

October 7, 2019

By Electronic Delivery

Honorable Kimberly D. Bose, Secretary Federal Energy Regulatory Commission 888 First Street, NE Washington, DC 20426

> Re: New York Independent System Operator, Inc., Response to September 5, 2019, Letter in Docket No. RM18-9-000

Dear Ms. Bose:

The New York Independent System Operator, Inc. ("NYISO") submits its response to the data request of the Federal Energy Regulatory Commission ("Commission") issued in a September 5, 2019, letter in the above-captioned proceeding ("September 2019 Letter"). The September 2019 Letter directed the NYISO to respond to eleven questions concerning the interconnection of distributed energy resources in the NYISO's region. The NYISO's responses to each of the Commission's questions are provided in Attachment A to this letter.

The NYISO will send an electronic link to this filing to the official representative of each party to this proceeding, to the official representative of each of its customers, to each participant on its stakeholder committees, to the New York Public Service Commission, and to the New Jersey Board of Public Utilities. In addition, a complete copy of this filing will be posted on the NYISO's website at www.nyiso.com.

Respectfully submitted,

<u>/s/ Sara B. Keegan</u> Sara B. Keegan Counsel for the New York Independent System Operator, Inc.

cc: Anna Cochrane Daniel Nowak James Danly Larry Parkinson Jignasa Gadani Douglas Roe Jette Gebhart Frank Swigonski Kurt Longo Gary Will John C. Miller David Morenoff

Attachment A

A. INTRODUCTION

The New York Independent System Operator, Inc. ("NYISO") Small Generator Interconnection Procedures ("SGIP") located in Attachment Z of its Open Access Transmission Tariff ("OATT")¹ establish the procedures for the interconnection of generating facilities no larger than 20 MW to the New York State Transmission System² and to the Distribution System³ in New York that is subject to the Commission's jurisdiction for interconnection.⁴ The SGIP and ISO Procedures, including the NYISO's Transmission Expansion and Interconnection Manual ("NYISO TE&I Manual"),⁵ establish the process and requirements for the NYISO to determine, in coordination with the applicable New York Transmission Owner(s), whether a generating facility that seeks to interconnect to distribution facilities in New York to participate in the NYISO-administered wholesale markets: (i) is interconnection and must proceed through the SGIP, or (ii) is interconnecting to distribution facilities that are subject to New York State's jurisdiction for interconnection and must proceed through either the New York State Standardized Interconnection Requirements ("SIR")⁶ or an individual utility's interconnection procedures.

The NYISO determines whether an interconnection to distribution facilities in New York is subject to the Commission's jurisdiction based on the Commission's guidance and

¹ Capitalized terms that are not defined in the NYISO response shall have the meaning set forth in Appendix 1 of Attachment Z of the OATT and, if not defined therein, in Section 25.1.2 of Attachment S of the OATT, Section 30.1 of the OATT, or Section 1 of the body of the OATT.

² "New York State Transmission System ("NYS Transmission System")" is defined as "The entire New York State electric transmission system, which includes: (1) the Transmission Facilities Under ISO Operational Control; (2) the Transmission Facilities Requiring ISO Notification; and (3) all remaining transmission facilities within the NYCA." NYISO OATT Section 1.4.

³ "Distribution System" is defined as "the Transmission Owner's facilities and equipment used to distribute electricity that are subject to FERC jurisdiction, and are subject to the ISO's Large Facility Interconnection Procedures in this Attachment X or Small Generator Interconnection Procedures in Attachment Z to the ISO OATT under FERC Order Nos. 2003 and/or 2006. The term Distribution System shall not include LIPA's distribution facilities." NYISO OATT, Att. X, Section 30.1. As detailed in this definition and in Section 32.1.1.1 of Attachment X of the NYISO OATT, the Long Island Power Authority is responsible for the interconnection of generating facilities that connect to its distribution facilities.

⁴ The jurisdiction of a proposed interconnection is often a threshold issue for a proposed generating facility of 20 MW or less, but can be an issue for large generation projects as well. As with proposed small generating facilities, the NYISO coordinates with the applicable Transmission Owner to identify for Interconnection Customers whether a generating facility larger than 20 MW should proceed through the NYISO's Standard Large Facility Interconnection Procedures ("LFIP") located in Attachment X of the NYISO OATT or the SIR or utility's interconnection procedures.

⁵ The NYISO's Transmission Expansion and Interconnection Manual ("TE&I Manual") is *available at*: https://www.nyiso.com/documents/20142/2924447/tei_mnl.pdf/099cdf73-feee-4247-df20-8605a67c5089.

⁶ The SIR are posted under the "Distributed Generation Information" heading on the New York State Department of Public Service's website and are *available at*: http://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/dcf68efca391ad6085257687006f39 6b/\$FILE/October%20SIR%20Appendix%20A%20-%20Final%2010-3-18.pdf.

determinations in its Order Nos. 2003⁷ and 2006⁸ and in subsequent orders.⁹ Specifically, the NYISO identifies a proposed interconnection to distribution facilities as subject to the Commission's jurisdiction if, prior to the Interconnection Customer's¹⁰ submission of its Interconnection Request to the NYISO: (i) there is a pre-existing interconnection of a generating facility to the applicable distribution facility, which generating facility has made wholesale sales over that distribution facility subject to a Commission-approved Open Access Transmission Tariff, and (ii) the Interconnection Customer is requesting to interconnect its generating facility for purposes of facilitating wholesale sales. The NYISO's process and requirements for determining whether a proposed interconnection is subject to the SGIP, the SIR, or an individual utility's interconnection procedures are described in response to the Commission's Question No. 1 below.

An Interconnection Customer that seeks to interconnect its generating facility to participate in the NYISO-administered wholesale markets must obtain Energy Resource Interconnection Service ("ERIS"). ERIS is basic interconnection service that allows an Interconnection Customer to interconnect its generating facility to the New York State Transmission System or Distribution System in accordance with the NYISO Minimum Interconnection Standard to enable the New York State Transmission System or Distribution System to receive electric energy from the facility. If an Interconnection Customer's generating facility seeks to participate in the NYISO-administered wholesale markets and is subject to the SIR or utility interconnection procedures, the NYISO will identify an ERIS value for the generating facility based on the MW value of the facility reflected in the interconnection agreement for the facility that was entered into under the state-jurisdictional process or by using other applicable documentation governing the generating facility's interconnection.¹¹

An Interconnection Customer that seeks to have its generating facility qualify as an Installed Capacity Supplier and to participate in the NYISO-administered Installed Capacity market must also obtain Capacity Resource Interconnection Service ("CRIS").¹² CRIS is interconnection service that allows an Interconnection Customer to interconnect its generating

⁹ See, e.g., PJM Interconnection, L.L.C., 114 FERC ¶ 61,191(2006), order on reh'g, 116 FERC ¶ 61,102 (2006).

⁷See Standardization of Generator Interconnection Agreements and Procedures, Order No. 2003, 104 FERC ¶ 61,103 at PP 803-809 (2003), order on reh'g, Order No. 2003-A, 106 FERC ¶ 61,220 at PP 730-743 (2004), order on reh'g, Order No. 2003-B, 109 FERC ¶ 61,287 at P 14 (2004), order on reh'g, Order No. 2003-C, 111 FERC ¶ 61,401 at PP 51-53 (2005), aff'd sub nom. Nat'l Ass'n of Regulatory Util. Comm'rs v. FERC, 475 F.3d 1277 (D.C. Cir. 2007), cert. denied, 552 U.S. 1230 (2008).

⁸ See Standardization of Small Generator Interconnection Agreements and Procedures, Order No. 2006, 111 FERC ¶ 61,220 at PP 7-8, 481-491 (2005), order on reh'g, Order No. 2006-A, 113 FERC ¶ 61,195 (2005) at PP 94-99 (2005), order granting clarification, Order No. 2006-B,FERC Stats. & Regs. ¶ 31,221 (2006).

¹⁰ The SGIP uses the term "Interconnection Customer" to refer to the developer of the generating facility. The NYISO's LFIP uses the term "Developer." The SIR uses the term "applicant." For purposes of the NYISO's responses to FERC's questions, the NYISO uses "Interconnection Customer" to refer to the developer of the generating facility, regardless of whether its project is subject to the NYISO's SGIP, its LFIP, the SIR, or the utility interconnection procedures.

¹¹ See OATT, Att. Z., Section 32.1.3.

¹² Demand Side Resources do not need to obtain CRIS to qualify as an Installed Capacity Supplier.

facility to the New York State Transmission System or Distribution System in accordance with the NYISO Deliverability Interconnection Standard, which allows participation in the NYISO's Installed Capacity market to the extent of the facility's deliverable capacity.

An Interconnection Customer of a generating facility that is requesting 2 MW or less of CRIS may obtain this amount without being evaluated for deliverability under the NYISO Deliverability Interconnection Standard, regardless of whether the generating facility was subject to the SGIP, SIR, or utility interconnection procedures.¹³ If an Interconnection Customer requests greater than 2 MW of CRIS, its proposed generating facility must be evaluated for deliverability under the NYISO Deliverability Interconnection Standard as part of a Class Year Interconnection Facilities Study for a Class Year of projects. The NYISO will evaluate in a Class Year Deliverability Study the proposed project's Deliverability and will identify and allocate the costs of any System Deliverability Upgrades required for the facility's proposed capacity to be fully deliverable.¹⁴ This requirement applies to all generating facilities electing greater than 2 MW of CRIS, regardless of whether they were evaluated under the NYISO's SGIP or under the SIR or utility interconnection procedures.¹⁵

The interconnection requirements described above apply to all generating facilities seeking to interconnect in New York to participate in the NYISO-administered markets, including distributed energy facilities.¹⁶ Currently, distributed energy resources have limited opportunities to participate in the NYISO-administered markets due to their inability to meet the eligibility and/or performance requirements of existing participation models based on their size, physical or operational characteristics, or commitments to the local distribution system or host load. Such resources currently participate in the NYISO-administered markets largely through the NYISO's demand response programs, or they reduce the amount of Energy that Load Serving Entities must obtain in the markets. In addition, the NYISO's existing interconnection requirements do not provide for the aggregation of generating units of different fuel technology types at the same Point of Interconnection, but instead treat such units as different facilities that require different Interconnection Requests, Queue Positions, and interconnection agreements.

On June 27, 2019, the NYISO submitted proposed tariff revisions to the Commission to establish a new Aggregation participation model. This participation model will enable a Market Participant to group individual generating facilities located on the transmission and/or distribution systems, that are all electrically located at the same designated bus in the New York Control Area ("NYCA") – a Transmission Node – to form a single resource – an Aggregation – for the purpose of satisfying the applicable eligibility and performance requirements necessary to

¹³ See OATT, Att. S, Section 25.1.1, 25.3.1, 25.9.3.4 and Att. Z, Section 32.1.1.7.

¹⁴ The requirements for a Small Generating Facility's participation in a Class Year Study solely for purposes of a deliverability evaluation are set forth in Section 32.1.1.7 of Attachment Z of the NYISO OATT.

¹⁵ See OATT, Att. S, Section 25.1.1, 25.3.1, 25.9.3.4 and Att. Z, Section 32.1.1.7.

 $^{^{16}}$ Regardless of which interconnection procedures applies, an Interconnection Customer that seeks for its generating facility to participate in the NYISO-administered markets will need to satisfy the registration, eligibility, and performance obligations required for the generating facility's participation (*e.g.*, metering and telemetry requirements).

participate in the NYISO-administered markets.¹⁷ An Aggregation may include any combination of two or more individual Generators, Demand Side Resources, and/or Distributed Energy Resources.¹⁸ The NYISO proposed to define "Distributed Energy Resource" to be one of the following categories of facilities electrically located in the NYCA: (i) a facility comprising two or more different technology types located behind a single point of interconnection with a maximum Injection Limit of 20 MW, (ii) a Demand Side Resource, or (iii) a Generator with a maximum Injection Limit of 20 MW. The NYISO's proposed revisions are currently pending at the Commission.

The NYISO proposed revisions to its interconnection procedures to accommodate these new participation models. To accommodate Distributed Energy Resources, the NYISO proposed to expand the definition of Small Generating Facility to include net injections into the grid from all assets (*i.e.*, generating units (including energy storage) of the same or different technology types) located behind a single facility meter. For example, the following would be treated as one facility/Distributed Energy Resource:



Through the proposed revisions, a multi-unit facility such as that depicted above may be included in one Interconnection Request and treated as a single facility with a single Queue Position in the interconnections study process and a single interconnection agreement. The proposed tariff revisions will allow this even if the assets behind the same facility meter are different technologies (*e.g.*, a combined heat and power cogeneration plant and a solar plant).

¹⁷ See New York Independent System Operator, Inc., Proposed Tariff Revisions Regarding Establishment of Participation Model for Aggregations of Resources, Including Distributed Energy Resources, and Proposed Effective Dates, Docket No. ER19-2276-000 (June 27, 2019) ("NYISO DER Aggregation Filing").

¹⁸ An Aggregation may also be comprised of a single Demand Side Resource, consistent with the NYISO's existing aggregation requirements for the NYISO's demand response programs. A facility that consists of a single Demand Side Resources is not required to proceed through an interconnection process and does not need to obtain CRIS to qualify as an Installed Capacity Supplier; however, a facility that contains multiple assets located behind a facility meter, one of which is a Demand Side Resource, is evaluated as a single facility in the interconnection process (*i.e.*, the NYISO will evaluate the load together with the other asset(s)).

Under the proposed revisions, the NYISO will evaluate facilities that seek to use the Aggregation and Distributed Energy Resource participation models for ERIS and CRIS at the facility level, not the asset level (*i.e.*, a unit or an asset within the Small Generating Facility/Distributed Energy Resource) or at the Aggregation level (*i.e.*, comprised of multiple Small Generating Facilities/Distributed Energy Resources that are aggregated at the same Transmission Node).



Distributed Energy Resources may include Resources with Energy Duration Limitations¹⁹ and/or be comprised of multiple units (of the same or different technology type). The NYISO's responses to the Commission's questions below concerning aggregation scenarios are based on the NYISO's proposed Aggregation and Distributed Energy Resource participation models.

B. NYISO RESPONSE TO FERC QUESTIONS

FERC Question No. 1

1. Under your RTO's/ISO's existing rules for small generator interconnection, if a DER seeks to participate in wholesale markets and plans to interconnect at the distribution level, please describe the step-by-step process by which that resource would interconnect to the system.

a. What are the respective roles of the RTO/ISO and the distribution utility in that process?

b. How would the DER ascertain whether it must interconnect pursuant to a state jurisdictional interconnection process or a Commission-jurisdictional process?

¹⁹ The NYISO has proposed to define a "Resource with Energy Duration Limitation" as "A Resource that is not capable of supplying its ICAP equivalent of UCAP sold in each hour of the day due to a run-time limitation, such as an Energy storage limitation or permit restriction, and has elected an Energy Duration Limitation as specified in Section 5.12.14 of the ISO Services Tariff."

c. How does your RTO/ISO define the physical boundaries of a distribution facility when determining whether a distribution facility to which a new DER seeks interconnection is already subject to an Open Access Transmission Tariff (OATT) for purposes of making wholesale sales?

NYISO Response No. 1

An Interconnection Customer requesting to interconnect a generating facility of 20 MW or less to distribution facilities in New York to participate in the NYISO-administered wholesale markets will be subject to one of the following interconnection processes based on the proposed location and size of the generating facility.

- 1. The NYISO's SGIP will apply if the Interconnection Customer proposes to interconnect a generating facility to either: (i) the New York State Transmission System or (ii) the Distribution System that is subject to the Commission's jurisdiction for interconnection (as detailed in the introduction above).
- 2. The SIR will apply if the Interconnection Customer proposes: (i) to interconnect a generating facility to distribution facilities that are not subject to the Commission's jurisdiction for interconnection, and (ii) the generating facility is less than or equal to 5 MW.
- 3. The Interconnection Customer's generating facility will be subject to an individual utility's interconnection procedures if the proposed interconnection does not satisfy the requirements for using the NYISO's SGIP or the SIR.

The applicability of each interconnection process is summarized in the following table.²⁰

Intended Market	Interconnection Point *	Project Size	Study Process
	NYS Transmission System or	> 5MW	NYISO
Wholesale	Distribution subject to NYISO's OATT Interconnection Procedures	≤ 5MW	NYISO
	Distribution not subject to	> 5MW	Utility
	NYISO's OATT Interconnection Procedures	≤ 5MW	SIR
	NYS Transmission System or	> 5MW	Utility
Retail	Distribution subject to NYISO's OATT Interconnection Procedures	≤ 5MW	Utility
	Distribution not subject to	> 5MW	Utility
	NYISO's OATT Interconnection Procedures	≤ 5MW	SIR

²⁰ See Small Generator Interconnection Procedures Presentation, Joint Installed Capacity Working Group, Market Issues Working Group, Price Responsive Load Working Group (October 10, 2018) at Slide 6.

In addition, attached as Appendix I to the NYISO's responses is a flow chart illustrating the NYISO's process for identifying the applicable interconnection process that an Interconnection Customer must use to interconnect a generating facility to distribution facilities.²¹

The NYISO's SGIP establish several mechanisms by which an Interconnection Customer can ascertain from the NYISO whether its proposed generating facility should be interconnected under the SGIP or under the SIR or utility interconnection procedures.

First, prior to an Interconnection Customer's submission of an Interconnection Request for a proposed generating facility in the SGIP, the Interconnection Customer may request at no cost a determination by the NYISO regarding whether its proposed interconnection is subject to the SGIP.²² The NYISO must consult with the appropriate Transmission Owner and must respond to the Interconnection Customer within 15 business days.²³ Upon the NYISO's request, the Transmission Owner must provide the information requested by the NYISO to make a determination concerning which interconnection procedures apply, including: (i) whether the proposed interconnection point is on a distribution or transmission facility, and (ii) if on a distribution facility, whether there is already one or more generators connecting to that distribution facility making wholesale sales.²⁴

Second, prior to an Interconnection Customer's submission of an Interconnection Request in the SGIP, an Interconnection Customer may also request a pre-application report from the NYISO, in coordination with the applicable Transmission Owner, for a \$1000 fee concerning a proposed project at a specific site. The pre-application report will include, among other things, a determination as to whether the proposed interconnection is subject to the SGIP.²⁵ The NYISO must coordinate with the applicable New York Transmission Owner and provide the requested data to the Interconnection Customer within 20 business days of its receipt of the completed request form and payment of the fee.²⁶

Finally, if the Interconnection Customer has submitted an Interconnection Request for its proposed generating facility, the NYISO will consult with the applicable Transmission Owner to confirm that the SGIP applies to the interconnection.²⁷

If the Interconnection Customer starts its proposed generating facility in the SIR or utility interconnection procedures, the NYISO will coordinate with the applicable New York Transmission Owner, as requested, to assist in identifying whether the generating facility should be subject to the SGIP or to the SIR or utility interconnection procedures. If the New York

²¹ With the exception of a clarifying edit to footnote 2 of the flow chart attached as Appendix I, it is identical to the flow chart included in the current version of the NYISO TE&I Manual.

²² See OATT, Att. Z, Section 32.1.1.4.

²³ See OATT, Att. Z, Section 32.1.1.4.

²⁴ See OATT, Att. Z, Section 32.1.1.4.

²⁵ See OATT, Att. Z, Sections 32.1.2.2, 32.1.2.3.

²⁶ See OATT, Att. Z., Section 32.1.2.2.

²⁷ OATT, Att. Z, Section 32.1.3.1.

Transmission Owner subsequently determines that the generating facility should have been proceeding through the SGIP, the NYISO will make use of any study work that has already been performed by the New York Transmission Owner, to the extent possible, to avoid duplicating work in the NYISO's interconnection procedures. If an Interconnection Customer is required to proceed through the SIR or utility interconnection procedures and intends to participate in the NYISO-administered wholesale markets, the generating facility must have an interconnection agreement with the New York Transmission Owner that allows for wholesale sales.

The NYISO has developed, with the New York Transmission Owners, general guidance for Interconnection Customers concerning the applicable interconnection requirements for certain interconnection scenarios, as illustrated below and discussed with stakeholders.²⁸



Resource Interconnection Order	<u>Intended</u> <u>Market</u>	Study Process
Unit 1 goes into service (wholesale) to distribution feeder ²⁹	NYISO	Utility or SIR
Unit 2 proposes a wholesale interconnection to same feeder	NYISO	NYISO
Unit 3 proposes a retail interconnection to same feeder	Retail	Utility or SIR
Unit 4 proposes a wholesale interconnection to same feeder	NYISO	NYISO
Unit 5 proposes a wholesale interconnection to different feeder off of same distribution substation	NYISO	Utility or SIR

²⁸ These guidelines were discussed with stakeholders in a Joint Installed Capacity Working Group, Market Issues Working Group, Price Responsive Load Working Group on October 10, 2018.

 $^{^{29}}$ If this unit deactivates or retires, its impact on the distribution feeder is the same (*i.e.*, it makes a subsequent proposed wholesale generator subject to the NYISO interconnection procedures).

The NYISO coordinates with the applicable New York Transmission Owner on a caseby-case basis to determine whether a specific, proposed interconnection is to a distribution facility that is subject to the NYISO OATT. This is unique to the specific New York Transmission Owner. The voltage of the facilities is not the sole criteria for making this determination. While generally facilities 45 kV and above are considered transmission and facilities below 45 kV are considered distribution facilities, this is not always the case. The means by which the New York Transmission Owner operates its distribution system (*e.g.*, radial or networked) is also an important part of this determination.

An Interconnection Customer's process to interconnect its proposed generating facility under the SGIP is detailed in a step-by-step description in Attachment E of the NYISO TE&I Manual, which the NYISO reproduces as Appendix II of these responses.³⁰

FERC Question No. 2

2. Does the interconnection process described in response to Question # 1 differ based on whether or not the DER is a Qualifying Facility, and if so, how?

NYISO Response No. 2

Yes. Consistent with Commission precedent, an Interconnection Customer's generating facility that is certified as a Qualifying Facility that proposes to interconnect to a distribution facility to participate in the NYISO-administered markets will be subject to the NYISO's interconnection procedures, regardless of whether the distribution facility is subject to a Commission jurisdictional OATT.³¹

FERC Question No. 3

3. Does the interconnection process described in response to Question # 1 differ if the DER seeking to participate in wholesale markets is interconnecting behind a retail customer meter (whether on the distribution or transmission system), and if so, how?

NYISO Response No. 3

The NYISO Tariffs establish requirements for the participation of Behind-the-Meter Net Generation ("BTM:NG") Resources in the NYISO-administered Energy, Ancillary Services, and Installed Capacity markets. A BTM:NG Resource is a facility that has on-site generation capability routinely serving a local, on-site Load (*i.e.*, the facility's "Host Load") and that has

³⁰ The requirements for the SIR are posted under the "Distributed Generation Information" heading on the New York State Department of Public Service's website and are *available at*: <u>http://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/dcf68efca391ad6085257687006f39</u> <u>6b/\$FILE/October%20SIR%20Appendix%20A%20-%20Final%2010-3-18.pdf</u>. The requirements for interconnecting distributed generation to individual New York Transmission Owner's systems are provided on their websites.

³¹ See Order No. 2003-A at P 735 n 168; see also PJM Interconnection, L.L.C., 123 FERC ¶ 61,087 (2008).

excess generation capability after serving that Host Load.³² BTM:NG Resources are subject to the same requirements described in the NYISO's response to Question No. 1 as other generating facilities concerning which procedures apply to their interconnection.³³ That is, BTM:NG Resources will only participate in the NYISO's interconnection procedures if they are interconnecting to the New York State Transmission System or the Distribution System subject to the Commission's jurisdiction for interconnection.³⁴ A resource interconnected behind a retail customer meter that is only reducing consumption from the New York State Transmission System or the Distribution System, and that is not injecting into the New York State Transmission System or the Distribution System or the Distribution System, is also not subject to the NYISO's interconnection procedures.

FERC Question No. 4

4. Does the interconnection process described in response to Question # 1 allow studies for bidirectional service (i.e., both from a DER to the transmission system and from the transmission system to a distribution-connected wholesale customer)?

NYISO Response No. 4

The NYISO's interconnection procedures will take into account bi-directional service in the context of interconnecting Energy Storage Resources (e.g., batteries).³⁵ In such cases, the NYISO must evaluate the withdrawals from the transmission system that the Energy Storage Resources make for purposes of charging. The NYISO's interconnection procedures, however, do not apply to interconnections that are solely for the purpose of receiving power from the New York State Transmission System unless they are large load interconnections.³⁶ While the NYISO's OATT provides for load interconnections, such procedures apply only to load

³² The BTM:NG Resource must have nameplate generation capability with a minimum rating of at least 2 MW, a minimum Load of at least 1 MW, and an interconnection allowing an export of at least 1 MW to the New York State Transmission System. Examples of potential BTM:NG Resources include industrial complexes, large residential facilities, and college campuses.

³³ BTM:NG Resources must provide certain additional information concerning their host load in the application process in the LFIP and SGIP. *See e.g.*, LFIP Interconnection Request, Appendix 1 to Attachment X of the NYISO OATT and the Small Generator Interconnection Request, Appendix 2 of Attachment X of the OATT.

³⁴ As certain of these resources could be subject to the SIR or utility interconnection procedures, the NYISO adopted certain tariff revisions to ensure that BTM:NG Resources seeking to participate in the NYISO's Installed Capacity market are subject to the deliverability requirements that apply to similar resources over 2 MW regardless of their point of interconnection. *See* OATT, Att. Z, Section 25.1.1.

³⁵ As part of the NYISO's compliance filing in response to Order No. 841, the NYISO has proposed revisions to the application materials in the LFIP and SGIP to obtain data from Interconnection Customers concerning a proposed Energy Storage Resource's capabilities, including when injecting and withdrawing Energy. *See New York Independent System Operator, Inc.*, Compliance Filing and Request for Extension of Time of Effective Date, Docket No. ER19-467-000 at p 50 (December 3, 2018).

³⁶ See OATT, Att. Z, Section 32.1.1.1 ("These procedures do not apply to interconnections made simply to receive power from the New York State Transmission System and/or the Distribution System, nor to interconnections made solely for the purpose of generation with no wholesale sale for resale nor net metering.")

interconnections that are either: a) greater than 10 MW connecting at a voltage level of 115 kV or above, or b) 80 MW or more connecting at a voltage level below 115 kV.³⁷

FERC Question No. 5

5. Under the interconnection process described in response to Question # 1, and assuming all of the individual DERs in the aggregation are new resources, which of the following would apply: (1) an aggregation of DERs located at multiple points of interconnection would be studied as one aggregated resource by your RTO/ISO and require only a single Generator Interconnection Agreement (GIA); (2) each individual DER would be studied individually and require its own GIA; (3) each DER would be studied individually with the aggregation still only requiring a single GIA; or (4) a different approach (please describe if a different approach would be used).

NYISO Response No. 5

The NYISO's proposed approach differs from approaches 1, 2, and 3 identified in the Commission's Question No. 5.³⁸ In its proposed interconnection rules for its Aggregation participation model, the NYISO has established that its interconnection requirements will apply at the "facility level." As described in the introduction, the NYISO has proposed to revise the definition of a Small Generating Facility to clarify that it includes all assets (*i.e.*, generating units of the same or different technology types) located behind a single facility meter. The NYISO will evaluate new Small Generating Facilities that are subject to the NYISO's SGIP for ERIS at this Small Generating Facility level, not the asset level (*i.e.*, a unit or an asset within the Small Generating Facilities/Distributed Energy Resources that are aggregated at the same Transmission Node). This approach is illustrated in the two figures provided in the introduction, above.

An Aggregation may include multiple facilities that interconnect at different points on the transmission and/or distribution facilities, all of which, however, must be electrically located at or downstream from the same Transmission Node identified by the NYISO and the New York Transmission Owners. The individual facilities that make up an Aggregation may include facilities subject to the NYISO's SGIP or the SIR or utility interconnection procedures. The Interconnection Customer must enter into an interconnection agreement in accordance with the requirements of the applicable process. The NYISO will only enter into an interconnection agreement under its interconnection procedures for a Small Generating Facility, not an Aggregation or the individual assets that make up the facility.

The NYISO's proposed interconnection rules for Aggregations also establish that Small Generating Facilities will be evaluated for CRIS at the facility level. CRIS will not be awarded to individual assets within a facility, and each facility within an Aggregation must separately

³⁷ See OATT, Section 3.9 and Section 4.5.8.

³⁸ The NYISO's approach is similar to the Commission's approach #2. However, if there are multiple distributed energy resources behind a facility's meter, the NYISO will evaluate them all together as one facility and enter into an interconnection agreement with the combined facility, rather than on an individual distributed energy resource basis.

request and obtain CRIS.³⁹ The NYISO has proposed different CRIS requirements applicable to a facility based upon whether the facility is comprised of Resources with Energy Duration Limitations and/or multiple units (of the same or different technology types).⁴⁰ Such facilities have unique characteristics from other generation Resources. Resources with Energy Duration Limitations will have an expected maximum injection capability for the Developer-selected duration. Multi-unit facilities will have a nameplate that is the collective injection capability of all units within the facility. Multi-unit facilities that include Resources with Energy Duration Limitations have not only collective injection characteristics, but also duration-specific injection capabilities that impact the facility of which they are a part. These characteristics distinguish these types of facilities from other Generators. Accordingly, the NYISO has proposed tariff revisions to establish the level of CRIS they may request, the manner in which their CRIS requests will be evaluated, and the manner in which proposed modifications will be processed.⁴¹

FERC Question No. 6

6. In contrast with the scenario in Question # 5, please assume that at least some of the individual DERs in a proposed aggregation are existing resources already interconnected and in service. If multiple existing and new DERs were able to aggregate at separate points of interconnection across your RTO/ISO to participate in wholesale markets as an aggregation rather than as individual resources, under what circumstances would your RTO's/ISO's existing interconnection procedures and study processes apply to the individual DERs in the aggregation? If multiple existing and new DERs were able to aggregate at separate points of interconnection across your RTO/ISO to participate in wholesale markets as an aggregation rather than as individual resources, under what circumstances would your RTO's/ISO's existing interconnection across your RTO/ISO to participate in wholesale markets as an aggregation rather than as individual resources, under what circumstances would your RTO's/ISO's existing interconnection procedures and study processes apply to the aggregation? Would any revisions be needed to accommodate aggregations of DERs (existing and new) at multiple points of interconnection?

NYISO Response No. 6

Pursuant to the NYISO's proposed Aggregation rules, both new and existing generating facilities located at separate points of the transmission and/or distribution facilities may participate in an Aggregation, so long as all of the facilities in the Aggregation are electrically located at or downstream from the same Transmission Node identified by the NYISO and the New York Transmission Owners. Any new or existing generating facility can participate in an Aggregation, regardless of whether the generating facility was subject to the NYISO's SGIP or the SIR or utility interconnection procedures.⁴²

³⁹ If a facility moves between Aggregations, the NYISO has proposed that the CRIS awarded to the facility will stay with the facility and move to the new Aggregation.

⁴⁰ See NYISO DER Aggregation Filing at pp 100-104.

⁴¹ See id.

⁴² A generating facility interested in participating in an Aggregation must still satisfy the registration, eligibility, and performance requirements (*e.g.*, metering and telemetry requirements).

The NYISO will identify Transmission Nodes throughout the NYCA, following consultation with the New York Transmission Owners, and will reflect the collection of electrical facilities (*e.g.*, distribution system feeder lines) associated with the Transmission Node to which individual facilities may aggregate.⁴³ The process for identifying Transmission Nodes and mapping electrical facilities to Transmission Nodes will first consider a broad set of electrical facilities for each Transmission Node, and then, if necessary, the set of electrical facilities will be reduced for the Transmission Node until the NYISO and applicable Transmission Owner agree that the Transmission Node appropriately reflects the electrical conditions on the system. The NYISO's proposal does not limit the total number of Aggregations permitted at a single Transmission Node and allows one or more Aggregators to enroll one or more Aggregations at a Transmission Node.

As described in response to the Commission's Question No. 5, the NYISO will evaluate all new generators subject to its SGIP at the facility level. This could include multiple distributed energy resources of the same or different technology types located behind the same facility meter. The NYISO will not perform additional studies based on an existing facility's determination to participate in an Aggregation, regardless of whether they were subject to the SGIP, SIR, or utility interconnection procedures. Existing facilities could, however, require additional studies if they are requesting a material modification to their facility or if they seek to participate in the NYISO's Installed Capacity market at a CRIS value of greater than 2 MW.

a. Under existing tariff rules, which entity (i.e., the RTO/ISO or the distribution utility) would be responsible for processing the interconnection of the individual DERs seeking to join an aggregation?

NYISO Response No. 6a

As part of the NYISO's proposed Aggregation participation model, the NYISO will continue to determine, in coordination with the Transmission Owner, whether an individual generating facility will be subject to the NYISO's SGIP, the SIR, or the utility's interconnection procedures in accordance with the process and requirements described in response to Question 1. The NYISO will apply these requirements in the same manner, regardless of whether a generating facility intends to participate in an Aggregation. Assuming a generating facility meets the various requirements to participate in an Aggregation, it may do so regardless of whether it was subject to the SGIP, SIR, or utility procedures.

b. For existing DERs that are currently not participating in wholesale markets and that interconnected under a state-jurisdictional process, under your current interconnection procedures would the DER's decision to participate in an aggregation trigger the RTO/ISO interconnection process? Would additional studies be necessary to ensure that participation in your RTO's/ISO's wholesale markets through an aggregation does not cause reliability problems on the transmission system? If so, what studies? If not, why not? For example, would the original state-jurisdictional interconnection process have already studied the DER in a variety of

⁴³ The NYISO has already begun working with the Transmission Owners to identify Transmission Nodes.

operational scenarios that eliminate the need for further studies prior to wholesale market participation in your region?

NYISO Response No. 6b

An existing generating facility that was subject to the SIR or a utility's interconnection process may participate in an Aggregation without requiring additional study in the NYISO's interconnection process. The NYISO understands that as part of the state jurisdictional interconnection processes the New York Transmission Owners review the generating facilities for any adverse reliability impacts. In addition, the NYISO would evaluate the impact of generating facilities on the New York State Transmission System in developing its baselines for its subsequent planning and interconnection processes and identifying any adverse reliability impacts. Finally, as part of its process for identifying Transmission Nodes, the NYISO will be reviewing with the New York Transmission Owners and updating these Transmission Nodes based on changes to the underlying conditions of the transmission and distribution systems.⁴⁴

The generating facility, however, still needs to satisfy the same registration, eligibility, and performance obligations of any other generating facility participating in the Aggregation (*e.g.*, metering and telemetry requirements). It would also require an interconnection agreement that permits it to make wholesale sales. In addition, the existing generating facility would be subject to further study if it requested a material modification to its facility. Finally, if the existing generating facility is larger than 2 MW and seeks to participate in the NYISO's Installed Capacity market, it needs to have CRIS. If it has not already obtained CRIS, it would need to participate in the NYISO's Class Year Study process to be evaluated for CRIS rights.

c. If existing distribution-level DERs that are currently not participating in wholesale markets join aggregations and start making wholesale sales for the first time, how would that new wholesale use of existing DERs and their associated distribution facilities impact your assessment of whether those distribution facilities are subject to your OATT? Would Commission-jurisdictional interconnection procedures apply to subsequent requests to interconnect to those distribution facilities? Why or why not?

NYISO Response No. 6c

The Commission has stated that the facilities subject to a Commission approved OATT include "distribution' facilities that are used for wholesale sales in interstate commerce."⁴⁵ Accordingly, the NYISO understands that, if an existing generating facility joined an Aggregation to begin to make wholesale sales over distribution facilities, those distribution facilities would be used for wholesale sales in interstate commerce and subject to the NYISO OATT. If, subsequent to the generating facility's participation in an Aggregation, another generating facility sought to interconnect to the same distribution facility to make wholesale

⁴⁴ A generating facility located at one Transmission Node cannot enter into an Aggregation that is located at another Transmission Node.

⁴⁵ Order No. 2003-A at P 710.

sales, it would, therefore, be interconnecting to a distribution facility subject to an approved Commission OATT and would be subject to the NYISO's interconnection procedures.

In response to the NYISO's proposed Aggregation participation model, the NYISO anticipates that there will be a substantial increase in the number of existing and new generating facilities interconnecting to distribution facilities that will seek to participate in the NYISO-administered markets. Once such generating facilities begin to enter into service and start making wholesale sales, they will trigger the distribution facility to which they are interconnected as subject to the Commission's interconnection jurisdiction going forward, which will increase the distribution facilities in New York subject to the Commission's jurisdiction for interconnections for purposes of making wholesale sales. As a result, the NYISO anticipates a significant increase in the number of generating facilities that will be subject to the NYISO's interconnection procedures and interconnection agreements, rather than the SIR or utility interconnection procedures.⁴⁶ In its recently initiated Class Year 2019, the NYISO has already seen a significant increase in generating facilities located on distribution facilities participating in the Class Year Study to obtain CRIS.⁴⁷

d. For large and small generator interconnections subject to Order Nos. 2003 and 2006, the transmission provider is required to coordinate between the interconnection customer and "affected systems" (i.e., third-party transmission systems) to ensure that any needed affected system issues are resolved. With respect to new DERs seeking to interconnect to distribution facilities that are subject to a Commission-jurisdictional OATT, do the relevant small generator interconnection procedures in your region treat the transmission system to which the relevant distribution facilities are connected as an "affected system" in order to address any needed transmission upgrades at the initial interconnection stage?

NYISO Response No. 6d

The NYISO expects that in most cases the distribution facility to which a generating facility interconnects will be owned and operated by the same New York Transmission Owner that owns and operates the transmission system to which that distribution facility connects. If, however, the transmission system was owned by another entity, the NYISO would treat that transmission system as an Affected System under its interconnection procedures and would coordinate with the Affected System Operator in evaluating any adverse reliability impacts and identifying procedures or upgrades to mitigate the impacts.

⁴⁶ The anticipated increase of FERC-jurisdiction interconnections to distribution facilities is one that was not initially anticipated when the Commission issued Order No. 2006 in which it noted that "[b]ecause of the limited applicability of this Final Rule and because the majority of small generators interconnect with facilities that are not subject to the OATT, this Final Rule will not apply to most small generator interconnections." (Order No. 2006 at P 8).

⁴⁷ Class Year 2019 includes approximately 75 projects seeking CRIS, most of which are for generating facilities located on distribution facilities.

FERC Question No. 7

7. If the individual DERs in an aggregation are seeking to interconnect to a combination of distribution facilities, some of which are subject to a Commission jurisdictional OATT and some that are not subject to an OATT, would any, all, or only a subset of the DERs in the aggregation be required to go through the interconnection process you described in response to Question #1 and to execute GIA(s) under your tariff? Please explain.

NYISO Response No. 7

As part of the NYISO's proposed Aggregation participation model, the NYISO, in coordination with the applicable Transmission Owner(s), will evaluate on a case-by-case basis whether each individual generating facility seeking to interconnect to distribution facilities to participate in the NYISO-administered markets (including as part of an Aggregation) is subject to the NYISO's SGIP, the SIR, or the utility's interconnection procedures.

As described above, Aggregations will be made up of generating facilities interconnection at different points of interconnection that are electrically connected or downstream of the same Transmission Node identified by the NYISO, in coordination with the New York Transmission Owner(s). The generating facilities may include facilities that are interconnected or are interconnecting to distribution facilities subject to a Commission jurisdictional OATT and other generating facilities that are interconnected to or are interconnecting to distribution facilities that are not subject to a Commission jurisdictional OATT. Accordingly, the determination of whether any, some, or all of the facilities participating in the Aggregation would have to go through the NYISO's SGIP and execute an interconnection agreement with the NYISO would be determined on a case-by-case basis depending on the specific distribution facility electrically connected to the Transmission Node to which the specific generating facility is seeking to interconnect and whether other generating facilities had previously interconnected to that distribution facility to make wholesale sales.

FERC Question No. 8

8. If available, please provide data on or estimates of the number of individual DERs in your region that are directly participating today in your RTO/ISO markets as compared to DERs in your region that are not participating in wholesale markets. If possible, please provide estimates by resource type and participation model (i.e., generator, demand response, etc.).

NYISO Response No. 8

As described in the introduction, the NYISO currently offers distributed energy resources the opportunity to participate in the wholesale markets via its demand response programs, or as a Behind-the-Meter Net Generation Resource. As of July 31, 2018, the most recent time period for which data has been published, a total of 3,678 end-use locations (individual facilities) participated in the NYISO's Emergency Demand Response Program, Demand Side Ancillary

Services Program, and Special Case Resource program.⁴⁸ Those 3,678 locations provided a total of 1,431.1 MW of demand response capability.⁴⁹ There is currently one Behind-the-Meter Net Generation Resource operating in New York.

Additional distributed energy resources are operating throughout New York State outside of the NYISO-administered markets. According to data provided by the New York State Energy Research and Development Authority ("NYSERDA"), and published in the NYISO's 2019 Load and Capacity Data Report (the "Gold Book"), there are approximately 90,000 behind-the-meter solar photovoltaic installations in New York with a capability of 1479 MW (direct current).⁵⁰ NYSERDA also reports that there are approximately 300-400 non-solar distributed generation facilities, primarily consisting of combined heat and power facilities and energy storage, and including anaerobic digesters and fuel cells. The combined capability of these facilities is approximately 200 MW.⁵¹

FERC Question No. 9

9. Do you or the distribution utilities in your region have data on or estimates of how many distribution facilities, as defined in your answer to Question #1.c. above, are currently subject to an OATT compared to the total number of distribution facilities in the RTO/ISO footprint?

a. If yes, please provide this data or estimates.

b. How is this information managed and updated?

NYISO Response No. 9

As described in response to Question No. 1 above, the NYISO coordinates with the New York Transmission Owners on a case-by-case basis concerning whether a particular interconnection is to a transmission or distribution facility and, if distribution, whether the facility has been subject to a Commission approved OATT. This distinction is frequently changing based on wholesale generators coming into service, so a case-by-case approach is

⁴⁸ New York Indep. Sys. Operator, Inc., January 15, 2019 Annual Report on Demand Response Programs, Docket No. ER01-3001-000, at Att. I P 4-5.

⁴⁹ New York Indep. Sys. Operator, Inc., January 15, 2019 Annual Report on Demand Response Programs, Docket No. ER01-3001-000, at Att. I P 4-5. The New York State Transmission Owners also operate local demand response programs throughout New York State. The Transmission Owners submit aggregated data regarding enrollment and demand reduction capability for those programs to the New York State Public Service Commission. However, the NYISO believes that a significant amount of end-users (and capability) are simultaneously enrolled in the NYISO's programs and the local programs making it difficult to identify the unique local program participants based on publicly available data. Information on demand side resources only participating in Transmission Owner programs is not included in this response.

⁵⁰ New York Indep. Sys. Operator, Inc., 2019 Load & Capacity Data Report at 26 (2019), available at: <u>https://www.nyiso.com/documents/20142/2226333/2019-Gold-Book-Final-Public.pdf</u>. There is currently one 31.5 MW solar installation participating in the NYISO-administered markets.

⁵¹ New York Indep. Sys. Operator, Inc., 2019 Load & Capacity Data Report at 28 (2019), available at: <u>https://www.nyiso.com/documents/20142/2226333/2019-Gold-Book-Final-Public.pdf</u>.

needed. To make this determination across all distribution facilities could provide potential developers with stale and inaccurate information since it would require constant updating and would still require case-by-case confirmation.

FERC Question No. 10

10. In your ongoing discussions and coordination with state or local authorities regarding DER issues, are interconnection processes for DERs under discussion? Please describe your discussions or coordination.

NYISO Response No. 10

The NYISO regularly coordinates with state authorities and the New York Transmission Owners concerning the requirements for distributed energy resources and the interface between the NYISO's and the state's interconnection requirements. For example, the New York Department of Public Service ("NYDPS") Staff convenes and leads working groups concerning the interconnection of distributed generation in New York, including an Interconnection Technical Working Group and an Interconnection Policy Working Group. The NYISO and the New York Transmission Owners are active participants in these groups. As part of an ad hoc working group initiated by participants in the Interconnection Policy Working Group, the NYISO has worked with the NYDPS and the New York Transmission Owners to coordinate interconnection requirements and establish materials to provide guidance to Interconnection Customers concerning the applicable interconnection requirements. The NYDPS has also established a Market Design Working Group concerning DER market design issues in which the NYISO coordinates with state authorities and the New York Transmission Owners.

In addition, as described in response to Question 1, the NYISO's tariff and TE&I Manual establish requirements for the NYISO to coordinate with the New York Transmission Owners in making its determination concerning whether an Interconnection Customer seeking to interconnect a facility to the distribution system to make wholesale sales is subject to the NYISO's SGIP or the SIR or utility's interconnection procedures.

Finally, as described above, under its proposed Aggregation rules, the NYISO will coordinate with the New York Transmission Owners concerning the identification and changes to Transmission Nodes. The NYISO has already begun discussions with the New York Transmission Owners concerning the identification of the initial Transmission Nodes.

FERC Question No. 11

11. If a DER needs to transmit its output over distribution facilities to make sales into the RTO/ISO markets, are there any existing tariff provisions that govern such service? If so, please list and describe such provisions and describe whether that service is bi-directional.

NYISO Response No. 11

The NYISO OATT and Market Administration and Control Area Services Tariff ("Services Tariff") currently permit generators to interconnect to the New York State

Transmission System or to the distribution system, subject to satisfying applicable interconnection procedures, and to participate in the NYISO-administered markets upon satisfaction of applicable customer registration requirements. Generators connecting to the distribution system are then able to provide and take service under all applicable provisions of the NYISO Tariffs (*e.g.*, selling Energy, Regulation Service, and/or Operating Reserves through the NYISO-administered markets, or procuring Station Power through the NYISO program).

As stated above, the NYISO's proposed Distributed Energy Resource market rules are currently pending before the Commission. However, the NYISO expects that Distributed Energy Resources will be able to interconnect to the New York State Transmission System or to the distribution system and participate in the bi-directional services described in the NYISO Tariffs similar to how Generators interconnect and participate today. Under the NYISO's proposed rules, Distributed Energy Resources will also be able to buy Energy from the NYISOadministered markets if they are eligible to withdraw Energy to refill or recharge.

The NYISO's response to Question 11 addresses only the requirements of the NYISO's Tariffs. The Transmission Owners operating in New York State may have additional requirements set forth in their own tariffs that address transmission of output over distribution facilities when making sales in the NYISO-administered markets.

<u>Appendix I</u>



¹Defined in OATT Section 1.14 as "[t]he entire New York State electric transmission system, which includes: (1) the Transmission Facilities Under ISO Operational Control; (2) the Transmission Facilities Requiring ISO Notification; and (3) all remaining transmission facilities within the NYCA."

²Distribution System is defined in the LFIP and SGIP to include facilities and equipment used to distribute electricity that are subject to FERC jurisdiction and that are subject to the NYISO's LFIP or SGIP under FERC Order Nos. 2003 and/or 2006. This includes primarily distribution lines on which there already exists a generator that is making wholesale sales for resale. A facility certified as a QF that proposes to interconnect to a distribution line to make wholesale sales is subject to the NYISO's interconnection procedures even if there is not already a wholesale generator on that distribution facility (See Order 2003-A, n168; see also *PJM Interconnection, L.L.C.*, 123 FERC ¶ 61,087 (2008), Docket No. ER07-1205-002; and Standardization of Generator Interconnection Agreements and Procedures, Order No. 2003-A, FERC Stats. & Regs. ¶ 31,160, at P 735 n.168 (2004)).

³ Arrangement in which facility receives a credit against its retail power purchases from the selling utility if facility produces more electricity than it can use and sends excess back onto the transmission system. If facility produces more energy than it needs and makes a net sale to the utility over the applicable netting period, it becomes FERCjurisdictional. (See Order 2003-A at P 747)

⁴An increase in the capacity of an existing facility is a material increase unless it falls within the exception set forth in Section 30.3.1 of Attachment X or Section 32.1.3 of Attachment Z. Other material modifications are described in Section 30.4 of Attachment X. Pre-existing QF that previously sold all output under a PPA does not trigger an Interconnection Request if it represents that the proposed output is substantially the same as before. (See Order No. 2006 at P 558)

Appendix II

<u>Steps in the NYISO's Small Generator Interconnection Process</u> (Attachment E of NYISO Transmission Expansion and Interconnection Manual)

Step	Description / Action (Relevant Section of NYISO OATT Attachment Z)	By Whom	By When
	Pre-Application – respond to informal and formal requests for information from prospective Interconnection Customers, as appropriate. <i>(Section 32.1.2)</i>	NYISO & Connecting Transmission Owner (CTO)	N/A
А.	Interconnection Request (IR) (Section 32.1.3)		
1.	Submittal of IR (or Application) to NYISO with the applicable fee or deposit and documentation of Site Control (Sections 32.1.3 & 32.1.5).	Interconnection Customer (IC)	N/A
2.	Date and time-stamp and send copy to the Connecting Transmission Owner (CTO).	NYISO	Upon receipt of IR.
3.	If IR is to interconnect to distribution facilities, consult with CTO to determine whether the NYISO SGIP applies. Notify the IC if the SGIP do not apply. <i>(Section 32.1.3.1)</i>	NYISO	It is the NYISO's policy that this action will be taken as soon as practically possible after receipt of IR.
4.	Notify IC of receipt of the IR.	NYISO	Within 3 Business Days of receipt of IR.
5.	Consult with the CTO, and determine whether the IR is complete or incomplete. Notify IC of result. If incomplete, list additional information required.	NYISO	Within 10 Business Days of receipt of IR.
6.	If notified that IR is incomplete, provide required additional information to the NYISO or request an extension of time.	IC	Within 10 Business Days of receipt of notice of incomplete IR. ⁵²
7.	If IC provides additional information for an initially incomplete IR, review information and notify IC whether IR is now complete or incomplete.	NYISO	Upon completion of review of additional information.

⁵² Failure to provide required items to the NYISO within the allotted time shall be considered withdrawal of the Interconnection Request.

Step	Description / Action (Relevant Section of NYISO OATT Attachment Z)	By Whom	By When		
8.	Upon NYISO's determination that IR is complete, then proceed to the following steps.				
	If IR is for:				
	 Generator meets the Fast Track eligibility require etc., and not an inverter <= 10 kW), 	 Generator meets the Fast Track eligibility requirements (e.g., MW limits, connecting to distribution, etc., and not an inverter <= 10 kW), 			
	go to Step B – Fast Track Process				
	 Generator > Fast Track MW limits and/or connect Process 	Generator > Fast Track MW limits and/or connecting to transmission, go to Step C – Study Process			
	 An invert-based facility <= 10 kW, go to Step D - 	10 kW Inverter Proc	cess		
В.	Fast Track Process (Section 32.2)				
9.	In consultation with the CTO, and using the screens set forth in Section 32.2.2.1, perform an Initial Review of the project as follows and notify the IC of the results. <i>(Section 32.2.2)</i>	NYISO	Within 15 Business Days of notice of complete IR.		
10.	If the proposed interconnection passes the screens, provide an executable interconnection agreement (IA) to the IC and CTO. (Section 32.2.2.2)	NYISO	Within 5 Business Days of completion of initial review.		
11.	If the proposed interconnection fails the screens, consult with the CTO and Affected System Operators as appropriate, and determine whether the project may nevertheless be interconnected consistent with applicable SGIP standards. <i>(Section 32.2.2.3)</i>	NYISO	During the initial review.		
12.	If NYISO determines that the project may be interconnected consistent with applicable SGIP standards, even if the interconnection fails the screens, provide an executable IA to the IC and CTO. <i>(Section</i> 32.2.2.3)	NYISO	Within 5 Business Days of determination.		
13.	If the proposed interconnection fails the screens and NYISO determines that the IR cannot be approved without modifications or further study, notify and provide documentation to the IC. (Section 32.2.3)	NYISO	Within 5 Business Days of determination.		
14.	If determined that the IR cannot be approved without modifications or further study, as noted in Step 13 above, offer to hold a Customer Options Meeting with the IC and CTO to determine what further steps are needed for the project to interconnect. <i>(Section 32.2.3)</i>	NYISO	Within 10 Business Days of determination that the IR cannot be approved.		
15.	 At the Customer Options Meeting, one of the following items may be pursued: a) CTO offer to modify their facilities/system; or b) NYISO offer to perform supplemental review; or c) NYISO offer to continue evaluation of the IR under the Study Process. (Section 32.2.3.1 – 32.2.3.3) 	CTO or NYISO	With NYISO notice of determination, or at the Customer Options Meeting, as applicable.		

Step	Description / Action (Relevant Section of NYISO OATT Attachment Z)	By Whom	By When
16.	If IC agrees to a Supplemental Review, IC provides written agreement and study deposit ⁵³ for estimated NYISO & CTO costs to the NYISO. (Section 32.2.4)	IC	Within 15 Business Days of NYISO's offer.
17.	NYISO performs supplemental review in consultation with the CTO and determines whether the project can be interconnected safely and reliably (with or without modifications) or not. (Section 32.2.4)	NYISO	Within 10 Business Days of receipt of deposit.
18.	If NYISO determines that the project can be	NYISO	Either:
	a) without modifications or		a) within 5 Business Days
	b) with modifications to the Small Generating Facility, or		b) within 5 Business Days
	c) with modifications to the CTO's system,		of receiving IC's written
	NYISO provides an executable IA to the IC and CTO. (Section 32.2.4.1.1 – 32.2.4.1.3)		c) within 10 Business Days.
19.	If NYISO determines that the project cannot be interconnected safely and reliably even with modifications, then evaluation of the IR continues under the Study Process (Step C below). (Section 32.2.4.1.4)		
C.	Study Process (Section 32.3)		
20.	NYISO first contacts the IC, and then the CTO, to determine if there is mutual agreement to omit the Scoping Meeting and proceed directly to a FES. If the Parties agree to omit the Scoping Meeting, go to Step 23. (Section 32.3.2.3)	NYISO	Upon determination that IR is complete, or Project fails the Fast Track evaluation, as applicable.
21.	Schedule a Scoping Meeting to be held within 10 Business Days after the IR has been deemed complete, or as otherwise mutually agreed to by the Parties. (Section 32.3.2.1)	NYISO	Upon Parties' decision to hold a Scoping Meeting.
22.	Hold Scoping Meeting. The Parties discuss whether NYISO should:	NYISO, CTO & IC	As scheduled by the Parties (see Step 21,
	a. perform an optional feasibility study (OFES), or		above).
	b. proceed to a system impact study (SIS), or		
	c. proceed to a facilities study (FS), or		
	d. proceed to an IA. (Section 32.3.2.2)		
	If IC provides notice that it elects to forego the OFES and proceed directly to an SIS, go to Step 28.		
	If Parties agree to proceed directly to a FS, go to Step 33	.	
	If Parties agree to proceed directly with an IA, go to Step 40.		
	Otherwise, proceed with an OFES.		

⁵³ In accordance with Section 32.2.4, IC must pay any costs in excess of the study deposit within 20 Business Days. If the study deposit exceeds the invoiced costs, NYISO will return that excess within 20 Business Days of the invoice without interest.

Step	Description / Action (Relevant Section of NYISO OATT Attachment Z)	By Whom	By When
23.	If an OFES will be conducted, provide a good faith estimate of cost and timeframe to IC and CTO. <i>(Section 32.3.2.2)</i>	NYISO	After IC makes election to proceed with OFES.
24.	Provide deposit of \$10,000 or \$30,000 (depending on the scope of analysis requested by the IC) and required technical data to NYISO. <i>(Sections 32.3.2.3, 32.3.3.2)</i>	IC	Within 15 Business Days of receipt of good faith estimate of study cost and timeframe. ⁵³
25.	Conduct study and provide draft OFES report to IC, CTO, and Affected System Operators, as applicable. (Section 32.3.3.5)	NYISO	Commences upon receipt of study deposit, required technical data, and signed scope.
26.	Provide review and comments on draft OFES report to NYISO	IC, CTO, and any Affecting CTOs	Within 15 Business Days of receipt of draft OFES report
27a.	If the OFES identifies any potential adverse system impacts due to the project, proceed with a SIS. Go to Step 28 . (Section 32.3.3.5)		
27b.	If the OFES shows no potential for adverse system impacts, contact the IC and CTO to discuss whether to waive the SIS. Also, if no additional facilities are required, the Parties can discuss whether to proceed with an IA. (Section 32.3.3.4)	NYISO	Within 5 Business Days of completion of the OFES.
	If Parties agree to waive the SIS and agree to proceed to a FS, go to Step 33.		
	If Parties agree no additional facilities are required and agree to proceed with an IA, go to Step 40.		
	Otherwise, proceed with a SIS.		
28.	Provide a good faith cost and timeframe estimate for completion of SIS to IC and CTO. <i>(Section 32.3.4)</i>	NYISO	Within 5 Business Days of scoping meeting or completion of the OFES in most cases.
			Within 15 Business Days, however, if OFES only shows need for a Distribution SIS.
29.	Provide deposit of \$50,000 and technical data for the estimated cost of the SIS to NYISO. <i>(Sections 32.3.4.3 & 32.3.4.4)</i>	IC	Within 15 Business Days of receipt of good faith cost and timeframe estimate. ⁵⁴
30.	Conduct the SIS in coordination with the CTO, and any Affected System Operators, as applicable, and transmit the draft SIS report to the IC, CTO, and any Affected System Operators. (Section 32.3.4.7)	NYISO	Following receipt of study deposit, required technical data, and signed SIS scope.
31.	Provide review and comments on draft SIS report to NYISO. (Section 32.3.4.8)	IC and CTO	Within 15 Business Days of receipt of draft SIS report.

⁵⁴ Failure to provide required items to the NYISO within the allotted time shall be considered withdrawal of the Interconnection Request.

Step	Description / Action (Relevant Section of NYISO OATT Attachment Z)	By Whom	By When
32.	Prepare and issue final SIS report to the IC and CTO. (Section 32.3.5.1)	NYISO	Following receipt of review and comments on draft SIS report.
33.	Tender a facilities study agreement (FSA), together with outline of scope and good faith cost estimate, to IC and CTO. ⁵⁵ (<i>Sections 32.3.2.2, 32.3.3.4, 32.3.5.1</i>)	NYISO	Within 5 Business Days of the scoping meeting or completion of the OFES, or as soon as reasonably practicable after completion of the SIS, as applicable.
34.	Return the executed FSA, requested technical data, and deposit for the estimated costs of the FS to the NYISO. <i>(Section 32.3.5.2)</i>	IC	Within 30 Calendar Days of receipt of FSA. ⁵⁴
35a.	Execute and provide copies of executed FSA to IC and CTO. (Section 32.3.5.2).	NYISO and CTO	Within 10 Business Days of receipt of the executed FSA, deposit, and required technical data from IC.
35b.	Provide updated proposed In-Service Date, Initial Synchronization Date, and Commercial Operation Date. (Section 32.5.8)	IC	Every 90 Calendar Days following execution of the FSA.
36.	Conduct FS (non-Class Year) in coordination with the CTO and Affected System Operators, as applicable, and provide draft FS report the IC, CTO, and any Affected System Operators. (Section 32.3.5.3)	NYISO	Within 30 Business Days w/o Upgrades, within 45 Business Days with Upgrades.
37.	Provide review and comments on draft FS report to NYISO. (Section 32.3.5.3)	IC and CTO	Within 15 Business Days of receipt of draft FS report.
38.	If an Interconnection Study determines that the Project requires or contributes toward the need for non-Local System Upgrade Facilities (SUFs), include the Project in the next Class Year to determine the IC's cost responsibility under Attachment S. (Section 32.3.5.3.2)	NYISO	Per the applicable Class Year schedule.
39.	If the IC of a project larger than 2 MW elects Capacity Resource Interconnection Service (CRIS), the project must proceed to a Class Year Deliverability Study to determine the IC's cost responsibility for System Deliverability Upgrades (SDUs) under Attachment S. (Section 32.3.5.3.2)	NYISO	Per the applicable Class Year schedule.
	The IC may elect to proceed forward with an IA pending the outcome of the Class Year cost allocation process. (Sections 32.3.5.3.3 & 32.3.5.3.4)		

⁵⁵ For small generators that require a non-Local SUF, they must proceed through a Class Year Interconnection Facilities Study.

Step	Description / Action (Relevant Section of NYISO OATT Attachment Z)	By Whom	By When
40.	Tender an IA to the IC and CTO. (Sections 32.2.2.2, 32.2.2.3, 32.2.4.1.1-32.2.4.1.3, 32.3.2.2, 32.3.3.4, & 32.3.5.7)	NYISO	Within 5 Business Days of completion of the FS and IC agreement to pay for required Facilities, or various earlier points in the process as applicable.
41.	Sign and return the IA to the NYISO, or request the NYISO to file an unexecuted IA with the FERC. <i>(Section 32.4.8)</i>	IC	Within 30 Business Days of receipt of the executable IA, or other mutually agreeable timeframe. ⁵⁶
42.	File IA with FERC, if required.	NYISO and CTO	Upon execution or upon request to file unexecuted IA with FERC.
D.	10 kW Inverter Process (Appendix 5 of Attachment Z to the NYISO OATT)		

⁵⁶ Failure to provide required items to the NYISO within the allotted time shall be considered withdrawal of the Interconnection Request.

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding in accordance with the requirements of Rule 2010 of the Rules of Practice and Procedure, 18 C.F.R. §385.2010.

Dated at Rensselaer, NY this 7th day of October 2019.

/s/ Joy A. Zimberlin

Joy A. Zimberlin New York Independent System Operator, Inc. 10 Krey Blvd. Rensselaer, NY 12144 (518) 356-6207