11/07/2025

Subject: Load Interconnection Projects System Impact Study (SIS) Procedure

Statement: This Technical Bulletin provides supplemental information regarding system impact studies for Load interconnection procedures.

Details:

Background

In an effort to streamline and clarify the Load interconnection system impact study ("SIS") process, this technical bulletin provides detail to support the current tariff requirements set forth in Section 3.9 of the NYISO Open Access Transmission Tariff and the NYISO Transmission Expansion and Interconnection Manual. Tariff changes to the Load interconnection process are being contemplated as part of a 2026 NYISO project initiative. Revisions or supplements to NYISO Technical Bulletins and/or Manuals will be issued as necessary.

The NYISO Load interconnection procedures apply to Load interconnections that are either: a) greater than 10 MW connecting at a voltage level of 115 kV or above, or b) 80 MW or more connecting at a voltage level below 115 kV. This includes uprates to existing or previously planned projects for Loads. Proposed Load interconnections that fall outside these criteria are not subject to the NYISO procedures, but instead fall under the Transmission Owner's procedures.

NYISO's role in the Load interconnection process focuses on determining the reliability impacts of Load projects to the system during the SIS. The Load SIS is informational and non-binding. At the completion of the SIS and following the Customer's payment of the technical study, NYISO's role concludes in the Load interconnection process. The Customer may elect to proceed with the Connecting Transmission Owner ("CTO") on the Facility studies and then enter into a two-party interconnection agreement.

In addition to the CTO, NYISO may identify potentially Affected Transmission Owners ("ATO") or Affected Systems for Load projects. The ATOs and Affected Systems can review project information, including the study base cases, and the SIS results will be reviewed with ATOs and Affected Systems if the SIS results determine they are indeed affected by the Load project.

Preparation for a Request for Interconnection Study

This section outlines key steps that Customers should take prior to submitting a "Load Interconnection Request" ("request") with the NYISO.

It is recommended that Customers coordinate with the CTO prior to submitting a request with the NYISO. In this coordination Customers should: (1) determine the proposed Point of Interconnection ("POI") for the Load interconnection project including the substation or transmission line name and voltage level; and, (2) discuss a preliminary plan for local upgrades required at the POI.

The following information is required to be submitted through the NYISO interconnection portal in order for the request to be deemed complete:

- Completed interconnection request form
- Project conceptual one-line showing the project up to the POI with the POI clearly labeled

All project contacts should obtain CEII access and, if required, execute CTO's confidentiality agreement prior to the project scoping call. NYISO schedules the project scoping call typically within 2 weeks of its determination of the completed request. Any scoping call attendees without CEII access and executed CTO's confidentiality agreement will be asked to exit the meeting prior to discussing power system information.

Project details and modeling information are required from the customer prior to the finalization of the SIS scope and start of the SIS study including some key aspects, such as:

- The categorization and characteristics of the load project, e.g.,
    - Data centers and other computational load such as traditional data centers, artificial intelligence training or inference data centers, or cryptocurrency mining
    - Industrial loads such as mining and mineral processing, metals and heavy manufacturing, semiconductor and electronics manufacturing, chemical and petrochemical processing, or oil and gas production
    - Hydrogen production facilities
    - Other
- The level of flexibility of the load,
  Including if the load would opt to reduce output during peak load periods for: duration, how many occurrences, and the willingness to participate in NYISO's Distributed Energy Resource program
- The load's daily and seasonal load profile.
- Details regarding existing or previously planned load that is a prior phase of the project under study. This may include load below the threshold at which projects are applicable to the NYISO Load interconnection process and have been studied under the CTO interconnection process instead.
- Phased-in in-service plans with expected dates and accompanying MW levels.
- Power flow, dynamics, and short circuit modeling data information in the requested format.

In preparation for the SIS, customers can reference NYISO's modeling data forms in advance:

1. Modeling Data Summary of NYISO Interconnection Data
   Note: This is a generic interconnection form so some fields, data, or tabs may not be applicable to the load customer's project.
2. Load Interconnection Data Request Form

It is recommended that customers have at least one project contact who is familiar with power system analysis software including Siemens PSSE and ASPEN.

Customers are required to execute the System Impact Study Agreement (SISA) within 30 days of receipt and to submit a $150,000 study deposit prior to the start of the SIS. Where actual study costs at the finalization of the SIS are less than $150,000, the customer will be reimbursed for the difference. This includes the costs that the ISO incurs at its discretion to use contractors or consultants, computation services, and the costs CTO may incur. Where the actual study costs exceed $150,000, the customer will be billed for the difference.

Base Cases for the SIS

The base system representation for load SISs will be a year five representation as approved by the Operating Committee, and consistent with a recent NYISO planning study such as the latest Short-Term Assessment of Reliability (STAR)[1].

In limited circumstances, sensitivities to the base cases may be evaluated to include other load projects that do not meet the STAR inclusion rules, or to model other load projects at their full requested load level, if (a) such other load projects are in close electrical proximity to the POI of the project(s) in the SIS and, (b) such other load projects are expected to contribute to the adverse reliability impacts identified in the SIS.

[1] STAR inclusion rules are consistent with the inclusion rules described in the Reliability Planning Process Manual, and the STAR key study assumptions are presented at TPAS/ESPWG meetings quarterly.

To the extent possible and as appropriate, several projects will be modeled in the same post-project case, if (a) the projects are moving forward in the same time frame, and (b) the projects, could cumulatively contribute to the adverse reliability impacts identified in the SIS.

This bundling of projects will help to expedite the SIS for all projects involved by streamlining administrative tasks like SIS scope development, presentation at stakeholder meetings, base case development, and study file development. Additionally, this method allows for the incremental impacts of load projects to be studied timely and efficiently. If the analyses identify violations of Applicable Reliability Requirements, the SIS will identify the individual contribution of each project to the potentially significant impacts on the NYS power system reliability.

In the Case of Adverse Reliability Impacts Identified in the SIS

If the SIS results indicate that the Project, as proposed, would result in adverse reliability impacts, analyses will be performed to identify alternatives to eliminate the adverse reliability impact which may include potential Network Upgrades or changes to the Project. The identified potential Network Upgrades or changes to the Project are informational and non-binding. Additionally, consideration will be given to load ramp-up schedules to determine if adverse reliability impacts arise prior to the project reaching its full requested load.

Non-binding good faith estimates of cost and time to construct those potential Network Upgrades are not provided as part of the SIS. Rather, these details will be determined during the facility study with the CTO.

Estimated Timeframe for Load Project SIS

Under the current process, a conservative time estimate from when the customer makes the study selection for the SIS to the SIS completion is nine months. Note that this timeframe is an estimate provided for information only and includes administrative items and technical studies. Actual progress through the load interconnection process for a given project is highly variable based on several factors including how quickly the project modeling information is validated, when the study is commenced, the extent of adverse reliability impacts (if any), and the complexity of the Network Upgrades required.

Once the SIS commences, customers and applicable CTOs will have access to view project progress via the NYISO interconnection portal with weekly updates and an interactive Gantt chart. The Gantt chart is a valuable informational tool that displays high-level tasks against time, helping customers plan, estimate schedule, and track project progress more effectively.

Steps After the Completion of the SIS

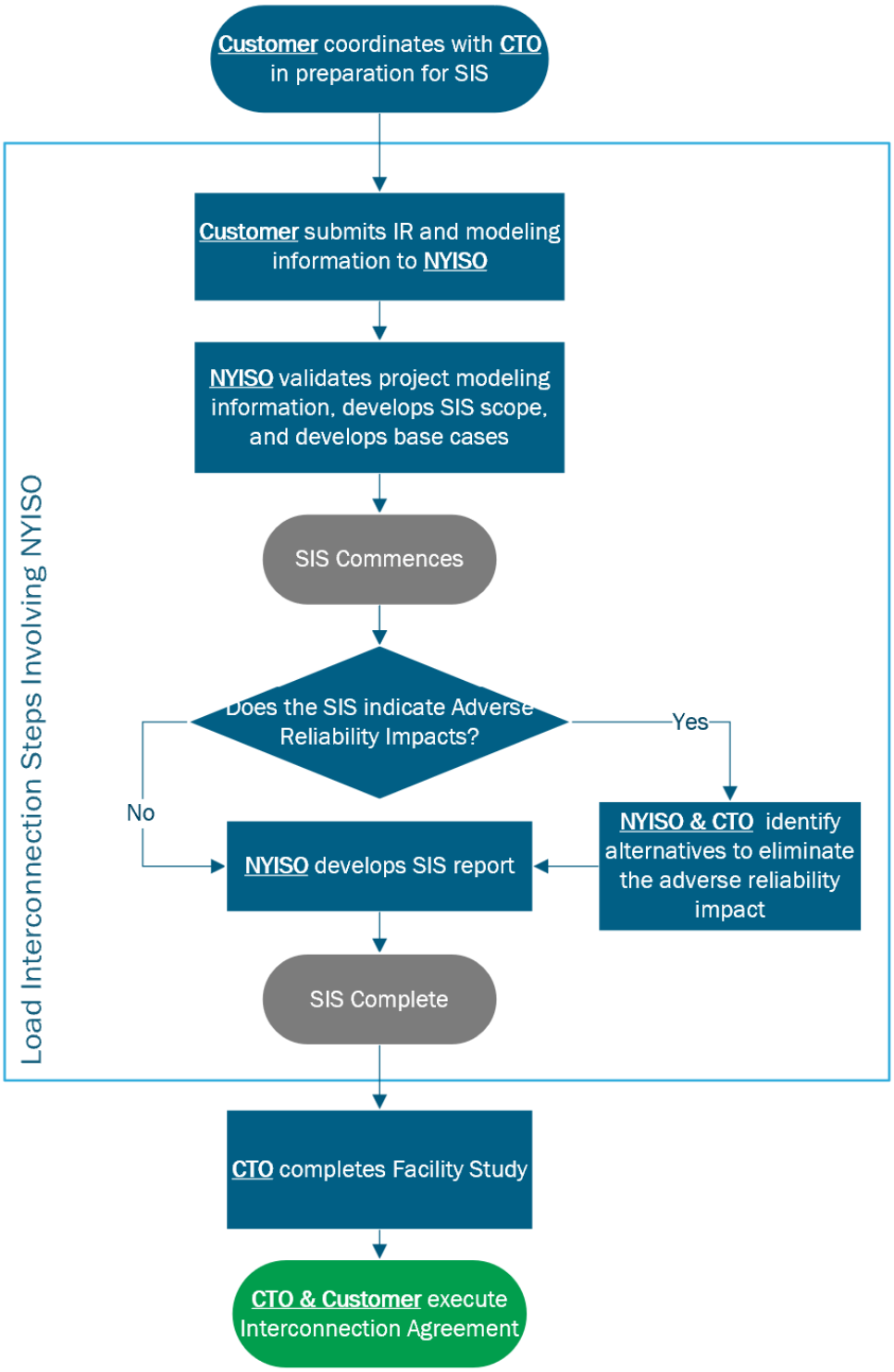
Load projects must complete a facilities study and interconnection agreement with the CTO prior to becoming in-service. Customers should coordinate with the appropriate CTO to understand the facility study process and the next steps after the SIS. Customers should note that the system representation used for the facility study may differ from the system representation used for the SIS. This may lead to differences in the details of the potential Network Upgrades identified by each study.

Customer Support

All questions from customers on load interconnection procedures and specific load projects should be directed to NYISO Stakeholder Services at stakeholder_services_ipsupport@nyiso.com unless it is in direct response to a request from NYISO staff for technical project information. Resources are available on the NYISO website for prospective customers:

- Modeling Guidelines for NYISO Interconnection Data
- Transmission Expansion and Interconnection Manual
- Transmission Expansion and Interconnection User's Guide

Major SIS Steps



This Technical Bulletin is not currently expected to be incorporated into a NYISO Manual/User Guide.