



ORU- ENGR – 004 – Revision 5:

MANAGEMENT OF STANDARD LARGE AND SMALL FACILITY INTERCONNECTION PROJECTS

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APPENDICES

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1.0 PURPOSE AND SUMMARY

The purpose of this procedure is to provide guidelines for the planning, administration, implementation, monitoring, control, and close out of new facility integration into the Orange and Rockland Utilities/Rockland Electric Company (“ORU/RECO”) system including generation and merchant transmission interconnection projects in the New York Independent System Operator (“NYISO”) and Pennsylvania Jersey Maryland (“PJM”) Interconnection control areas. ORU/RECO is in assurance with compliance of NERC Reliability Standards and NYISO/PJM requirements. **Table 1** summarizes the various types of project interconnections and the applicable NYISO/PJM Manual References.

Table 1: GENERATING FACILITIES AND TRANSMISSION PROJECT INTERCONNECTIONS

Regional Transmission Operator	TYPE OF INTERCONNECTION	APPLICABLE NYISO/PJM MANUAL REFERENCES
NYISO¹	Generating Facilities, No Larger than 20 MW	Small Generator Interconnection Procedures (NYISO OATT 32 Attachment Z)
	Generating Facilities that Exceed 20 MW and Merchant Transmission Facilities	Standard Large Facility Interconnection Procedures (NYISO OATT 32 Attachment X)
	Transmission Load Interconnection	Transmission Interconnection Procedures (NYISO OATT 32 Attachment P)
PJM²	Customer Owned Generator Request (Under 20 MW)	Generation Interconnection Requests (PJM Manual 14G)
	Customer Owned Generator Request (Over 20 MW)	Generation Interconnection Requests (PJM Manual 14G)
	Customer-Owned Merchant Transmission Facilities Request	Upgrade and Transmission Interconnection Requests (PJM Manual 14E)
	Customer-Funded Upgrade to Transmission Facilities Request	Upgrade and Transmission Interconnection Requests (PJM Manual 14E)

¹In the NYISO, Generating Facilities include Photo-voltaic (“PV”), Energy Storage and other Renewable Projects.

²In PJM, Customer Owned Generator Requests shall include PV, Energy Storage and other Renewable Projects.

For specific ORU/RECO connection requirements, see **Appendix 1** – “ORU-ENGR – 06A and ORU-ENGR-6B (latest revisions).

For generator projects and end-user facilities greater than 1 MW connecting to the distribution system, the interconnection process shall be governed by ORU/RECO’s “Parallel Operation of Large-Generating Facilities (Greater Than 1,000 Kilowatts) Connected to the Distribution System” (see **Appendix 2** for latest version).

2.0 BACKGROUND

This Procedure is the standard and expectation for accomplishing excellence in project management, within the various ORU/RECO departments responsible for implementation of Generation and Merchant Transmission Projects.

As a member company of the NYISO since 1998¹ and PJM since 2002, all proposed merchant transmission and generation facilities within ORU/RECO territory shall follow the NYISO and PJM interconnection procedures, whichever is applicable. The interconnection of generation and merchant transmission facilities to the New York State Transmission System is governed by the NYISO’s Open Access Transmission Tariff (OATT) Attachment X and Attachment Z; while interconnection to the New Jersey Transmission System is governed by PJM’s OATT Manual 14. The OATT may be amended in the future, and should there be any disagreement between this procedure and the NYISO/PJM OATT, the OATT will govern.

For generator projects and end-user facilities greater than 1 MW connecting to the distribution system, the interconnection process shall be governed by

¹ ORU has been a member company under the New York Power Pool (NYPP) prior to 1998. In 1999, the NYPP became the New York Independent System Operator (NYISO).

ORU/RECO's "Parallel Operation of Large-Generating Facilities (Greater Than 1,000 Kilowatts) Connected to the Distribution System.

3.0 DEFINITIONS

The definitions in this section shall describe the entity, function or person involved in the interconnection process.

3.1 Developer - An entity seeking to construct a generation or transmission facility under the provisions of NYISO'S Attachment X, Attachment Z and PJM's Manual 14.

3.2 Discipline Engineer – Individual engineers assigned to provide the technical expertise in a particular discipline (engineering field of study) to support project requirements and engineering deliverables.

3.3 Facilities Study - A two (2) part study conducted by the NYISO/PJM to determine the necessary system upgrades, and to allocate the costs for these upgrades, among a class year of developers as required by the NYISO/PJM Open Access Transmission Tariff. The scope of the Facilities Study is described in the NYISO'S Attachment X, Attachment Z and PJM'S Manual 14.

3.4 Feasibility Study – A preliminary assessment of the feasibility of a proposed interconnection project, as required by the NYISO/PJM Open Access Transmission Tariff. The scope of the Feasibility Study is described in the NYISO'S Attachment X, Attachment Z and PJM'S Manual 14.

3.5 Interconnection Request – Developer's initiation of the interconnection process, by notifying the NYISO/PJM of the proposed project.

- 3.6 Interconnection Agreement (IA)** – The Interconnection Agreement (IA) is a legally binding contract between a Developer, ORU/RECO and the NYISO/PJM describing the point(s) of interconnection between the Developer's project and the ORU/RECO Transmission System, as well as the roles and responsibilities of each party regarding design, procurement, construction, and responsibilities for future maintenance and testing of the required Attachment Facilities and any System Upgrade Facilities. Projects interconnecting under the NYISO/PJM Procedures are required to utilize the NYISO/PJM'S Pro Forma Interconnection Agreement, which is included in the NYISO's and PJM's Open Access Transmission Tariff.
- 3.7 Master Services Agreement (MSA)** – A Master Services Agreement is an agreement between ORU/RECO and a Developer that identifies the terms and conditions, roles and responsibilities, for goods and services provided by ORU/RECO to a Developer. (See **APPENDIX 3**)
- 3.8 New York Control Area Bulk Power System - NYCA BPS** is that portion of the bulk power system within the New York Control Area, generally comprising generating units 300 MW or larger and generally comprising transmission facilities 230 kV and above. However, smaller generating units and lower voltage transmission facilities on which faults and disturbances can have a significant adverse impact outside of the local area are also part of the New York Control Area Bulk Power System.
- 3.9 PJM Control Area Bulk Electric System** – PJM BES is that portion of the bulk electric system within PJM control area generally comprising of individual generation resources larger than 20 MVA or a generation plant

with an aggregate capacity greater than 75 MVA connected and operated at voltages of 100 kV or higher, and lines and transformers operated at 100 kV or higher.

- 3.10 Project** - Work requiring engineering support that cannot be resolved through field or system engineering and results in a modification to a system, structure or component, which typically requires multiple technical disciplines or corporate departments to complete.
- 3.11 Project Engineer** – The individual assigned responsibility to manage the design and other technical aspects of a Project, including review or merchant designs. The Transmission & Substation Engineering Department shall assign a Project Engineer when a project begins the detailed engineering process.
- 3.12 Project Team** - The group of individuals specifically selected to support a Project. Project Team members bring special expertise to the Project to ensure all aspects of the Project receive the proper input and scrutiny.
- 3.13 System Reliability Impact Study (SRIS - NYISO) or System Impact Study (SIS - PJM)** – The SRIS or the SIS is a technical study which evaluates the impact of a proposed project on the New York State Transmission System, as required by the NYISO/PJM Open Access Transmission Tariff. The scope of the SRIS and the SIS is described in the NYISO'S Attachment X & Attachment Z and PJM'S Manual 14, respectively.
- 3.14 Technical Services Agreement** – An Agreement between ORU/RECO and the NYISO/PJM describing the terms under which ORU/RECO will perform certain tasks as a part of NYISO/PJM interconnection studies as a subcontractor to the NYISO/PJM.

3.15 Transaction Form (TF) – A document that delineates the services between a Developer and ORU/RECO and can include design, engineering, equipment procurement and supply, and construction for the proposed interconnection, or portions thereof. (See **APPENDIX 4**)

4.0 PROJECT PHASE PROCEDURES

4.1 Submittal of Interconnection Request - A Developer begins the interconnection process by submitting an interconnection request to the NYISO/PJM, indicating the nature of the project, and one or more desired points of interconnection to ORU/RECO electric transmission system.

4.2 Scoping Meeting - The NYISO/PJM will notify ORU/RECO and schedule a scoping meeting. The participants in the scoping meeting are the Developer, ORU/RECO, the NYISO/PJM and other Affected Transmission Owners. The purpose of scoping meeting shall be to discuss alternative interconnection options, to exchange information including any transmission data that would reasonably be expected to impact such interconnection options, to analyze such information and to determine the potential feasible points of interconnection. During the scoping meeting the developer will provide an overview of its project and preliminary schedule. ORU/RECO will raise any readily identifiable issues as well as its Facility Interconnection Requirements (see **Appendix 1** for details) relating to the interconnection plan. The interconnection plan addresses the configuration of attachment facilities from the point of change of ownership² to the point of interconnection³. It

² Point of Change of Ownership (NYISO OATT) – shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Attachment Facilities connect to the New York State Transmission System.

³ Point of Interconnection (NYISO OATT) – shall mean the point, as set forth in Appendix A to the Standard Large Generator Interconnection Agreement, where the Developer's Attachment Facilities connect to the New York State Transmission System.

does not cover facilities between the point of change of ownership and the Developer's project, or such issues as routing of generator leads outside the interconnecting substation.

4.3 Master Services Agreement and Transaction Forms Execution - If the Developer wishes to undertake site visits to ORU/RECO substations in order to refine their interconnection plan, ORU/RECO will typically allow this provided the developer executes a Master Services Agreement and Transaction Form that outlines the terms of the visit, including the confidentiality of information provided.

4.4 Required Interconnection Studies - Once the Developer has confirmed the interconnection plan that they wish to have studied, a series of analytical studies are started. NYISO and PJM will require specific studies to be performed as part of the interconnection process, for each type of proposed projects (see **Table 2**). ORU/RECO may request that the scope of a particular study be expanded to address specific concerns related to a project.

4.4.1 Feasibility Study – The Feasibility Study comprises some preliminary analysis to be performed by the Developer as well as an assessment of physical feasibility for the proposed point of interconnection determined by Transmission and Substation Engineering Department.

4.4.2 System Reliability Impact Study/System Impact Study – This is a more detailed technical study to assess the effects of the Project on Thermal, Voltage, Stability and Short Circuit performance as well as transfer limit impact. Study results shall be reviewed by Transmission and Substation Engineering Department to ensure that all reliability concerns are captured and

addressed.

4.4.3 Facilities Study – This is the final technical assessment of the Project. In the NY Control Area, the NYISO determines the required System Upgrade Facilities (SUF) and performs the cost allocation study to determine cost responsibility for the SUFs among the class year participants. In addition, a preliminary engineering design and cost estimate for the Attachment Facilities is prepared by Transmission and Substation Engineering. In New Jersey Control Area, PJM furnishes the Facilities Study Agreement (FSA) to the Developer along with the estimated cost of the study and the estimated time of completion. The Developer must execute and then return the FSA (and the required deposit) within 30 days. When completed, the Facilities Study will document the engineering design work necessary to begin construction of any required transmission facilities. The Study will also provide a good-faith estimate of the cost to be charged to the Developer for Attachment Facilities, Local Upgrades and Network Upgrades necessary to accommodate the Project and an estimate of the time required to complete detailed design and construction of the facilities and upgrades.

NYISO			PJM
LARGE FACILITY	SMALL FACILITY	LOAD INTERCONNECTION	GENERATOR REQUEST/ MERCHANT FACILITIES/ CUSTOMER FUNDED
1. Feasibility	1. Feasibility (Optional)	1. Feasibility (Optional)	1. Feasibility
2. System Reliability Impact	2. System Impact	2. System Impact	2. System Impact
3. Facilities	3. Facilities	3. Facilities	3. Facilities

Table 2: Required Interconnection Studies (NYISO and PJM)

4.5 Interconnection Agreement (IA) - After completion of the required studies and the NYISO/PJM's cost allocation process, the Developer may enter into an Interconnection Agreement with the NYISO/PJM and ORU/RECO. ORU/RECO'S Transmission & Substation Engineering, Legal, Real Estate, and System Operations representatives will meet with the Developer for development of the Interconnection Agreement terms and conditions. The Transmission and Substation Engineering Department will remain the contractual point of contact for all communications between ORU/RECO and the Developer. The Project Engineer will ensure that the construction of all Transmission Owner Attachment Facilities and System Upgrade Facilities is completed in accordance with company specifications.

4.6 Construction – Once the Interconnection Agreement (IA) has been executed, the Construction phase begins, subject to any scheduling constraints. Depending on how the responsibilities are assigned in the IA, ORU/RECO may have the responsibility to construct Attachment Facilities and System Upgrade Facilities. Various organizations including Transmission and Substation Engineering, System Operations and Purchasing will be involved in the planning, scheduling and implementation of the construction process as applied to these facilities.

5.0 DEPARTMENTAL ROLES IN THE INTERCONNECTION PROCESS

The Transmission and Substation Engineering Department shall host monthly meetings to discuss the status of the proposed and on-going interconnection projects. The meeting shall have representations from the following organizations: Transmission and Substation Engineering, System Operations, Legal, Real Estate, Distribution Engineering, The Energy Market

Policy Group and others as appropriate. One-line diagrams of the project, size and schedule of the project and contractual issues shall be discussed. Meeting minutes will be taken and marked 'Confidential' and distributed to the Project Team, attendees and/or organization representatives. Meeting representatives shall be responsible for communicating the information to their respective organizations and for maintaining the "Confidentiality" of the non-public portion of the meeting minutes and content information.

5.1. Transmission and Substation Engineering Department (TSED) –

TSED shall be ORU/RECO's representative in transactions between the Developers and the NYISO/PJM. TSED receives from NYISO/PJM, notification of interconnection requests and manages the process through various study stages. TSED negotiates, with the assistance of Law Department, the necessary contracts and agreements required to allow the safe interconnection of the Project to the ORU/RECO transmission system. Under the terms of the negotiated contractual obligations between ORU/RECO, NYISO/PJM and the Developer, TSED will either perform or review the technical studies required by the various stages of the interconnection process. TSED will disseminate relevant information to other ORU/RECO departments and solicit feedback and recommendations as to the potential impact of the Project on the ORU/RECO transmission system. These feedbacks and recommendations on the technical studies shall be submitted to both the Developer and NYISO/PJM for inclusion in the final reports of each technical study.

5.1.1. Project Engineer – The Chief Engineer of TSED shall assign a Project Engineer for the Developer's Project. The Project Engineer shall be the single point of contact for all communications between TSED and other ORU/RECO departments, as well as the Developer and the NYISO/PJM, for

all matters pertaining to the assigned Project. The Project Engineer shall be responsible for the timely completion of all assigned contractual tasks, ensures that meetings and briefings are scheduled when required and that the NYISO/PJM and the Developer are notified of the tasks results.

- 5.2. Legal Department** - The Law Department shall provide assistance to TSED and to other organizations in the preparation of the various study agreements, Master Services Agreements, Transactions Forms and Interconnection Agreements which will develop in the course of the interconnection process. The Law Department shall review proposed changes/modifications to the standard NYISO/PJM Interconnection Study Agreements proposed by ORU/RECO or the Developer. The Law Department shall be consulted in matters of contract interpretation and other legal issues that may arise.
- 5.3. System Operations** - System Operations shall be informed early on regarding the proposed Project and shall provide comments and feedback on the Project from an operating and contingency perspective. System operations shall provide insights and feedback to any required equipment outages and schedules necessary for the interconnection of the proposed Project.
- 5.4. Distribution Engineering** – Distribution Engineering shall provide guidance on the possible impact of the Developer Project on the ORU/RECO distribution system.

6.0 PROJECT CONTRACTUAL AGREEMENTS

- 6.1 **Study Agreements** – Each interconnection study performed as a part of the Large Facility Interconnection Process is performed under the terms of a three (3) party agreement between the NYISO/PJM, the Developer and ORU/RECO. Interconnection study agreements are Pro Forma agreements approved by the FERC. These study agreements may be accompanied by a separate two party Study Work Agreement between the NYISO/PJM and ORU/RECO. The Study Work Agreement allows ORU/RECO to perform certain tasks as a subcontractor to the NYISO/PJM, pursuant the terms of the Technical Services Agreement.
- 6.2 **Master Services Agreements and Transaction Forms** – Where a Developer may require ORU/RECO to provide certain services, goods and/or materials not covered by study agreements or the Interconnection Agreement, and ORU/RECO agrees to provide these services goods and/or materials, ORU/RECO and the Developer will execute a Master Services Agreement and one or more Transaction Form(s) to describe(s) the contractually binding financial reimbursement obligations, and responsibilities of the parties.
- 6.3 **Engineering & Procurement Agreement** – Prior to executing an Interconnection Agreement, the NYISO/PJM Open Access Transmission Tariff authorizes the Developer to request, and requires ORU/RECO to offer, an Engineering and Procurement agreement that authorizes ORU/RECO to begin engineering and procurement of long lead time items necessary for the establishment of the interconnection at the Developers cost.
- 6.4 **Confidentiality** – Upon notification by the NYISO/PJM of an Interconnection Request from a Developer, ORU/RECO will tender to the

Developer a Confidentiality Agreement, to allow ORU/RECO to provide information necessary to assist the Developer in choosing its Point of Interconnection.

Any non-public materials that are presented to ORU/RECO by the NYISO/PJM or Developer, that are requested to be held confidential, are to be treated in a manner consistent with the FERC Standards of Conduct. If such information is transmitted via email, the following footer shall be added:

The information in this email is confidential and may be legally privileged against disclosure other than to the intended recipient. It is intended solely for the addressee. Access to this email by anyone else is unauthorized.

If you are not the intended recipient, any disclosure, copying, distribution or any action taken or omitted to be taken in reliance on it, is prohibited and may be unlawful. Please immediately delete this message and inform the sender of this error.

7.0 ENGINEERING AND DESIGN OF INTERCONNECTION FACILITIES
ORANGE AND ROCKLAND UTILITIES, INC.

- 7.1 The Pro Forma Interconnection agreement provides the Developer with the option to construct or have ORU/RECO construct the Transmission Owners Attachment Facilities and System Upgrade Facilities.
- 7.2 Where ORU/RECO is responsible for the design and construction of the Transmission Owner Attachment Facilities and System Upgrade Facilities, Transmission & Substation Engineering assigns a Project Engineer, to manage the design phase of a project that impacts OUR/RECO owned assets and:
 - 7.2.1. Ensure the Advanced Planning Document is created
 - 7.2.2. Ensure the Property Record ruling is requested.
 - 7.2.3. Ensure the project has attained authorization in accordance with Corporate Policy, 000-1 "Delegation of Authorities".
 - 7.2.4. Ensure Project records (i.e. engineering correspondence, design documents, permits, project reviews, evaluations and inspections) are retained in the project files.
 - 7.2.5 Provide engineering assistance to all phases of the Project from initiation through project closure.
- 7.3 The Project Engineer coordinates an environmental review with the EH&S Department, and appropriate members of the Project Team to identify potential environmental concerns and ensure Site Investigation and Testing is conducted to mitigate concerns
- 7.4 The Project Engineer ensures general arrangement drawings are developed and issued as necessary.
- 7.5 The Project Engineer ensures that the cognizant responsible engineers

identify requirements for surface and subsurface investigations to support engineering design.

- 7.6 The Project Engineer ensures drawings, specifications, and applicable databases are prepared, approved, and released in accordance with the outage requirements identified in the schedule for the following as required:

- 7.6.1. Civil/Structural.

- 7.6.2. Electrical.

- 7.6.3. Environmental.

- 7.6.4. Protection and Control.

- 7.6.5. Transmission.

- 7.7 The Project Engineer, and other discipline engineers determine what equipment is considered major and what additional equipment and materials are long lead time procurement items, and perform the following:

- 7.7.1. Develop equipment specifications

- 7.7.2 Ensure training requirements are identified.

- 7.7.3 Prepare major equipment purchase requisitions and submit to Purchasing.

- 7.7.4. Prepare materials lists for long lead time materials. -.

- 7.8 The Project Engineer assures requisitions to Purchasing for major equipment, long lead materials, and construction contracts are issued.

- 7.9 Purchasing obtains proposals for major equipment and long lead time material items.

- 7.10 The Project Engineer coordinates technical evaluation of purchased equipment proposals with discipline engineers.

- 7.11 Purchasing performs the following functions:
 - 7.11.1 Obtains required approvals and Request for Authorization to Purchase (RAP).
 - 7.11.2 Conducts pre-award meetings and awards purchase orders.
 - 7.11.3 Forwards vendor drawings to the Project Engineer for review, approval, and incorporation into construction packages as required.
- 7.12 Discipline Engineers review vendor drawings and technical information associated with purchased equipment and:
 - 7.12.1. Ensure equipment/component fabrication is proceeding according to the schedule.
 - 7.12.2. Update training requirements.
 - 7.12.3. Prepare spare parts lists and preventative maintenance recommendations.
 - 7.12.4. Working with the User Organization, prepares operating and maintenance descriptions and, instructions.
 - 7.12.5. Ensure Vendor submittals are considered in design and construction packages.
- 7.13 The Project Engineer coordinates the preparation of outage step drawings and outage step instructions for outage and non-outage work.
- 7.14 The Project Engineer ensures the Construction Package and the appropriate Construction Specification is prepared for review and comment.
- 7.15 The Project Engineer ensures review comments are resolved, the construction packages are finalized and ensures the following are prepared by discipline engineers for issue in accordance with project milestones:

- 7.15.1 Relay settings
- 7.15.2 Equipment test letters
- 7.15.3 Functional testing requirements
- 7.15.4 Operating diagrams
- 7.15.5 Operating instructions
- 7.15.6 Station/System descriptions.

- 7.16 The Project Engineer ensures all permits required to support the project are obtained including environmental and building permits.

8.0 ENGINEERING AND DESIGN BY DEVELOPER/NYISO/PJM

The NYISO/PJM'S Large Facility Interconnection Procedure provides Developers with the option to perform engineering, equipment procurement, and construction of Transmission Owner's Attachment Facilities and Stand Alone System Upgrade Facilities. Where the Developer is responsible for the design, engineering and construction of Transmission Owner Attachment Facilities and Stand Alone System Upgrade Facilities, any assistance provided by ORU/RECO will be described in the appendices to the Interconnection Agreement. Such assistance may include but is not limited to the review of construction packages, assistance in submitting outage requests to the NYISO/PJM and reviewing relay setting calculations.

9.0 CONSTRUCTION, STARTUP AND TESTING

- 9.1 The Project Engineer ensures Project start; construction and completion are within schedule.
- 9.2 In the event a Developer project requests that ORU/RECO perform activities that are not included in a previously executed Transaction Form or Interconnection Agreement as part of the Developer project, the Project Engineer must 1) notify Transmission & Substation Engineering and the Legal department of the need for a new Master Services Agreement, or an update to the existing Project Master Services Agreement, Transaction Form, or Interconnection Agreement, and 2) ensure the development of the appropriate Scoping Document for submittal for appropriations.
- 9.3 The Project Engineer arranges field walks with the Project Team, and based on feedback from the field walk participants, the Project Engineer will modify the scope, layout drawings, and one-line schematics.
- 9.4 The Project Engineer prepares and issues requisitions to Purchasing for construction contracts, identifies any special conditions for bidding. .
- 9.5 Purchasing performs the following tasks:
 - 9.5.1 Prepares bidder lists from the list of qualified contractors and issues invitations to bid, with input from the Project Manager assisted by the Project Team.
 - 9.5.2 Conducts pre-bid meetings and field visits.
 - 9.5.3 If required, coordinates with the Project Engineer to obtain clarifications to issues raised by bidders.
 - 9.5.4 Provide clarifications to bidders as required.

- 9.5.5. If required, coordinates with the Project Engineer to perform technical evaluation of construction bid proposals in accordance with Engineering Operations manual.
 - 9.5.6. Conducts findings-of-fact meetings with Bid Check Estimating when discrepancies arise in bid submittals, and performs commercial evaluations.
 - 9.5.7. Identifies apparent successful bidder with input from the Project Engineer.
 - 9.5.8. Conducts a pre-award meeting with the successful bidder and the Project team, as required, to ensure there is a clear understanding of the project requirements.
 - 9.5.9. Issue a purchase order to the successful bidder.
- 9.6 Typically, the Project Engineer ensures contractors perform the following with CI-280-4,
- 9.6.1. Prepare and submit a site and job specific Environmental, Health and Safety Plan (eHASP).
 - 9.6.2. Prepare and submit a Schedule and Work Plan for the activities specified in the project documentation.
- 9.7 The EH&S Department, and the Transmission & Substation Engineering Department jointly review and accept contractor's site-specific eHASPs. The Project Engineer does not issue a "Notice to Proceed" until the contractor's eHASP has been accepted, and all procurement issues resolved by Purchasing.
- 9.8 The Project Engineer ensures the contractor designates a competent and qualified, full-time site representative to implement the activities required in the eHASP.

- 9.9 The Project Engineer manages construction and oversees construction activities.
- 9.9.1. Ensures environmental, health, and safety excellence is the primary goal in planning, organizing, directing, performing and controlling field activities. Goals relating to field activities shall emphasize safety, environmental concerns, and high levels of performance and productivity.
- 9.9.2. Controls the acceptance for delivery of vendor equipment and ensures all tests, including field trial tests, are completed.
- 9.9.3. Ensures the following:
- a. If the project involves a facility that requires an outage, the Constructor completes non-outage civil/electrical/mechanical construction work so as not to impact outage windows.
 - b. Constructor completes all component and system integrity tests in accordance with specifications, codes and engineering standards.
 - c. Constructor completes outage work and system and equipment tie-ins in accordance with applicable drawings and instructions.
 - d. User organization completes functional testing and commissioning of equipment.
 - e. Constructor submits "as-built".
- 9.10 Certain Developer Projects will be constructed by work forces other than ORU/REC. In the event such work is carried out on ORU/RECO premises, the Developer and all Contractors are required to adhere to ORU/RECO construction standards and practices, as well as any specific the terms and conditions specified in the applicable Transaction Form/Masters Service Agreement.

10.0 PROJECT CLOSEOUT

- 10.1 The Project Engineer ensures operating and maintenance instructions have been developed.
- 10.2 The Project Engineer verifies that the training requirements have been identified and communicated to the applicable user groups. The user groups ensure the training curriculum has been developed and implemented.
- 10.3 The Project Engineer ensures the Construction Administer, applicable test groups, discipline engineers, and User prepare punch lists, and performs the following:
 - 10.3.1. Consolidates punch lists into a master punch list.
 - 10.3.2. Assigns responsibilities for resolving the punch list items
 - 10.3.3. Ensures all items are resolved.
- 10.4 The Project Engineer coordinates closeout inspections and ensures that contractor performance evaluations are prepared and contractor exit interviews are conducted to jointly review the performance evaluation as contractors work scope is completed.
- 10.5 The Project Engineer issues acceptance letters for equipment and ensures all system or component integrity tests performed to satisfy specification or code requirements have been performed prior to putting equipment in-service.
- 10.6 The Project Engineer and Construction Administrator ensure “As Constructed Drawings” have been prepared.

10.7 The Project Engineer closes out the project.

10.8 The Project Engineer conducts post construction project review and reviews lessons learned.

11. REFERENCES

11.1. NYISO Attachment X

Standard Large Facility Interconnection Procedures
(>20 MW Generators and Merchant Transmission Facilities)

11.2 NYISO Attachment Z

Standard Small Facility Interconnection Procedures
(<20 MW Generators Facilities)

11.3 NYISO Load Attachment P

Load Interconnection

11.4 PJM Manual 14G

Generation Interconnection Requests

11.5 PJM Manual 14E

Upgrade and Transmission Interconnection Requests

11.6 ORU-ENGR-006A: Orange and Rockland's Facility Interconnection Kit (Latest revision)

11.7 ORU-ENGR-006B: Orange and Rockland's Facility Interconnection Requirements (Latest revision)

11.8 "Operating, Metering and Equipment Protection Requirements for Parallel Operation of Large-Size Generating Facilities Greater than 1,000 Kilowatts Connected to the Distribution System."

APPENDIX 1

ORU-ENGR-06A: ORANGE AND ROCKLAND'S FACILITY INTERCONNECTION KIT

ORU-ENGR-06B: ORANGE AND ROCKLAND'S FACILITY INTERCONNECTION REQUIREMENTS

APPENDIX 2

**PARALLEL OPERATION OF
LARGE-GENERATING
FACILITIES (GREATER THAN
1,000 KILOWATTS)
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APPENDIX 3

**MASTER SERVICE
AGREEMENT (MSA) PRO
FORMA**

APPENDIX 4

TRANSACTION FORM (TF)

PRO FORMA