,300	\$ 73,800
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 73,800		\$ 73,800
4. MAJOR EQUIPMENT									
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - MAJOR EQUIPMENT					\$ -		\$ -		\$ -
5. SMALL EQUIPMENT / 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	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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / 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
6. CONTROL HOUSE / 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 Cable	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 - CONTROL 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 ITEMS					\$ -		\$ -		\$ -
G. Schodack Substation - Removal					\$ -		\$ 136,200		\$ 136,200
8. MOB/DEMOB, 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									
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 Oversight	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	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	-	Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.8	Surveying/Staking	-	Site	\$ -	\$ -	\$ 953	\$ -	\$ 953	\$ -
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.11	Environmental Mitigation	-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.12	Warranties / LOC's	1	LS	\$ -	\$ -	\$ 409	\$ 409	\$ 409	\$ 409
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.19	Fees for permits, including roadway, railroad, building or other local permits	-	LS	\$ -	\$ -	\$ 136	\$ -	\$ 136	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 23,318		\$ 23,318

NAT - NYPA - T030 - (Segment B Enhanced)

H. Churchtown Substation - Install

Estimate Revision: **4**

Total: \$ 18,759,615

NAT - NYPA - T030 - (Segment B Enhanced)			
	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 EQUIPMENT	\$ 416,000	\$ 480,000	\$ 896,000
5. SMALL EQUIPMENT / 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

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
H. Churchtown 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	\$ 27	\$ 24,300	\$ 75	\$ 67,500	\$ 102	\$ 91,800
1.3	Substation Fence	1,050	LF	\$ 100	\$ 105,000	\$ 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									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 133,850		\$ 2,459,550		\$ 2,593,400
2. SUBSTATION 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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -

Item	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	\$ 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	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)	20	EA	\$ 16,434	\$ 328,680	\$ 17,600	\$ 352,000	\$ 34,034	\$ 680,680
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	\$ 3,200	\$ 6,400	\$ 6,188	\$ 12,376
2.3g	Bus Support 3ph Foundations	40	EA	\$ 2,988	\$ 119,520	\$ 3,200	\$ 128,000	\$ 6,188	\$ 247,520
2.3h	Bus Support 1 Ph Foundations	24	EA	\$ 2,988	\$ 71,712	\$ 3,200	\$ 76,800	\$ 6,188	\$ 148,512
2.3j	Instrument Transformer Stand Foundations	51	EA	\$ 2,988	\$ 152,388	\$ 3,200	\$ 163,200	\$ 6,188	\$ 315,588
2.3k	Arrester Stand Foundations	15	EA	\$ 2,988	\$ 44,820	\$ 3,200	\$ 48,000	\$ 6,188	\$ 92,820
2.3m	Wave Trap Stand Foundations	10	EA	\$ 2,988	\$ 29,880	\$ 3,200	\$ 32,000	\$ 6,188	\$ 61,880
2.3n	Station Service Foundations	1	EA	\$ 3,735	\$ 3,735	\$ 4,000	\$ 4,000	\$ 7,735	\$ 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								
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 Distribuion Line - 1ph.	1	LS	\$ -	\$ -	\$ 6,500	\$ 6,500	\$ 6,500	\$ 6,500
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		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 964,690		\$ 1,039,500		\$ 2,004,190
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
3.1j	Wave Trap Stand	0	EA	\$ 7,400	\$ -	\$ 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	\$ -	\$ 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	\$ -

Item	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	5	EA	\$ 18,500	\$ 92,500	\$ 18,500	\$ 92,500	\$ 37,000	\$ 185,000
3.3b	Substation A-Frame Structures - Shared Column	0	EA	\$ 18,500	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	16	EA	\$ 7,955	\$ 127,280	\$ 7,955	\$ 127,280	\$ 15,910	\$ 254,560
3.3d	Fuse Stand	1	EA	\$ 7,955	\$ 7,955	\$ 7,955	\$ 7,955	\$ 15,910	\$ 15,910
3.3e	Bus Support 3ph	20	EA	\$ 3,330	\$ 66,600	\$ 3,330	\$ 66,600	\$ 6,660	\$ 133,200
3.3f	Bus Support 1 Ph	24	EA	\$ 1,850	\$ 44,400	\$ 1,850	\$ 44,400	\$ 3,700	\$ 88,800
3.3g	Instrument Transformer Stand	51	EA	\$ 740	\$ 37,740	\$ 740	\$ 37,740	\$ 1,480	\$ 75,480
3.3h	Arrester Stand	15	EA	\$ 740	\$ 11,100	\$ 740	\$ 11,100	\$ 1,480	\$ 22,200
3.3j	Wave Trap Stand	5	EA	\$ 3,700	\$ 18,500	\$ 3,700	\$ 18,500	\$ 7,400	\$ 37,000
3.3k	Misc. Structures	4	EA	\$ 6,475	\$ 25,900	\$ 6,475	\$ 25,900	\$ 12,950	\$ 51,800
3.3l	Station Service Transformer Support Stand	1	EA	\$ 1,110	\$ 1,110	\$ 1,110	\$ 1,110	\$ 2,220	\$ 2,220
TOTAL - SUBSTATION STRUCTURES					\$ 433,085		\$ 433,085		\$ 866,170
4.	MAJOR EQUIPMENT								
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	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	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 - MAJOR EQUIPMENT					\$ 416,000		\$ 480,000		\$ 896,000
5.	SMALL EQUIPMENT / MATERIALS								
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	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	0	EA	\$ 25,000	\$ -	\$ 12,000	\$ -	\$ 37,000	\$ -
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								
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	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
5.3d	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	\$ 168,000	\$ 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	\$ 40,000	\$ 21,000	\$ 105,000
5.3h	Station Service Transformers	1	EA	\$ 75,000	\$ 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

Item	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 EQUIPMENT / MATERIALS					\$ 1,384,800		\$ 938,800		\$ 2,323,600
6. CONTROL HOUSE / 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	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,000
6.4	Control Cables	1	LS	\$ 487,025	\$ 487,025	\$ 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
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 - CONTROL HOUSE / PANELS / GENERATOR					\$ 2,344,525		\$ 1,517,025		\$ 3,861,550
7. MISC ITEMS									
7.1	Conduit & Cable Trench System	1,300.0	LF	\$ 185.00	\$ 240,500	\$ 170.00	\$ 221,000	\$ 355	\$ 461,500
7.2	Rigid Bus, Fittings & Insulators	1,800.0	LF	\$ 125.07	\$ 225,126	\$ 237.10	\$ 426,780	\$ 362	\$ 651,906
7.3	Strain Bus, Connectors & Insulators	1,000.0	LF	\$ 39.30	\$ 39,300	\$ 53.35	\$ 53,350	\$ 93	\$ 92,650
7.4	Grounding System	10,500.0	LF	\$ 6.93	\$ 72,765	\$ 32.58	\$ 342,090	\$ 40	\$ 414,855
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	36	EA	\$ 1,000	\$ 36,000	\$ 550	\$ 19,800	\$ 1,550	\$ 55,800
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					\$ 1,013,691		\$ 1,488,020		\$ 2,501,711
H. Churchtown Substation - Install					\$ 6,690,641		\$ 8,355,980		\$ 15,046,621
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	\$ 150,466
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			\$ 875,736	\$ 875,736	\$ 875,736	\$ 875,736
8.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 150,466	\$ 150,466	\$ 150,466	\$ 150,466
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 150,466	\$ 150,466	\$ 150,466	\$ 150,466
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 1,203,730	\$ 1,203,730	\$ 1,203,730	\$ 1,203,730
8.6	LiDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	Site	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000

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
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 105,326	\$ 105,326	\$ 105,326	\$ 105,326
	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	\$ 535,251	\$ 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

NAT - NYPA - T030 - (Segment B Enhanced)

I. Churchtown Substation - Removal

Estimate Revision: **4** Total: \$ **1,128,661**

NAT - NYPA - T030 - (Segment 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 EQUIPMENT	\$ -	\$ 24,600	\$ 24,600
5. SMALL EQUIPMENT / 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	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. Churchtown 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	\$ -	\$ -	\$ 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 PREP/ GRADING/ FENCING / CIVIL					\$ -		\$ 111,000		\$ 111,000
2. SUBSTATION 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	\$ -	\$ 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	\$ -
2.2k	Arrester Stand Foundations		EA	\$ -	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
2.2m	Wave Trap Stand Foundations		EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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
2.4	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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ -		\$ 340,400		\$ 340,400
3. SUBSTATION 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	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	\$ 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
3.4l	Lightning Mast	4	EA	\$ -	\$ -	\$ 6,450	\$ 25,800	\$ 6,450	\$ 25,800
TOTAL - SUBSTATION STRUCTURES					\$ -		\$ 252,600		\$ 252,600
4. MAJOR EQUIPMENT									
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 - MAJOR EQUIPMENT					\$ -		\$ 24,600		\$ 24,600
5. SMALL EQUIPMENT / MATERIALS									
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		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 - SMALL EQUIPMENT / MATERIALS					\$ -		\$ 60,000		\$ 60,000
6. CONTROL HOUSE / 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - CONTROL 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. Churchtown Substation - Removal					\$ -		\$ 963,678		\$ 963,678
8. MOB/DEMOB, 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 Oversight	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	\$ -
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ -		\$ 164,983		\$ 164,983

NAT - NYPA - T030 - (Segment B Enhanced)

J. Pleasant Valley Substation - Install

Estimate Revision: **4**

Total: \$ **3,490,140**

<i>NAT - NYPA - T030 - (Segment B Enhanced)</i>			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
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 EQUIPMENT	\$ 200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPMENT / 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:	\$ 1,769,300	\$ 1,720,839	\$ 3,490,140

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
J. Pleasant 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 PREP/ GRADING/ FENCING / CIVIL					\$ 11,025		\$ 14,625		\$ 25,650
2. SUBSTATION 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	\$ -

Item	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	\$ -
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)	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	\$ 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 Addition Foundation (25-ft x 50-ft)	1	EA	\$ 51,368	\$ 51,368	\$ 53,700	\$ 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	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 151,466		\$ 160,900		\$ 312,366
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	\$ -	\$ 74,000	\$ -
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	\$ -	\$ 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	\$ 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	\$ -	\$ 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	\$ -

Item	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	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 - SUBSTATION STRUCTURES					\$ 44,400		\$ 44,400		\$ 88,800
4. MAJOR EQUIPMENT									
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								
4.2a	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 - MAJOR EQUIPMENT					\$ 200,000		\$ 80,000		\$ 280,000
5. SMALL EQUIPMENT / 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	EA	\$ 25,000	\$ 75,000	\$ 12,000	\$ 36,000	\$ 111,000	\$ 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	3	EA	\$ 6,500	\$ 19,500	\$ 1,500	\$ 4,500	\$ 8,000	\$ 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									
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 260,500		\$ 129,000		\$ 389,500
6. CONTROL HOUSE / 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	\$ 12,500	\$ 37,500	\$ 47,500	\$ 142,500
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	\$ 261,800
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	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.10	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
TOTAL - CONTROL 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	LS	\$ 15,008.40	\$ -	\$ 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
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									
7.18									
7.19									
7.20									
7.21									
7.22									
7.23									
7.24									
7.25									
TOTAL - MISC ITEMS					\$ 409,950		\$ 457,275		\$ 867,225
J. Pleasant Valley Substation - Install					\$ 1,638,241		\$ 1,139,600		\$ 2,777,841
8. MOB/DEMOb, 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 Oversight	1	LS		\$ -	\$ 27,778	\$ 27,778	\$ 27,778	\$ 27,778
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 27,778	\$ 27,778	\$ 27,778	\$ 27,778
Engineering									
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	\$ 14,000	\$ 3,500	\$ 14,000
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 19,445	\$ 19,445	\$ 19,445	\$ 19,445

Item	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	\$ -	\$ -	\$ 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

NAT - NYPA - T030 - (Segment B Enhanced)

N. Interconnection Milan Station

Estimate Revision: **4**

Total: \$ 742,607

NAT - NYPA - T030 - (Segment B Enhanced)			
	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
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 & 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 - CLEARING & ACCESS					\$ -	\$ 121,100	\$ 121,100		\$ 121,100
2. FOUNDATIONS									
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 - FOUNDATIONS					\$ 84,375	\$ 135,279	\$ 219,654		\$ 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									
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									
3.3									
3.4					\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	2	Pole	\$ 506	\$ 1,012	\$ 5,539	\$ 11,077	\$ 6,045	\$ 12,089
3.6					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 130,328		\$ 88,667		\$ 218,994
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	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	\$ -
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	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	24	Assembly	\$ 1,800	\$ 43,200	\$ 720	\$ 17,280	\$ 2,520	\$ 60,480
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.6	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.7	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.8	OHSW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.9	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.10	OPGW Splice Boxes	-	Set	\$ 1,746	\$ -	\$ 2,274	\$ -	\$ 4,020	\$ -
5.11	OPGW Splice & Test	-	EA	\$ 2,520	\$ -	\$ 2,520	\$ -	\$ 5,040	\$ -
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 45,200		\$ 18,480		\$ 63,680
N. Interconnection Milan Station					\$ 259,903		\$ 363,525		\$ 623,428
6. MOB/DEMOB, 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									
6.2	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
6.3	Utility PM and Project Oversight	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

Item	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

NAT - NYPA - T030 - (Segment B Enhanced)

L. Interconnection Knickerbocker Station

Estimate Revision: **4** Total: \$ **1,531,952**

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	\$ 57,066	\$ 26,934	\$ 84,000
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 31,723	\$ 201,212	\$ 232,936
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 428,266	\$ 1,103,687	\$ 1,531,952
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 428,266	\$ 1,103,687	\$ 1,531,952

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
L. Interconnection Knickerbocker 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	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	\$ 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	\$ 1,850	\$ 1,850	\$ 1,850
1.18				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1.19				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1.20	Crushed Rock	0	CY	\$ 27	\$ -	\$ 75	\$ -	\$ 102	\$ -
TOTAL - CLEARING & ACCESS				\$ -	\$ -	\$ 482,850	\$ 482,850	\$ -	\$ 482,850
2. FOUNDATIONS									
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	-	CY	\$ -	\$ -	\$ 2,000	\$ -	\$ 2,000	\$ -
2.6				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.7				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.8				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.9					\$ -		\$ -		\$ -
2.10					\$ -		\$ -		\$ -
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -
2.15					\$ -		\$ -		\$ -
TOTAL - FOUNDATIONS					\$ 89,638		\$ 195,674		\$ 285,311
3. STRUCTURES									
3.1	1-CKT 115KV 3-POLE TANGENT DEADEND (0°-5°)	2	Structure	\$ 76,177	\$ 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	\$ 92,929	\$ 55,758	\$ 55,758	\$ 148,687	\$ 148,687
3.3					\$ -		\$ -		\$ -
3.4					\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	9	Pole	\$ 506	\$ 4,554	\$ 5,539	\$ 49,847	\$ 6,045	\$ 54,401
3.6					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 249,838		\$ 197,017		\$ 446,855
4. CONDUCTOR, 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	-	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	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	18	Assembly	\$ 900	\$ 16,200	\$ 360	\$ 6,480	\$ 1,260	\$ 22,680
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	36	Assembly	\$ 900	\$ 32,400	\$ 360	\$ 12,960	\$ 1,260	\$ 45,360
5.6	OPGW Assembly - Tangent	3	Assembly	\$ 200	\$ 600	\$ 150	\$ 450	\$ 350	\$ 1,050
5.7	OPGW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.8	OHSW Assembly - Tangent	3	Assembly	\$ 200	\$ 600	\$ 150	\$ 450	\$ 350	\$ 1,050
5.9	OHSW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.10	OPGW Splice Boxes	1	Set	\$ 1,746	\$ 1,746	\$ 2,274	\$ 2,274	\$ 4,020	\$ 4,020
5.11	OPGW Splice & Test	1	EA	\$ 2,520	\$ 2,520	\$ 2,520	\$ 2,520	\$ 5,040	\$ 5,040
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 57,066		\$ 26,934		\$ 84,000
L. Interconnection Knickerbocker Station						\$ 396,542		\$ 902,474	\$ 1,299,017
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									

Item	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	\$ -	\$ -	\$ 12,990	\$ 12,990	\$ 12,990	\$ 12,990
	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			\$ 75,605	\$ 75,605	\$ 75,605	\$ 75,605
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 12,990	\$ 12,990	\$ 12,990	\$ 12,990
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 12,990	\$ 12,990	\$ 12,990	\$ 12,990
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 64,951	\$ 64,951	\$ 64,951	\$ 64,951
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 3,897	\$ 3,897	\$ 3,897	\$ 3,897
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 9,093	\$ 9,093	\$ 9,093	\$ 9,093
	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	\$ -	\$ -	\$ 3,897	\$ 3,897	\$ 3,897	\$ 3,897
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	\$ 31,723	\$ 31,723	\$ -	\$ -	\$ 31,723	\$ 31,723
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 1,299	\$ 1,299	\$ 1,299	\$ 1,299
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 31,723	\$ 1,299	\$ 201,212	\$ 232,936	\$ 232,936

NAT - NYPA - T030 - (Segment B Enhanced)

M. Interconnection Churchtown Station

Estimate
Revision: 4

Total: \$ 2,622,407

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	\$ 106,866	\$ 47,274	\$ 154,140
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 72,179	\$ 339,913	\$ 412,092
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 974,411	\$ 1,647,995	\$ 2,622,407
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 974,411	\$ 1,647,995	\$ 2,622,407

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. Interconnection 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	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 - CLEARING & ACCESS					\$ -		\$ 525,600		\$ 525,600
2. FOUNDATIONS									
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					\$ -		\$ -		\$ -
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 - FOUNDATIONS					\$ 231,719		\$ 334,201		\$ 565,920
3. STRUCTURES									
3.1	1-CKT 115KV 3-POLE LARGE ANGLE DEADEND (60°-90°)	2	Structure	\$ 92,929	\$ 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					\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	12	Pole	\$ 506	\$ 6,072	\$ 5,539	\$ 66,462	\$ 6,045	\$ 72,534
3.6					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 563,647		\$ 401,007		\$ 964,654
4. CONDUCTOR, 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	-	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	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	108	Assembly	\$ 900	\$ 97,200	\$ 360	\$ 38,880	\$ 1,260	\$ 136,080
5.6	OPGW Assembly - Tangent	6	Assembly	\$ 200	\$ 1,200	\$ 150	\$ 900	\$ 350	\$ 2,100
5.7	OPGW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.8	OHSW Assembly - Tangent	6	Assembly	\$ 200	\$ 1,200	\$ 150	\$ 900	\$ 350	\$ 2,100
5.9	OHSW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.10	OPGW Splice Boxes	1	Set	\$ 1,746	\$ 1,746	\$ 2,274	\$ 2,274	\$ 4,020	\$ 4,020
5.11	OPGW Splice & Test	1	EA	\$ 2,520	\$ 2,520	\$ 2,520	\$ 2,520	\$ 5,040	\$ 5,040
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 106,866		\$ 47,274		\$ 154,140
M. Interconnection Churchtown Station					\$ 902,233		\$ 1,308,082		\$ 2,210,315
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 22,103	\$ 22,103	\$ 22,103	\$ 22,103
Project Management, Material Handling & Amenities									

Item	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			\$ 128,644	\$ 128,644	\$ 128,644	\$ 128,644
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 22,103	\$ 22,103	\$ 22,103	\$ 22,103
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 22,103	\$ 22,103	\$ 22,103	\$ 22,103
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 110,516	\$ 110,516	\$ 110,516	\$ 110,516
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 6,631	\$ 6,631	\$ 6,631	\$ 6,631
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 15,472	\$ 15,472	\$ 15,472	\$ 15,472
	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	\$ -	\$ -	\$ 6,631	\$ 6,631	\$ 6,631	\$ 6,631
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	\$ 72,179	\$ 72,179	\$ -	\$ -	\$ 72,179	\$ 72,179
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 2,210	\$ 2,210	\$ 2,210	\$ 2,210
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 72,179		\$ 339,913		\$ 412,092

NAT - NYPA - T030 - (Segment B Enhanced)

N. Interconnection Pleasant Valley

Estimate Revision: **4** Total: \$ **2,657,001**

NAT - NYPA - T030 - (Segment B Enhanced)			
	<i>Supply</i>	<i>Installation</i>	<i>Total</i>
N. Interconnection Pleasant Valley			
1. CLEARING & ACCESS	\$ -	\$ 578,850	\$ 578,850
2. FOUNDATIONS	\$ 61,875	\$ 790,750	\$ 852,625
3. STRUCTURES	\$ 388,477	\$ 311,610	\$ 700,087
4. CONDUCTOR, SHIELDWIRE, OPGW	\$ -	\$ -	\$ -
5. INSULATORS, FITTINGS, HARDWARE	\$ 92,066	\$ 41,694	\$ 133,760
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 43,393	\$ 348,285	\$ 391,679
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 585,812	\$ 2,071,189	\$ 2,657,001
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 585,812	\$ 2,071,189	\$ 2,657,001

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 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)	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	75,000.0	SF	\$ -	\$ -	\$ 4	\$ 264,000	\$ 4	\$ 264,000
1.10	Restoration for Work Pad areas	15,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 2,250	\$ 0	\$ 2,250
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 - CLEARING & ACCESS					\$ -	\$ -	\$ 578,850	\$ -	\$ 578,850
2. FOUNDATIONS									
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									
2.4									
2.5	Rock Excavation Adder	185	CY	\$ -	\$ -	\$ 2,000	\$ 370,000	\$ 2,000	\$ 370,000
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					\$ -		\$ -		\$ -
2.15					\$ -		\$ -		\$ -
TOTAL - FOUNDATIONS					\$ 61,875		\$ 790,750		\$ 852,625
3. STRUCTURES									
3.1	115kV Single Circuit Single Pole Angle/DE	5	Structure	\$ 76,177	\$ 380,887	\$ 45,706	\$ 228,532	\$ 121,884	\$ 609,420
3.2									
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					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 388,477		\$ 311,610		\$ 700,087
4. CONDUCTOR, 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	-	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	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -	\$ -	\$ -	\$ -	\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	90	Assembly	\$ 900	\$ 81,000	\$ 360	\$ 32,400	\$ 1,260	\$ 113,400
5.6	OPGW Assembly - Tangent	14	Assembly	\$ 200	\$ 2,800	\$ 150	\$ 2,100	\$ 350	\$ 4,900
5.7	OPGW Assembly - Angle / DE	1	Assembly	\$ 250	\$ 250	\$ 150	\$ 150	\$ 400	\$ 400
5.8	OHSW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.9	OHSW Assembly - Angle / DE	15	Assembly	\$ 250	\$ 3,750	\$ 150	\$ 2,250	\$ 400	\$ 6,000
5.10	OPGW Splice Boxes	1	Set	\$ 1,746	\$ 1,746	\$ 2,274	\$ 2,274	\$ 4,020	\$ 4,020
5.11	OPGW Splice & Test	1	EA	\$ 2,520	\$ 2,520	\$ 2,520	\$ 2,520	\$ 5,040	\$ 5,040
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 92,066		\$ 41,694		\$ 133,760
N. Interconnection Pleasant Valley					\$ 542,418		\$ 1,722,904		\$ 2,265,322
6. MOB/DEMOb, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 22,653	\$ 22,653	\$ 22,653	\$ 22,653
Project Management, Material Handling & Amenities									

Item	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			\$ 131,845	\$ 131,845	\$ 131,845	\$ 131,845
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 22,653	\$ 22,653	\$ 22,653	\$ 22,653
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 22,653	\$ 22,653	\$ 22,653	\$ 22,653
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 113,266	\$ 113,266	\$ 113,266	\$ 113,266
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 6,796	\$ 6,796	\$ 6,796	\$ 6,796
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 15,857	\$ 15,857	\$ 15,857	\$ 15,857
	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	\$ -	\$ -	\$ 6,796	\$ 6,796	\$ 6,796	\$ 6,796
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	\$ 43,393	\$ 43,393	\$ -	\$ -	\$ 43,393	\$ 43,393
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 2,265	\$ 2,265	\$ 2,265	\$ 2,265
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 43,393		\$ 348,285		\$ 391,679

NAT & NYPA - T030 - (Segment B)

O. System Upgrade Facilities (Middletown Tap to Shoemaker Line and Cricket Valley to Long Mt. Line)

Estimate
Revision: **4**

Total: \$ 4,413,551

SYSTEM UPGRADE 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 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 1033.5kcmil 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 Vly to Conn Border)	3.30	Mile	\$ -	\$ -	\$ 30,000.00	\$ 99,000	\$ 30,000	\$ 99,000
2.4	Remove Existing 2156kcmil 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
Revision: 4

Total: \$ 14,049,000

SYSTEM UPGRADE 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	\$ 10,879,000
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.
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 5.061% 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 Oversight 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.
27	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 -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	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.
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 \$)	
Direct Cost	1	Transmission Lines	
	1.1	Clearing & Access	\$35,253
	1.2	Foundations	\$82,888
	1.3	Structures	\$67,205
	1.4	Conductor, Shieldwire and OPGW	\$33,769
	1.5	Insulators, Fitting and Hardwares	\$11,614
	Subtotal (1)		\$230,729
	2	Substations	
	2.1	Knickerbocker Substation	\$21,112
	2.2	East Greenbush Substation	\$0
	2.3	Schodack Substation	\$0
	2.4	Churchtown Substation	\$1,977
	2.5	Pleasant Valley Substation	\$3,101
	2.6	Substation Interconnections	\$5,921
Subtotal (2)		\$32,111	
Total (1+2)		\$262,840	
Contractors Mark-up (15% of Total 1+2)		\$39,426	
Total Direct Cost (A)		\$302,266	
Indirect Cost	3	Technical Services Costs	
	3.1	Contractor Mobilization / Demobilization	\$2,628
	3.2	Project Management, Material Handling & Amenities	\$17,904
	3.3	Engineering	\$16,723
	3.4	Testing & Commissioning	\$755
	3.5	Permitting, Real Estate, Sales Tax and Additional Costs	\$16,601
	3.6	Legal, Env. Lisc. & Permit and Env. Mitigation	\$7,628
	Total Indirect Cost (3)		\$62,238
Subtotal Project Cost (B=A+3) 2017 \$		\$364,504	
	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 \$		\$368,921	
Total Project Cost 2018 \$		\$379,989	

ITC T032 (Segment B)

Estimate Revision: 4

<i>ITC T032 (Segment B) Direct Costs</i>		<i>Total Each Segment</i>
Direct Labor, Material & Equipment Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 77,340,865
Direct Labor, Material & Equipment Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 148,646,422
Direct Labor, Material & Equipment Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 4,741,561
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	\$ 3,076,009
Direct Labor, Material & Equipment Costs	L. Interconnection Churchtown Station	\$ 2,169,554
Direct Labor, Material & Equipment Costs	M. Interconnection Milan Station	\$ 675,154
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:		\$ 265,995,431
CONTRACTOR MARK-UP (OH&P)		\$ 39,899,315
CONTINGENCY ON ENTIRE PROJECT		\$ -
TOTAL DIRECT:		\$ 305,894,746

<i>ITC T032 (Segment B) Indirect Costs</i>		<i>Total Each Segment</i>
Indirect Costs	A. Transmission Line Knickerbocker to Churchtown	\$ 16,550,870
Indirect Costs	B. Transmission Line Churchtown to Pleasant Valley	\$ 29,585,399
Indirect Costs	C. Blue Stores Junction to Blue Stores Substation	\$ 935,663
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	\$ 556,559
Indirect Costs	L. Interconnection Churchtown Station	\$ 364,501
Indirect Costs	M. Interconnection Milan Station	\$ 120,242
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 INDIRECT:		\$ 63,026,682

TOTAL ESTIMATED COST: \$ 368,921,427

ITC T032 (Segment B)

A. Transmission Line Knickerbocker to Churchtown

Estimate Revision: **4**

Total: \$ **93,891,736**

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	\$ 2,872,111	\$ 1,416,808	\$ 4,288,920
6. MOB/DEMOMB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 2,256,496	\$ 14,294,374	\$ 16,550,870
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 30,462,694	\$ 63,429,042	\$ 93,891,736
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 30,462,694	\$ 63,429,042	\$ 93,891,736

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. Transmission 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	\$ 1,040,688	\$ 45	\$ 1,040,688
1.4	Silt Fence	115,632	LF	\$ -	\$ -	\$ 4.00	\$ 462,528	\$ 4	\$ 462,528
1.5	Matting - Access and ROW	92,506	LF	\$ -	\$ -	\$ 70.00	\$ 6,475,392	\$ 70	\$ 6,475,392
1.6	Matting - To Work Area	12,900	LF	\$ -	\$ -	\$ 70.00	\$ 903,000	\$ 70	\$ 903,000
1.7	Snow Removal	21.9	Mile	\$ -	\$ -	\$ 16,000	\$ 350,400	\$ 16,000	\$ 350,400
1.8	ROW Restoration	21.9	Mile	\$ -	\$ -	\$ 10,000	\$ 219,000	\$ 10,000	\$ 219,000
1.9	Work Pads	860,000	SF	\$ -	\$ -	\$ 3.52	\$ 3,027,200	\$ 4	\$ 3,027,200
1.10	Restoration for Work Pad areas	172,000	SF	\$ -	\$ -	\$ 0.15	\$ 25,800	\$ 0.15	\$ 25,800
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	\$ 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 - CLEARING & ACCESS:					\$ 11,500		\$ 13,507,953		\$ 13,519,453
2. FOUNDATIONS									
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	CY	\$ -	\$ -	\$ 2,000	\$ 1,164,000	\$ 2,000	\$ 1,164,000
2.5									
2.6									
2.7									
2.8									
2.9									

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
2.10									
2.11									
2.12									
2.13									
2.14									
2.15									
2.16									
2.17									
2.18									
TOTAL - FOUNDATIONS:					\$ 12,695,824		\$ 13,995,790		\$ 26,691,613
3. STRUCTURES									
3.1	345/115kV D/C Single Pole Delta V-String Tangent Steel 80'	158	Structure	\$ 56,795	\$ 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	\$ 87,135	\$ 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	\$ 87,135	\$ 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	\$ 506	\$ 94,116	\$ 5,539	\$ 1,030,161	\$ 6,045	\$ 1,124,277
3.7									
3.8									
3.9									
3.10									
3.11									
3.12									
3.13									
3.14									
3.15									
TOTAL - STRUCTURES:					\$ 10,287,616		\$ 11,532,261		\$ 21,819,877
4. CONDUCTOR, SHIELDWIRE, OPGW									
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	\$ 0.47	\$ 57,065	\$ 5.00	\$ 607,070	\$ 5.47	\$ 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	\$ 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: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 2,339,147		\$ 8,681,855		\$ 11,021,002
5. INSULATOR, FITTINGS, HARDWARE									
5.1	345kV Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	948	Assembly	\$ 1,800	\$ 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)	474	Assembly	\$ 900	\$ 426,600	\$ 560	\$ 265,440	\$ 1,460	\$ 692,040
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	168	Assembly	\$ 1,800	\$ 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	\$ 900	\$ 75,600	\$ 560	\$ 47,040	\$ 1,460	\$ 122,640
5.5				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.6	Angle - V-String (1-Group of 18-Bells Each Assembly)		Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -

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
5.7	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	158	Assembly	\$ 200	\$ 31,600	\$ 150	\$ 23,700	\$ 350	\$ 55,300
5.9	OPGW Assembly - Angle / DE	14	Assembly	\$ 250	\$ 3,500	\$ 150	\$ 2,100	\$ 400	\$ 5,600
5.10	OHSW Assembly - Tangent	158	Assembly	\$ 200	\$ 31,600	\$ 150	\$ 23,700	\$ 350	\$ 55,300
5.11	OHSW Assembly - Angle / DE	14	Assembly	\$ 250	\$ 3,500	\$ 150	\$ 2,100	\$ 400	\$ 5,600
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	3,642	EA	\$ 50	\$ 182,100	\$ 35	\$ 127,470	\$ 85	\$ 309,570
5.15	Vibration Dampers - Conductor	1,311	EA	\$ 35	\$ 45,885	\$ 35	\$ 45,885	\$ 70	\$ 91,770
5.16	Shield wire / OPGW Dampers, Misc. Fittings	442	EA	\$ 27	\$ 11,934	\$ 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	\$ 16,863	\$ 1,006	\$ 22,031	\$ 1,776	\$ 38,894
5.23		-		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 2,872,111		\$ 1,416,808		\$ 4,288,920
A. Transmission Line Knickerbocker to Churchtown					\$ 28,206,198		\$ 49,134,667		\$ 77,340,865
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 773,409	\$ 773,409	\$ 773,409	\$ 773,409
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			\$ 3,721,333	\$ 3,721,333	\$ 3,721,333	\$ 3,721,333
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 773,409	\$ 773,409	\$ 773,409	\$ 773,409
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 773,409	\$ 773,409	\$ 773,409	\$ 773,409
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 3,867,043	\$ 3,867,043	\$ 3,867,043	\$ 3,867,043
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 232,023	\$ 232,023	\$ 232,023	\$ 232,023
6.7	Geotech	22	Location	\$ -	\$ -	\$ 3,500	\$ 77,000	\$ 3,500	\$ 77,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 541,386	\$ 541,386	\$ 541,386	\$ 541,386
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	\$ -	\$ -	\$ 232,023	\$ 232,023	\$ 232,023	\$ 232,023
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	\$ 2,256,496	\$ 2,256,496	\$ -	\$ -	\$ 2,256,496	\$ 2,256,496
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 77,341	\$ 77,341	\$ 77,341	\$ 77,341
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 2,256,496		\$ 14,294,374		\$ 16,550,870

ITC T032 (Segment B)

B. Transmission Line Churchtown to Pleasant Valley

Estimate Revision: 4

Total: \$ 178,231,821

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	\$ 4,820,234	\$ 2,345,288	\$ 7,165,523
6. MOB/DEMOMB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 3,854,864	\$ 25,730,535	\$ 29,585,399
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 52,040,664	\$ 126,191,157	\$ 178,231,821
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 52,040,664	\$ 126,191,157	\$ 178,231,821

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. Transmission 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	\$ 45	\$ 1,525,392
1.4	Silt Fence	169,488.0	LF	\$ -	\$ -	\$ 4	\$ 677,952	\$ 4	\$ 677,952
1.5	Matting - Access and ROW	135,590.4	LF	\$ -	\$ -	\$ 70	\$ 9,491,328	\$ 70	\$ 9,491,328
1.6	Matting - To Work Area	18,750.0	LF	\$ -	\$ -	\$ 70	\$ 1,312,500	\$ 70	\$ 1,312,500
1.7	Snow Removal	32.1	Mile	\$ -	\$ -	\$ 16,000	\$ 513,600	\$ 16,000	\$ 513,600
1.8	ROW Restoration	32.1	Mile	\$ -	\$ -	\$ 10,000	\$ 321,000	\$ 10,000	\$ 321,000
1.9	Work Pads	1,490,000.0	SF	\$ -	\$ -	\$ 4	\$ 5,244,800	\$ 4	\$ 5,244,800
1.10	Restoration for Work Pad areas	298,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 44,700	\$ 0	\$ 44,700
1.11	Temporary Access Bridge	14	EA	\$ -	\$ -	\$ 20,035	\$ 280,490	\$ 20,035	\$ 280,490
1.12	Air Bridge	-	EA	\$ -	\$ -	\$ 14,445	\$ -	\$ 14,445	\$ -
1.13	Stabilized Construction Entrance	12	EA	\$ -	\$ -	\$ 4,580	\$ 54,960	\$ 4,580	\$ 54,960
1.14	Maintenance and Protection of Traffic on Public Roads	86	EA	\$ -	\$ -	\$ 4,130	\$ 355,180	\$ 4,130	\$ 355,180
1.15	Gates	4	EA	\$ 2,000	\$ 8,000	\$ 2,500	\$ 10,000	\$ 4,500	\$ 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 - CLEARING & ACCESS:					\$ 14,000		\$ 20,315,402		\$ 20,329,402
2. FOUNDATIONS									
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	CY	\$ -	\$ -	\$ 2,000	\$ 11,664,000	\$ 2,000	\$ 11,664,000
2.6									
2.7									
2.8									
2.9									

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.10									
2.11									
2.12									
TOTAL - FOUNDATIONS:					\$ 21,569,255		\$ 33,464,251		\$ 55,033,507
3. STRUCTURES									
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	\$ 23,784,192
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	\$ 2,074,368
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	\$ 172,864	\$ 1,210,048
3.4	Remove Existing Foundation	2,048	EA	\$ -	\$ -	\$ 3,250	\$ 6,656,000	\$ 3,250	\$ 6,656,000
3.5	Remove Existing Structure and Accessories	512	EA	\$ -	\$ -	\$ 12,500	\$ 6,400,000	\$ 12,500	\$ 6,400,000
3.6	Install Grounding and Grounding Accessories	615	Pole	\$ 506	\$ 311,190	\$ 5,539	\$ 3,406,178	\$ 6,045	\$ 3,717,368
3.7									
3.8									
3.9									
3.10									
3.11									
3.12									
3.13									
3.14									
3.15									
3.16									
3.17									
TOTAL - STRUCTURES PRINCETOWN TO NEW SCOTLAND:					\$ 17,229,070		\$ 26,612,906		\$ 43,841,976
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	345kV - (1) 954kcmil 54/7 ACSS "Cardinal"	1,094,386	LF	\$ 1.90	\$ 2,079,333	\$ 5.00	\$ 5,471,930	\$ 6.90	\$ 7,551,263
4.2	(1) OPGW 36 Fiber AC-33/38/571	182,398	LF	\$ 1.35	\$ 246,237	\$ 5.00	\$ 911,990	\$ 6.35	\$ 1,158,227
4.3	(1) 3/8" EHS7 Steel	182,398	LF	\$ 0.47	\$ 85,727	\$ 5.00	\$ 911,990	\$ 5.47	\$ 997,717
4.5	Remove Existing 115kV Cable From Existing Structures	130.4	Mile	\$ -	\$ -	\$ 30,000	\$ 3,912,000	\$ 30,000.00	\$ 3,912,000
4.6	Remove Existing OPGW Cable and Accessories	32.3	Mile	\$ -	\$ -	\$ 12,000	\$ 387,600	\$ 12,000.00	\$ 387,600
4.7	Remove Existing OHSW and Accessories	32.3	Mile	\$ -	\$ -	\$ 12,000	\$ 387,600	\$ 12,000.00	\$ 387,600
4.8	115kV - (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
4.9									
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	\$ 3,500	\$ 150,500	\$ 5,250.00	\$ 225,750
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ 4,553,240		\$ 17,722,775		\$ 22,276,015
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	\$ 720	\$ 1,205,280	\$ 2,520	\$ 4,218,480
5.2	115kV Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	837	Assembly	\$ 900	\$ 753,300	\$ 560	\$ 468,720	\$ 1,460	\$ 1,222,020
5.3	345kV Dead-end & Angle Insulators (1-Group of 18-Bells Each Assembly)	228	Assembly	\$ 1,800	\$ 410,400	\$ 720	\$ 164,160	\$ 2,520	\$ 574,560
5.4	115kV Dead-end & Angle Insulators (1-Group of 9-Bells Each Assembly)	114	Assembly	\$ 900	\$ 102,600	\$ 560	\$ 63,840	\$ 1,460	\$ 166,440
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	\$ 150	\$ 41,850	\$ 350	\$ 97,650
5.8	OHSW Assembly - Angle / DE	38	Assembly	\$ 250	\$ 9,500	\$ 150	\$ 5,700	\$ 400	\$ 15,200
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	\$ 30,240	\$ 2,520	\$ 30,240	\$ 5,040	\$ 60,480
5.11	Spacer - Conductor	5,414	EA	\$ 50	\$ 270,700	\$ 35	\$ 189,490	\$ 85	\$ 460,190
5.12	Vibration Dampers - Conductor	1,299	EA	\$ 35	\$ 45,465	\$ 35	\$ 45,465	\$ 70	\$ 90,930
5.13	Shieldwire / OPGW Dampers, Misc. Fittings	656	EA	\$ 27	\$ 17,712	\$ 35	\$ 22,960	\$ 62	\$ 40,672
5.14	Guys, Anchors, and Accessories	-	EA	\$ 720	\$ -	\$ 885	\$ -	\$ 1,605	\$ -
5.15	Misc. materials (Signs and Markers)	32.6	Mile	\$ 770	\$ 25,064	\$ 1,006	\$ 32,745	\$ 1,776	\$ 57,809
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 4,820,234		\$ 2,345,288		\$ 7,165,523
B. Transmission Line Churchtown to Pleasant Valley					\$ 48,185,800		\$ 100,460,622		\$ 148,646,422

Item	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. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 1,486,464	\$ 1,486,464	\$ 1,486,464	\$ 1,486,464
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			\$ 7,152,271	\$ 7,152,271	\$ 7,152,271	\$ 7,152,271
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 1,486,464	\$ 1,486,464	\$ 1,486,464	\$ 1,486,464
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 1,486,464	\$ 1,486,464	\$ 1,486,464	\$ 1,486,464
Engineering									
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 7,432,321	\$ 7,432,321	\$ 7,432,321	\$ 7,432,321
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 445,939	\$ 445,939	\$ 445,939	\$ 445,939
6.7	Geotech	33	Location	\$ -	\$ -	\$ 3,500	\$ 115,500	\$ 3,500	\$ 115,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 1,040,525	\$ 1,040,525	\$ 1,040,525	\$ 1,040,525
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	\$ -	\$ -	\$ 445,939	\$ 445,939	\$ 445,939	\$ 445,939
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	\$ 3,854,864	\$ 3,854,864	\$ -	\$ -	\$ 3,854,864	\$ 3,854,864
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 148,646	\$ 148,646	\$ 148,646	\$ 148,646
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 3,854,864	\$ -	\$ 25,730,535	\$ -	\$ 29,585,399

ITC T032 (Segment B)

C. Blue Stores Junction to Blue Stores Substation

Estimate
Revision: **4**

Total: \$ **5,677,223**

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	\$ 104,544	\$ 54,696	\$ 159,240
6. MOB/DEMOMB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 81,811	\$ 853,852	\$ 935,663
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,104,450	\$ 4,572,774	\$ 5,677,223
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,104,450	\$ 4,572,774	\$ 5,677,223

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 Stores 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	\$ 20,000	\$ 5,000	\$ 20,000
1.3	Permanent Access Road	2,218	LF	\$ -	\$ -	\$ 45	\$ 99,792	\$ 45	\$ 99,792
1.4	Silt Fence	11,088.0	LF	\$ -	\$ -	\$ 4	\$ 44,352	\$ 4	\$ 44,352
1.5	Matting - Access and ROW	8,870	LF	\$ -	\$ -	\$ 70	\$ 620,928	\$ 70	\$ 620,928
1.6	Matting - To Work Area	1,800.0	LF	\$ -	\$ -	\$ 70	\$ 126,000	\$ 70	\$ 126,000
1.7	Snow Removal	2.1	Mile	\$ -	\$ -	\$ 16,000	\$ 33,600	\$ 16,000	\$ 33,600
1.8	ROW Restoration	2.1	Mile	\$ -	\$ -	\$ 10,000	\$ 21,000	\$ 10,000	\$ 21,000
1.9	Work Pads	120,000.0	SF	\$ -	\$ -	\$ 4	\$ 422,400	\$ 4	\$ 422,400
1.10	Restoration for Work Pad areas	24,000.0	SF	\$ -	\$ -	\$ 0.2	\$ 3,600	\$ 0	\$ 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	EA	\$ -	\$ -	\$ 4,580	\$ 4,580	\$ 4,580	\$ 4,580
1.14	Maintenance and Protection of Traffic on Public Roads	2	EA	\$ -	\$ -	\$ 4,130	\$ 8,260	\$ 4,130	\$ 8,260
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	-	EA	\$ -	\$ -	\$ 1,850	\$ -	\$ 1,850	\$ -
TOTAL - CLEARING & ACCESS:					\$ -		\$ 1,404,512		\$ 1,404,512
2. FOUNDATIONS									
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 - FOUNDATIONS:					\$ 236,848		\$ 925,954		\$ 1,162,802
3. STRUCTURES									
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	\$ 199,960	\$ 29,624	\$ 533,226
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									
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									
3.11									
3.12									
3.13									
3.14									
3.15									
TOTAL - STRUCTURES:					\$ 596,484		\$ 946,665		\$ 1,543,149
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	345kV - (1) 954kcmil 54/7 ACSR "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	\$ 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									
TOTAL - CONDUCTOR, SHIELDWIRE, OPGW:					\$ 84,763		\$ 387,095		\$ 471,858
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	54	Assembly	\$ 900	\$ 48,600	\$ 360	\$ 19,440	\$ 1,260	\$ 68,040
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	36	Assembly	\$ 900	\$ 32,400	\$ 360	\$ 12,960	\$ 1,260	\$ 45,360
5.6	OPGW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
5.7	OPGW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.8	OHSW Assembly - Tangent	18	Assembly	\$ 200	\$ 3,600	\$ 150	\$ 2,700	\$ 350	\$ 6,300
5.9	OHSW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
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	\$ 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									
TOTAL - INSULATORS, FITTINGS, HARDWARE:					\$ 104,544		\$ 54,696		\$ 159,240
C. Blue Stores Junction to Blue Stores Substation					\$ 1,022,639		\$ 3,718,922		\$ 4,741,561
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									

Item	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	\$ -	\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
	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			\$ 228,145	\$ 228,145	\$ 228,145	\$ 228,145
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 47,416	\$ 47,416	\$ 47,416	\$ 47,416
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 237,078	\$ 237,078	\$ 237,078	\$ 237,078
6.6	LiDAR	1	LS	\$ -	\$ -	\$ 14,225	\$ 14,225	\$ 14,225	\$ 14,225
6.7	Geotech	2	Location	\$ -	\$ -	\$ 3,500	\$ 7,000	\$ 3,500	\$ 7,000
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 33,191	\$ 33,191	\$ 33,191	\$ 33,191
	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	\$ -	\$ -	\$ 14,225	\$ 14,225	\$ 14,225	\$ 14,225
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	\$ 81,811	\$ 81,811	\$ -	\$ -	\$ 81,811	\$ 81,811
6.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS	\$ -	\$ -	\$ 4,742	\$ 4,742	\$ 4,742	\$ 4,742
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 81,811	\$ 4,742	\$ 853,852	\$ 935,663	\$ 935,663

ITC T032 (Segment B)

D. Knickerbocker 345kV Substation - Install

Estimate Revision: **4**

Total: \$ **26,378,891**

ITC T032 (Segment 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 EQUIPMENT	\$ 756,000	\$ 420,000	\$ 1,176,000
5. SMALL EQUIPMENT / 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:

Item	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. Knickerbocker 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	CY	\$ 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									
1.14									
1.15									
TOTAL - SITE PREP/ GRADING/ FENCING / CIVIL					\$ 307,450		\$ 3,237,850		\$ 3,545,300
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)	12	EA	\$ 26,145	\$ 313,740	\$ 28,000	\$ 336,000	\$ 54,145	\$ 649,740
2.1d	Caisson DE Foundations (for DE A frame str. - shared column)	0	EA	\$ 26,145	\$ -	\$ 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	\$ 4,800	\$ 316,800	\$ 9,282	\$ 612,612
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	Station Service Foundations	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.1p	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
2.1q									
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	\$ 5,600	\$ 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	\$ 3,200	\$ 44,800	\$ 6,188	\$ 86,632
2.3f	Fuse Stand Foundations	2	EA	\$ 2,988	\$ 5,976	\$ 3,200	\$ 6,400	\$ 6,188	\$ 12,376
2.3g	Bus Support 3ph Foundations	30	EA	\$ 2,988	\$ 89,640	\$ 3,200	\$ 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	\$ 3,200	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 1,648,569		\$ 1,775,150		\$ 3,423,719
3. SUBSTATION STRUCTURES									
3.1	345kV								
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
3.3l	Station Service Transformer Support Stand	1	EA	\$ 1,110	\$ 1,110	\$ 1,110	\$ 1,110	\$ 2,220	\$ 2,220
TOTAL - SUBSTATION STRUCTURES					\$ 846,190		\$ 846,190		\$ 1,692,380
4. MAJOR EQUIPMENT									
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	\$ -
4.2b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 80,000	\$ -	\$ 80,000	\$ -
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	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 756,000		\$ 420,000		\$ 1,176,000

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 EQUIPMENT / 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	\$ 17,500	\$ 122,500	\$ 45,500	\$ 318,500
5.3c	VT'S	9	EA	\$ 13,000	\$ 117,000	\$ 8,000	\$ 72,000	\$ 21,000	\$ 189,000
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	\$ 50,000	\$ 250,000	\$ 250,000
5.3j	Fuses	3	EA	\$ 15,000	\$ 45,000	\$ 7,500	\$ 22,500	\$ 22,500	\$ 67,500
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 1,802,280		\$ 973,500		\$ 2,775,780
6. CONTROL HOUSE / 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	26	EA	\$ 35,000	\$ 910,000	\$ 10,000	\$ 260,000	\$ 45,000	\$ 1,170,000
6.3	125VDC Batteries	2	EA	\$ 75,000	\$ 150,000	\$ 25,000	\$ 50,000	\$ 100,000	\$ 200,000
6.4	Control Cables	1	LS	\$ 641,025	\$ 641,025	\$ 641,025	\$ 641,025	\$ 1,282,050	\$ 1,282,050
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
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 - CONTROL HOUSE / PANELS / GENERATOR					\$ 2,534,025		\$ 1,641,025		\$ 4,175,050

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
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 ITEMS					\$ 1,537,224		\$ 2,786,694		\$ 4,323,918
D. Knickerbocker 345kV Substation - Install					\$ 9,431,738		\$ 11,680,409		\$ 21,112,147
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1.0	LS	\$ -	\$ -	\$ 211,121	\$ 211,121	\$ 211,121	\$ 211,121
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			\$ 1,015,832	\$ 1,015,832	\$ 1,015,832	\$ 1,015,832
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 211,121	\$ 211,121	\$ 211,121	\$ 211,121
8.4	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	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	\$ -	\$ -	\$ 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	\$ 754,539	\$ -	\$ -	\$ 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:					\$ 754,539		\$ 4,512,205		\$ 5,266,744

ITC T032 (Segment B)

H. Churchtown Substation - Install

Estimate Revision: **4**

Total: \$ **2,452,922**

ITC T032 (Segment 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 EQUIPMENT	\$ 52,000	\$ 60,000	\$ 112,000
5. SMALL EQUIPMENT / 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:	\$ 1,007,082	\$ 1,436,975	\$ 2,452,922

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
H. Churchtown 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	\$ 2,835	\$ 75	\$ 7,875	\$ 102	\$ 10,710
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 PREP/ GRADING/ FENCING / CIVIL					\$ 30,835		\$ 95,225		\$ 126,060
2. SUBSTATION 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									
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	\$ -

Item	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	\$ -	\$ 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	1	EA	\$ 5,229	\$ 5,229	\$ 5,600	\$ 5,600	\$ 10,829	\$ 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	2	EA	\$ 2,988	\$ 5,976	\$ 3,200	\$ 6,400	\$ 6,188	\$ 12,376
2.3f	Fuse Stand Foundations	0	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 6,188	\$ -
2.3g	Bus Support 3ph Foundations	2	EA	\$ 2,988	\$ 5,976	\$ 3,200	\$ 6,400	\$ 6,188	\$ 12,376
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	\$ 3,200	\$ 9,600	\$ 6,188	\$ 18,564
2.3m	Wave Trap Stand Foundations	1	EA	\$ 2,988	\$ 2,988	\$ 3,200	\$ 3,200	\$ 6,188	\$ 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								
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	\$ 8,964	\$ 8,964	\$ 9,600	\$ 9,600	\$ 18,564	\$ 18,564
2.5b	Generator Foundation	0	EA	\$ 16,000	\$ -	\$ 17,000	\$ -	\$ 33,000	\$ -
2.5c	Station Service Distribution Line - 1ph.	0	LS	\$ -	\$ -	\$ 6,500	\$ -	\$ 6,500	\$ -
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 - SUBSTATION FOUNDATIONS					\$ 150,147		\$ 160,800		\$ 310,947
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	\$ -	\$ 3,700	\$ -
3.1j	Wave Trap Stand	0	EA	\$ 7,400	\$ -	\$ 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	\$ -	\$ 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	\$ -

Item	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	\$ -	\$ 18,500	\$ -	\$ 37,000	\$ -
3.3c	Switch Stands	1	EA	\$ 7,955	\$ 7,955	\$ 7,955	\$ 7,955	\$ 15,910	\$ 15,910
3.3d	Fuse Stand	0	EA	\$ 7,955	\$ -	\$ 7,955	\$ -	\$ 15,910	\$ -
3.3e	Bus Support 3ph	1	EA	\$ 3,330	\$ 3,330	\$ 3,330	\$ 3,330	\$ 6,660	\$ 6,660
3.3f	Bus Support 1 Ph	3	EA	\$ 1,850	\$ 5,550	\$ 1,850	\$ 5,550	\$ 3,700	\$ 11,100
3.3g	Instrument Transformer Stand	9	EA	\$ 740	\$ 6,660	\$ 740	\$ 6,660	\$ 1,480	\$ 13,320
3.3h	Arrester Stand	3	EA	\$ 740	\$ 2,220	\$ 740	\$ 2,220	\$ 1,480	\$ 4,440
3.3j	Wave Trap Stand	1	EA	\$ 3,700	\$ 3,700	\$ 3,700	\$ 3,700	\$ 7,400	\$ 7,400
3.3k	Lightning Mast	2	EA	\$ 6,475	\$ 12,950	\$ 6,475	\$ 12,950	\$ 12,950	\$ 25,900
3.3l	Station Service Transformer Support Stand	0	EA	\$ 1,110	\$ -	\$ 1,110	\$ -	\$ 2,220	\$ -
TOTAL - SUBSTATION STRUCTURES					\$ 60,865		\$ 60,865		\$ 121,730
4. MAJOR EQUIPMENT									
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	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	1	EA	\$ 52,000	\$ 52,000	\$ 60,000	\$ 60,000	\$ 112,000	\$ 112,000
4.3b	Capacitor Banks	0	EA	\$ -	\$ -	\$ 60,000	\$ -	\$ 60,000	\$ -
TOTAL - MAJOR EQUIPMENT					\$ 52,000		\$ 60,000		\$ 112,000
5. SMALL EQUIPMENT / MATERIALS									
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	\$ -	\$ 17,500	\$ -	\$ 52,500	\$ -
5.1c	VT'S	0	EA	\$ 25,000	\$ -	\$ 12,000	\$ -	\$ 37,000	\$ -
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								
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	1	EA	\$ 33,000	\$ 33,000	\$ 15,000	\$ 15,000	\$ 48,000	\$ 48,000
5.3b	Disconnect Switches - 3ph w/ manual operator	1	EA	\$ 28,000	\$ 28,000	\$ 17,500	\$ 17,500	\$ 45,500	\$ 45,500
5.3c	VT'S	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.3d	CT'S	3	EA	\$ 13,000	\$ 39,000	\$ 8,000	\$ 24,000	\$ 21,000	\$ 63,000
5.3e	CCVT'S	3	EA	\$ 8,000	\$ 24,000	\$ 8,000	\$ 24,000	\$ 16,000	\$ 48,000
5.3f	Arresters	3	EA	\$ 3,420	\$ 10,260	\$ 6,000	\$ 18,000	\$ 9,420	\$ 28,260
5.3g	Wave Traps	1	EA	\$ 13,000	\$ 13,000	\$ 8,000	\$ 8,000	\$ 21,000	\$ 21,000
5.3h	Station Service Transformers	0	EA	\$ 75,000	\$ -	\$ 35,000	\$ -	\$ 110,000	\$ -
5.3j	Fuses	0	EA	\$ 7,500	\$ -	\$ 3,600	\$ -	\$ 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
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 186,260		\$ 130,500		\$ 316,760
6. CONTROL HOUSE / PANELS / GENERATOR									
6.1	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	\$ -
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 - CONTROL 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	\$ -
7.4	Grounding System	1,100.0	LF	\$ 6.93	\$ 7,623	\$ 32.58	\$ 35,838	\$ 40	\$ 43,461
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	\$ -
7.10	Control Conduits from Trench to Equipment	1	LS	\$ 62,500	\$ 62,500	\$ 62,500	\$ 62,500	\$ 125,000	\$ 125,000
7.11	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 ITEMS					\$ 206,790		\$ 350,542		\$ 557,331
H. Churchtown Substation - Install					\$ 940,692		\$ 1,036,727		\$ 1,977,418
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 19,774	\$ 19,774	\$ 19,774	\$ 19,774
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			\$ 95,145	\$ 95,145	\$ 95,145	\$ 95,145
8.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 19,774	\$ 19,774	\$ 19,774	\$ 19,774
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 19,774	\$ 19,774	\$ 19,774	\$ 19,774
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 158,193	\$ 158,193	\$ 158,193	\$ 158,193
8.6	LIDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	4	Site	\$ -	\$ -	\$ 3,500	\$ 14,000	\$ 3,500	\$ 14,000
8.8	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 Supply 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

ITC T032 (Segment B)

J. Pleasant Valley Substation - Install

Estimate Revision: **4**

Total: \$ **3,855,941**

ITC T032 (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	\$ 151,466	\$ 160,900	\$ 312,366
3. SUBSTATION STRUCTURES	\$ 44,400	\$ 44,400	\$ 88,800
4. MAJOR EQUIPMENT	\$ 200,000	\$ 80,000	\$ 280,000
5. SMALL EQUIPMENT / 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

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
J. Pleasant 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 PREP/ GRADING/ FENCING / CIVIL					\$ 11,025		\$ 14,625		\$ 25,650
2. SUBSTATION 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	\$ -

Item	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	\$ -
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)	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	Station Service Transformer Stand Foundation	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	EA	\$ 2,988	\$ -	\$ 3,200	\$ -	\$ 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								
2.4a	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 Addition Foundation (25-ft x 50-ft)	1	EA	\$ 51,368	\$ 51,368	\$ 53,700	\$ 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	\$ -	\$ 5,600	\$ -	\$ 10,829	\$ -
2.6b		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.6c		0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SUBSTATION FOUNDATIONS					\$ 151,466		\$ 160,900		\$ 312,366
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	\$ -	\$ 74,000	\$ -
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	\$ -	\$ 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	\$ 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	\$ -	\$ 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	\$ -

Item	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	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 - SUBSTATION STRUCTURES						\$ 44,400	\$ 44,400		\$ 88,800
4. MAJOR EQUIPMENT									
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	0	EA	\$ 370,000	\$ -	\$ 80,000	\$ -	\$ 450,000	\$ -
4.1c	Circuit Breakers - Cap Switching	0	EA	\$ 220,000	\$ -	\$ 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	\$ 115,000	\$ -	\$ 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 - MAJOR EQUIPMENT						\$ 200,000	\$ 80,000		\$ 280,000
5. SMALL EQUIPMENT / 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	EA	\$ 25,000	\$ 75,000	\$ 12,000	\$ 36,000	\$ 111,000	\$ 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	3	EA	\$ 6,500	\$ 19,500	\$ 1,500	\$ 4,500	\$ 8,000	\$ 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									
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	\$ -	\$ 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
5.3h	Station Service Transformers	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5.3j	Fuses	0	EA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL - SMALL EQUIPMENT / MATERIALS					\$ 260,500		\$ 129,000		\$ 389,500
6. CONTROL HOUSE / 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	\$ 12,500	\$ 37,500	\$ 47,500	\$ 142,500
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	\$ 261,800
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	\$ -	\$ 7,500	\$ -	\$ 15,000	\$ -
6.10	Generator	0	EA	\$ 100,000	\$ -	\$ 80,000	\$ -	\$ 180,000	\$ -
TOTAL - CONTROL 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
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	\$ 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					\$ 594,450		\$ 596,075		\$ 1,190,525
J. Pleasant Valley Substation - Install					\$ 1,822,741		\$ 1,278,400		\$ 3,101,141
8. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
8.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 31,011	\$ 31,011	\$ 31,011	\$ 31,011
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			\$ 149,215	\$ 149,215	\$ 149,215	\$ 149,215
8.3	Utility PM and Project Oversight	1	LS	\$ -	\$ -	\$ 31,011	\$ 31,011	\$ 31,011	\$ 31,011
8.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 31,011	\$ 31,011	\$ 31,011	\$ 31,011
Engineering									
8.5	Design Engineering	1	LS	\$ -	\$ -	\$ 248,091	\$ 248,091	\$ 248,091	\$ 248,091
8.6	LIDAR	-	Mile	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.7	Geotech	2	EA	\$ -	\$ -	\$ 3,500	\$ 7,000	\$ 3,500	\$ 7,000

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
8.8	Surveying/Staking	1	Site	\$ -	\$ -	\$ 21,708	\$ 21,708	\$ 21,708	\$ 21,708
	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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.17		-	LS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8.18	Sales Tax on Materials	1	LS	\$ 145,819	\$ 145,819	\$ -	\$ -	\$ 145,819	\$ 145,819
8.19	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 3,101	\$ 3,101	\$ 3,101	\$ 3,101
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 145,819		\$ 608,981		\$ 754,800

ITC T032 (Segment B)

K. Interconnection Knickerbocker Station

Estimate Revision: **4** Total: \$ **3,632,568**

ITC T032 (Segment B)			
	Supply	Installation	Total
K. 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	\$ 136,100	\$ 55,320	\$ 191,420
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 115,909	\$ 440,650	\$ 556,559
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 1,564,765	\$ 2,067,803	\$ 3,632,568
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 1,564,765	\$ 2,067,803	\$ 3,632,568

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. Interconnection Knickerbocker 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	525.0	LF	\$ -	\$ -	\$ 70	\$ 36,750	\$ 70	\$ 36,750
1.7	Snow Removal	-	LS	\$ -	\$ -	\$ 516,800	\$ -	\$ 516,800	\$ -
1.8	ROW Restoration	0.5	Mille	\$ -	\$ -	\$ 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 - CLEARING & ACCESS				\$ -	\$ -	\$ 436,850	\$ 436,850	\$ 436,850	\$ 436,850
2. FOUNDATIONS									
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									
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				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.14				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Item	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 - FOUNDATIONS					\$ 756,457		\$ 764,558		\$ 1,521,015
3. STRUCTURES									
3.1	115kV Single Circuit Single Pole Angle/DE	1	Structure	\$ 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	\$ 62,817	\$ 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	Structure	\$ 506	\$ 3,542	\$ 5,539	\$ 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					\$ 556,300		\$ 370,424		\$ 926,724
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	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	\$ -
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	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	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	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	12	Assembly	\$ 900	\$ 10,800	\$ 360	\$ 4,320	\$ 1,260	\$ 15,120
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	15	Assembly	\$ 900	\$ 13,500	\$ 360	\$ 5,400	\$ 1,260	\$ 18,900
5.6	OPGW Assembly - Tangent	2	Assembly	\$ 200	\$ 400	\$ 150	\$ 300	\$ 350	\$ 700
5.7	OPGW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.8	OHSW Assembly - Tangent	2	Assembly	\$ 200	\$ 400	\$ 150	\$ 300	\$ 350	\$ 700
5.9	OHSW Assembly - Angle / DE	6	Assembly	\$ 250	\$ 1,500	\$ 150	\$ 900	\$ 400	\$ 2,400
5.10	OPGW Splice Boxes	-	Set	\$ 1,750	\$ -	\$ 1,746	\$ -	\$ 3,496	\$ -
5.11	OPGW Splice & Test	-	EA	\$ 1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	\$ -
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 136,100		\$ 55,320		\$ 191,420
K. Interconnection Knickerbocker Station					\$ 1,448,857		\$ 1,627,152		\$ 3,076,009
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 30,760	\$ 30,760	\$ 30,760	\$ 30,760
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			\$ 148,005	\$ 148,005	\$ 148,005	\$ 148,005
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 30,760	\$ 30,760	\$ 30,760	\$ 30,760
6.4	Site Accommodation, Facilities, Storage	1	LS		\$ -	\$ 30,760	\$ 30,760	\$ 30,760	\$ 30,760
Engineering									

Item	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	\$ -	\$ -	\$ 153,800	\$ 153,800	\$ 153,800	\$ 153,800
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 9,228	\$ 9,228	\$ 9,228	\$ 9,228
6.7	Geotech	1.0	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 21,532	\$ 21,532	\$ 21,532	\$ 21,532
	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	\$ -	\$ -	\$ 9,228	\$ 9,228	\$ 9,228	\$ 9,228
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	\$ 115,909	\$ 115,909	\$ -	\$ -	\$ 115,909	\$ 115,909
6.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS		\$ -	\$ 3,076	\$ 3,076	\$ 3,076	\$ 3,076
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 115,909		\$ 440,650		\$ 556,559

ITC T032 (Segment B)

L. Interconnection Churchtown Station

Estimate Revision: **4** Total: \$ **2,534,055**

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	\$ 127,400	\$ 51,780	\$ 179,180
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 52,673	\$ 311,828	\$ 364,501
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 711,081	\$ 1,822,973	\$ 2,534,055
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 711,081	\$ 1,822,973	\$ 2,534,055

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
L. Interconnection 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	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 - CLEARING & ACCESS				\$ -	\$ -	\$ -	\$ 436,850	\$ -	\$ 436,850
2. FOUNDATIONS									
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	CY	\$ -	\$ -	\$ 2,000	\$ 454,000	\$ 2,000	\$ 454,000
2.6					\$ -		\$ -		\$ -
2.7					\$ -		\$ -		\$ -
2.8					\$ -		\$ -		\$ -

Item	Item Description	Estimated Quantity	Unit of Measure	Material Supply Rate	Material Supply Cost	Labor & Equipment Supply Rate	Labor & Equipment Cost	Total Unit Rate	TOTAL
2.9					\$ -		\$ -		\$ -
2.10					\$ -		\$ -		\$ -
2.11					\$ -		\$ -		\$ -
2.12					\$ -		\$ -		\$ -
2.13					\$ -		\$ -		\$ -
2.14					\$ -		\$ -		\$ -
2.15					\$ -		\$ -		\$ -
TOTAL - FOUNDATIONS					\$ 212,820		\$ 669,100		\$ 881,920
3. STRUCTURES									
3.1	115kV Single Circuit Single Pole Angle/ DE	4	Structure	\$ 49,216	\$ 196,864	\$ 49,216	\$ 196,864	\$ 98,432	\$ 393,728
3.2	115kV Single Circuit Single Pole Tangent	3	Structure	\$ 39,261	\$ 117,782	\$ 39,261	\$ 117,782	\$ 78,521	\$ 235,564
3.3					\$ -		\$ -		\$ -
3.4					\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	7	Structure	\$ 506	\$ 3,542	\$ 5,539	\$ 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					\$ 318,188		\$ 353,416		\$ 671,604
4. CONDUCTOR, 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" EH57 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	\$ -	\$ 3,500.00	\$ -
4.11	Rider Poles	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	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	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	18	Assembly	\$ 900	\$ 16,200	\$ 360	\$ 6,480	\$ 1,260	\$ 22,680
5.6	OPGW Assembly - Tangent	3	Assembly	\$ 200	\$ 600	\$ 150	\$ 450	\$ 350	\$ 1,050
5.7	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.8	OHSW Assembly - Tangent	3	Assembly	\$ 200	\$ 600	\$ 150	\$ 450	\$ 350	\$ 1,050
5.9	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.10	OPGW Splice Boxes	-	Set	\$ 1,750	\$ -	\$ 1,746	\$ -	\$ 3,496	\$ -
5.11	OPGW Splice & Test	-	EA	\$ 1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	\$ -
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 127,400		\$ 51,780		\$ 179,180
L. Interconnection Churchtown Station					\$ 658,408		\$ 1,511,145		\$ 2,169,554
6. MOB/DEMOB, 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	\$ -	\$ -	\$ 21,696	\$ 21,696	\$ 21,696	\$ 21,696
	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			\$ 104,390	\$ 104,390	\$ 104,390	\$ 104,390
6.3	Utility PM and Project Oversight	1	LS		\$ -	\$ 21,696	\$ 21,696	\$ 21,696	\$ 21,696
6.4	Site Accommodation, Facilities, Storage	1	LS	\$ -	\$ -	\$ 21,696	\$ 21,696	\$ 21,696	\$ 21,696
	Engineering								
6.5	Design Engineering	1	LS	\$ -	\$ -	\$ 108,478	\$ 108,478	\$ 108,478	\$ 108,478
6.6	LIDAR	1	LS	\$ -	\$ -	\$ 6,509	\$ 6,509	\$ 6,509	\$ 6,509
6.7	Geotech	1	Location	\$ -	\$ -	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500
6.8	Surveying/Staking	1	LS	\$ -	\$ -	\$ 15,187	\$ 15,187	\$ 15,187	\$ 15,187
	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	\$ -	\$ -	\$ 6,509	\$ 6,509	\$ 6,509	\$ 6,509
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	\$ 52,673	\$ 52,673	\$ -	\$ -	\$ 52,673	\$ 52,673
6.18	Fees for permits, including roadway, railroad, building or other local permits	1	LS			\$ 2,170	\$ 2,170	\$ 2,170	\$ 2,170
TOTAL - MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:					\$ 52,673		\$ 311,828		\$ 364,501

ITC T032 (Segment B)

M. Interconnection Milan Station

Estimate Revision: **4** Total: \$ **795,397**

ITC T032 (Segment B)			
	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	\$ 45,200	\$ 18,480	\$ 63,680
6. MOB/DEMOB, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:	\$ 20,792	\$ 99,450	\$ 120,242
CONTRACTOR MARK-UP (OH&P)	\$ -	\$ -	\$ -
SUBTOTAL:	\$ 280,695	\$ 514,702	\$ 795,397
CONTINGENCY ON ENTIRE PROJECT	\$ -	\$ -	\$ -
TOTAL:	\$ 280,695	\$ 514,702	\$ 795,397

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. Interconnection 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 - CLEARING & ACCESS					\$ -		\$ 121,100		\$ 121,100
2. FOUNDATIONS									
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					\$ -		\$ -		\$ -

Item	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 - FOUNDATIONS					\$ 84,375		\$ 135,279		\$ 219,654
3. STRUCTURES									
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					\$ -		\$ -		\$ -
3.5	Install Grounding and Grounding Accessories	2	Pole	\$ 506	\$ 1,012	\$ 5,539	\$ 11,077	\$ 6,045	\$ 12,089
3.6					\$ -		\$ -		\$ -
3.7					\$ -		\$ -		\$ -
3.8					\$ -		\$ -		\$ -
3.9					\$ -		\$ -		\$ -
3.10					\$ -		\$ -		\$ -
3.11					\$ -		\$ -		\$ -
3.12					\$ -		\$ -		\$ -
3.13					\$ -		\$ -		\$ -
3.14					\$ -		\$ -		\$ -
3.15					\$ -		\$ -		\$ -
TOTAL - STRUCTURES					\$ 130,328		\$ 140,393		\$ 270,721
4. CONDUCTOR, SHIELDWIRE, OPGW									
4.1	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	\$ -
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	-	EA	\$ 1,750	\$ -	\$ 3,500	\$ -	\$ 5,250.00	\$ -
TOTAL: CONDUCTOR, SHIELDWIRE, OPGW:					\$ -		\$ -		\$ -
5. INSULATOR, FITTINGS, HARDWARE									
5.1	Mono Pole Vertical Tangent - V-String (1-Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.2	H-Frame - Tangent Insulators (1, Group of 18-Bells Each Assembly)	-	Assembly	\$ 1,800	\$ -	\$ 720	\$ -	\$ 2,520	\$ -
5.3	Dead-end & Angle Insulators (1, Group of 18-Bells Each Assembly)	24	Assembly	\$ 1,800	\$ 43,200	\$ 720	\$ 17,280	\$ 2,520	\$ 60,480
5.4	Mono Pole Vertical Tangent - V-String (1-Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.5	Dead-end & Angle Insulators (1, Group of 9-Bells Each Assembly)	-	Assembly	\$ 900	\$ -	\$ 360	\$ -	\$ 1,260	\$ -
5.6	OPGW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.7	OPGW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.8	OHSW Assembly - Tangent	-	Assembly	\$ 200	\$ -	\$ 150	\$ -	\$ 350	\$ -
5.9	OHSW Assembly - Angle / DE	4	Assembly	\$ 250	\$ 1,000	\$ 150	\$ 600	\$ 400	\$ 1,600
5.10	OPGW Splice Boxes	-	Set	\$ 1,750	\$ -	\$ 1,746	\$ -	\$ 3,496	\$ -
5.11	OPGW Splice & Test	-	EA	\$ 1,400	\$ -	\$ 2,520	\$ -	\$ 3,920	\$ -
5.12	Spacer - Conductor	-	EA	\$ 50	\$ -	\$ 35	\$ -	\$ 85	\$ -
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									
TOTAL - INSULATOR, FITTINGS, HARDWARE					\$ 45,200		\$ 18,480		\$ 63,680
M. Interconnection Milan Station					\$ 259,903		\$ 415,251		\$ 675,154
6. MOB/DEMOb, ENGINEERING, PERMITTING, T&C, PM & INDIRECTS:									
Contractor Mobilization / Demobilization									
6.1	Mob / Demob	1	LS	\$ -	\$ -	\$ 6,752	\$ 6,752	\$ 6,752	\$ 6,752
Project Management, Material Handling & Amenities									

Item	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			\$ 32,486	\$ 32,486	\$ 32,486	\$ 32,486
6.3	Utility PM and Project Oversight	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	-	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		\$ 99,450		\$ 120,242

NAT & NYPA - T032 - (Segment B)

N. System Upgrade Facilities (Cricket Valley to Long Mt. Line)

Estimate
Revision: **4**

Total: \$ 3,943,950

SYSTEM UPGRADE 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 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 2156kcmil 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.
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 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.
14	An allowance of 1% for Utility PM and Project Oversight 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	Rock excavation not provided in proposal foundation data, all structures are drilled shaft foundation, rock excavation assumed same quantity as in National Grid's proposal.
25	An additional Quantity of 5% have been added to conductors, OPGW, & OHSW for sag and jumpers.
26	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.