Order No. 845 Compliance

Thinh Nguyen

Senior Manager, Interconnection Projects

Transmission Planning Advisory Subcommittee

September 6, 2018

NEW YORK INDEPENDENT SYSTEM OPERATOR

DRAFT – FOR DISCUSSION PURPOSES ONLY

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Agenda

- Background
- Overview of Order No. 845
- Detailed Summary of Order No. 845 Reforms and Proposed Compliance Approach

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Background

- On December 15, 2016, the Commission issued a NOPR proposing modifications to its *pro forma* Large Generator Interconnection Procedures (LGIP) and *pro forma* Large Generator Interconnection Agreement (LGIA)
- On April 19, 2018, the Commission issued a Final Rule - Order No. 845

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Overview of Order No. 845

- In Order No. 845, the Commission adopted ten reforms to the *pro forma* LGIP and LGIA in its NOPR
- The reforms adopted by the Commission are summarized in this presentation
- The Commission is considering next steps concerning affected system coordination in a separate proceeding in Docket No. AD18-8-000

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Overview of Order No. 845

- Effective Date and Compliance Deadline
  - Order No. 845 becomes effective on July 23, 2018 – NYISO proposes to request an effective date on or after date of compliance filing
  - The original compliance filing deadline of August 7, 2018 included in the Order was extended by the Commission to November 5, 2018
- Order No. 845 provides that ISOs/RTOs may propose independent entity variations of the reforms to accommodate regional needs
- NYISO submitted a Motion for Clarification, or in the alternative, a Motion for Rehearing regarding the manner in which the Commission detailed the independent entity variation with respect to the surplus interconnection service issue

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Order No. 845 Reforms

- Brief Overview of the Ten Reforms in Order No. 845

1. Interconnection Customer's Option to Build

- Order No. 845 "removes the limitation that interconnection customers may only exercise the option to build a transmission provider's interconnection facilities and stand alone network upgrades in instances when the transmission provider cannot meet the dates proposed by the interconnection customer."

2. Dispute Resolution

- Order No. 845 "requires that transmission providers establish interconnection dispute resolution procedures that allow a disputing party to unilaterally seek non-binding dispute resolution."

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Order No. 845 Reforms

- Brief Overview of the Ten Reforms in Order No. 845

3. Identification and Definition of Contingent Facilities

- Order No. 845 "requires transmission providers to outline and make public a method for determining contingent facilities."

4. Transparency Regarding Study Models and Assumptions

- Order No. 845 "requires transmission providers to list the specific study processes and assumptions for forming the network models used for interconnection studies."

5. Definition of Generating Facility

- Order No. 845 "revises the definition of 'Generating Facility' to explicitly include electric storage resources."

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Order No. 845 Reforms

- Brief Overview of the Ten Reforms in Order No. 845

6. Interconnection Study Deadlines

- Order No. 845 "establishes reporting requirements for aggregate interconnection study performance."

7. Requesting Interconnection Service Below Generating Facility Capacity

- Order No. 845 "allows interconnection customers to request a level of interconnection service that is lower than their generating facility capacity."

8. Provisional Interconnection Service

- Order No. 845 "requires transmission providers to allow for provisional interconnection agreements that provide for limited operation of a generating facility prior to completion of the full interconnection process."

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Order No. 845 Reforms

- Brief Overview of the Ten Reforms in Order No. 845

9. Utilization of Surplus Interconnection Service

- Order No. 845 "requires transmission providers to create a process for interconnection customers to use surplus interconnection service at existing points of interconnection."

10. Material Modification and Incorporation of Advanced Technologies

- Order No. 845 "requires transmission providers to set forth a procedure to allow transmission providers to assess and, if necessary, study an interconnection customer's technology changes without affecting the interconnection customer's queued position."

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Overview of Proposed Compliance Approach

- An initial draft of NYISO's proposed tariff revisions is included with the materials posted for this meeting
  - The tariff sections that NYISO proposes to revise in compliance with Order No. 845 are noted under the "Proposed Compliance Approach" for each reform described in this presentation, as applicable
- NYISO's is continuing to develop its proposed compliance revisions to its *pro forma* Large Facility Interconnection Procedures (LFIP) and its LGIA in Attachment X to the OATT
- Additional revisions will be circulated to stakeholders for additional review and comment

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Order No. 845 Reforms and Proposed Compliance Approach

DRAFT – FOR DISCUSSION PURPOSES ONLY
© COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED.

Detailed Summary of Reform No. 1

1. Interconnection Customer's Option to Build

Overview

- Order No. 845 modifies Articles 5.1 (Options), 5.1.3 (Option to Build), and 5.1.4 (Negotiated Option) of the *pro forma* LGIA to allow interconnection customers to exercise the option to build with respect to the transmission provider's interconnection facilities and stand alone network upgrades regardless of whether the transmission provider can meet the interconnection customer's proposed dates. (P 85)
- In Order No. 845, the Commission indicated that an interconnection customer need not provide security to the transmission provider for the interconnection facilities and stand-alone network upgrades facilities that the transmission provider will not construct because the interconnection customer is exercising the option to build. (P 109)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 1

1. Interconnection Customer's Option to Build

NYISO's Proposed Compliance Approach

- NYISO proposes to revise its *pro forma* LGIA, as directed by Order No. 845, to allow the Developer to elect the option to build regardless of whether the Transmission Owner can meet the Developer's proposed milestones
- NYISO previously proposed, and FERC accepted, independent entity variations to address how the option to build should be managed where multiple Developers share the upgrades and more than one Developer exercises the option to build the shared upgrade
    - Section 5.1.3 of the NYISO's *pro forma* LGIA provides that "if an Attachment Facility or Stand Alone System Upgrade Facility is needed for more than one Developer's project, Developer's option to build such facility shall be contingent on the agreement of all other affected Developers."

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 1

1. Interconnection Customer's Option to Build

NYISO's Proposed Compliance Approach (cont.)

- Security Requirements
  - NYISO's *pro forma* LGIA only provides Security requirements for Connecting Transmission Owner Attachment Facilities (CTO AFs)
  - Security requirements for SUFs under the NYISO's LGIA, even Stand Alone SUFs, are covered by the Class Year project cost allocation and Security posting requirements
  - To clarify that a Developer must post Security for all CTO AFs and SUFs regardless of whether the Developer exercises its option to build, NYISO anticipates requesting an independent entity variation to this requirement based on the following:
    - The Commission has accepted the NYISO's unique Class Year process, which establishes the requirements for Developer's Security posting for SUFs
    - Section 11.5 of the NYISO's *pro forma* LGIA reflects these Commission-accepted variations

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 1

1. Interconnection Customer's Option to Build

Tariff Section NYISO Proposes to Revise:

- Section 30.14, Appx. 3 of Attachment X to the OATT

DRAFT – FOR DISCUSSION PURPOSES ONLY

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 2

2. Dispute Resolution

Overview

- Order No. 845 revises the *pro forma* LGIP to add a new Section 13.5.5 allowing a party to unilaterally seek non-binding dispute resolution. (P 132)
- Section 13.5.5 establishes the following process:
  - If the disputing parties cannot resolve an issue during the initial informal 30-day negotiation period, a party may request the transmission provider to engage in non-binding dispute resolution
  - Within 30 days of receipt of the request for non-binding dispute resolution, the transmission provider must appoint a neutral decision-maker, who is an independent contractor, that shall not have any current or past substantial business or financial relationships with either party
  - Unless otherwise agreed by the parties, the decision-maker shall render a written decision within 60 days of appointment

NEW YORK INDEPENDENT SYSTEM OPERATOR

DRAFT – FOR DISCUSSION PURPOSES ONLY

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 2

2. Dispute Resolution

Overview (cont.)

- Section 13.5.5 establishes the following process (cont.):
  - The decision-maker shall be authorized only to interpret and apply the provisions of the LGIP and LGIA and shall have no power to modify or change them
  - Unless otherwise agreed by the parties, they may cite the record and decision of the non-binding process in future dispute resolution processes, including arbitration, or in Section 206 complaints
  - Each party is responsible for its own costs, with the costs of the decision-maker divided equally among the disputing parties
- The Commission provided flexibility in developing the dispute resolution requirements, so long as the process allows a disputing party, including the interconnection customer, to unilaterally seek non-binding dispute resolution. (PP 135-138)
- The non-binding dispute resolution process is an alternative to, but not a replacement of, the existing binding arbitration process and does not prevent either party from bringing a Section 206 complaint. (PP 139, 154)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 2

2. Dispute Resolution

- NYISO's Proposed Compliance Approach
  - NYISO proposes to revise its existing Dispute Resolution procedures in the LFIP as proposed by Order No. 845 while at the same time borrowing language from Section 2.7.4.3 of the OATT regarding:
    - Requirements for the notice of dispute (details regarding the dispute, supporting documentation, tariff citations, etc.); and
    - Requirements that the neutral decision maker disclose any disqualifying relationship or interest and a new neutral decision maker be appointed, unless express written consent is provided by each party
  - NYISO is considering possibilities for potential neutral decision-makers with no current or past substantial business or financial relationships with either party
- Tariff Section NYISO Proposes to Revise:
  - NYISO proposes to add a new Section 30.13.5.5 of Attachment X to the OATT

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 3

3. Identification and Definition of Contingent Facilities

Overview

- Order No. 845 adds a new Section 3.8 of the *pro forma* LGIP requiring transmission providers to publish a method for identifying contingent facilities. (P 199)
- Order No. 845 defines "contingent facilities" as "those unbuilt interconnection facilities and network upgrades upon which the interconnection request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for restudies of the interconnection request or a reassessment of the interconnection facilities and/or network upgrades and/or costs and timing."

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 3

3. Identification and Definition of Contingent Facilities

Overview (cont.)

- Pursuant to new Section 3.8, transmission providers must provide a method for identifying contingent facilities to be provided to interconnection customers at the conclusion of the system impact study and included in the interconnection agreement
  - Transmission providers must provide, upon request of the interconnection customer, the estimated interconnection facility/network upgrade costs and estimated in-service completion times associated with each identified contingent facility when the information is readily available and not commercially sensitive
  - The transmission provider need not disclose any such information without appropriate non-disclosure protections. (P 214)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 3

3. Identification and Definition of Contingent Facilities

NYISO's Proposed Compliance Approach

- NYISO proposes to seek an independent entity variation
- NYISO already takes into account contingent facilities among projects in a specific Class Year but proposes to comply with this Order No. 845 directive with a new definition of "contingent facilities:"

> those unbuilt Class Year projects and associated System Upgrade Facilities and System Deliverability Upgrades, as applicable, upon which the Large Facility's Class Year Project Cost Allocations are dependent, and if delayed or not built, could impact the actual costs of the Large Facility's System Upgrade Facilities or System Deliverability Upgrades

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 3

3. Identification and Definition of Contingent Facilities

NYISO's Proposed Compliance Approach (cont.)

- NYISO proposes to identify all contingent facilities (for current and previous Class Years at the conclusion of the Class Year Study (versus the system impact study)
  - In its Class Year Study reports, NYISO already identifies the estimated upgrade costs and estimated in-service completion times associated with each identified contingent facility in the current Class Year and goes further to provide the anticipated construction schedule for such contingent facilities and their upgrades
- NYISO also proposes to identify contingent facilities in the Interconnection Agreement and, upon request, provide the estimated upgrade costs and estimated in-service completion times associated with such contingent facility

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 3

3. Identification and Definition of Contingent Facilities

- Tariff Sections NYISO Proposes to Revise:
  - Section 25.1.2 of Attachment S to the OATT
  - Section 25.8.6.3 of Attachment S to the OATT
  - Section 30.1 of Attachment X to the OATT
  - Section 30.3.7 of Attachment X to the OATT
  - Section 30.14, Appx. 3 of Attachment X to the OATT

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 4

4. Transparency Regarding Study Models and Assumptions

Overview

- Order No. 845 "requires transmission providers to list the specific study processes and assumptions for forming the network models used for interconnection studies."
- Specifically, Order No. 845 revises the base case data requirements as follows:
  - Requires the transmission provider to maintain base power flow, short circuit and stability databases, including network models and underlying assumptions, on either its OASIS site or a password-protected website
  - Requires that "such network models and underlying assumptions should reasonably represent those used during the most recent interconnection study and be representative of current system conditions."
- Order No. 845 requires that if the transmission provider maintains this information on a password-protected website, it must provide a link to the information on its OASIS site, but access may be subject to the requirements that the customer sign a non-disclosure agreement

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 4

4. Transparency Regarding Study Models and Assumptions

NYISO's Proposed Compliance Approach

- NYISO currently provides applicable dispatch assumptions, load factors, and power flow information for projects in their respective studies
- NYISO is considering the best manner in which to compile the required databases, models, and assumptions
    - For example, together with the power flow, short circuit, and stability base cases posted on ePlanning or the secure portion of the NYISO website, NYISO may include documentation similar to that included in Class Year report in which NYISO describes the ATBA and its underlying assumptions
- Access to such data will likely be through ePlanning or the secure password-protected portion of the NYISO website (both of which require CEII NDAs)
- NYISO proposes to point to the ATBA as satisfying the requirement that network models and underlying assumptions reasonably represent those used during the most recent interconnection study and represent system conditions currently being studied

NEW YORK INDEPENDENT SYSTEM OPERATOR

DRAFT – FOR DISCUSSION PURPOSES ONLY

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 4

4. Transparency Regarding Study Models and Assumptions

- Tariff Section NYISO Proposes to Revise:
  - Section 30.2.3 of Attachment X to the OATT

DRAFT – FOR DISCUSSION PURPOSES ONLY

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary and Proposed Compliance Approach for Reform No. 5

5. Definition of Generating Facility

Overview

- Order No. 845 revised the definition of Generating Facility in the *pro forma* LGIP and LGIA to include "and/or storage for later injection" to account for electric storage resources. (P 275)

NYISO's Proposed Compliance Approach

- The NYISO proposes to incorporate the above language into the definition of Generating Facility as follows:

> **Generating Facility** shall mean Developer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Developer's Attachment Facilities or Distribution Upgrades.

Tariff Section NYISO Proposes to Revise:

- Section 30.1 of Attachment X to the OATT

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 6

6. Interconnection Study Deadlines

Overview

- Order No. 845 modifies the *pro forma* LGIP requirements on OASIS posting to require transmission providers to post interconnection study metrics quarterly and to file informational reports with the Commission if they exceed study deadlines for more than 25 percent of any study type for two consecutive quarters. (P 305)
- Pursuant to new Sections 3.5.2 and 3.5.3 of the *pro forma* LGIP, the transmission provider must maintain on its OASIS or its website summary statistics related to processing interconnection studies, which must be updated within 30 days of the end of a calendar quarter and must be retained for three calendar years, with the first required reporting year being 2017
- New Sections 3.5.2.1 through 3.5.2.4 of the *pro forma* LGIP establish the required statistics concerning the processing time for the feasibility study, system impact study, and facilities study, along with the interconnection service request withdrawals from the interconnection queue

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 6

6. Interconnection Study Deadlines

Overview (cont.)

- New Section 3.5.4 provides that if the percentage of delayed feasibility, system impact, or facilities studies exceeds 25 percent for two consecutive calendar quarters, the transmission provider must for four consecutive quarters submit a report to the Commission describing the reason for each study/clustered study that exceeded its deadline, the reasons for the delay, and any steps to remedy the issue and prevent such delays in the future
    - The report must be filed within 45 days of the end of the calendar quarter
    - The transmission provider must also aggregate the total number of employee/consultant hours expended towards interconnection studies that quarter and post the information on its website within 30 days of the end of the quarter
    - The transmission provider must continue to report this information until it reports four consecutive calendar quarters without the delayed amounts exceeding 25 percent for two consecutive quarters

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 6

6. Interconnection Study Deadlines

Overview (cont.)

- The transmission provider may post the quarterly summary material on its OASIS or on a public website, but if posted on its website, it must provide a clear link to the information on OASIS. (P 313)
- The Commission clarified that the NOPR did not propose and Order No. 845 does not adopt firm deadlines for completing interconnection studies and does not eliminate the reasonable efforts standard or reduce transmission provider flexibility. (P 322)
- The Commission also clarified that the start date for each study included in the performance reporting metrics is the date that transmission provider receives a fully executed study agreement. (P 331)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 6

6. Interconnection Study Deadlines

NYISO's Proposed Compliance Approach

- NYISO proposes to post the status of respective studies by supplementing information currently provided on the queue
- For purposes of tracking the status of studies, NYISO proposes that the study start date used for purposes of these metrics be the later of the following: (1) confirmation of receipt of the required study deposit; (2) confirmation of receipt of all required technical data; (3) confirmation of satisfaction of Site Control, where required; or (4) acceptance of the study scope by the CTO and, if applicable, approval of the study scope by the Operating Committee
- The above reflects the Commission-approved variations in the NYISO's LFIP
    - Under Commission-approved variations, NYISO no longer utilizes study agreements for the Optional Feasibility Study and SRIS, but rather has a scope for each study that is signed by the CTO. Since Order No. 845 requires the commencement of the study to be triggered by execution of the study agreement, a comparable milestone in the NYISO's interconnection process is one or more of the above-referenced milestones
- For purposes of tracking the status of studies, NYISO proposes that the completion of the respective study will reflect the date upon which the study itself is completed and an initial draft study report circulated

NEW YORK INDEPENDENT SYSTEM OPERATOR

DRAFT – FOR DISCUSSION PURPOSES ONLY

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 6

6. Interconnection Study Deadlines

Tariff Sections NYISO Proposes to Revise:

- Section 30.3.4.1 of Attachment X to the OATT
- Section 30.3.4.2 of Attachment X to the OATT
- Section 30.3.4.3 of Attachment X to the OATT
- Section 30.3.4.4 of Attachment X to the OATT

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 7

7. Requesting Interconnection Service Below Generating Facility Capacity

Overview

- Order No. 845 revises Sections 3.1, 6.3, 7.3, and 8.2, and Appendix 1 of the *pro forma* LGIP "to allow interconnection customers to request interconnection service that is lower than full generating facility capacity, recognizing the need for proper control technologies and penalties to ensure that the generating facility does not inject energy above the requested level of service." (P 367)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 7

7. Requesting Interconnection Service Below Generating Facility Capacity

Overview (cont.)

- Section 3.1 and Appendix 1 establish that the transmission provider have a process to consider requests for interconnection service below the generating facility capacity
  - Requests for interconnection service shall be studied at the level of requested interconnection service for purposes of interconnection facilities, network upgrades, and associated costs; however, a transmission provider may perform other studies, at the interconnection customer's expense, at the full generating capacity to ensure the safety and reliability of the system
  - The interconnection customer will bear the costs of any interconnection facility or network upgrade costs required for safety and reliability
  - The interconnection customer may be subject to additional control technologies, as well as testing and validation of those technologies.
  - The necessary control technologies and protection system, as well as any potential penalties for exceeding the level of interconnection service, will be included in Appendix C of the interconnection agreement

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 7

7. Requesting Interconnection Service Below Generating Facility Capacity

Overview (cont.)

- Order No. 845 also revises Sections 4.4.1 and 4.4.2 of the *pro forma* LGIP to establish the circumstances in which an interconnection customer may submit a request to change its interconnection request to reduce its level of requested interconnection service

- An interconnection customer may do so in the same manner as it can currently reduce its requested generating facility capacity – by revising its interconnection request prior to returning an executed system impact study agreement pursuant to Section 4.4.1 of the *pro forma* LGIP and prior to returning its executed facilities study agreement pursuant to Section 4.4.2. (PP 405, 406)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 7

7. Requesting Interconnection Service Below Generating Facility Capacity

Overview (cont.)

- The transmission provider has the discretion to perform a study at the full generating capacity if it determines, based on good utility practice and related engineering considerations and after accounting for the proposed control technology, that the study is necessary to ensure safety and reliability. (P 384)
- The transmission provider must provide a detailed explanation in writing to the interconnection customer concerning its determination that a study at full generating capacity is required. (P 384)
- If additional network upgrades are required by these studies, the transmission provider must specify which network upgrades are based on which studies and provide a detailed explanation as to why the additional network upgrades are needed. (P 384)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 7

7. Requesting Interconnection Service Below Generating Facility Capacity

Overview (cont.)

- The transmission provider must inform the interconnection customer after the feasibility study phase which studies will be performed at which generating facility capacity level. (P 385) The parties may seek dispute resolution concerning which studies must be performed. (P 386)
- Any control technologies proposed by the interconnection customer to restrict the generating facility's output to the requested interconnection service levels must be identified in the project description in the beginning of the study process. (P 396)
- The Commission also indicated that it saw no reason to preclude a customer from relying on the transmission provider to identify protection and control technologies in the first instance. (P 396)
- The Commission identified the control and protection technologies as system protection facilities, which costs are directly assigned to interconnection customers. (P 398)

NEW YORK INDEPENDENT SYSTEM OPERATOR

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 7

7. Requesting Interconnection Service Below Generating Facility Capacity

Overview (cont.)

- With respect to penalties, the Commission concluded that the current provisions of the *pro forma* LGIA, which allow a transmission provider to curtail service or terminate an LGIA, are sufficient to ensure proper behavior by interconnection customers. (P 416)
  - The Commission indicated that if a transmission provider can justify the need for additional penalties, it may propose such penalties in a Section 205 filing. (P 416)
- The determination of whether a generator is large or small for purposes of whether it qualifies for the LGIP or SGIP will continue to be based on the generating facility capacity. (P 422 n 737)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 7

7. Requesting Interconnection Service Below Generating Facility Capacity

NYISO's Proposed Compliance Approach

- NYISO anticipates incorporating the requirements of this reform with limited variations; however, NYISO is still considering operational implications
- NYISO proposes to make clear that the control mechanism limiting the facility's output (*e.g.*, governor set points or power plant controllers) will be evaluated to ensure system reliability and must be deemed acceptable to the NYISO and the CTO
- NYISO also proposes to mirror the current language in the Small Generator Interconnection Procedures to the extent possible
- NYISO proposes to request information in the Interconnection Request data form and the Facility Study Agreement data form regarding the control mechanism the Developer proposes to limit the facility's output

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 7

7. Requesting Interconnection Service Below Generating Facility Capacity

Tariff Sections NYISO Proposes to Revise:

- Section 30.3.2.3 of Attachment X to the OATT
- Section 30.3.4.4.1 of Attachment X to the OATT
- Section 30.3.4.4.2 of Attachment X to the OATT
- Section 30.3.4.4.3 of Attachment X to the OATT
- Section 30.6.3.1 of Attachment X to the OATT
- Section 30.7.3 of Attachment X to the OATT
- Section 30.7.5 of Attachment X to the OATT
- Section 30.8.2 of Attachment X to the OATT
- Section 30.14, Appx. 1 of Attachment X to the OATT

NEW YORK INDEPENDENT SYSTEM OPERATOR

DRAFT – FOR DISCUSSION PURPOSES ONLY

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 8

8. Provisional Interconnection Service

Overview

- Order No. 845 revises Section 1 of the *pro forma* LGIP and Sections 1 and 5.9.2 of the *pro forma* LGIA to allow interconnection customers to enter into provisional agreements for limited interconnection service prior to the completion of the full interconnection process
- Specifically, Order No. 845 provides that "interconnection customers may seek provisional interconnection service when available studies or additional studies as necessary indicate that there is a level of interconnection that can occur without any additional interconnection facilities and/or network upgrades and the interconnection customer wishes to make use of that level of interconnection service while the facilities required for its full interconnection request are completed." (P 441)
- Provisional interconnection service "may not provide an interconnection customer its full requested level of interconnection service." (P 442)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 8

8. Provisional Interconnection Service

Overview (cont.)

- Order No. 845 creates the terms "Provisional Interconnection Service" and "Provisional Large Generator Interconnection Agreement" to describe the provision of this interconnection service pursuant to an agreement in the form of the LGIA, as modified for provisional purposes
- Section 5.9.2 of the *pro forma* LGIA establishes the requirements for provisional interconnection service
  - At an interconnection customer's request, and prior to the completion of the required interconnection facilities, upgrades, and system protection facilities, the transmission provider may execute a provisional LGIA (or the interconnection customer may request the filing of an unexecuted provisional LGIA) for limited interconnection service at the discretion of transmission provider based upon an evaluation that will consider the results of available studies
  - The transmission provider shall determine through available studies or additional studies as necessary, whether stability, short circuit, thermal, and/or voltage issues would arise if the interconnection customer interconnects without modifications to the generating facility or transmission provider's system

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 8

8. Provisional Interconnection Service

Overview (cont.)

- The transmission provider shall determine whether any interconnection facilities, upgrades, or system protection facilities that are necessary to meet reliability requirements for the interconnection of the generating facility are in place prior to the commencement of interconnection service
- If the required facilities are not in place, the transmission provider will perform a study, at the interconnection customer's expense, to confirm the facilities that are required for Provisional Interconnection Service
- The maximum permissible output of the generating facility in the Provisional Large Generator Interconnection Agreement shall be studied and updated on a frequency determined by transmission provider and at the interconnection customer's expense
- The interconnection customer assumes all risk and liabilities with respect to changes between the provisional agreement and the LGIA, including changes to output limits and cost responsibilities for the required facilities

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 8

8. Provisional Interconnection Service

Overview (cont.)

- The Commission clarified that provisional interconnection service will terminate upon completion of construction of interconnection facilities and network upgrades. (P 439)
- The Commission declined to adopt a separate *pro forma* Provisional LGIA. (P 444)
- The Commission permitted the transmission provider to determine the frequency for updating provisional interconnection studies, but the frequency must be consistent across all interconnection customers. (P 448)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 8

8. Provisional Interconnection Service

NYISO's Proposed Compliance Approach

- In its NOPR comments, NYISO did not object to this proposal, as it already provides such service under its limited operation procedures
- NYISO proposes to incorporate the requirements of this reform into Attachment X with only limited variations; however, NYISO would make clear in a Provisional Interconnection Agreement that it would be for ERIS only and that the Developer could not participate as an Installed Capacity Supplier until after the Class Year Study is completed and (1) the project is deemed deliverable and accepts its deliverable megawatts; or (2) the Developer accepts its Project Cost Allocation and posts Security for any required System Deliverability Upgrades
- NYISO is considering the extent to which Section 30.11.4 should apply to Provisional Interconnection Agreements
  - Section 30.11.4 provides that if prior to execution of an LGIA, certain analysis required by the Class Year Study must be completed before the LGIA can be completed – specifically, identification of all required Connecting Transmission Owner Attachment Facilities and Local System Upgrade Facilities (*i.e.,* the Part 1 Study)
  - Section 30.11.4 provides that If an LGIA is executed prior to the completion of the Class Year Study, the Developer must agree, in the LGIA, that in the Class Year decision process, it will accept the Project Cost Allocation and post Security for any SUFs identified and cost allocated in the Class Year Study even if such Project Cost Allocations exceed the estimates included in the LGIA and include equipment not identified in the LGIA

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 8

8. Provisional Interconnection Service

Tariff Sections NYISO Proposes to Revise:

- Section 30.1 of Attachment X to the OATT
- Section 30.12.3 of Attachment X to the OATT
- Section 30.14, Appx. 3 of Attachment X to the OATT

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 9

9. Utilization of Surplus Interconnection Service

Overview

- Order No. 845 revises the *pro forma* LGIP and LGIA to require the transmission provider to establish an expedited interconnection process outside of the interconnection queue for surplus interconnection service. (P 467)
- Order No. 845 defines "Surplus Interconnection Service" in Section 1 of the *pro forma* LGIP and Article 1 of the *pro forma* LGIA as: "any unneeded portion of Interconnection Service established in a Large Generator Interconnection Agreement, such that if Surplus Interconnection Service is utilized the total amount of Interconnection Service at the Point of Interconnection would remain the same."
  - The Commission clarified that "surplus interconnection service is created because generating facilities may not operate at full capacity at all times." (P 468)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 9

9. Utilization of Surplus Interconnection Service

Overview (cont.)

- Order No. 845 establishes the Surplus Interconnection Service requirements in new Sections 3.3 and 3.3.1 of the *pro forma* LGIP
  - Pursuant to new Section 3.3, the transmission provider must provide a process that allows an interconnection customer to utilize or transfer Surplus Interconnection Service at an existing point of interconnection
  - The existing interconnection customer or one of its affiliates has the priority to use this service, but if they do not exercise this priority, the service may be made available to other potential interconnection customers
  - Pursuant to new Section 3.3.1, Surplus Interconnection Service requests may be made by the interconnection customer whose generator is already interconnected, one of its affiliates, or another interconnection customer
  - The transmission provider shall provide a process for evaluating these interconnection requests

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 9

9. Utilization of Surplus Interconnection Service

Overview (cont.)

- Studies for Surplus Interconnection Service shall consist of reactive power, short circuit/fault duty, stability analyses, and any other appropriate studies
- Steady-state (thermal/voltage) analyses may be performed as necessary to ensure that all required reliability conditions are studied
- If the Surplus Interconnection Service was not studied under off-peak conditions, off-peak steady state analyses shall be performed to the required level necessary to demonstrate reliable operation of the Surplus Interconnection Service
- If the original system impact study is not available for the Surplus Interconnection Service, both off-peak and peak analysis may need to be performed for the existing generating facility associated with the request for Surplus Interconnection Service
- The reactive power, short circuit/fault duty, stability, and steady-state analyses for Surplus Interconnection Service will identify any additional interconnection facilities and/or network upgrades necessary

NEW YORK INDEPENDENT SYSTEM OPERATOR

DRAFT – FOR DISCUSSION PURPOSES ONLY

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 9

9. Utilization of Surplus Interconnection Service

Overview (cont.)

- Order No. 845 establishes a number of requirements for surplus interconnection service not described in the associated tariff language
  - The Commission clarified that "surplus interconnection service cannot exceed the total interconnection service already provided by the original interconnection's LGIA." (P 472)
  - The Commission stated that "if the original LGIA is for ERIS, any surplus interconnection customer associated with the original LGIA at the same point of interconnection would also need to be an ERIS customer in order to avoid the potential need for new network upgrades. If the original LGIA is for NRIS, then either ERIS or NRIS service could be offered to the surplus interconnection service customer." (P 472)
  - The new requirements would allow "an existing interconnection customer to make a specified and limited amount of surplus interconnection service available at a particular interconnection point under a variety of circumstances, including, for example, on a continuous basis (i.e., a certain number of MW of surplus interconnection service always available for use by a co-located generating facility), or on a scheduled, periodic basis (i.e., a specified number of MW available intermittently)." (P 472)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 9

9. Utilization of Surplus Interconnection Service

Overview (cont.)

- The Commission noted that it is possible "for a surplus interconnection service customer to increase the total generating facility capacity at a point of interconnection, provided that the total combined generating output at the point of interconnection for both the original and surplus interconnection customer is limited to and shall not exceed the maximum level allowed under the original interconnection customer's LGIA." (P 475)
- The Commission stated "that agreements between the original interconnection customer, the surplus interconnection service customer (whether affiliated or not), and the transmission provider are necessary to establish conditions such as the term of operation, the interconnection service limit, and the mode of operation for energy production (i.e., common or singular operation) and to establish the roles and responsibilities of the parties for maintaining the operation of the facility within the parameters of the surplus interconnection service agreement." (P 499)
  - The Commission declined to establish the agreements as part of the *pro forma* LGIA or prescribe their terms and conditions, allowing the transmission provider to either file a *pro forma* version of an agreement or execute them as needed and file them with the Commission on an ad hoc basis. (P 500)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 9

9. Utilization of Surplus Interconnection Service

Overview (cont.)

- The Commission set forth specific requirements associated with a deactivating generator
  - Surplus interconnection service "cannot be offered if the original interconnection customer's generating facility is scheduled to retire and permanently cease commercial operation before the surplus interconnection service customer's generating facility begin[s] commercial operation." (P 473)
  - In addition, surplus interconnection service "shall not be available when the original interconnection customer retires and permanently ceases commercial operation." (P 504)
  - However, the Commission will permit a continuation of surplus interconnection service for a limited period not to exceed one year after the date of retirement/permanent cessation of commercial operation if the original interconnection customer retires unexpectedly when two conditions are met

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 9

9. Utilization of Surplus Interconnection Service

Overview (cont.)

- "First, the surplus service interconnection customer's generation facility must have been studied by the transmission provider for sole operation at the point of interconnection at the time of the interconnection of the surplus service interconnection customer."
- "Second, the original interconnection customer (and now retiring) must have agreed in writing that the surplus interconnection service customer may continue to operate at either its limited share of the original interconnection customer's generating facility capacity in the original interconnection customer's LGIA, as reflected in its surplus interconnection service agreement, or at any level below such limit upon the retirement and permanent cessation of commercial operation of the original interconnection customer's generating facility." (PP 505-506)
- If the two conditions are not met, the agreements regarding surplus interconnection service must provide to terminate simultaneously with the termination of the original interconnection agreement. (P 506)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Motion for Clarification/Rehearing

9. Utilization of Surplus Interconnection Service

NYISO's Motion for Clarification/Rehearing

- Paragraph 477 of Order No. 845 may be read to require an ISO/RTO to demonstrate that its tariff meets certain prescribed surplus interconnection requirements as part of any independent entity variation
- On May 21, 2018, NYISO submitted a Request for Clarification, or in the alternative, Request for Rehearing, concerning this requirement in Order No. 845
- NYISO informed the Commission that the order's surplus interconnection service requirements are fundamentally incompatible with the NYISO's interconnection process and market design
- NYISO noted that paragraph 477 could be read as dictating highly-prescriptive surplus interconnection service requirements that, if read narrowly, would severely limit the scope of, or preclude, independent entity variations
- NYISO requested that the Commission clarify that it did not intend to prevent ISOs/RTOs from seeking necessary independent entity variations from the surplus interconnection service requirements

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 9

9. Utilization of Surplus Interconnection Service

Proposed Compliance Approach

- NYISO proposes to request an independent entity variation for the reasons outlined in its Motion for Clarification/Rehearing

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 10

10. Material Modification and Incorporation of Advanced Technologies

Overview

- Order No. 845 required "transmission providers to include in their *pro forma* LGIP technological change procedures." (P 518)
- Transmission providers "must also assess, and if necessary, study whether proposed technological advancements can be incorporated into interconnection requests without triggering the material modification provisions of the *pro forma* LGIP." (P 518)
- In addition, transmission providers must "develop a definition of permissible technological advancements," which "would, by definition, not constitute material modifications." (P 518)
- The Commission indicated that "[i]f a transmission provider believes its existing interconnection procedures regarding the incorporation of technological advancements would qualify for a variation from the Final Rule requirements or that it already complies with the requirements adopted in this Final Rule, it may provide such an explanation in its compliance filing." (P 524)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 10

10. Material Modification and Incorporation of Advanced Technologies

Overview (cont.)

- The new procedures would be inserted in Section 4.4.4 of the *pro forma* LGIP
  - The procedures "must specify what technological advancements can be incorporated at various stages of the interconnection process." (P 519)
  - The procedures "must clearly identify which requirements apply to the interconnection customer and which apply to the transmission provider." (P 519)
  - The procedures "should state that, if an interconnection customer seeks to incorporate technological advancements into its generating facility, it should submit a technological advancement request." (P 519)
  - For purposes of a material modification determination, the procedures "must specify the information that the interconnection customer must submit as part of a technological advancement request." (P 519)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 10

10. Material Modification and Incorporation of Advanced Technologies

Overview (cont.)

- "[T]he interconnection customer's technological advancement request must demonstrate that the proposed incorporation of the technological advancement would result in electrical performance that is equal to or better than the electrical performance expected prior to the technology change and not cause any reliability concerns (i.e., materially impact the transmission system with regard to short circuit capability limits, steady-state thermal and voltage limits, or dynamic system stability and response)." (P 520)
- The transmission provider "must determine whether a requested technological advancement is a material modification and whether or not a study is necessary to complete the analysis of whether the technological advancement is a material modification." (P 521)
- The procedures "must also specify the conditions under which a study will or will not be necessary to determine whether a proposed technological advancement is a material modification." (P 519)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 10

10. Material Modification and Incorporation of Advanced Technologies

Overview (cont.)

- The procedures "must state that, if a study is necessary to evaluate whether a particular technological advancement is a material modification, the transmission provider must clearly indicate to the interconnection customer the types of information and/or study inputs that the interconnection customer must provide to the transmission provider, including for example, study scenarios, modeling data, and any other assumptions." (P 521)
- The procedures "should also explain how the transmission provider will evaluate the technological advancement request to determine whether it is a material modification." (P 521)
- "If the transmission provider cannot accommodate a proposed technological advancement without triggering the material modification provision of the *pro forma* LGIP, the transmission provider shall provide an explanation to the interconnection customer regarding why the technological advancement is a material modification." (P 522)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 10

10. Material Modification and Incorporation of Advanced Technologies

Overview (cont.)

- The transmission provider must perform and complete any necessary study to determine whether the proposed technological advancement is a material modification within 30 days of the interconnection customer's submitting a formal technological advancement request. (P 535)
- Interconnection customers may submit requests to incorporate technological advancements prior to the execution of the facilities study agreement. (P 536)
  - The Commission provided that "to the extent that a transmission provider believes that it is appropriate to establish rules that permit technological advancements only at a single point in its interconnection process (prior to the execution of the interconnection facilities study agreement), we permit transmission providers to propose such a practice in their compliance filings." (P 536)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 10

10. Material Modification and Incorporation of Advanced Technologies

Overview (cont.)

- The interconnection customer must "tender a deposit if the transmission provider determines that additional studies are needed to evaluate whether a technological advancement is a material modification." (P 534) The deposit amount must be specified in the technological change procedure. (P 534)
  - "The transmission provider shall describe for the interconnection customer any costs incurred to conduct any necessary additional studies, provide its costs to the interconnection customer, and either refund any overage or charge for any shortage for costs that exceed the deposit amount." (P 534)
  - The Commission set a default deposit amount at $10,000, but provided for the transmission provider to propose a reasonable alternative amount in its compliance filing with justification for the alternative amount. (P 534)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 10

10. Material Modification and Incorporation of Advanced Technologies

Overview (cont.)

- Transmission providers must also "develop a definition of permissible technological advancement." (P 518)
  - The definition of "Permissible Technological Advancement" will be inserted into Section 1 of the *pro forma* LGIP.
  - The Commission is providing "flexibility to propose a unique definition" in the compliance filing. (P 530)
  - A permissible technological advancement would, by definition, not constitute a material modification. (P 518)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 10

10. Material Modification and Incorporation of Advanced Technologies

Overview (cont.)

- The Commission requires that "[t]he definition must make clear what category of technological advancements can be accommodated that do not require extensive or additional studies to determine whether a proposed technological advancement is a material modification." (P 530)
- "[S]uch permissible changes may include, for example, advancements to turbines, inverters, plant supervisory controls, or other technological advancements that may affect a generating facility's ability to provide ancillary services." (P 530)
- The Commission further noted that "the assessment of whether a technological advancement is permissible is limited to assessing the materiality of the change and consideration of whether the transmission provider can accommodate a modification to the specific technology type initially proposed in the interconnection request." (P 530)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Detailed Summary of Reform No. 10

10. Material Modification and Incorporation of Advanced Technologies

Overview (cont.)

- The Commission clarified that "[t]he definition of permissible technological advancements must not include changes in generation technology or fuel type (e.g., from gas to wind) because they involve a change in the electrical characteristics of an interconnection request." (P 530)
- The Commission further clarified that "a technological advancement that does not increase the interconnection customer's requested interconnection service or cause any reliability concerns (i.e., materially impact the transmission system with regard to short circuit capability limits, steady-state thermal and voltage limits, or dynamic system stability and response) is generally not a material modification." (P 531)
- Finally, the Commission stated "that technological advancements that do not degrade the electrical characteristics of the generating equipment (e.g., the ratings, impedances, efficiencies, capabilities, and performance of the equipment under steady state and dynamic conditions) qualify as performance that is 'equal to or better than the performance expected prior to the change.'" (P 531)

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 10

10. Material Modification and Incorporation of Advanced Technologies

NYISO's Proposed Compliance Approach

- NYISO proposes to define Permissible Technological Advancement as:
  - Advancements to turbines, inverters, or plant supervisory controls or other similar advancements to the existing technology proposed in the Interconnection Request, provided that such advancements do not (i) materially increase the capability of the facility, or (ii) significantly alter the facility's electrical characteristics
  - A proposed technological advancement that meets this definition would not require evaluation before being deemed non-material
- NYISO proposes that any study required for proposed technological advancements that do not satisfy the above definition will be performed consistent with the material modification evaluation process currently detailed in the Transmission Expansion & Interconnection Manual

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 10

10. Material Modification and Incorporation of Advanced Technologies

NYISO's Proposed Compliance Approach (cont.)

- NYISO proposes to develop a technological advancement request form
- NYISO proposes to specify a technological change procedure, which includes the requisite information and process that the NYISO, in consultation with the Connecting Transmission Owner, will follow to assess whether a Developer's proposed technological advancement constitutes a Material Modification
- NYISO proposes that technological advancement requests be submitted, any evaluations completed and a determination issued by NYISO prior to the execution of the Class Year Study agreement
- NYISO proposes to develop a study agreement for technological advancement requests that require evaluation and a deposit (to be determined) as directed by Order No. 845
    - For consistency, NYISO proposes to require the same deposit and a comparable study agreement for other modification evaluations

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Proposed Compliance Approach for Reform No. 10

10. Material Modification and Incorporation of Advanced Technologies

Tariff Sections NYISO Proposes to Revise:

- Section 30.1 of Attachment X to the OATT
- Section 30.4.4.2 of Attachment X to the OATT
- New Section 30.4.4.7 of Attachment X to the OATT

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

Next Steps

- Bring further revised tariff revisions to stakeholders for review at the October 2018 TPAS
- NYISO urges interested market participants to provide comments as soon as possible but no later than September 14, 2018 in order for the NYISO to afford due consideration prior to the October 2018 TPAS
- File the proposed revisions to the NYISO's LFIP and LGIA with the Commission by November 5, 2018

NEW YORK INDEPENDENT SYSTEM OPERATOR

DRAFT – FOR DISCUSSION PURPOSES ONLY

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED

The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefits to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policy makers, stakeholders and investors in the power system

www.nyiso.com

NEW YORK INDEPENDENT SYSTEM OPERATOR

DRAFT – FOR DISCUSSION PURPOSES ONLY

©COPYRIGHT NYISO 2018. ALL RIGHTS RESERVED