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Independent System Operator

2023 Interconnection Queue Reform

Thinh Nguyen

Senior Manager, Interconnection Projects

Transmission Planning Advisory Subcommittee
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Previous Discussions

Date	Working Group	Discussion Points and Links to Materials
June 5, 2023	TPAS	2023 Interconnection Queue Reform Revised Proposal https://www.nyiso.com/documents/20142/37981927/08_Queue%20Reform_TPAS_2023.06.05_Final.pdf/d69e9d1b-821a-b7ef-7821-427499759cd2
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

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Agenda

- 2023 Queue Reform Objectives and Deliverables
- Summary of Stakeholder Feedback
- NYISO Observations Based on Stakeholder Feedback
- Class Year Queue Window Overview and Details
- Additional Open Items
- Next Steps

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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)

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Summary of Stakeholder Feedback

Stakeholder Feedback/Questions

- Mixed support/concern with one interconnection process for all project sizes
- Consider ways to reduce study timeline further
- General support for single study deposits at application stage, subject to forfeiture in increasing amounts as projects proceed through the process
- Have an exit ramp for all projects if they do not need further study in Stage 2 of the Clustered Facilities Study
- Define “Full Site Control”
  - For example, define the acres/MW for each technology
- Expedite IA process/Revise pro forma IA and EPC agreements

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Stakeholder Feedback/Questions (cont.'d)

- Consider Changing Regulatory Milestone Requirements
- Consider extending COD to 6-7 years
- Provide preliminary non-binding SDU cost estimates as part of the Clustered Feasibility Study
- Discuss potential cost allocation risks associated with "Group A" and "Group B"
- Provide details on pre-application model requirements

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NYISO Observations Based on Stakeholder Feedback

Observations

- The Class Year Study provides developers with necessary information to determine the viability of a proposed project.
- The Class Year Study has many benefits, and this is due in large part to the clustered analysis that occurs.
- To streamline the interconnection process, clustering projects earlier on will provide developers with more certain information, necessary for project development decisions.

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Observations, (cont.'d)

- **Implementing a clustered feasibility analysis to replace the individual SRISs would streamline the interconnection process and allow for efficiencies**
  - The use of a clustered feasibility analysis confirms whether the proposed projects are "physically feasible" when reviewed in conjunction with other interconnections in that cluster.
  - This provides certainty to developers before advancing through the process, and helps to confirm certainty of projects in preparation of the Class Year study
- **Perform 2 clustered feasibility analyses before each class year**
  - Allows for parallel work to be done, which reduces wait time for projects
  - Provides developers with more than one opportunity to meet requirements to enter the Class Year
  - Provides developers with a chance to remedy any feasibility issues or switch to a second-best POI
- **Use of a Pre-application Phase aimed at ensuring that IRs are complete, accurate, and informed would provide developers with flexibility to develop projects and advance projects that are more certain through the clustered studies.**

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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.)

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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

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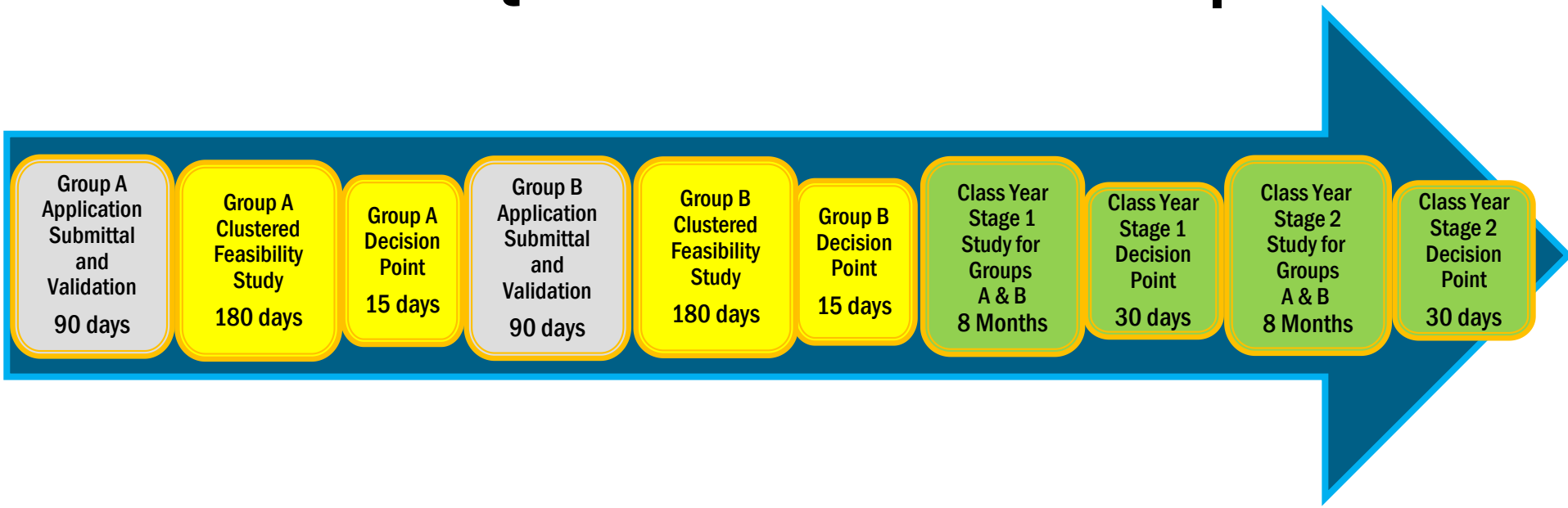
Class Year Queue Window Concept



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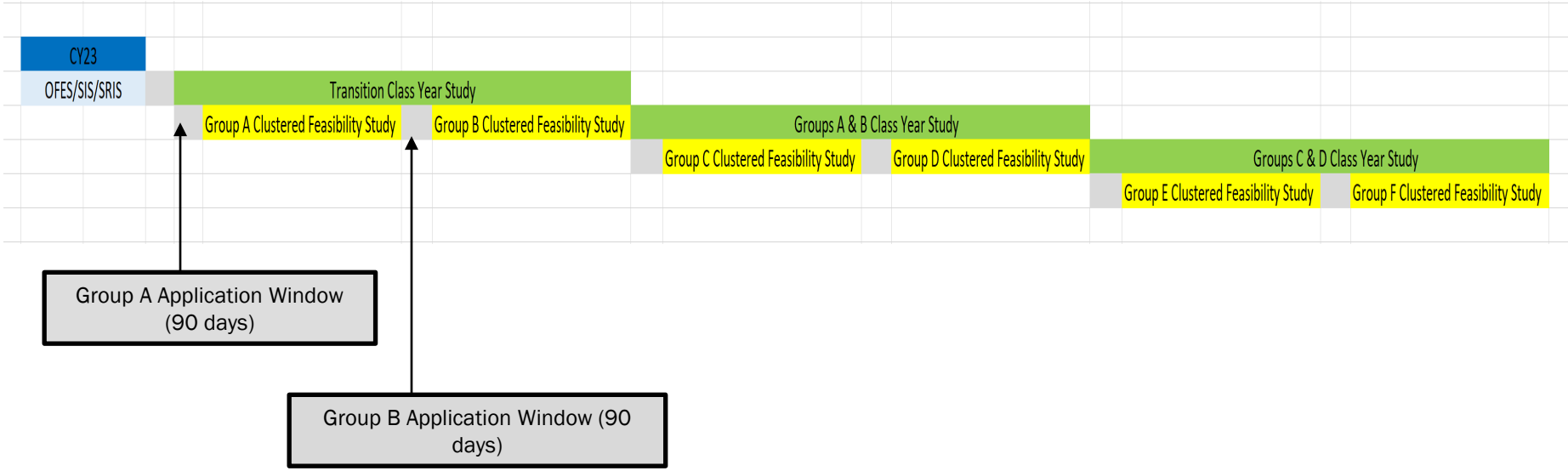
Class Year Queue Window Concept



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Class Year Queue Window Concept

INTERCONNECTION STUDIES TIMELINE TODAY 3.5-13.7 years			
(.5-2 years)	(~3-11.7 years)		
APPLICATION AND PROJECT MODELING (6-24 months) *(includes lag time between scoping meeting and commencement of OFES or SRIS)*	OPTIONAL FEASIBILITY STUDY (single project) (6-36 months) *(includes lag time between completion of OFES and commencement of SRIS)*	SYSTEM IMPACT STUDY (single project) (12-24 months)	CLASS YEAR/FACILITIES STUDIES (18-80 months) *(includes lag time between SRIS complete and CY start, and time between 1st CY and 2nd CY (for projects that decline cost allocation in 1st CY)*

CURRENT PROPOSED NYISO QUEUE REFORM 1.5-3.05 YEARS		
.25 years	.5-1.3 years)	.75-1.5 years
APPLICATION & PROJECT MODELS (3 months)	CLUSTER FEASIBILITY STUDIES (6.5-16 months) *(includes Group A wait period while Group B study is completed)*	CLASS YEAR/FACIITIES STUDIES (9-18 months) *(9 months for small gens w/ only Local SUF and 18 months for all others.)*

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Details

Application Phase

- **Defined application validation windows:**
  - 30 days for application submittals
  - 60 days to validate applications, including one cure period for application deficiencies
- **Establish 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 (see subsequent slide)**
- **Consider how to structure a pre-application process/requirements**

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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 requires 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

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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.

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Prioritization

- Prioritization to address scenarios in which it is physically infeasible to connect all projects
  - "Infeasible" means an SUF cannot be identified to accommodate all projects (*i.e.*, substation would need to be expanded, but not enough physical space or environmental limitations preclude substation expansion)
  - If substation needs to be expanded to accommodate all projects (e.g., can accommodate a Group A project but not Group A plus Group B), not "infeasible"
- Prioritization process
  - All projects would be assigned prioritization
  - Primary and secondary prioritization factors
    - Prioritization among projects within a single Group
    - Prioritization between Group A and B

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Prioritization

- Basis to establish priority
  - Date/time of NYISO's receipt of application (full deposit must be submitted with application)
    - If same date/time, look to commercial readiness (*i.e.*, permitting status, existence of NYSERDA REC, or other off-take agreement)
  - If ultimately not validated, project is withdrawn and loses queue position and associated priority

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Prioritization

- If project is one of priority projects taking POI space that can't accommodate all projects, and then that project drops/rejects cost in the Class Year, it should have a higher withdrawal "penalty."

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Project Readiness Requirements

- Consider milestones for commercial readiness
  - Regulatory milestones
  - Qualifying contracts (*e.g.*, NYSERDA REC Agreement)
- Consider value of regulatory milestone requirement
  - Concern with NYISO process relying on milestone from other processes (*e.g.*, ORES)
  - Difficult to identify preliminary permitting application milestones that are comparable among permitting processes (*e.g.*, ORES, SEQRA, BOEM)
- As an alternative to regulatory milestone requirement, impose more stringent consequences for withdrawal
  - If project withdraws after it completes a Class Year, its Security for SUFs, SDUs forfeited in full, regardless of whether other projects have yet to rely on them
  - Consider use of forfeited Security
    - Could offset the cost of that same upgrade, once required for other projects (or substantially similar upgrade) (similar to ROS Highway SDU cost allocation process)

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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

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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
- **Verify all studied models included resolving potential stability modeling issues**
- **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**

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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

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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

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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

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Class Year Study Scope

- **Base Case/Model Development:**
  - Build short circuit base cases
  - Build steady-state base case creation including auxiliary files
  - 60 days

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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

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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 CRIS-only projects, they can accept Deliverable MW and complete the Class Year Study at this stage
  - For Large Facilities or Small Generating Facilities that have non-Local SUF, post additional deposit, subject to forfeiture upon later withdrawal

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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

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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

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Additional Open Issues

Open Issues

- Define "full site control" and “alternative" for purpose of application requirements
- Define “feasible” and “infeasible” for purposes of Cluster Feasibility Study
- 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

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Open Issues (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?
  - CEII requirements for the Pre-Application phase
  - Other?
- How new process will/can interplay with NYSERDA and ORES

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Timeline

- **Anticipated Schedule Going Forward**
  - 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

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Next Steps/Request for Comments

- NYISO requests comments for further discussion at the August 1, 2023 TPAS meeting. If possible, please provide comments by July 21, 2023 to allow enough time to incorporate the comments in advance of the posting deadline for the August 1st meeting.
- Send comments to: Stakeholder_Services_IPsupport@nyiso.com

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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

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Questions?