



UG-21

Transmission Expansion and Interconnection Guide

Issued: December 2020

Version: 1.0

Effective Date: 12/18/2020

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Revision History

Version	Date	Revisions
1.0	12/18/2020	Initial Release

Relation of this Guide to NYISO's Tariffs, Agreements and Manuals

To the extent that information in this Guide is inconsistent with the NYISO's tariffs, agreements, or the Transmission and Transmission Expansion and Interconnection Manual (Manual), the NYISO's tariffs, agreements, and the Manual shall control. This guide is intended solely for informational purposes and is subject to change.

1. Purpose

The purpose of this guide is to:

- Provide developers with an introduction to and a high-level summary of various NYISO interconnection procedures

2. Overview of the NYISO Transmission Expansion & Interconnection Process

The purpose of the NYISO Transmission Expansion & Interconnection process is to:

- Evaluate impacts of proposed generation, transmission and load projects on the New York Transmission System and distribution system, as applicable
- Identify and cost allocate upgrade facilities required to meet reliability requirements (*i.e.*, System Upgrade Facilities or Network Upgrade Facilities) and, for projects requesting Capacity Resource Interconnection Service (CRIS), System Deliverability Upgrades required to meet deliverability requirements

Applicable Manual and Tariff Provisions:

- OATT Section 3.7 and 4.6 – Transmission Expansion Procedures
- OATT Attachment P – Transmission Interconnection Procedures
- OATT Attachment X – Large Facility Interconnection Procedures (Larger than 20 MW)
- OATT Attachment Z – Small Generator Interconnection Procedures (20 MW or smaller)
- OATT Attachment S – Class Year Study Procedures (Large Facilities, certain Small Generators and projects requesting CRIS)
- OATT Section 3.9 – Load Interconnection Procedures
- Transmission Expansion & Interconnection Manual

3. Who are the parties involved in the Transmission Expansion & Interconnection Process?

- NYISO
- Connecting Transmission Owner(s) (CTO)
- Affected System(s) (*e.g.*, potentially impacted Transmission Owners, generation owners, and neighboring control areas)
- Transmission Developers, Large Facility Developers, and Small Generator Interconnection Customers¹

4. How does a Developer submit an interconnection request?

The NYISO provides an “Interconnection Projects Community Portal” –an online platform to access, submit and receive most forms, study agreements, and information that needs to be exchanged in the

¹ In many places, the NYISO uses the term “Developer” in place of the term “Interconnection Customer.”

interconnection process. The Interconnection Project Community Portal is accessible through the NYISO's public website under the tab "Planning" > "Interconnection Process."

5. What is the NYISO email to contact for additional information?

For additional information re: NYISO TEI process, please send an email to InterconnectionSupport@nyiso.com

6. What are the options for transmission projects?

The NYISO transmission expansion process is described in Section 3.7, Section 4.5 of and Attachment P to the NYISO OATT. In addition, Attachments S and X to the OATT describe the study process applicable to transmission projects meeting the definition of Class Year Transmission Projects.²

- OATT Section 3.7 Transmission Expansion Process
 - Applicable to new transmission facilities and upgrades to existing transmission facilities pursued by a Transmission Owner (TO) as part of its local transmission plan (an LTP or NYPA transmission plan) that is not subject to the NYISO's competitive selection process under Attachment Y and for which the TO is not seeking regional cost allocation under the NYISO OATT
 - A request under Section 3.7 can be submitted to the NYISO via an email to InterconnectionSupport@nyiso.com.
 - Two interconnection study phases:
 - System Impact Study – only required if the project either (i) reduces the transfer capability of a NYISO interface by greater than 10 MW or increase the transfer capability of a NYISO interface by greater than 25 MW; or (ii) change the classification of affected facilities to NPCC BPS (Bulk Power System) facilities.
 - Facilities Study – the Facilities Study for a TO transmission project primarily involves the Customer and the affected TO(s). NYISO is not a party to the Facilities Study agreement for a TO transmission project, and has only a supporting role to cooperate with the affected TO(s) in performing Facilities Study.

Developers are required to pay the actual study costs.

- Large Facility Interconnection Procedures (LFIP)
 - A subset of transmission projects are subject to the Large Facility Interconnection Procedures and Class Year Study process described in OATT Attachments S and X, which include:
 - Transmission projects eligible for and requesting CRIS in the form of Unforced Capacity Deliverability Rights or External-to-ROS Deliverability Rights, as applicable

² These would be (1) transmission projects seeking CRIS and (2) transmission projects seeking only ERIS for which power flow can be directly controlled by power flow control devices directly connected to the Class Year Transmission Project without having to re-dispatch generation.

- Transmission projects for which power flow can be directly controlled by power flow control devices directly connected to the Class Year Transmission Project without having to re-dispatch generation.
 - The study process for such transmission projects is the same as that for other Large Facilities and is described below.
 - Transmission Interconnection Procedures (TIP)
 - Applicable to transmission projects proposed by Transmission Developers that are not subject to OATT Section 3.7 or the LFIP
 - A TIP Interconnection Request can be submitted via the online platform and requires a \$10,000 non-refundable application fee and study data
 - Three interconnection study phases:
 - Optional Feasibility Study (OFES) - \$60,000 study deposit
 - System Impact Study (SIS) - \$120,000 study deposit
 - Facilities Study - \$100,000 study deposit
- Developers are required to pay the actual study costs.
- The basic steps of the TIP are:
 - Initial Processing of the TIP Application
 - Scoping Meeting
 - Optional Feasibility Study
 - System Impact Study
 - Facilities Study
 - Engineering & Procurement Agreement (optional)
 - Transmission Project Interconnection Agreement

7. What are the options for generation interconnection projects?

The NYISO's interconnection process refers to three processes that evaluate proposed interconnections of Large Facilities, Small Generators, and Load, respectively.

Not all proposed interconnections fall under the NYISO's interconnection procedures or under FERC's jurisdiction. Some proposed interconnections instead fall under the procedures of the local TO and/or under State jurisdiction. Jurisdiction is often a threshold issue for proposed small generation projects, but can be an issue for large generation projects as well.

- Large Facility Interconnection Procedures (LFIP):
 - Applicable to:
 - Generating facilities that have a Generating Facility Capacity of more than 20 MW and intend to participate in the NYISO wholesale sales.
 - Class Year Transmission Projects – transmission projects seeking CRIS and transmission projects over which power flow can be directly controlled by power flow control devices directly connected to the Class Year Transmission Project

- Material modifications to existing generation facilities.
- A Large Facility Interconnection Request can be submitted via the online platform and requires a \$10,000 non-refundable application fee, study data and either demonstration of Site Control or an additional \$10,000 deposit in lieu of demonstrating Site Control.
- Three interconnection study phases:
 - Optional Feasibility Study - \$10,000 for limited analyses or \$60,000 study deposit for detailed analyses
 - System Reliability Impact Study - \$120,000 study deposit
 - Class Year Study - Regulatory milestone requirement, Operating Committee-approved SRIS and \$100,000 study deposit or, for a Developer entering the study only for a deliverability evaluation (*i.e.*, CRIS only), \$50,000 study deposit.
 - For a Developer that wishes to enter a Class Year Study, but that has not yet met an applicable regulatory milestone, the Developer can enter the Class Year with either a qualifying contract or by submitting an additional 2-part deposit: \$100,000 (at risk) plus \$3,000/MW (fully refundable).

Developers are required to pay the actual study costs.

- The basic steps of the LFIP are:
 - Initial Processing of the Interconnection Request
 - Scoping Meeting
 - Optional Feasibility Study
 - System Reliability Impact Study
 - Class Year Study
 - Engineering & Procurement Agreement (optional)
 - Large Facility Interconnection Agreement
- Small Generator Interconnection Procedures (SGIP):
 - Applicable to:
 - Generating facilities connecting to transmission or to portions of the distribution system on which there are already wholesale generator that have a capacity of 20 MW or less and intend to participate in the NYISO wholesale sales.
 - Material modifications to the capability of existing generation facilities.
 - A Small Generator Interconnection Request can be submitted via the online platform and requires a \$1,000 non-refundable application fee, study data and demonstration of Site Control.
 - Three interconnection study phases:
 - Optional Feasibility Study - \$10,000 for limited analyses or \$30,000 study deposit for detailed analyses
 - System Impact Study - \$50,000 study deposit
 - Facilities Study - typically a \$100,000 study deposit

Developers are required to pay the actual study costs.

- The basic steps of the SGIP are:
 - Initial Processing of the Interconnection Request
 - Scoping Meeting
 - Optional Feasibility Study
 - System Reliability Interconnection Study
 - Facilities Study
 - Small Generator Interconnection Agreement
- Load Interconnection Procedures:
 - NYISO's Load Interconnection Procedures apply to the following proposed Load interconnections:
 - Load facilities that are greater than 10 MW connecting at a voltage level of 115 kV or above
 - Load facilities that are 80 MW or more connecting at a voltage level below 115 kV
 - Proposed Load interconnections that fall outside these criteria are not subject to the NYISO procedures, but instead fall under the Transmission Owner's procedures.
 - A Load Interconnection Request can be submitted via an email to ICPC@nyiso.com.
 - The study deposit will typically be \$150,000.
 - Developers are required to pay the actual study costs.
 - The basic steps of the Load Interconnection Process are:
 - Initial Processing of the Interconnection Request
 - Scoping Meeting
 - System Impact Study
 - Load Interconnection Agreement - Customer may elect to continue with the proposed interconnection by entering into an interconnection agreement with the CTO. NYISO is not a party to the interconnection agreement.

8. What is the Class Year Study process?

- Applicable to:
 - All Large Facilities
 - Small Generating Facilities that require non-Local System Upgrade Facilities (*e.g.*, required upgrades beyond the proposed Point of Interconnection)
 - All facilities larger than 2 MW requesting CRIS
- The Class Year Study performs a detailed study of the collective reliability impact of a group of projects, as well as a deliverability evaluation for requested CRIS, and identifies and provides binding cost estimates for required upgrades.
- The Class Year Study consists of several different evaluations that are grouped into two general "Parts":
 - Part 1 Studies – This study is performed individually for each project in the Class Year Study (unless the project is CRIS-only). This study identifies the required CTO Attachment Facilities and Local System Upgrade Facilities involved in the direct connection of the Project. This study

also includes design, preliminary engineering, and estimation of cost and time to construct these facilities.

- Part 2 Studies – This study is performed collectively for all of the Class Year projects. It involves an evaluation of the transmission system with and without the Class Year projects to identify the upgrades required by the Class Year projects collectively. This study then involves design, preliminary engineering, and estimation of cost and time to construct each upgrade, together with an allocation of the upgrade costs among contributing projects.