

# Comprehensive Interconnection Process Improvements

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**Substantive Revisions to 5/9/2017 version are in red**

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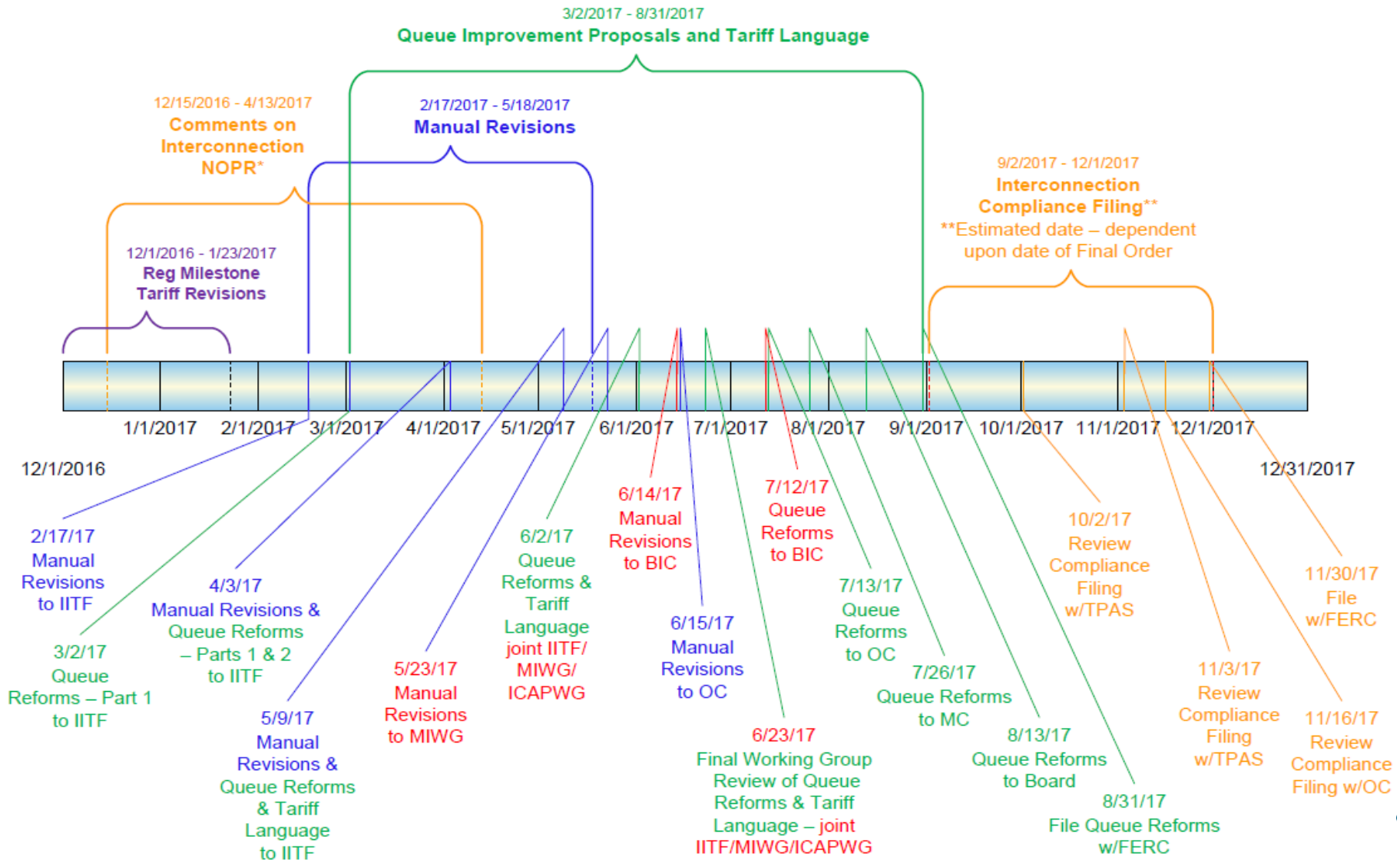
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# Objectives

- Improve the efficiency of the interconnection process while maintaining necessary reliability evaluations treating Developers equitably
- **Specific Objectives:**
  - Increase administrative efficiency
  - Expedite the study process
  - Allow Developers to proceed through entire process more quickly, particularly the Class Year Study, while allowing as much flexibility as possible
  - Clarify and update existing practices/procedures **other than the Transmission Interconnection Procedures pending FERC acceptance**

# Comprehensive Interconnection Process Improvements Targeted Schedule



# Administrative Process Improvements

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# Administrative Process Improvements

## ■ Issue No. 1: Electronic Form Submission

### • Current Practice

- Most forms and study agreements must be downloaded or printed, completed, signed, scanned and emailed to the NYISO

### • Proposal

- Increase efficiency of form submission and routing for forms such as the Interconnection Request forms, pre-application request forms, and Study Agreements by providing fillable .pdfs with drop down boxes (where possible) that can be completed and signed electronically and emailed directly to a NYISO mailbox

# Administrative Process Improvements

## ■ Issue No. 1: Electronic Form Submission, cont.

### • Rationale for NYISO's Proposal

- NYISO aims to make it easier for developers to complete the necessary paperwork required in the interconnection process
- Electronic fillable .pdfs with drop down boxes and allowing for electronic signatures makes this process quicker and easier for all parties involved, particularly the developer

### • Details

- **Proposed Effective Date:** in progress, with additional electronic form submission as part of a proposed 2018 project
- This proposal does not require tariff revisions
- NYISO has already begun converting pro forma study agreements into fillable .pdfs, most recently with the Class Year 2017 Facilities Study Agreements and data forms
- Proposed 2018 project in the 2018 Project Prioritization Process would further automate interconnection form and data submissions

# Administrative Process Improvements

## ◆ Issue No. 2: Expedited Study Agreement Processing

### • Current Practice/Rule

- Most study agreements are *pro forma* agreements contained in the OATT that require 3+ parties for execution: Developer, NYISO and each Connecting TO

### • Proposal

- Revise ~~Attachment P~~, Attachment X and Attachment Z to require execution by only Developer and NYISO for Feasibility Studies, SIS/SRIS and Facilities Studies
  - Similar revisions to be proposed in Attachment P after the compliance filing created Attachment P is accepted by FERC
- Key provisions from study agreements re: parties' obligations to be inserted into Attachment X and Z
- Scopes for each study will be provided to the Connecting TO for review and comment
- ~~TIP SIS scopes and~~ Attachment X (Large Facility) SRIS scopes will be reviewed with TPAS and subject to approval by the OC and the SRIS agreement will refer to the OC-approved scope
  - Similar revisions to be proposed in Attachment P after the compliance filing created Attachment P is accepted by FERC



# Administrative Process Improvements

## ◆ Issue No. 2: Expedited Study Agreement Processing, Cont.

### • Proposal, cont.

- NYISO proposes to shorten execution deadlines for Large Facility FES and SRIS Agreements and Small Generator FES, SIS and FS agreements to 15 Business Days with NYISO's execution upon receipt of executed agreement from Developer, no later than 10 Business Days
- NYISO proposes to retain the 30 day deadline for execution of the Class Year FSA and submission of required FSA data and Class Year deposits however, NYISO proposes that failure to execute FSA or submit any required deposits will be a non-curable deficiency
  - NYISO to issue withdrawal notice upon failure to execute FSA, failure to submit required FSA data, or failure to submit any required deposits (study deposit or deposits in lieu of regulatory milestone)
  - Withdrawal on this basis cannot be cured (see Issue 6)
- **Proposed Effective Date:**
  - For study agreement execution deadlines, NYISO proposes that such deadlines apply only to agreements tendered after the date of FERC Order accepting tariff revisions
  - For 3-party study agreements tendered prior to the date of FERC Order accepting tariff revisions, if the agreement is not executed by the CTO, the agreement will be re-tendered as a 2-party agreement after the date of the FERC Order accepting the tariff revisions



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# Administrative Process Improvements

## ■ Issue No. 2: Expedited Study Agreement Processing, cont.

### • Rationale for NYISO's Proposal

- Full execution of study agreements take far longer than necessary due to the number of parties involved
- Developers typically execute the agreements quickly, with the Connecting TO signatures lagging sometimes several weeks, if not more, which creates unnecessary delays in the study process

### • Details

- Revise descriptions of parties to the study agreements in Attachments **P**, X and Z to make clear that only NYISO and the Developer are signatories to the agreements
  - Similar revisions to be proposed in Attachment P after the compliance filing created Attachment P is accepted by FERC
- Revise execution deadline for FES, SIS, SRIS and Small Gen FS
  - Developer must execute within 15 Business Days
  - NYISO must execute upon receipt of executed copy from Developer, not later than 10 Business Days from receipt of Developer's signature

# Administrative Process Improvements

- Issue No. 2: Expedited Study Agreement Processing, cont.
  - Details, continued
    - Convert *pro forma* study agreements to two-party agreements for Feasibility Studies, SIS/SRIS and Facilities Studies
    - Move the following details regarding study parties' obligations from the study agreements into the body of Attachments X and Z:
      - Language currently in Section 4 of the FES and SRIS Agreements providing NYISO with the right to request additional information from the Connecting Transmission Owner
      - Language obligating Developer to pay for any Connecting Transmission Owner study costs (tariff already requires this in Section 30.13.3.1)
    - Revise *pro forma* SRIS agreement to reference OC-approved study scope

# Administrative Process Improvements

## ■ Issue No. 2: Expedited Study Agreement Processing, cont.

### • Specific tariff sections NYISO proposes to revise:

- ~~— Attachment P, Section 22.7.1 — TIP Optional FES~~
- ~~— Attachment P, Section 22.8.2 — TIP SIS~~
- ~~— Attachment P, Section 22.9.2 — TIP Facilities Study~~
- Attachment X, Section 30.6 – Large Facility Feasibility Study (FES)
- Attachment X, Section 30.7 – Large Facility System Reliability Impact Study (SRIS)
- Attachment X, Section 30.8 – Large Facility Facilities Study/Class Year Study
- Attachment Z, Section 32.3.3 – Small Gen FES
- Attachment Z, Section 32.3.4 – Small Gen System Impact Study (SIS)
- Attachment Z, Section 32.3.5 – Small Gen Facilities Study
- Attachment X, Section 30.14, Appx. 2 (Large Facility FES Agreement)
- Attachment X, Section 30.14, Appx. 3 (Large Facility SRIS Agreement)
- Attachment X, Section 30.14, Appx. 4 and 4A (Class Year Facilities Study Agreements)
- Attachment X, Section 30.14, Appx. 5 (Optional Interconnection SRIS Agreement)
- Attachment Z, Section 32.5, Appx. 6 (Small Gen FES Agreement)
- Attachment Z, Section 32.5, Appx. 7 (Small Gen SIS Agreement)
- Attachment Z, Section 32.5, Appx. 8 (Small Gen Facilities Study Agreement)

# Administrative Process Improvements

## ■ Issue No. 3: Format of Study Reports

### • Current Practice

- NYISO either performs an interconnection study in-house or uses a consultant to perform the study
- The study reports all contain the same types of analyses, but depending upon the entity preparing the report, the format can be different
- NYISO also provides a brief NYISO Review Report presented to TPAS and the OC that follows a standardized format

### • Proposal

- Develop a more standardized study report format/template for both NYISO and its consultants to use
- Proposed Effective Date: immediately

# Administrative Process Improvements

## ■ Issue No. 3: Format of Study Reports, cont.

### • Rationale for NYISO's Proposal

- This was requested by developers for the SRIS
- A more standardized format may enable parties reviewing the report to review it more quickly and provide comments on a shorter turn-around
- A more standardized format may enable both developers and TPAS/OC members to more easily review the study reports

### • Details

- NYISO proposes that all FES and SRIS study reports follow the general framework provided on the following slides
- NYISO proposes to present a transmission map for SIS and SRIS study scopes going to TPAS and OC, showing the location of each project

# Administrative Process Improvements

## ■ Issue No. 3: Format of Study Reports, cont.

### • Outline for FES Study Reports

- Executive Summary
- Introduction
- Project Description
  - POI configuration
  - Modeling data
- Study Methodology
- Steady State N-0 & N-1 Analysis
- Short Circuit Analysis
- Interconnection Cost Estimates
  - CTOAFs and Local SUFs
  - SUFs
- Conclusions
- Appendices

# Administrative Process Improvements

## ■ Issue No. 3: Format of Study Reports, cont.

### • Outline for SRIS Study Reports

- Executive Summary
- Introduction
- Project Description
  - POI configuration
  - Modeling data
- Study Methodology
- Steady State N-0 & N-1 Analysis
- Steady State N-1-1 Analysis
- Transfer Limit Analysis
  - Thermal Transfer Results
  - Voltage Transfer Results
  - Stability Transfer Results
- Dynamic Analysis
  - Normal, Extreme Contingencies
  - Critical Clearing Time
- Short Circuit Analysis
- Extreme Contingency Analysis
  - Steady State Analysis
  - Dynamic Analysis
- NPCC A-10
  - Steady State Analysis
  - Dynamic Analysis
- Interconnection Cost Estimates
  - CTOAFs and Local SUFs
  - SUFs
- Conclusions
- Appendices

# Administrative Process Improvements

- **Issue No. 4: Roles and Responsibilities of Parties in the Interconnection Study Process**
  - **Current Rule**
    - Each parties' obligations are set forth in the tariff and study agreements
  - **Proposal**
    - Reinforce the roles and responsibilities of all parties in the interconnection process through additional provisions in Attachments **P**, X and Z, and through the Scoping Meeting
      - Similar revisions to be proposed in Attachment P after the compliance filing created Attachment P is accepted by FERC
    - **Proposed Effective Date:** date of FERC Order accepting tariff revisions
  - **Rationale for NYISO's Proposal**
    - It is helpful, particularly to parties new to the NYISO's interconnection process, to explain each parties' role in the process. This helps set realistic expectations at the outset.
    - Even for parties that frequent the interconnection study process, such reminders can be helpful with respect to recent tariff changes

# Administrative Process Improvements

- Issue No. 4: Roles and Responsibilities of Parties in the Interconnection Study Process, cont.
  - Details
    - NYISO is already reinforcing this in Scoping Meetings
    - NYISO also proposes to add language to the tariff and TE&I Manual reinforcing these obligations, e.g.:
      - Requiring Developers to provide data requested during study and be present for TPAS and OC where study scope and report is discussed
      - Requiring Connecting and Affected TOs to review and comment on contingency lists, one-line diagrams and study reports

# Administrative Process Improvements

- Issue No. 4: Roles and Responsibilities of Parties in the Interconnection Study Process, cont.
  - Specific tariff sections NYISO proposes to revise:
    - ~~Attachment P, Section 22.7.2 and 22.7.3— TIP Optional FES Procedures~~
    - ~~Attachment P, Section 22.8.4 and 22.8.5— TIP System Impact Study (SIS) Procedures~~
    - ~~Attachment P, Section 22.9.4 and 22.9.5— TIP Facilities Study Procedures~~
    - Attachment X, Section 30.3.3.4 – Scoping Meeting
    - Attachment X, Section 30.6.3 – Large Facility FES Procedures
    - Attachment X, Section 30.7.3 and 30.7.5– Large Facility SRIS Procedures
    - Attachment X, Section 30.8.3 – Class Year Interconnection Facilities Study Procedures
    - Attachment Z, Section 32.1.1.4 – Jurisdictional Determination
    - Attachment Z, Section 32.3.3 – Small Gen FES
    - Attachment Z, Section 32.3.4 – Small Gen SIS
    - Attachment Z, Section 32.3.5 – Small Gen Facilities Study

# Administrative Process Improvements

## ■ Issue No. 5: Interconnection Requests with Multiple Voltage Levels

### • Current Rule

- Attachment X provides that an Interconnection Request for one site at two different voltage levels shall require two Interconnection Requests
- Pending tariff revisions in an Order 1000 compliance filing revised this language such that it only applies to generation facilities

### • Proposal

- Revise Attachment X to require only one interconnection request for the following situations:
  - generator with 3-winding transformer w/legs to two different voltage level lines; and
  - combined cycle with a GT and ST connected at different voltage levels

# Administrative Process Improvements

- Issue No. 5: Interconnection Requests with Multiple Voltage Levels, cont.
  - Rationale for NYISO's Proposal
    - Unnecessary administrative burden to developers to submit separate Interconnection Request for one site at two different voltage levels
    - It is more efficient to evaluate such a facility in a single study
  - Details
    - See proposed tariff revisions to Attachment X, Section 30.3.1
    - **Proposed Effective Date:** Interconnection Requests submitted on or after the date of the FERC Order accepting tariff revisions would be subject to this new rule; pending Interconnection Requests for one facility at multiple voltage levels would be permitted to consolidate the two queue positions into one as of the date of the FERC Order

# Administrative Process Improvements

## ■ Issue No. 6: Clarification of Withdrawal Procedure

### • Current Rule

- The withdrawal provision in Section 30.3.6 of Attachment X provides for a 15 Business Day cure period, but specifies that the cure period does not apply to certain deadlines in Attachments S and X (e.g., the deadline by which to accept Project Cost Allocations in the Class Year)
- One of the deadlines referenced in Section 30.3.6 is the deadline to notify the NYISO re: a project's regulatory milestone, even if the project is not entering a Class Year Study
- The obligation to notify the NYISO re: a project's regulatory milestone status is in Section 25.6.2.3.1.4 of Attachment S.

### • Proposal

- Delete the reference to the deadline in Section 25.6.2.3.1.4 from the withdrawal provision in Section 30.3.6 of Attachment X and delete the consequence of withdrawal as mandatory from Section 25.6.2.3.1.4 (*i.e.*, failure to respond to a request for regulatory milestone status may trigger withdrawal)



# Administrative Process Improvements

- Issue No. 6: Clarification of Withdrawal Procedure, cont.
  - Rationale for NYISO's Proposal
    - With the recently approved revisions to the regulatory milestone requirement, a project is eligible for CY entry once it has an OC-approved SRIS – it is less critical that the NYISO know when a regulatory milestone is met
  - Details
    - See proposed tariff revisions in the following sections:
      - Attachment S, Section 25.6.2.3.1.4
      - Attachment X, Section 30.3.6
    - **Proposed Effective Date: date of FERC Order accepting tariff revisions**

# Class Year Study Process Improvements

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# Class Year Process Improvements

## ■ Issue No. 7: Additional Class Year Start Dates

### • Current Rule

- Class Year Study will start on the first of the following dates after completion of the prior Class Year Study: March 1, June 1 or September 1
- Only 3 possible Class Year Start Dates within a calendar year

### • Proposal

- Revise Attachment X to provide more possible Class Year Start Dates than the existing process by allowing the next Class Year to start on the first Business Day after 30 days after completion (*i.e.* settlement and posting of Security) of the prior Class Year
- **Proposed Effective Date: Class Year beginning after the completion of Class Year 2017**

# Class Year Process Improvements

- Issue No. 7: Additional Class Year Start Dates, cont.
  - Rationale for NYISO's Proposal
    - It is unnecessary to wait 3-6 months to start a new Class Year once a Class Year has completed
    - NYISO only needs approximately 30 days between Class Year studies
      - 30 days is the minimum amount of time the NYISO requires to notify potential Class Year projects, confirm eligibility and determine whether projects have met the regulatory milestone (while not required, failure to meet this milestone changes the Class Year entry requirements with respect to the deposit in lieu of regulatory milestone)
  - Details
    - See proposed tariff revisions to Attachment S, Section 25.5.9

# Class Year Process Improvements

- Issue No. 8: Additional Opportunities for a Class Year Project to Withdraw from Class
  - **Current Rule**
    - Unless additional SDU studies are required, and notice of such is provided to Class Year members, there is no opportunity to withdraw from the Class Year Study until the decision rounds
  - **Proposal**
    - Revise Attachment S and the *pro forma* Class Year Facilities Study Agreement in Attachment X to allow a project to withdraw from the Class Year Study prior to the completion of the ATBA study cases
    - A Class Year that a project enters and from which it withdraws will still count as one of 2 Class Years a project may enter
    - **Proposed Effective Date: Class Year beginning after Class Year 2017**

# Class Year Process Improvements

- Issue No. 8: Additional Opportunities for a Class Year project to withdraw from Class, cont.
  - Rationale for NYISO's Proposal
    - Developers would like additional opportunities to withdraw from a Class Year Study
    - NYISO proposes only one additional withdrawal opportunity in order to avoid the potential for project withdrawals to delay the completion of the Class Year Study
    - Allowing a project to withdraw from the Class Year Study prior to the completion of the ATBA study cases would have minimal impact on the Class Year schedule

# Class Year Process Improvements

- Issue No. 8: Additional Opportunities for a Class Year project to withdraw from Class, cont.
  - Details
    - See proposed tariff revisions to the following sections:
      - Attachment S, Section 25.5.9 (NYISO obligation to notify CY Members re: ATBA study case schedule)
      - Attachment X, Section 30.8.1.2 (providing for additional opportunity to withdraw from the Class Year Study prior to completion of ATBA study cases)
      - Attachment S, Section 25.6.2.3.4 (providing that projects that take advantage of this additional withdrawal opportunity use one of their two Class Year entry opportunities)
      - Attachment X, Section 30.8.1.2 and Attachment S, Section 25.5.10 (providing for refund of deposits in lieu of regulatory milestones if a project withdraws from the Class Year Study)

# Class Year Process Improvements

## ■ Issue No. 9: Bifurcated Class Year

### • Current Rule

- All projects in a Class Year Study must wait to complete the decision and settlement process **together, and such process may, under certain circumstances, not occur** until after additional SDU studies are completed (if such studies are required)

### • Proposal

- Allow any Class Year project ~~that has no impact on additional SDU studies~~ to settle cost allocation and complete the CY Study (see next slides for additional details)
- **Proposed Effective Date: Class Year 2017, if not completed when FERC issues Order accepting tariff revisions**

# Class Year Process Improvements

## ■ Issue No. 9: Bifurcated Class Year

### • Rationale for NYISO's Proposal

- In two recent Class Years the need to perform additional SDU studies required additional Class Year study time unrelated to the upgrades and cost allocation for a majority of the Class Year projects in those Class Year Studies
- In order to allow projects ready to move forward to complete the Class Year, NYISO proposes this bifurcated Class Year structure allowing projects ~~unrelated to and not impacting or impacted by the SDU studies~~ various options to complete the Class Year

# Class Year Process Improvements

## ■ Issue No. 9: Bifurcated Class Year, cont.

### • Details

- Proposal involves two separate decision/settlement phases:  
CY X-1, CY X-2
  - “X” = the year of the Class Year Start Date (e.g., CY17-1 and CY17-2)
- Both Class Year X-1 and X-2 would required OC approval – essentially treating the Class Year as two separate Class Years
- At the stage in Class Year Study when the need for additional SDUs is identified, NYISO would ~~determine which projects have impact on the deliverability analysis with regard to the SDU-issue~~ a notice to all Class Year projects allowing the following options:
  - ~~If no impact, p~~Project may elect to settle the Class Year early in Class Year Decision/Settlement as part of Class Year X-1 (see the various settlement options in the proposed revisions in Section 25.5.10 of Attachment S)
    - » This settlement process is not an iterative process like the multi-round Class Year decision process that will occur for Class Year X-2
  - If a project chooses, it may stay in the Class Year and wait to participate in the options in the proposed revisions in Section 25.5.10 of Attachment S)
  - Project may withdraw from the Class Year entirely

# Class Year Process Improvements

- Issue No. 9: Bifurcated Class Year, cont.

- Details, continued

- Security posting implications

- If a project that elects to settle in Class Year X-1 shares a cost allocation for SUFs or Headroom with a project that elects to remain in the Class Year Study through Class Year X-2, the project electing to settle in Class Year X-1 will be required to post security equal to **its highest possible Project Cost Allocation, assuming all, none or any combination of other Class Year projects drop out or accepts their Project Cost Allocations**

- » In other words, if a project that elects to settle in Class Year X-1 shares a cost allocation for System Upgrade Facilities, System Deliverability Upgrades or Headroom with a project that elects to proceed as a member of Class Year X-2, the project electing to settle in Class Year X-1 will be required to post Security equal to the highest amount it might possibly be required to post under any Class Year decision and settlement scenario.

~~— the higher of:~~

- ~~» the amount required if all the Class Year projects drop out (decline their cost allocations) or~~

- ~~» the amount required if all the Class Year projects accept their cost allocations and post security.—~~

- At the end of the Class Year X-1 cost allocation decisions and also, in the Class Year X-2 cost allocation process, the NYISO would recalculate the security requirements for each project that settled in Class Year X-1, potentially requiring the CTO to refund excess security resulting from this recalculation

# Class Year Process Improvements

- Issue No. 9: Bifurcated Class Year, cont.
  - Details, continued
    - Next Class Year Study could not begin until after all Class Year evaluations, including the additional SDU studies are completed, and Class Year X-2 has completed its decision/settlement period
    - Interconnection Base Case Implications
      - ATBA would not be updated to reflect projects that accepted cost allocation and posted Security until Class Year X-2 has completed
      - Interconnection studies (e.g., SRISs) performed after the completion of Class Year X-1 may reflect those projects that accepted cost allocation and posted Security in Class Year X-1

# Class Year Process Improvements

- Issue No. 9: Bifurcated Class Year, cont.
  - Details, continued
    - **Buyer Side Mitigation Proposal**
      - For the first decision/settlement phase of the Class Year, treat projects in Class Year X-2 as remaining in the Class Year for purposes of BSM determinations (and in forecasts that are used in the determinations.)
      - For the second decision/settlement phase, Class Year X-2, treat the projects that remained in Class Year X-1 at the time of its completion in the same manner as Examined Facilities that remained in a prior Class Year at the time of its completion

# Class Year Process Improvements

- Issue No. 9: Bifurcated Class Year, cont.
  - **Buyer Side Mitigation Proposal, cont.**
    - If a project elects to settle in Class Year X-1, even though it shares SUFs and/or Headroom Payments with a project continuing into Class Year X-2, the NYISO proposes that it would use the “higher of” the SUFs and Headroom payments in the calculation of Unit Net CONE -
    - Same as the current tariff, BSM determinations are final for a project only if and when it remains in a Class Year at the time it completes the Class Year – completion of Class Year X-1 or Class Year X-2
    - NYISO would not revise a Class Year X-1 project’s BSM determination when Class Year X-2 was completed or at any point, e.g., to reflect a “lower of” SUF or Headroom payment if the project with which it shared such costs remained in Class Year X-2 at the time of its completion
    - See proposed tariff language in Services Tariff Attachment H, Section 23.4.5.7

# Class Year Process Improvements

- Issue No. 9: Bifurcated Class Year, cont.
  - Buyer Side Mitigation Proposal, cont.
    - Renewable Exemption
      - If there are Renewable Exemption Applicants in Class Year X-1, Exempt MW will be prorated as if all Examined Facilities that remain in the Class Year (both X-1 and X-2) were in Class Year X-1
      - X-1 determinations will not be revisited, including if X-2 Renewable Exempt Applicants drop out or do not receive CRIS for the pro rated amount of MW identified for them at the time of the X-1 determinations
    - Self Supply Exemption
      - Self Supply Exemption Applicants eligible to be in Class Year X-1 will have their Net Long Threshold calculated as if all X-1 and X-2 SSE Applicants with which its Self Supply LSE is associated were members of Class Year X-1
      - X-1 determinations will not be revisited, including if X-2 SSE Applicants and associated Self Supply LSEs drop out or do not receive CRIS in the initially requested amount

# Class Year Process Improvements

- Issue No. 10: Pre-Class Year Interconnection Agreements & Limited Operations
  - **Current Practice/Rule**
    - NYISO tenders the Interconnection Agreement on the earlier of:
      - Completion of the Class Year in which the Developer accepted cost allocation and posted required Security; or
      - Upon the Developer's request, once the Developer has executed a Class Year Facilities Study Agreement
    - Prior to executing an Interconnection Agreement, a Developer may request and the CTO shall offer an E&P Agreement (See Section 30.9 of Attachment X)

# Class Year Process Improvements

- Issue No. 10: Pre-Class Year Interconnection Agreements & Limited Operations, continued
  - **Current Practice/Rule, continued**
    - Upon execution of the Class Year FSA, the NYISO begins work on the Part 1 Study
    - Once the NYISO has identified all required CTO AFs and Local SUFs, even if that Class Year Study has not formally begun, the parties can execute the Interconnection Agreement; however, such agreement will require the Developer to accept the costs of any Other SUFs that are identified in the remaining portions of the Class Year study
    - Under the Interconnection Agreement, if the projects wishes to go in-service prior to the completion of required upgrades, it may request a Limited Operations study under which the NYISO and CTO determine whether and the extent to which the facility can reliably interconnection on a provisional basis

# Class Year Process Improvements

- Issue No. 10: Pre-Class Year Interconnection Agreements & Limited Operations, continued
  - Proposal
    - NYISO proposes to describe all of the steps required for a project to go in-service prior to completing a Class Year in the tariff/manual, **including a defined end date to Limited Operations**
    - NYISO proposes to include a specific provision in the tariff permitting a Developer to request a Limited Operations study prior to execution of an Interconnection Agreement, **as long as such evaluation is of the facility prior to completion of required upgrades (i.e., not evaluation of an entirely new interim configuration)**
  - Proposed Effective Date:
    - Pre-CY Interconnection Agreements:
      - immediately (tariff revisions simply memorialize existing practice)
    - Limited Operations:
      - date of FERC Order accepting tariff revisions, unless the Developer, NYISO and Connecting TO mutually agree to pre-IA Limited Operations studies

# Class Year Process Improvements

- Issue No. 10: Pre-Class Year Interconnection Agreements & Limited Operations, continued
  - Rationale for NYISO's Proposal
    - NYISO is seeing an increase in the number of projects that desire to go into service prior to completion of a Class Year Study
    - To increase transparency and provide a detailed description of the process and limitations applicable to such facilities, NYISO believes that tariff revisions are appropriate

# Class Year Process Improvements

- Issue No. 10: Pre-Class Year Interconnection Agreements & Limited Operations, continued
  - Details
    - NYISO proposes to renumber Sections 30.11.4 and 30.11.5, and insert into Section 30.11.4, a new section, entitled, “Interconnection Agreement Pre-Dating Completion of the Large Facility’s Class Year Study”
      - This new section to contain a detailed description of the process for requesting, negotiating and executing an Interconnection Agreement prior to completing a Class Year Study
      - This new section to also describe the applicable limitations (e.g., a facility must accept its Project Cost Allocation for SUFs; a facility cannot sell CRIS requested in a Class Year until the project completes the Class Year and posts Security for any SDUs)

# Class Year Process Improvements

- Issue No. 10: Pre-Class Year Interconnection Agreements & Limited Operations, continued
  - NYISO also proposes to add a new Section 30.12.3 (similar to Article 5.9 of the *pro forma* LGIA) to provide for a limited operations analysis for projects that wish to go in-service prior to completion of all required upgrades (CTO Attachment Facilities and System Upgrade Facilities)
  - See proposed tariff language in Section 30.12.3 of Attachment X

# Other Study Process Improvements

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# Other Study Process Improvements

## ■ Issue No. 11: Optional Feasibility Study

### • Current Rules

- Attachments X and Z require an Interconnection Feasibility Study for Large Facilities and Small Generating Facilities
- Feasibility Study may be waived if the NYISO, Connecting TO and Developer all agree

### • Proposal

- Revise Attachments X and Z to make the Feasibility Study optional
  - Available at the Developer's option – not subject to NYISO and/or Connecting TO approval
  - Study schedule for optional Feasibility Study to depend on options elected by proposing entity
  - If Developer opts to forego Feasibility Study, required evaluations will be addressed in the SIS/SRIS

# Other Study Process Improvements

- Issue No. 11: Optional Feasibility Study, cont.
  - Rationale for NYISO's Proposal
    - Analyses that are required can easily be folded into the SIS or SRIS without the need to develop separate FES scopes, study agreements and study reports
    - This would allow a project developer to complete the interconnection process in less time
  - Details
    - NYISO proposes to revise Attachments X and Z to make the FES optional (see following slides for specific tariff revisions proposed)
    - **Proposed Effective Date:** the Feasibility Study will be optional for projects for which a Feasibility Study Agreement has not been fully executed on the date of the FERC Order accepting tariff revisions

# Other Study Process Improvements

- Issue No. 11: Optional Feasibility Study, cont.
  - Details
    - NYISO proposes to rename the Interconnection Feasibility Study throughout Attachments X and Z as the “Optional Interconnection Feasibility Study”
    - NYISO proposes to rename the “Optional Interconnection Study” in Attachment X to the “Optional Interconnection System Reliability Impact Study”
      - This is necessary to distinguish this study from the Optional Interconnection Feasibility Study

# Other Study Process Improvements

## ■ Issue No. 11: Optional Feasibility Study, cont.

- NYISO proposes to revise ~~Attachment P, Section 22.7.2~~, Attachment X, Section 30.6.2 and Attachment Z, Section 32.3.3 to specify that the Scope of Optional Feasibility Study may include any of the following, at the option of the Developer/Customer:
  - For \$10,000 Study Deposit:
    - Development of conceptual breaker-level one-line diagram of existing system where project proposes to interconnect (i.e., how to integrate the project into the existing system); and/or
    - Review of feasibility/constructability of conceptual breaker-level one-line diagram **for compliance with local transmission owner planning criteria and other Applicable Reliability Standards** of the proposed interconnection (e.g., space for additional breaker bay in existing substation or identification of cable routing concerns inside existing substation)
  - For \$60,000 Study Deposit (\$30,000 for Small Gens):
    - Above analyses as well as one of more of the following:
      - » *Preliminary review of local protection, communication, grounding issues associated with the proposed interconnection*
      - » *Power flow, short circuit, and/or bus flow analyses*
      - » *Identification of Network Upgrades with non-binding good faith estimate of cost responsibility and non-binding good faith estimated time to construct*
- **Similar revisions to be proposed in Attachment P after the compliance filing created Attachment P is accepted by FERC**

# Other Study Process Improvements

- Issue No. 12: Requirement that SISs and SRISs move forward to TPAS
  - **Current Rules**
    - Currently, there is no requirement that a project with a completed SIS or SRIS move forward to TPAS and the OC for review and approval of such reports within a specified time
    - The only rules that would impact such studies concern Large Facilities subject to a Class Year process
      - Large Facilities (*i.e.*, Large Generating Facilities and Merchant Transmission Facilities) are subject to withdrawal if they do not enter a Class Year within 3 Class Year Start Dates after OC approval of the SRIS (Section 25.6.2.3.4.2 of Attachment S)
      - No such rules apply to the other studies subject to OC approval – SISs performed under OATT 3.7, OATT 3.9 or Attachment P

# Other Study Process Improvements

## ■ Issue No. 12: Requirement that SISs and SRISs move forward to TPAS, cont.

### • Proposal & Details

- Revise OATT 3.7, OATT 3.9, OATT 4.5, ~~Attachment P~~ and Attachment X to require all SISs and SRISs to move forward to TPAS within 3 months of completion of the study report and move to the next OC following TPAS review and recommendation (or subsequent TPAS review and recommendation if initial TPAS revise requests revisions)
  - “Completion” to be defined as the point at which a final draft study report has been issued by the NYISO
  - Similar revisions to be proposed in Attachment P after the compliance filing created Attachment P is accepted by FERC
- **Proposed Effective Date:** date of FERC Order accepting tariff revisions
  - SISs and SRISs completed as of date of FERC Order accepting tariff revisions will have 3 months from FERC Order date

### • Rationale for NYISO's Proposal

- Allowing a project with a completed SRIS or SIS to wait to proceed to TPAS and the OC for up to 3 Class Years can lead to studies coming to the OC for approval even though modeling assumptions, analyses and study conclusions may be stale
- Members of the TPAS and OC have expressed significant concerns regarding this practice

# Other Study Process Improvements

## ■ Issue No. 13: Revisions to Modeling Data Requirements

### • Current Practice

- The Interconnection Request form requires detailed, project-specific dynamic modeling data

### • Proposal & Details

- Revise the Interconnection Request form in Section 30.14, Appx. 1 of Attachment X and the *pro forma* SRIS agreement in Section 30.14, App. 3 of Attachment X as well as the Interconnection Request form in Section 32.5, Appx. 2 of Attachment Z and the *pro forma* SIS agreement in Section 32.5, Appx. 7 in Attachment Z such that dynamic modeling data is not required until the SRIS/SIS stage and also to make the forms easier to complete.
- Permit Developers to provide generic dynamic models (with project-specific parameters and adequate manufacturer documentation)
- **Proposed Effective Date: Interconnection Requests submitted after date of FERC Order accepting tariff revisions**

# Other Study Process Improvements

- Issue No. 13: Revisions to Modeling Data Requirements, cont.
  - Rationale for NYISO's Proposal
    - The level of detail currently required in the Interconnection Request form with regard to dynamic modeling data is not necessary at the outset of the interconnection process.
      - Such information is not required to validate an Interconnection Request, nor is it required for the Feasibility Study
      - Such information can be submitted as part of the eligibility requirements for an SRIS
    - Generic dynamic models can be accommodated if such models contain project specific parameters and adequate manufacturer documentation

# Other Study Process Improvements

- Issue No. 14: Updates to Small Generator Deposits and Application Fee
  - **Current Provisions**
    - Small Generator Interconnection Request requires an application fee of \$1,000
    - The Small Generator Feasibility Study (FES) requires a deposit of the lesser of 50% of the good faith estimated FES costs or \$1,000
    - The Small Generator System Impact Study (SIS) requires a deposit of the good faith estimated costs, which is typically \$75,000

# Other Study Process Improvements

- Issue No. 14: Updates to Small Generator Deposits and Application Fee, cont.
  - **Proposal & Details**
    - Revise Section 32.1.3 of Attachment Z to make the Small Generator Interconnection Request application fee of \$1,000 a non-refundable fee
    - Revise Section 32.3.3.2 of Attachment Z to increase the Small Generator FES deposit from \$1,000 to \$10,000 (if project elects more limited FES scope) or \$30,000 (if projects elects more detailed FES scope)
    - Revise Section 32.3.4.4 of Attachment Z to decrease the Small Generator SIS deposit from the full study cost estimate (approx. \$75,000 to \$100,000) to \$50,000
  - **Proposed Effective Date:**
    - For application fee, new deposit structure applicable to applications submitted on or after FERC Order accepting tariff revisions
    - For study deposits, new deposits will apply to studies for which the study agreement is tendered on or after the date of the FERC Order accepting tariff revisions

# Other Study Process Improvements

- Issue No. 14: Updates to Small Generator Deposits and Application Fee, cont.
  - Rationale for NYISO's Proposal
    - Overall, this proposal would reduce the fees/deposits required for Small Generators from the Interconnection Request through the beginning of the SIS from approx. \$77,000 to \$61,000 (or as low as \$51,000 if no FES)
    - Rational for application fee being non-refundable:
      - Processing of Interconnection Requests requires administrative work by both the NYISO and Connecting TO that needs to be covered by the application fee
      - Like the application fee for the Large Facility Interconnection Request, this application fee should be non-refundable to cover such costs in the event the project ultimately withdraws or its Interconnection Request is found deficient

# Other Study Process Improvements

## ■ Issue No. 15: Clarification of Base Case Inclusion Rules

### • Current Provisions

- Attachment S provides detailed base case inclusion rules for the Class Year Study (Section 25.5.5.1)
- Attachment X provides the following description of Base Cases:

“The power flow, short circuit and stability data bases, hereinafter referred to as Base Cases, provided shall be those that the NYISO is using in the Annual Transmission Baseline Assessment then in progress, or if such data bases are not available, the data bases from the last completed Annual Transmission Reliability Assessment conducted pursuant to Attachment S of the OATT prior to the request. In the case of a request from a Developer considering Capacity Resource Interconnection Service, the power flow data bases provided shall include the Annual Transmission Reliability Assessment case from the most recently completed Class Year Deliverability Study.”

# Other Study Process Improvements

## ■ Issue No. 15: Clarification of Base Case Inclusion Rules, cont.

### • Proposal & Details

- Provide more explanation in the Transmission Expansion & Interconnection Manual regarding the manner in which base cases are created and updated
- Revise the ~~TIP base case inclusion rules in Attachment P, Section 22.6.1 and the~~ Class Year base case inclusion rules for the ATBA in Attachment S, Section 25.5.5.1 with respect to the milestone for TIP projects to be included:
  - TIP project that is an Attachment Y project must have met the following milestones to be included in a ~~TIP or~~ Class Year ATBA base case:
    - » Triggered under the RPP, selected under the PPTPP, or approved by beneficiaries under the CARIS; and
    - » Completed a System Impact Study; and
    - » Have an Article VII “deemed complete” (if applicable); and
    - » Are making reasonable progress under the applicable Attachment Y planning process
  - TIP project that is not an Attachment Y project must have met the following milestones to be included in a ~~TIP or~~ Class Year ATBA base case:
    - » Completed a Facilities Study; and
    - » Posted Security for Network Upgrade Facilities; and
    - » Have an Article VII “deemed complete” (if applicable)
- **Similar revisions to be proposed in Attachment P after the compliance filing created Attachment P is accepted by FERC**
- **Proposed Effective Date: next ATBA case developed on or after the date of the FERC Order accepting tariff revisions**

# Other Study Process Improvements

## ■ Issue No. 15: Clarification of Base Case Inclusion Rules, cont.

### • Rationale for NYISO's Proposal

- Stakeholders have requested clarification regarding how and when interconnection studies are updated
- NYISO believes more specific details will provide increased transparency to participants in the interconnection study process
- TIP projects fall in 2 distinct groups (Att. Y projects and others) that necessarily require different base case inclusion rules
  - For Att. Y, selection under the applicable Att. Y process, together with the other milestones required is a good indication of “firmness”
  - For non-Att. Y projects, they should (like Class Year projects) not be included in base cases for other projects before they have posted Security for their Network Upgrade Facilities

# Other Study Process Improvements

- **Issue No. 16: Revisions to Tracking of In-Service Dates, Initial Synchronization Dates and Commercial Operation Dates**
  - **Current Provisions**
    - Projects must specify a proposed In-Service (I/S) Date and Commercial Operation Date (CODs) in the Interconnection Request
    - Updates to these dates must be included in the Class Year Facilities Study Agreement data sheet and in the Interconnection Agreement
  - **Proposal & Details**
    - Add tariff language to Section 30.8.2.1 of Attachment X and Section 32.3.5.8 of Attachment Z to require Developers (Large Facilities and Small Generators) to provide updates to proposed I/S Dates, Initial Synchronization Dates and CODs on a quarterly basis once they have executed a Facilities Study Agreement
    - **Add tariff language requiring Developers to provide proposed Initial Synchronization Date any time they are required to provide proposed I/S Date and proposed COD**
    - **Proposed Effective Date: date of FERC Order accepting tariff revisions**
  - **Rationale for NYISO's Proposal**
    - Stakeholders believe proposed I/S Dates and CODs are often unrealistic and request that Developers be required to update them on a more frequent basis based on the project status

# Other Study Process Improvements

## ■ Issue No. 17: Outstanding Invoices for Withdrawn Projects

### • Current Practice

- Consistent with FERC precedent, upon withdrawal, all deposits are payable with interest

### • Proposal & Details

- Add tariff language to Section 30.13.3.1 of Attachment X to require outstanding invoices from TOs, Affected System Operators and Consultants to be provided within a specific timeframe, e.g., 60 days after completion of the subject study
- Add tariff language to Section 30.3.6 of Attachment X to require, for withdrawn projects, that study deposits be trued up with all outstanding invoices before deposits are refunded in the event of withdrawal
- **Proposed Effective Date: date of FERC Order accepting tariff revisions**
  - Invoices outstanding on date of FERC Order must be submitted to the NYISO within 60 days from date of FERC Order

### • Rationale for NYISO's Proposal

- Unfair windfall to a withdrawn project to receive study deposit refunds with interest, when such refunds have not been trued up against outstanding invoices



# Other Study Process Improvements

- Issue No. 18: Clarification of Process for evaluation of alternative POIs in the Small Generator Interconnection Procedures
  - **Current Provisions**
    - The Small Generator FES Agreements and SIS Agreement both refer to alternative POIs, appearing to contemplate that a Small Generator may request evaluation of an alternative POI, however there are no provisions in Attachment Z explaining how alternative POIs should be evaluated
  - **Proposal & Details**
    - Revise Section 32.3.2.2 of Attachment Z to clarify the process for electing the evaluation of alternative POIs in the Small Generator Interconnection Procedures
    - Revise Section 32.3.2.2 of Attachment Z to require alternative POIs to be evaluated in a Feasibility Study (for both Large and Small Facilities) – *i.e.*, a project that requests alternative POIs may not opt to forego a Feasibility Study
    - Revise Section 32.3.2.2 of Attachment Z to clarify that a project requesting alternative POIs must select one POI before moving to the Facilities Study
    - **Proposed Effective Date: Small Generator Interconnection Requests submitted on or after date of FERC Order accepting tariff revisions**

# Other Study Process Improvements

- Issue No. 18: Clarification of Process for evaluation of alternative POIs in the Small Generator Interconnection Procedures, cont.
  - Rationale for NYISO's Proposal
    - The Small Generator procedures are silent on how an alternative POI can be requested and evaluated
    - NYISO proposes to add such provisions to provide needed clarity

# Other Study Process Improvements

## ■ Issue No. 19a: Scope of Studies for Uprate Projects

### • Current Practice

- Currently, uprate projects may, with the NYISO's and Connecting TO's agreement, be able to forego a FES and may have a more narrow study scope for the SRIS than a typical new facility

### • Proposal & Details

- Eliminate requirement that Developer obtain consent from the Connecting TO and NYISO to forego a FES (See proposed tariff revisions associated with Issue No. 11)
- Continue to **narrow customize** the scope of an SRIS, as appropriate, for uprates and specifically recognize in Section 30.7.3 of Attachment X and Section 32.3.4.5 of Attachment Z that the parties may do so upon mutual agreement
- **Proposed Effective Date: SRIS scopes not yet approved by the Operating Committee on the date of FERC Order accepting tariff revisions**

### • Rationale for NYISO's Proposal

- Uprates to an existing facility may not require all of the same evaluations that a new facility requires



# Other Study Process Improvements

- Issue No. 19b: Winter CRIS Determinations for Uprate Projects
  - **Current Provisions**
    - Section 25.7.6 of Attachment S requires the NYISO to maintain the same proportion of CRIS to ERIS in the Winter as the facility has in the Summer
      - Since the CRIS level assigned to a facility under Attachment S is a Summer value, this tariff language extends a CRIS value to the Winter
    - If the facility is fully deliverable, the Summer CRIS/ERIS ratio will be 100% and the facility's Winter CRIS cap is equal to Winter ERIS
    - A facility is fully deliverable if it was (1) grandfathered for CRIS, evaluated for CRIS in a CY and found fully deliverable or paid Security for SDUs to make if fully deliverable; and (2) has not materially increased its capability

# Other Study Process Improvements

## ■ Issue No. 19b: Winter CRIS Determinations for Uprate Projects, cont.

### • Current Practice

- NYISO currently determines a Winter CRIS cap for all projects that are not fully deliverable
  - E.g., Projects that elected to take only partial Summer CRIS in a Class Year
- Winter CRIS is calculated through the following formula:

$$\frac{\text{CRIS}_s}{\text{ERIS}_s} = \frac{X}{\text{ERIS}_w}$$
- NYISO implements the Winter CRIS cap in the ICAP AMS by applying a limiting percentage to the facility's Winter DMNC
  - This percentage needs to be updated manually for every DMNC change

# Other Study Process Improvements

## ■ Issue No. 19b: Winter CRIS Determinations for Uprate Projects, cont.

### • Proposal

- Rather than manually calculate the applicable percentage of the Winter DMNC for each DMNC update, NYISO proposes to maintain fixed values for Winter CRIS

### • Details

- NYISO proposes to revise Section 25.7.6 of Attachment S clarifying the manner in which it will calculate the fixed Winter CRIS values
  - NYISO proposes to specify that for the purpose of calculating the fixed Winter CRIS value, NYISO will use the following formula in which “X” = the fixed Winter CRIS MW

$$\frac{\text{Summer CRIS MW}}{\text{MW per Temperature Curve at } 90^{\circ}} = \frac{X}{\text{MW per Temperature Curve at } 10^{\circ}}$$

- In no case will the Winter CRIS value be lower than Summer CRIS
- CRIS values will only change upon approved increased CRIS requests (*i.e.*, 2 MW permissible lifetime increase, CRIS received through a same location CRIS transfer, or CRIS received through a Class Year Deliverability Study)

# Other Study Process Improvements

- Issue No. 19b: Winter CRIS Determinations for Uprate Projects, cont.
  - Details, continued
    - NYISO proposes to include as a 2018 project, software modifications to:
      - Modify the ICAP AMS to add a field for a fixed Winter CRIS value while maintaining historical Winter CRIS % in AMS; and
      - Modify calculations inside AMS to use new fixed Winter CRIS value
    - Implementation of this proposal would post-date deployment of the required software modifications (*i.e.*, no earlier than Winter 2018/2019)
    - **Proposed Effective Date: Winter Capability Period commencing after software is deployed – no earlier than Winter 2018/2019**

# Other Study Process Improvements

- Issue No. 19b: Winter CRIS Determinations for Uprate Projects, cont.
  - Rationale
    - With the rule added to Attachments X and Z providing for non-material increases in output that can be permitted without an Interconnection Request, the NYISO is seeing an increase in such ERIS increases
    - Determining fixed Winter CRIS values is preferable to manually updating percentages to be applied to a facility's Winter DMNC each time a DMNC is updated
    - NYISO's proposal provides transparency and predictability for market participants while maintaining the original intent of Attachment S

# Other Study Process Improvements

## ■ Issue No. 20: PMU Requirement

### • Current Provisions

- Currently there are no PMU requirements for facilities interconnection to the New York State Transmission System

### • Proposal & Details

- Add tariff language to the *pro forma* LGIA in a new Article 9.10 to require a PMU for proposed new Large Generating Facilities and Merchant Transmission Facility  $\geq 100$  MW and new substations (230kV or above)
- **Proposed Effective Date: date of FERC Order accepting tariff revisions**
  - Projects that have signed Facilities Studies prior to FERC Order date will be exempt from this requirement

### • Rationale for NYISO's Proposal

- A PMU requirement is common in other ISOs/RTOs
  - PJM requires PMUs for generators of 100 MVA and above
  - ERCOT requires PMUs for 20 MVA and above

# Other Study Process Improvements

- Issue No. 20: PMU Requirement, cont.
  - Rational for NYISO's Proposal, cont.
    - System-wide situational awareness
    - Faster diagnosis of operational issues
      - E.g., if operators identify power swings at a plant and have to order it off-line, PMU data can help identify the root-cause of the issue and allow the plant be brought back on-line sooner
  - Supports NERC MOD-026, MOD-027 and MOD-033
    - NERC requires generating plants to validate their stability models
    - Since recording equipment is already required by NERC, NYISO's additional requirement would be only to transfer the phasor measurements back to the control center in real-time

# Other Study Process Improvements

- Issue No. 21: Clarification of Clustering for Small Generator Studies
  - **Current Practice**
    - Section 32.1.6 of Attachment Z provides that, “Interconnection Requests may be studied serially or in clusters for the purpose of the system impact study.”
    - For Small Generators that could potentially impact each other or that could collectively impact system conditions so as to require shared upgrade facilities, such projects are evaluated in a clustered SIS
    - If a cluster study identifies non-Local SUFs, projects triggering such upgrades must enter a Class Year

# Other Study Process Improvements

- Issue No. 21: Clarification of Clustering for Small Generator Studies
  - **Proposal & Details**
    - Explain in the TE&I Manual the manner in which NYISO performs clustering studies for Small Generators
    - Add tariff language to Section 32.1.6 of Attachment Z to explain that Small Generating Facilities moving forward in the same time frame that contribute to Local System Upgrade Facilities will be studied collectively to determine their *pro rata* cost responsibility for such Local System Upgrade Facilities.
    - Add tariff language to Section 32.1.6 clarifying that Small Generating Facilities evaluated in a cluster study that trigger non-Local System Upgrade Facilities must be evaluated in a Class Year Interconnection Facilities Study pursuant to Section 32.3.5.3.2 of this Attachment Z.
    - **Proposed Effective Date: immediately (tariff revisions simply clarify existing practice)**

# Other Study Process Improvements

- Issue No. 21: Clarification of Clustering for Small Generator Studies
  - Rationale for NYISO's Proposal
    - NYISO is seeing a significant influx of Small Generating Facilities in the Interconnection Queue, many in close proximity to each other, that require evaluation of their collective impacts in order to ensure reliability
    - To increase transparency, NYISO believes it will be helpful to provide more details regarding the manner in which clustered studies are performed and the implications for cost allocation

# Other Study Process Improvements

## ■ Issue No. 22: Stakeholder Review of Changes in TO Planning Criteria

### • Current Practice

- TOs provide updates to their local planning criteria in the annual FERC 715 report
- While NYISO requests TOs review changes with TPAS and the OC, stakeholders have requested that TOs have a more firm obligation to present changes to stakeholders for review and comment

### • Proposal & Details

- Add tariff requirements to ~~Section 22.6.4 of Attachment P and~~ Section 25.6.1.1.1.1 of Attachment S to require TOs to present changes to planning criteria to TPAS before such changes will be recognized as Applicable Reliability Requirements or Applicable Reliability Standards
- **Similar revisions to be proposed in Attachment P after the compliance filing created Attachment P is accepted by FERC**
- **Proposed Effective Date: date of FERC Order accepting tariff revisions**

### • Rationale for NYISO's Proposal

- Increased transparency
- Opportunity for affected parties to review and comment on proposed changes

# Other Study Process Improvements

## ■ Issue No. 23a: Clarification of MIS Methodology for Transfer Limit Impacts

### • Current Provisions

- Attachment P and OATT 3.7 specifically provide that transmission projects evaluated under those procedures are responsible for upgrades if the projects degrades transfer capability by  $> 25$  MW
- While Attachment S and X currently do not specify the specific levels of transfer degradation that require mitigation under the MIS, they do require upgrades under the MIS if the adverse reliability impact cannot be mitigated by normal operating procedures
- Transfer limit degradations can cause adverse reliability impacts that cannot always be mitigated by normal operating procedures

# Other Study Process Improvements

- Issue No. 23a: Clarification of MIS Methodology for Transfer Limit Impacts, cont.
  - **Proposal & Details**
    - NYISO proposes to clarify in Section 3.6.1 of the TE&I Manual, that under the MIS evaluation Large Facilities interconnecting to the NYCA must mitigate the adverse impact, above a specified threshold – 25 MW – on NYISO’s external interfaces
    - NYISO proposes to clarify in Section 3.6.1 of the TE&I Manual that in the CY Study and clustered TIP studies, the 25 MW permissible transfer limit degradation is collective, not per-project
    - **Proposed Effective Date:** date of approval of TE&I manual revisions
      - Studies commenced on or after date of approved revisions to TE&I Manual will be subject to the 25 MW proposed *de minimis* value
      - Prior to approved revisions to TE&I Manual, NYISO will continue to identify upgrades required to mitigate transfer limit degradations that adversely impact reliability and cannot be mitigated via normal operating procedures
  - **Rationale for NYISO's Proposal**
    - Beneficial to potential project developers to understand the specific threshold of transfer limit degradation that can be accommodated under the MIS without triggering upgrades

# Other Study Process Improvements

- Issue No. 23b: Evaluation of Transmission Upgrades Identified by the NYISO in Affected System Studies
  - **Current Provisions**
    - Tariff currently requires that transmission upgrades identified by the NYISO in an Affected System Study be evaluated in the NYISO's TIP process, which includes an optional FES, an SIS and a Facilities Study
  - **Proposal & Details**
    - Add ~~tariff language to Attachment P—Sections 22.1, 22.2, 22.4, 22.5, 22.9, 22.11 and 22.12~~—language to the TE&I Manual to allow transmission upgrades in the NYCA identified by the NYISO in Affected System Studies (for projects interconnecting to neighboring regions) to proceed directly from the other region's SIS to a NYISO's TIP Facilities Study
    - **Proposed Effective Date:** date of approval of TE&I manual revisions
  - **Rationale for NYISO's Proposal**
    - The NYISO's identification of such upgrades is part of the SIS for another region and involves the same analyses the NYISO would perform in a TIP SIS

# Clarifications regarding Cost Recovery for SDUs and Incremental TCCs for SDUs

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# SDUs and Incremental TCCs

## ■ Issue No. 24: Offset of SDU Costs

### • Current Provisions

- Section 25.7.12.3.3 of Attachment S provides that if the NYISO Comprehensive Reliability Planning Process (“CRPP”) identifies a Reliability Need requiring a Highway facility to be constructed earlier than would be required under Attachment S, funds collected from Class Year Developers will be used to cover a portion of the regulated solution costs to the extent such funds were collected for SDUs that are actually constructed by the regulated solution
- Section 25.7.12.3.3 further provides that to the extent this tariff provision applies, the Class Year Developer funds that had been contributed to the Highway SDU will be used as an offset to the total reliability solution upgrade cost, with the remainder of the upgrade cost to be allocated per the requirements of the CRPP

# SDUs and Incremental TCCs

## ■ Issue No. 24: Offset of SDU Costs, cont.

### • Proposal & Details

- Expand the allowed offset of SDU costs in Section 25.7.12.3.3 of Attachment S to provide that SDU funds could be used to cover a portion of the costs of other regulated solutions (not just those triggered by Reliability Needs), including regulated solutions in CARIS and PPTPP
- Clarify that what would constitute the “same” upgrade for these purposes is a facility providing the exact amount of transfer capability the Highway SDU provides or a facility that provides transfer capability equal to or greater than the Highway SDU
- Clarify how CY Developers’ share of SDU costs would be allocated to regulated solution vis-à-vis SDU allocation
- See proposed tariff revisions in Section 25.7.12.3.3 of Attachment S
- **Proposed Effective Date: date of FERC Order accepting tariff revisions, but only applicable to ROS Highway SDUs for which construction has not yet commenced**

### • Rationale for NYISO's Proposal

- This provision in Attachment S predated the current Attachment Y processes that include the PPTPP. NYISO believes it should be updated to apply to CARIS and PPTPP as well as Reliability Needs

# SDUs and Incremental TCCs

## ■ Issue No. 25: Highway Facilities Charge

### • Current Provisions

- Under Attachment S, if Class Year Developers have posted Security for at least 60% of the total cost allocation of a ROS Highway SDU, construction is triggered
- Attachment S further provides that once constructed, the actual cost of the ROS Highway SDU, above that paid for by Class Year Developers, will be funded by Load Serving Entities, using the rate mechanism contained in Rate Schedule 12 of the NYISO OATT

### • Proposal & Details

- Clarify the formula and procedures for cost recovery of ROS Highway SDU costs in Rate Schedule 12
- See proposed tariff revisions in Section 6.12.3.5 of the OATT
- **Proposed Effective Date:** date of FERC Order accepting tariff revisions

### • Rationale for NYISO's Proposal

- As NYISO prepares to implement Rate Schedule 12 for the Leeds-Hurley SDU, it believes the language and formula in RS 12 could benefit from clarification and additional detail

# SDUs and Incremental TCCs

## ■ Issue No. 26: Incremental TCCs for SDUs

### • Current Provisions

- Attachment S provides that for Class Year Developers that contribute to an SDU, once the SDU is built, any resulting Incremental TCCs will be distributed to the Developers in proportion to their funding of the SDU
- Attachment S also provides that a subsequent Developer paying for use of Headroom on SDUs will receive the corresponding Incremental TCCs
- Attachment S provides that Incremental TCCs attributable to LSE funding will be credited to the LSEs in proportion to their funding of the Highway SDU in accordance with Rate Schedule 12

# SDUs and Incremental TCCs

## ■ Issue No. 26: Incremental TCCs for SDUs

### • Proposal & Details

- Require the Connecting TO(s) who constructed the SDU to be responsible for requesting Incremental TCCs for the SDU
- Clarify that each CY Developer (or subsequent CY Developer making a Headroom payment) that elects to receive their portion of any Incremental TCCs will be the Primary Holder thereof and subject to the requirements of Section 19.7 of Attachment M of the OATT (including registering as a Customer and meeting the applicable credit requirements – see MST, Attachment K)
- Clarify the ability of CY Developers (or subsequent CY Developers making Headroom payments) to decline their portion of any Incremental TCCs at the time offered or subsequently terminate any accepted Incremental TCCs in accordance with Section 19.2.4 of Attachment M of the OATT

# SDUs and Incremental TCCs

## ■ Issue No. 26: Incremental TCCs for SDUs

### • Details, cont.

- Clarify that any Incremental TCCs declined or subsequently terminated by CY Developers (or subsequent CY Developers making Headroom payments) will be allocated to the Connecting TO(s) who constructed the SDU
- Clarify the procedures for re-allocating previously awarded Incremental TCCs to subsequent CY Developers paying for use of Headroom on an SDU
- Clarify that in cases where LSEs have funded a portion of a Highway SDU, any Headroom payments by subsequent CY Developers will be made to the Connecting TO(s) who constructed the SDU and be credited to the LSEs that funded a portion of the SDU

# SDUs and Incremental TCCs

## ■ Issue No. 26: Incremental TCCs for SDUs

### • Details, cont.

- Clarify that all Incremental TCCs related to SDUs will not be eligible for sale in NYISO-administered TCC auctions or secondary markets regardless of the entity holding the Incremental TCCs. Primary Holders of these Incremental TCCs will receive congestion payments pursuant to Section 20.2.3 of Attachment N of the OATT
- Clarify how the congestion value of any Incremental TCCs held by the Connecting TO(s) who constructed an SDU will be accounted for either pursuant to Rate Schedule 12 (for Highway SDUs that include LSE funding) or Attachment H of the OATT (for all other SDUs)
- **Proposed Effective Date: date of FERC Order accepting tariff revisions**

### • See proposed tariff revisions in:

- Sections 6.12.3 and 6.12.4 of Rate Schedule 12 (HFC Cost Recovery)
- Section 14.1.2 of Attachment H of the OATT (Wholesale TSC Formula – Reserved Component)
- Section 14.2.2 of Attachment H of the OATT (NTAC Formula – NYPA Reserved Component)
- Section 19.2.4.11 of Attachment M of the OATT (Incremental TCCs for SDUs)
- Section 25.7.2 of Attachment S of the OATT (Incremental TCCs for Byway SDUs)
- Sections 25.7.12.5 and 25.7.12.5.1 of Attachment S of the OATT (Incremental TCCs for Highway SDUs)
- Sections 25.7.12.6.1 and 25.7.12.6.2 of Attachment S of the OATT (Incremental TCCs associated with Headroom on Highway SDUs)

# SDUs and Incremental TCCs

## ■ Issue No. 26: Incremental TCCs for SDUs

### • Rationale for NYISO's Proposal

- An SDU is unique in that it can potentially have numerous holders for any Incremental TCCs resulting therefrom:
  - TO(s) who constructed it;
  - Class Year Developers who contributed to it;
  - LSEs who paid for a portion of it under Rate Schedule 12; and
  - Subsequent Developers who use Headroom on the SDU
- Certain of these entities may not be Customers at the time the SDU goes In-Service and any Incremental TCCs associated therewith become effective
  - As such, the NYISO would have no way to administer the Incremental TCCs vis-à-vis such entities
- These unique aspects of Incremental TCCs for SDUs require specific rules regarding how they will be administered

# Other Tariff/Manual Clarifications/Updates

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# Other Clarifications and Updates

## ■ Issue No. 27: Post-Class Year Studies

### • Current Practice

- Currently, certain detailed design studies are performed within the scope of the Class Year Facilities Study (e.g., EMTP studies) while others are performed under engineering work required by the Interconnection Agreement (e.g., SSR studies)

### • Proposal & Details

- Clarify in the TE&I Manual, ~~in new Section 22.14.3 of Attachment P,~~ and in Section 25.8.6.4 of Attachment S the manner in which such studies are conducted and coordinated (e.g., detailed design studies, SSR and protection coordination studies) and how the results of such studies may impact actual costs of upgrades for the project
- **Similar revisions to be proposed in Attachment P after the compliance filing created Attachment P is accepted by FERC**
- **Proposed Effective Date: date of approval of TE&I manual revisions**

### • Rationale for NYISO's Proposal

- NYISO seeks to create consistency in the manner in which such studies are performed and provide transparency to Developers regarding how such studies can impact actual costs

# Other Clarifications and Updates

## ■ Issue No. 28: Clarifications of Security Provisions

### • Current Provisions

- Section 25.8.5 of Attachment S provides for Connecting TOs to reduce Security they hold as discrete portions of the System Upgrade Facilities have been completed by the Transmission Owner and paid for by the Developer, on a dollar-for-dollar basis
- Section 25.8.5 also provides for the circumstances under which Security is forfeited by terminated projects and is used to defray the cost of SUFs and SDUs for other projects

### • Proposal & Details

- NYISO proposes to revise Attachment S to provide that the Security reduction provisions apply equally to Affected TOs and Connecting TO(s)
- NYISO proposes to clarify the Security forfeiture provisions regarding the extent to which Security must be forfeited to defray the costs of SUFs and SDUs required for other projects
- NYISO proposes to revise the TIP process to provide additional details regarding Security following a FERC order accepting the compliance filing that resulted in the creation of the TIP process



# Other Clarifications and Updates

- Issue No. 28: Clarifications of Security Provisions, cont.
  - Proposal & Details, continued
    - NYISO proposes to revise Attachment S to provide that the Security reduction provisions apply equally to Affected TOs and Connecting TO(s)
    - NYISO proposes to clarify the Security forfeiture provisions regarding the extent to which Security must be forfeited to defray the costs of SUFs and SDUs required for other projects
    - NYISO proposes to revise the TIP process to provide additional details regarding Security following a FERC order accepting the compliance filing that resulted in the creation of the TIP process
  - Proposed Effective Date: date of FERC Order accepting tariff revisions

# Other Clarifications and Updates

## ■ Issue No. 29: Affected System EPC Agreements

### • Current Practice

- While not specifically required by Attachment S, NYISO has been a party to EPC agreements among the Developer, Connecting TO, and Affected TO for SUFs and SDUs required on Affected TO facilities

### • Proposal & Details

- Revise Section 30.12.1 of Attachment X to require Developer, Connecting TO, the NYISO, and any Affected Transmission Owner to enter into an EPC agreement for the construction of triggered SUFs
- **Proposed Effective Date: date of FERC Order accepting tariff revisions**

### • Rationale for NYISO's Proposal

- This would memorialize current practice and would be consistent with language in Attachment S, Section 25.7.11.1.4.2.6 for EPCs required for SDUs

# Other Clarifications and Updates

## ■ Issue No. 30: Tax Provisions in *Pro Forma* LGIA

### • Current Provisions

- Section 5.17 of the *pro forma* LGIA provides a number of tax provisions related to interconnection facilities

### • Proposal & Details

- Revise/update tax provisions in the *pro forma* Large Generator Interconnection Agreement as necessary
- See proposed revisions to Articles 5.17.4 and 5.17.7 of the *pro forma* LGIA
- **Proposed Effective Date: date of FERC Order accepting tariff revisions**

### • Rationale for NYISO's Proposal

- Parties to recent Interconnection Agreements have identified concerns with language in the existing *pro forma* tax provisions that require updating

# Other Clarifications and Updates

- Issue No. 31: Insurance Provisions in *Pro Forma* LGIA
  - Current Provisions
    - Section 18.3 of the *pro forma* LGIA requires minimum insurance coverages for Developers and Connecting TOs
    - Section 18.3.9 requires that within 10 days after execution of the IA, Developer and Connecting TO provide certification of all insurance required in the IA
  - Proposal & Details
    - Update insurance language in the *pro forma* LGIA
    - See proposed revisions in Section 30.14, Appx. 6 (Article 18.3) of the LGIA in Attachment X
    - Proposed Effective Date: date of FERC Order accepting tariff revisions
  - Rationale for NYISO's Proposal
    - Insurance language in the *pro forma* LGIA needs to be updated

# Other Clarifications and Updates

## ■ Issue Nos. 32-36: Ministerial and Other Edits

### • Ministerial Edits to Services Tariff, Section 5

- Remove the March 1 reference in Section 5.12.1.8 of the Services Tariff – refer to Class Year Start Date instead
- **Proposed Effective Date: date of FERC Order accepting tariff revisions**

### • Ministerial and Other Edits to Attachments P and X

- Remove “Standard” from remaining Att. X references to “Standard LFIP” and use LGIA acronym where appropriate (e.g., Section 30.11)
- In Sections 30.3.1, clarify baseline ERIS for project that doesn’t go forward with part of project studied in the interconnection process
- Simplify the language regarding the 30 day deadline for execution of the FSA in Section 30.8.1
- Add language to Section 30.11.3 consistent with regulatory milestone tariff revisions re: regulatory milestone requirement prior to IA execution
- Other clarifying and ministerial edits (e.g., changing “NYISO” to “ISO” as appropriate, to be consistent with the rest of the OATT)
- **Ministerial edits to Attachment P will be proposed after a FERC Order accepting the compliance filing that created Attachment P**
- **Proposed Effective Date: date of FERC Order accepting tariff revisions**

# Other Clarifications and Updates

- Issue Nos. 32-36: Ministerial and Other Edits, cont.
  - Ministerial Edits to Attachment X Agreements
    - In pro forma Interconnection Request form, add applicable requirements for solar and energy storage projects
    - Streamline Interconnection Request form and eliminate the need for Developers to provide data unnecessary at the initial stage of the interconnection study process
    - In pro forma SRIS Agreement, revise “Interconnection System Reliability Study,” to “Interconnection System Reliability Impact Study”
    - In *pro forma* Facilities Study Agreement, make the following revisions:
      - Change “Large Facility” to “facility” as appropriate, to accommodate Small Generators and non-FERC jurisdictional interconnections that enter a Class Year only for CRIS
      - Make the following edit to Article 6.5:  
“Developer or NYISO may terminate this Agreement upon the withdrawal of the Developer’s [withdrawal project](#) from the Interconnection Facilities Study pursuant to Section 25.7.7.1 of Attachment S.”
    - In External CRIS FSA, revise “winder” to “winter”
    - Delete Appx. G from the *pro forma* LGIA as it is no longer needed in light of Order No. 827
    - **Proposed Effective Date: date of FERC Order accepting tariff revisions**

# Other Clarifications and Updates

- Issue Nos. 32-36: Ministerial and Other Edits, cont.
  - Ministerial Edits to Attachment Z
    - In Sections 30.3.1 and 32.1.3, clarify baseline ERIS for project that doesn't go forward with part of project studied in the interconnection process
    - Correct reference to FSA in Section 32.1.1.7 to refer to the Class Year FSA, which is required for CRIS requests by Small Generators.
    - Proposed Effective Date: date of FERC Order accepting tariff revisions

# Next Steps

- Email comments on the NYISO's proposals and/or tariff language to Kirk Dixon: [kdixon@nyiso.com](mailto:kdixon@nyiso.com)
  - Comments requested by **June 12, 2017**
- Targeted Schedule:
  - **June 23, 2017:** Final joint working group review
  - July 12, 2017: BIC review
  - July 13, 2017: OC review
  - July 26, 2017: MC review
  - August 14, 2017: Board review
  - August 31, 2017: Section 205 Filing



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- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
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