

2023 Interconnection Queue Reform

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Transmission Planning Advisory Subcommittee

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Previous Discussions

Date	Working Group	Discussion Points and Links to Materials
May 5, 2023	TPAS	2023 Interconnection Queue Reform Presentation: https://www.nyiso.com/documents/20142/37410705/06_Queue%20Reform_TPAS_2023.05.05.pdf/583919e7-907b-abbe-18d1-77dc1d284607
April 19, 2023	TPAS	2023 Interconnection Queue Reform: Feedback on April 3, 2023 Straw Proposal: https://www.nyiso.com/documents/20142/37053822/Queue%20Reform%20TPAS%20Slides_041922_TPAS_Draft%2020230413.pdf/c9c21b27-0b7a-5a89-a091-0790705d481f
April 3, 2023	TPAS	Interconnection Queue Reform Straw Proposal: https://www.nyiso.com/documents/20142/36836640/09_Queue%20Reform%20TPAS%20Slides_040322_TPAS_draft.pdf/cc1c5223-34e8-1479-333f-67cf9ee90020
March 2, 2023	TPAS	Interconnection Queue Reform Comments: https://www.nyiso.com/documents/20142/36521630/07_Interconnection%20Queue%20Reform%20Comments.zip/dc30b22b-a459-98a0-0d4e-8db7963f1ba0
February 14, 2023	TPAS	2023 Interconnection Queue Reform: https://www.nyiso.com/documents/20142/36220115/Queue%20Reform%20TPAS%202023.02.14_Final.pdf/b06bb80a-5650-32d9-ced7-0ba55b81de59
January 19, 2023	TPAS	2023 Interconnection Queue Reform: https://www.nyiso.com/documents/20142/35685644/08_Queue%20Reform%20TPAS%20Slides_FINAL_.pdf/5359d2e0-6d0d-5447-5d44-3b198ddef519

Agenda

- **2023 Queue Reform Objectives and Deliverables**
- **Current Process and Challenges**
- **Initial Queue Window Straw Proposal**
- **Revised Proposal: Class Year Queue Window Approach**
- **Next Steps**

2023 Queue Reform Initiative

■ Objectives:

- Improve the NYISO's overall interconnection process to reduce time and increase efficiencies, while maintaining system reliability.
- Provide sufficient incentives and disincentives to ensure that projects less commercially ready do not bottleneck the study process for projects prepared to move forward that are progressing in the queue.

■ 2023 Project Deliverable:

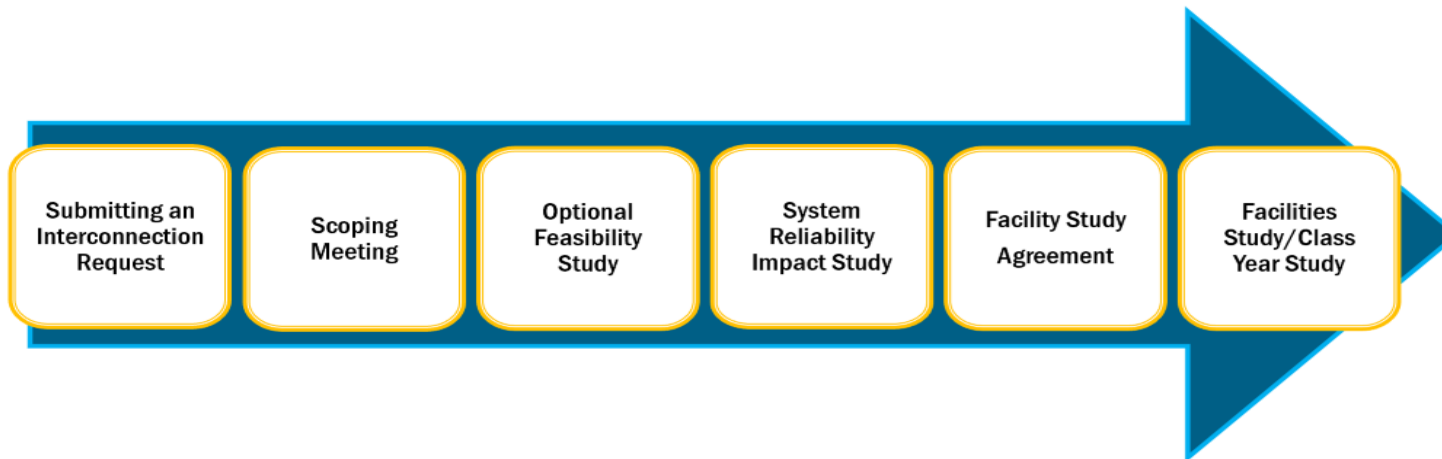
- Q4 Market Design Complete (*i.e.*, OC or MC vote)

Current Interconnection Study Process

Interconnection Study Process

- **3 Successive Interconnection Studies:**
 - Optional Feasibility Study – **optional single project study** to evaluate the configuration and local system impacts of a proposed project to inform developers of potential issues with the point of interconnection
 - System Impact Study – **single project study** to evaluate transfer capability and system reliability; non-binding good faith cost estimate of system upgrades
 - Facilities Study – **clustered project study** to evaluate collective reliability impacts, deliverability of requested CRIS and identify least cost System Upgrade Facilities/System Deliverability Upgrades with binding cost allocations

Interconnection Study Process



Challenges in the Current Process

- Increasing volume of Interconnection Requests
- Multiple projects connecting at the same/or nearby location, triggering upgrades
- More projects in the queue that are at earlier stages of development, evidenced by:
 - Frequent project modifications late in the interconnection process;
 - Increased number of Class Year rejections;
 - Developers submitting alternative projects; and
 - High number of project withdrawals.

Challenges in the Current Process, cont.

- Parties' lack of familiarity with NYISO interconnection procedures
- Flexibility afforded to Developers to address data and modeling deficiencies
- Flexibility afforded to parties in the review and comment phases of studies
- Increased complexity of study processes over time
- Interaction/coordination among different processes (SGIP, TIP, etc.)
- New and evolving reliability standards

Initial Queue Window Straw Proposal

Initial Queue Window Straw Proposal

- Evaluate a group of projects in a particular queue window together throughout the study process, not just in the Class Year Study
- Key Features
 - Replaces the individual feasibility study, individual SRIS and clustered Class Year Study process with a multi-phased process clustered throughout
 - Encompasses the same analyses but separated into phases
 - Additional decision periods and increased deposits/milestone requirements

Queue Window												
A	Application Review			Phase 1 Study	P1 Decision	Phase 2 Study	P2 Decision	Phase 3 Study		P3 Decision		
B				Application Review			Phase 1 Study	P1 Decision	Phase 2 Study	P2 Decision	Phase 3 Study	P3 Decision

Initial Queue Window Straw Proposal

■ Stakeholder Feedback:

- Support for evaluation of feasibility issues posed by projects connecting at the same point of interconnection
- Support for elimination of the SRIS
- Support by some for increased deposits and "commercial readiness" requirements, but concerns from developers regarding more stringent deposits, amounts and timing of deposits subject to forfeiture. Deters Utilizes strengths of the current Class Year structure, but filters out speculate projects more efficiently
- Considerable concerns with complications due to overlap of the subsequent queue window
- Concern that projects deemed infeasible face withdrawal and have to enter subsequent queue window, with no opportunity to modify the project in the initial queue window
- Concerns regarding limited flexibility for Developers with respect to projects modifications after their IR validation
- Concerns regarding potential wait times between queue windows
- Concerns regarding alignment of new NYISO interconnection process with NYSERDA, ORES and Article 10 requirements related to completed SRIS (used as a milestone/application exhibit in their respective processes)
- Concerns regarding base case lockdown early in the study process with no opportunity for updates within the queue window between the initial study to completion of final study.

Revised Proposal: Class Year Queue Window

Overview

Class Year Queue Window Concept

- **Overview**

- Maintain Class Year structure with defined application phase and clustered feasibility studies in place of individual SRISs

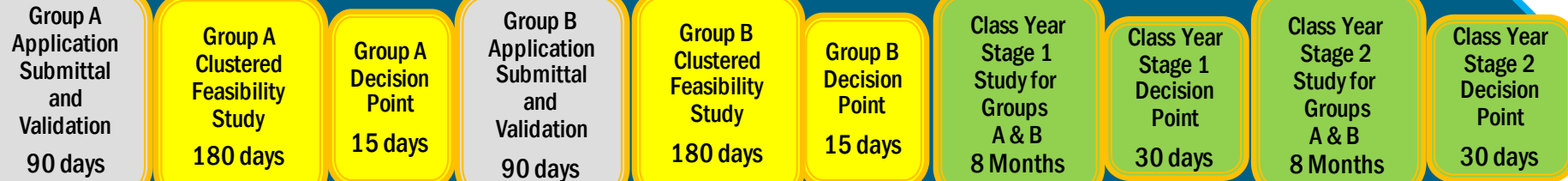
- **Key Aspects**

- Single interconnection process for all generation projects, regardless of MW size
 - Clustered Feasibility Study (CFS)
 - 2-stage Class Year Study
- Stringent application validation requirements
- More stringent deposits/milestone requirements and deposits become more “at risk” later in the study process
- Defined timeline
- Additional decision periods
- Head-to-Tail Study Clusters
- Clustered Feasibility Studies in parallel with the Facilities Study for the prior Class Year creates efficiencies
- Path forward for projects with feasibility issues (can enter a second Clustered Feasibility Study if feasibility issues are identified)
- Decision point mid-Class Year to aid Developers in understanding where they stand and accelerate project decision points so projects affecting other developers do not cause as much uncertainty
- Off-ramps for projects that do not require non-local SUFs.
- Elimination of multi-year wait time before entering a Class Year Study (Must enter first Class Year Study after completing a clustered Feasibility Study and can only enter a Class Year Study if deemed feasible.)

Class Year Queue Window Concept

- **Potential Timeline (depicted on following slide)**
 - **30 Days:** Application Window for Group A (opens upon completion of prior Class Year Study)
 - **60 Days:** Validation for Group A projects
 - **180 Days:** Clustered Feasibility Study for Group A (including base case creation)
 - **15 Days:** Decision point for Group A Clustered Feasibility Study
 - **30 Days:** Application Window for Group B projects
 - **60 Days:** Validation for Group B (open to Group A projects with feasibility issues)
 - **180 Days:** Clustered Feasibility Study for Group B
 - **15 Days:** Decision point for Group B Clustered Feasibility Study
 - **8 Months:** OC approval of Class Year Stage 1 Study
 - **15 Days:** Decision point for Class Year Stage 1
 - **8 Months:** OC approval of Class Year Stage 2
 - **60 Days from Class Year:** Class Year Stage 2 Decision period
 - **30 Days:** Application Window for Group C

Class Year Queue Window Concept



Transition Class Year Study

Class Year Study of Groups A & B

Group A Clustered Feasibility Study

Group B Clustered Feasibility Study

Group C Clustered Feasibility Study

Group D Clustered Feasibility Study

Details

Application Phase

- **Defined application validation windows:**
 - 30 days for application submittals
 - 60 days to validate applications, including one cure period for application deficiencies
- **Consider establishing a prioritization process for projects proposing to interconnect at the same POI/substation to address scenarios in which it is not feasible to connect all projects**
- **Consider how to structure a pre-application process/requirements**

Application Phase (continued)

■ Developer Application Requirements:

- Non-refundable Application fee and study deposit (amounts to be determined based on other ISO/RTO models and/or FERC Generator Interconnection NOPR)
 - Single Study deposit at the application stage for all studies (i.e., study deposits not required at each study stage)
 - Study deposit subject to forfeiture in increasing amounts as the project proceeds through the study process
- Conceptual breaker-level one-line diagram where the project proposes to interconnect to the existing system representation (see next slide for clarification)
- Project layout that shows general project layout and location of project in relation to proposed POI
- Workable project models (short circuit, steady-state, and stability)
- Site Control: Full site control* for project (without option of additional deposit)
- Projects that are alternatives cannot be evaluated simultaneously

Application Phase (continued)

- **Conceptual breaker one-line diagram provided as part of the application should include:**
 - Project name, and the Developer name on the diagram;
 - Facility address (specific location of the facility);
 - Number of inverters or generator units (type, nameplate rating MW and MVA), and configuration of the facility;
 - Facility's electrical components (i.e., generation, transformers (GSU, PSU, current transformer, and potential transformers), breakers, switches, cables/lines/feeders, compensation, FACTs, auxiliary load, buses, etc.) as described in the modeling data form;
 - Capability and voltage levels of the electrical components, their connection to each other and to the New York State Transmission System or Distribution System;
 - Point of Interconnection (name of the substation name (specify the bus) or transmission/distribution line name and number); and
 - References to other diagram sheets if there is more than one diagram sheet (i.e., use references to indicate how the diagrams are interconnected).
 - Acronyms used in the conceptual breaker one-line diagram should follow ANSI Standard Device Numbers & Common Acronyms.

Clustered Feasibility Study Scope

- **Include Adjacent Affected TO(s) to the POI**
- **Review diagram provided by Developer and develop acceptable conceptual breaker-level one-line diagram(s) including the configuration of CTO Attachment Facilities and Point of Interconnection SUFs and their integration with Developer Attachment Facilities to accommodate all proposed projects including:**
 - Expand the existing substation to accommodate proposed projects
 - Configure the new substation whether it should be a tap bus, a ring bus, a breaker-and-half bus, or etc.
- **Perform sensitivity studies as applicable to determine interaction between projects within the clustered study**
 - All projects that interact (only 1 permutation)
- **Preliminarily identify if there are SUF that can accommodate interconnection of multiple projects within the clustered study if there are multiple projects proposing interconnection to the same line or station**

Clustered Feasibility Study Scope (continued)

- **Review physical feasibility (desk-top review) based on the proposed conceptual acceptable one-line diagrams including:**
 - Identify known cable routing concerns and environmental issues (i.e., wetlands or similar issues) with the proposed interconnection.
 - If applicable/necessary, refine the conceptual breaker-level one-line diagrams due to physical infeasibility
- **Perform short circuit analysis**
 - Consider extent to which this should include applicable Individual Breaker Analysis at this stage
- **Clustered Feasibility Study can be skipped for projects that are uprates to existing projects if agreed upon the NYISO and CTO**

Clustered Feasibility Study Scope (continued)

- Short form study summary for each project including non-binding costs and construction duration for Local SUFs
- NYISO will consolidate into a single report for all projects (similar format as the Class Year)
 - No individual reports or individual results meetings
- Report review/presentation meeting via IPFSWG (similar to Class Year group meeting)
- 180 days to perform the clustered study

Clustered Feasibility Study Decision Phase

- **Project that decides to not move forward to the Class Year Study is removed from the queue**
 - Decision will be publicly posted
- **75% of the study deposit will be refunded**
- **If project moves forward to Class Year Study and then withdraws (at any time prior to completion of the decision phase), the full study deposit will be forfeited**

Class Year Study Scope

- **Same as current process with following exceptions:**
 - Split the Class Year process into stages:
 - Base Case/Model Development
 - Short circuit and steady-state base case creation including auxiliary files
 - Class Year Stage 1 and Decision Period
 - Scope is current Part 1 study and limited Part 2 analyses from current Class Year Study
 - Class Year Stage 2 and Decision Period
 - Refine Stage 1 results based on Stage 1 decisions
 - Remaining “Part 2” analyses performed in current Class Year Study
 - Consider whether regulatory milestone requirements should differ from current process

Class Year Study Scope

■ Base Case/Model Development:

- Build short circuit base cases
- Build steady-state base case creation including auxiliary files
- 60 days

Class Year Study Scope

■ Class Year Stage 1:

- Current Class Year “Part 1” study
- Part of current Class Year “Part 2” study
 - Bus flow analysis
 - Short circuit analysis including IBA
 - Perform localized steady-state analysis
 - Perform localized stability analysis
 - Perform limited transfer analysis
 - Perform deliverability analysis (without identification of SDUs)
- Consider whether binding costs for bus flow or short circuit analysis should be part of this study phase
- 180 days

Class Year Study Scope

■ Class Year Stage 1 Decision Period:

- Decision
 - 15-day decision period – only one iteration
 - Rejection/Withdrawal
 - 50% of the application deposit will be refunded
 - Project that rejects/withdraws is removed from the interconnection queue
 - Acceptance allows project to move forward to Class Year Stage 2
- Class Year “Off Ramp”
 - For Small Generating Facilities that only have Local SUF, post Security for SUF and move to Interconnection Agreement stage
 - For Large Facilities or Small Generating Facilities that have non-Local SUF, post additional deposit, subject to forfeiture upon later withdrawal
 - For CRIS-only projects, they can accept Deliverable MW and complete the Class Year Study at this stage

Class Year Study Scope

■ Class Year Stage 2:

- Revisit/revise Class Year Stage 1 studies for projects impacted by the projects that dropped out at the Class Year Stage 1 decision point
- Perform all applicable analyses to identify non-Local SUF (including other SUF) for proposed projects that seek ERIS and determine the associated scope, estimated costs and cost allocation among projects
- Perform deliverability analysis to identify SDU for proposed projects that seek CRIS to be fully deliverable and determine the associated scope, estimated costs and cost allocation among projects
- 240 days

Class Year Study Scope

- **Class Year Stage 2 Decision Period – same as the existing CY Decision Process with following modifications:**
 - Rejection/Withdrawal
 - The application deposit and additional Class Year deposit will be forfeited in full
 - Project that rejects/withdraws is removed from queue
 - Acceptance
 - Developer that accepts cost allocation posts security for SUF/SDU
 - Security will be subject to the same forfeiture procedures applicable under the current Attachment S rules

Additional Open Issues

Open Issues

- Consider establishing a prioritization process for projects proposing to interconnect at the same POI/substation to address scenarios in which it is not feasible to connect all projects.
- Define "full site control" and "alternative" for purpose of application requirements
- Consider whether a developer should be able to withdraw without penalty under certain scenarios (*e.g.*, due to other projects dropping out, it is suddenly exposed to a significant increase in potential upgrade costs)
- Whether to require a Developer to pay cash or post security for CTOAF along with the SUF/SDU security posting

Open Issues/Request for Comments (cont.)

- **To enter Class Year, should there be a requirement to show continued Site Control including the generator lead route or post a non-refundable security in-lieu of satisfying Site Control?**
- **What type of information should be made available to Developers in a pre-application phase?**
 - Similar to the current Small Generator Pre-Application, updated to encompass all generators and to reflect new processes?
 - CEI requirements for the Pre-Application phase
 - Other?

Timeline

- **Anticipated Schedule Going Forward**
 - June
 - June 5, 2023: Revised straw proposal
 - June 29, 2023: Discuss stakeholder feedback and questions
 - June/July/August
 - Refine proposal
 - Start developing tariff
 - September/October/November
 - Vet tariff language with TPAS
 - December
 - Stakeholder approvals
 - January/February 2024
 - Board approval and FERC Filing

Next Steps/Request for Comments

- NYISO requests comments for further discussion at the June 29, 2023 TPAS meeting. If possible, please provide comments by June 16, 2023 to allow enough time to incorporate the comments in advance of the posting deadline for the June 29th meeting.
- Send comments to:
Stakeholder_Services_IPsupport@nyiso.com

Our Mission & Vision



Mission

Ensure power system reliability and competitive markets for New York in a clean energy future



Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation

Questions?