New York ISO
Independent System Operator

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June 1, 2023

Submitted Electronically

Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street N.E.
Washington, D.C. 20426

Re: New York Independent System Operator, Inc., Proposed Tariff Revisions Regarding the Participation of Distributed Energy Resources and Aggregations; Docket No. ER23-___-000

Dear Secretary Bose:

On June 27, 2019, the New York Independent System Operator, Inc. ("NYISO") submitted to the Federal Energy Regulatory Commission ("Commission") a comprehensive set of proposed market rules and related tariff revisions that together constitute its Distributed Energy Resource ("DER") and Aggregation participation model ("2019 DER and Aggregation Filing"),[1] which the Commission accepted on January 23, 2020 ("DER Order").[2] Pursuant to Section 205 of the Federal Power Act[3] and the rules and regulations of the Commission,[4] the NYISO hereby submits proposed revisions to its Open Access Transmission Tariff ("OATT") and its Market Administration and Control Area Services Tariff ("Services Tariff") that complement the market rules applicable to DER[5] and Aggregations.[6] The tariff revisions proposed in this filing clarify and enhance the market rules proposed in the 2019 DER and

[1] New York Indep. Sys. 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 (Jun. 27, 2019) ("2019 DER and Aggregation Filing").

[2] *New York Indep. Sys. Operator, Inc.*, Order Accepting Tariff Revisions and Directing Compliance Filing and Informational Report, 179 FERC ¶ 61,033 (Jan. 23, 2020) ("DER Order").

[3] 16 U.S.C. § 824d (2020).

[4] 18 C.F.R. Part 35.

[5] A Distributed Energy Resource is "(i) a facility comprising two or more Resource types behind a single point of interconnection with an Injection Limit of 20 MW or less; or (ii) a Demand Side Resource; or (iii) a Generator with an Injection Limit of 20 MW or less, that is electrically located in the NYCA." Accepted Services Tariff Sec. 2.4. Capitalized terms that are not defined in this filing shall have the meaning specified in Section 2 of the Services Tariff and Section 1 of the OATT.

[6] An Aggregation is a "Resource, comprised of two or more individual Generators, Demand Side Resources, or Distributed Energy Resources, or one or more individual Demand Side Resources, at separate points of interconnection and that are grouped and dispatched as a single unit by the ISO, and for which Energy injections, withdrawals and Demand Reductions are modeled at a single Transmission Node." Accepted Services Tariff Sec. 2.1.

Aggregation Filing and accepted by the Commission in its DER Order, and are necessary to implement the NYISO's DER and Aggregation participation model.

While developing the implementation details of its 2019 DER and Aggregation participation model, the NYISO identified a set of proposed tariff modifications that will: (i) clarify previously accepted market rules,[7] (ii) better align market rules with the software applications the NYISO has designed to implement and manage DER and Aggregation participation in the wholesale markets, and (iii) improve previously accepted rules based on information the NYISO learned during its implementation effort to simplify market administration.

The tariff revisions proposed in this filing were unanimously approved by the NYISO's stakeholders at the February 15, 2023, Business Issues Committee meeting (with abstentions) and the February 22, 2023, Management Committee meeting (no abstentions). On March 21, 2023, the NYISO's Board of Directors approved the proposed tariff revisions for filing with the Commission.

As described in Part IV of this filing letter, the NYISO respectfully requests that the Commission issue an Order within the standard notice period under Federal Power Act Section 205, which is sixty (60) days of the date of this filing, *i.e.*, by Monday, July 31, 2023, accepting the proposed tariff revisions. The NYISO further requests flexible effective dates for the tariff revisions proposed in this filing. If accepted by the Commission, the NYISO proposes to make the majority of the tariff revisions described in this filing effective simultaneously with the tariff revisions creating the DER and Aggregation participation model accepted in the DER Order, which will be no later than December 15, 2023. The NYISO is in the process of completing its software development, testing, and deployment processes, and continues to expect the DER and Aggregation participation model to become effective in the third quarter of 2023, well ahead of December 15, 2023, but proposes that backstop date out of an abundance of caution. The NYISO further proposes to make certain tariff revisions related to the termination of the Demand Side Ancillary Services Program ("DSASP") and Day-Ahead Demand Response Program ("DADRP") effective when those programs are terminated, which is expected to be twelve (12) months after the DER and Aggregation participation model is first implemented.[8]

As it has in previous filings, the NYISO proposes to submit a compliance filing at least two weeks prior to the proposed effective date that will specify the date on which the revisions will take effect. Consistent with Commission precedent, the NYISO's compliance filing will provide adequate notice to the Commission and NYISO stakeholders of the implementation date

[7] Many of the tariff revisions proposed in this filing modify the tariff language that was accepted by the DER Order, but that has not yet become effective. Modification to the accepted tariff language that has not yet become effective is noted throughout this filing letter as "accepted [Services Tariff/OATT] Section [X]" to differentiate from currently effective tariff language.

[8] As described further in Part IV of this filing letter, this one-year "transition window" will allow existing DSASP and DADRP resources to continue participation in those programs while completing the registration and enrollment processes to become DER.

for its DER and Aggregation participation model, including the effective date of the tariff revisions proposed in the instant filing.[9]

I. Background

The NYISO's DER and Aggregation participation model will allow a Market Participant – an Aggregator[10] – to combine individual facilities – DER – for the purposes of participating in the NYISO-administered Energy, Ancillary Services, and Installed Capacity ("ICAP") markets.[11] The rules accepted by the DER Order remove barriers to entry and enhance opportunities for facilities that cannot currently participate or cannot fully participate using existing participation models. The NYISO's DER and Aggregation participation model establishes reasonable requirements that will enable DER participation, while maintaining the effectiveness of the NYISO-administered markets and the reliability of the grid.

While developing the implementation details, ISO Procedures, and Aggregation management software and related applications, the NYISO identified a set of additional tariff revisions that are necessary to implement its DER and Aggregation participation model. Some of the changes proposed herein modify market rules that were accepted by the Commission in the DER Order and some of the proposals are new requirements that will enhance the NYISO's administration of DER and Aggregations. The changes proposed in this filing: (i) provide for distribution utility review of individual DER and Aggregations until the full set of Order No. 2222 rules take effect,[12] (ii) establish a minimum capability requirement for individual DER participating in an Aggregation, (iii) clarify settlements for Aggregations containing one or more Energy Storage Resources, (iv) establish rules for existing Resources to transition into the DER and Aggregation participation model, (v) clarify metering requirements for Aggregations, (vi) modify the Market Mitigation rules related to Aggregation reference levels, (vii) modify the methodology used to calculate Load baselines for Demand Side Resources participating in DER Aggregations, (viii) modify the NYISO's Bid-Production Cost Guarantee payment and Day-Ahead Margin Assurance Payment calculations, and (ix) make certain miscellaneous revisions and modifications to defined terms.

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[9] *See, e.g., New York Indep. Sys. Operator, Inc.*, 106 FERC ¶ 61,111 at P 10 (2004); Docket No. ER 11-2544-000, *New York Indep. Sys. Operator, Inc.*, Letter Order at 1 (February 10, 2011); Docket No. ER15-485-000, *New York Indep. Sys. Operator, Inc.*, Letter Order at 2 (January 15, 2015); *New York Indep. Sys. Operator, Inc.*, 151 FERC ¶ 61,057 at P 20 (2015).

[10] An Aggregator is defined as a "Supplier that offers Capacity, Energy, and/or Ancillary Services for an Aggregation." Accepted Services Tariff Sec. 2.1.

[11] 2019 DER and Aggregation Filing at 18. *See also*, accepted Services Tariff Sec. 4.1.10.

[12] The tariff revisions submitted with this filing are not proposed in compliance with any one directive of Order No. 2222. These proposed tariff revisions modify and enhance the NYISO's 2019 DER and Aggregation participation model. Certain tariff revisions proposed herein (*e.g.*, the distribution utility review process) will be superseded by the NYISO's Order No. 2222 compliance tariff revisions, when those revisions become effective.

II. Documents Submitted

The NYISO submits the following with this filing letter:[13]

1. A clean version of the proposed revisions to the Services Tariff to be effective no later than December 15, 2023 ("Attachment I");

2. A blacklined version of the proposed revisions to the Services Tariff to be effective no later than December 15, 2023 ("Attachment II");

3. A clean version of the proposed revisions to the OATT to be effective no later than December 15, 2023 ("Attachment III");

4. A blacklined version of the proposed revisions to the OATT to be effective no later than December 15, 2023 ("Attachment IV");

5. A clean version of the proposed revisions to Services Tariff Sections 2.13, 2.19, 4.1, 4.5, 5.12, 13, and 18 to become effective upon the termination of the DSASP and DADRP ("Attachment V"); and

6. A blacklined version of the proposed revisions to Services Tariff Sections 2.13, 2.19, 4.1, 4.5, 5.12, 13, and 18 to become effective upon the termination of the DSASP and DADRP ("Attachment VI").

III. Proposed Tariff Revisions

The NYISO proposes the following changes to its Services Tariff and OATT to complement its DER and Aggregation participation model.

a. Distribution utility review of individual DER and Aggregations

The 2019 DER and Aggregation Filing did not propose a specific process for distribution utilities to review and evaluate the potential safety and reliability impacts of DER and Aggregations that connect to distribution system electric facilities. In response to feedback from New York utilities and other stakeholders, the NYISO proposes new market rules that will provide distribution utilities with the opportunity to review the reliability and safety impacts of each DER that is connected to the utility's electric facilities prior to the DER's enrollment in the NYISO-administered markets, and whenever there is a material change to the DER's physical or operational characteristics.[14] The NYISO will collect DER physical and operational information

[13] The base "clean" tariff language submitted with this filing includes all tariff language that is expected to become effective on the date that the revisions proposed herein become effective. Included in the base clean tariff language are the NYISO's currently effective tariff rules and the tariff revisions accepted by the DER Order, which the NYISO intends to make effective simultaneous with the revisions proposed in the instant filing. The clean tariff sheets are then overlaid with the blacklined tariff revisions proposed in this filing.

[14] Proposed revisions to accepted Services Tariff Sec. 4.1.10.

from the Aggregator, which will then be provided to the distribution utility.[15] These tariff modifications will help maintain system reliability and are a necessary bridge to the required distribution utility review process that will be established as part of the NYISO's Order No. 2222 compliance tariff revisions because the 2019 DER and Aggregation participation model did not address distribution utility review (which the NYISO agrees is necessary). These proposed tariff revisions are only intended to be in effect until the NYISO implements its full set of Order No. 2222 compliance revisions.[16]

The NYISO also proposes a corresponding modification to clarify its authority to fully or partially derate a DER or an Aggregation if the NYISO or applicable distribution utility determines that a DER or Aggregation presents significant risk to the safe and reliable operation of the New York State Transmission System or a New York distribution system.[17] This revision clarifies the NYISO will have the authority to take actions that maintain transmission system and distribution system safety and reliability. If the NYISO exercises its authority under the proposed revisions, the DER or Aggregation will not be permitted to resume operation until the ISO, distribution utility, and Aggregator are able to resolve the identified concerns. This process is similar to the NYISO's existing procedures for central station generators and recognizes the interests of the distribution utility to whose electric facilities a DER and/or Aggregation is connected.

b. Minimum DER size

The 2019 DER and Aggregation participation model established minimum offer requirements and maximum size restrictions applicable to DER and Aggregations. The minimum offer requirement for each Aggregation is 100 kW,[18] and where an Aggregation offers a combination of Energy injections, Energy withdrawals and/or Demand Reductions, the Aggregation must offer 100 kW of each response type.[19] The NYISO also capped the maximum injection capability of a single DER at 20 MW. These rules act as guiderails for efficient DER and Aggregation participation in the NYISO-administered markets. The 100 kW minimum offer requirement is necessary, as 100 kW is the smallest common increment used throughout the NYISO's bidding, scheduling, billing, and settlements software. The 20 MW maximum size requirement requires large units to participate in the NYISO-administered markets as stand-alone Resources providing NYISO grid operators visibility of individual unit operation, and improving

[15] *Id*.

[16] *See New York Indep. Sys. Operator, Inc*., Compliance Filing and Request for Flexible Effective Date, Docket No. ER21-2460-000 (Jul. 19, 2021) ("2021 DER Filing") pp. 42-46, as modified by *New York Indep. Sys. Operator, Inc.*, Compliance Filing, Docket No. ER21-2460-003 (Nov. 14, 2022) pp 16-20.

[17] Proposed revisions to accepted Services Tariff Sec. 4.1.10. In practice, and consistent with the 2019 DER and Aggregation participation model, the NYISO will derate an entire Aggregation when the capability of one (or more) of the DER comprising the Aggregation must be individually derated in order to resolve a distribution or transmission system safety or reliability concern. *Id.* ("Each Aggregation shall be offered as a single unit and all bidding and offer obligations under the ISO Tariffs apply to the Aggregation, or to the Aggregator, where appropriate, not to the individual Resources that comprise the Aggregation.").

[18] 2019 DER and Aggregation Filing p. 30. Accepted Services Tariff Sec. 4.1.4.

[19] 2019 DER and Aggregation Filing pp. 30-31. Accepted Services Tariff Sec. 4.1.10.

situational awareness. The 2019 DER and Aggregation Filing did not propose a minimum size requirement for individual DER participating in an Aggregation.

As described in its Motion for Extension of Time to implement its Order No. 2222 compliance tariff revisions, the NYISO is in the process of completing the first stage of its software development to implement the DER and Aggregation participation model.[20] This first stage of implementation will allow DER and Aggregations to fully participate in the NYISO-administered markets. The initial software deployment, however, will not include the full suite of software and automation features envisioned by the NYISO that are necessary for long-term implementation of DER and Aggregations in its markets. The NYISO is currently in the process of developing several automation features that are anticipated to be deployed in 2024. This second software deployment will automate work that will, at first, be done manually by NYISO staff. These automation features are essential for long-term sustainability as DER penetration increases in New York State.

As part of its effort to implement the DER requirements the NYISO determined that, even with the planned software automation, there is a considerable amount of manual work that the rules currently contemplate, such as components of the DER and Aggregation registration and enrollment process, as well as monitoring and verifying individual DER performance. Specifically, the NYISO is concerned about meeting tariff-directed deadlines and Market Participant expectations when Aggregations with hundreds, or more than a thousand, very small, individual DER enroll in the NYISO-administered markets. Recognizing the limits on its ability to effectively administer the DER program, the NYISO proposes to implement a 10 kW minimum capability for all individual DER participating in an Aggregation. Proposed revisions to accepted Services Tariff Section 4.1.10.1 state: "[t]he minimum capability of each individual Resource participating in an Aggregation shall be 10 kW. For the purposes of Services Tariff Section 4.1.10.1, (i) the capability of a Demand Side Resource is the Resource's enrolled one-hour Demand Reduction capability, and (ii) the capability of a Generator is its nameplate rating."[21]

The NYISO understands that its proposed 10 kW minimum capability requirement limits the ability of small residential and other facilities utilizing load management and emergency back-up generation or home energy storage to participate in an Aggregation. The proposed rule, however, balances the need for efficient administration of the NYISO-administered wholesale markets with the value that small facilities can reliably provide the bulk power system, and is essential to the efficient implementation of the DER and Aggregation participation model. Accommodating resources below 10 kW is expected to require market rule enhancements, and potentially additional software changes, that the NYISO has not developed yet.

Stakeholders urged the NYISO to reconsider the minimum size requirement, arguing that the proposed rule will eliminate the opportunity of wholesale market participation for many facilities that would otherwise benefit the markets and grid. The NYISO has not ruled out

[20] Motion of New York Independent System Operator, Inc. to Extend Effective Date of Compliance Tariff Revisions, Docket No. ER21-2460-004 (Nov. 14, 2022) at 7-8.

[21] Proposed revision to accepted Services Tariff Sec. 4.1.10.1.

reducing or eliminating the minimum individual resource size requirement and has already begun working with stakeholders to understand their concerns and has committed to evaluating the capability and use cases of small facility Aggregations to understand the ability of these Aggregations to provide various wholesale market services.

Through its 2023 Engaging the Demand Side project, the NYISO has committed to evaluating the ability of small facilities to provide wholesale market services as part of an Aggregation. The NYISO is collaborating with its stakeholder community, and to that end held back-to-back meetings discussing existing opportunities for end-user participation in the wholesale markets, and market enhancements to further animate load. On March 22, 2023, the NYISO met with stakeholders to discuss, among other topics, use cases for the commercial and industrial sectors, and on March 23, 2023, the NYISO and stakeholders discussed integration of mass market technologies like rooftop solar and home energy storage systems. The NYISO subsequently had follow-up conversations with individual Market Participants to discuss their thoughts and concerns, and presented the results of the group and individual meetings to the larger stakeholder community.

Continuing these discussions will provide both the NYISO and its stakeholders with a useful framework to consider how best to accommodate small facilities, and where appropriate, identify modifications to the NYISO's DER and Aggregation market rules. The ultimate goal of these efforts is to propose a set of market rules for small facilities that enhance grid reliability and resilience, reduce consumer costs, and lower barriers to entry for small resources.

c. Settlements for Aggregations containing one or more Energy Storage Resources that pay a retail rate for Energy withdrawals

The NYISO proposes revisions to Services Tariff Section 7.2.8 and accepted Services Tariff Section 4.1.10.1 addressing settlements for Aggregations that contain one or more Energy Storage Resources that are required to pay a retail rate for Energy withdrawals by the applicable Load Serving Entity. Commission Order No. 841 requires each RTO/ISO to "prevent resources using the participation model for electric storage resources from paying twice for the same charging energy."[22] Services Tariff Section 7.2.8 (Payment for Actual Energy Withdrawals by Energy Storage Resources) requires that, when a Load Serving Entity invoices a stand-alone Energy Storage Resource for its charging withdrawals at a retail rate, the NYISO will issue a credit to the Customer (the Market Participant representing the Energy Storage Resource in the NYISO markets) for its Actual Energy Withdrawals, and assess a corresponding charge to the applicable Load Serving Entity for the same Actual Energy Withdrawals.[23]

In the instant filing the NYISO proposes to modify Services Tariff Section 7.2.8 so that the settlement treatment applicable to stand-alone Energy Storage Resources also applies to Aggregations containing one or more Energy Storage Resources:

[22] *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Order No. 841, 162 FERC ¶ 61,127 (2018) at P 326.

[23] Services Tariff Sec. 7.2.8.

> A Customer that is participating in the ISO-administered Energy and Ancillary Services markets with an Energy Storage Resource, or an Aggregation containing one or more Energy Storage Resources, will be subject to Day Ahead Market settlements pursuant to Section 4.2.6 and Real Time Market settlements pursuant to 4.5.2, or in the case of a Supplier of Regulation Service pursuant to Rate Schedule 15.3.6.1 of this ISO Services Tariff. If a Load Serving Entity requires the Energy Storage Resource, including an Energy Storage Resource participating in an Aggregation, to also pay a retail rate for its charging withdrawals, then the ISO shall issue a credit to the affected Customer for the associated Actual Energy Withdrawals and assess a charge to this Load Serving Entity for the same Actual Energy Withdrawals.

The proposed changes are necessary to maintain compliance with Order No. 841. Energy Storage Resources will be able to participate in single Resource type Aggregations (*i.e.*, Energy Storage Resource Aggregations) as well as heterogeneous Aggregations. As described in the NYISO's 2019 DER and Aggregation Filing, Aggregations composed of a single Resource type "will be subject to the existing rules for that particular Resource type, along with the general rules applicable to all Aggregations," and, for example, "an Aggregation that is composed only of Energy Storage Resources will be subject to the rules in the NYISO's tariffs and procedures for Energy Storage Resources, along with the general rules applicable to all Aggregations."[24] Because Order No. 841 directed that RTO/ISOs prevent resources using the Energy Storage Resource participation model from paying twice for the same charging Energy, it is appropriate to apply the same Services Tariff Section 7.2.8 credit and charge settlement mechanism to single Resource type Energy Storage Resource Aggregations. Further, and although not explicitly required by Order No. 841, the NYISO believes it is appropriate to extend this treatment to heterogeneous Aggregations that include at least one Energy Storage Resource. This will prevent Energy Storage Resources from being charged twice for the same Energy withdrawals no matter which type of aggregation best suits the Resource's business and operational needs.

The NYISO also proposes a corresponding change to accepted Services Tariff Section 4.1.10.1 that will require each Energy Storage Resource participating in an Aggregation to use the same Load Serving Entity, and pay a retail rate for Energy withdrawals, when a Load Serving Entity requires one or more Energy Storage Resources participating in the Aggregation to pay a retail rate for its charging Energy:

> When an Aggregation contains one or more Energy Storage Resources, and the applicable Load Serving Entity requires the Energy Storage Resource to also pay a retail rate for its charging withdrawals, all Energy Storage Resources in the Aggregation shall be customers of the same Load Serving Entity and pay the Load Serving Entity's applicable retail rate. An Aggregation that includes one or more Energy Storage Resources that are required to pay a retail rate for its charging

[24] 2019 DER and Aggregation Filing at 23.

withdrawals is subject to the Services Tariff Section 7.2.8 settlement rules for Energy Storage Resources.[25]

The NYISO's DER and Aggregation participation model was developed such that all bids, schedules, and settlements occur at the Aggregation level, and not for individual DER within an Aggregation. The structure of the NYISO's market rules makes it impossible for the NYISO to accurately credit individual Energy Storage Resources (individual DER) within an Aggregation, or to accurately assign the charges it assessed between or among several Load Serving Entities.

The proposed tariff revisions, therefore, serve two purposes. First, they eliminate the need for the NYISO to identify, within an Aggregation, which MWh of Energy withdrawals by Energy Storage Resources must be invoiced at the wholesale level as opposed to those being invoiced at retail, reducing the potential for Energy withdrawals escaping settlement and avoiding unnecessary complexity. Second, the proposed revisions will allow accurate assessment of wholesale charges to the applicable Load Serving Entity.

d. Resource transition to DER and Aggregation participation model

The NYISO's DER and Aggregation participation model permits individual DER to change Aggregations upon at least thirty days' prior notice to the NYISO.[26] When a DER enters an Aggregation, the Installed Capacity ("ICAP") of the DER will be assigned to the new Aggregation beginning on the first day of the month in which the DER enters the new Aggregation.[27] During the development of the ISO Procedures related to Resources entering and changing Aggregations, the NYISO identified the need to clarify the amount of ICAP that will be assigned to the Aggregation when the Resource is either a Special Case Resource ("SCR") or Generator, and is transitioning to the DER and Aggregation participation model for the first time.

The NYISO proposes three sets of revisions to the Services Tariff to address Resource transitions.

i. Modification of the general provisions for Resources changing Aggregations

First, the NYISO proposes to clarify that the accepted Services Tariff Section 4.1.10.3 market rules addressing Resources changing Aggregations also apply to Resources that enter an Aggregation for the first time (*e.g.*, when an SCR exits the SCR program, and establishes itself as a DER).[28]

[25] Proposed revisions to accepted Services Tariff Section 4.1.10.1.

[26] Accepted Services Tariff Sec. 4.1.10.3.

[27] Accepted Services Tariff Sec. 5.12.13.1.

[28] Proposed revisions to accepted Services Tariff Sec. 4.1.10.3.

ii. Establishing the Installed Capacity of Special Case Resources and Generators entering an Aggregation for the first time

The NYISO proposes to modify accepted Services Tariff Section 5.12.13.1 to establish the amount of ICAP that an Aggregator can claim for an Aggregation when an SCR or a Generator that has been participating in the NYISO's markets transitions to the DER and Aggregation participation model. These rules will allow the Aggregator to add a new DER's capacity to the Aggregation without having to conduct a Dependable Maximum Net Capability ("DMNC") test as a precondition to that new DER's capacity being added to the Aggregation.

When an SCR exits the SCR program and establishes itself as a DER, the maximum amount of ICAP that the Aggregator can claim for the former SCR shall be the upper limit of ICAP calculated for the SCR pursuant to Services Tariff Section 5.12.11.1.1.[29] The proposal benefits the NYISO-administered ICAP market in two ways. First, it permits the former SCR to enter an Aggregation and immediately contribute to the Aggregation's ICAP, mitigating the potential for upward price pressure from capacity being withheld from the market for an administrative reason (*i.e.*, having to first conduct a DMNC test). Second, it caps the ICAP contribution the DER can provide the Aggregation, mitigating the potential for downward price pressure if an Aggregator were to overstate the capacity contribution of the SCR that switched its participation model to DER. If the SCR enters a DER Aggregation within a Capability Period, the ICAP contribution will be the upper limit of ICAP established for that Capability Period.[30] If an SCR enters a DER Aggregation on the first day of a Capability Period (*i.e.*, on May 1 or November 1 of a given year), the ICAP contribution will be the upper limit of ICAP established for the immediately prior like Capability Period. For example, if a SCR transitioned to become a DER as of May 1, 2023 (the first day of the 2023 Summer Capability Period), then the upper limit of ICAP for that resource as a DER will be the upper limit of ICAP calculated for the 2022 Summer Capability Period.[31]

When a Generator with an approved in-period DMNC rating ceases participation as a stand-alone Resource and enters an Aggregation, the maximum ICAP that an Aggregator can declare for the Resource is the minimum of the Generator's approved in-period DMNC rating and its Capacity Resource Interconnection Service ("CRIS").[32] Like the rules for SCRs

[29] The NYISO also clarifies that when a DER seeks to transition to the SCR program, the ICAP for the Resource as a SCR will be calculated pursuant to the existing rules that establish the capacity for SCRs. Proposed Revision to Services Tariff Sec. 5.12.11.1.1.

[30] The NYISO operates two Capability Periods in one Capability Year. The Summer Capability Period runs from May 1 through October 31 of each year, and the Winter Capability Period runs from November 1 of each year through April 30 of the following year. Services Tariff Sec. 2.3.

[31] If an SCR seeks to transition to the DER and Aggregation participation model and does not have information from the prior like Capability Period, the SCR's capacity will not be immediately added to the Aggregation's capability and must be established through an Aggregation DMNC test.

[32] CRIS is the service provided by the ISO to Developers that satisfy the NYISO Deliverability Interconnection standard or that are otherwise eligible to receive CRIS in accordance with Attachment S of the NYISO OATT. CRIS is one of the eligibility requirements for participation in the NYISO's ICAP market. When a

transitioning to DER, this proposal serves two purposes: (i) it allows the Aggregator to immediately claim the new DER's capacity in the Aggregation, and (ii) it caps the amount of capacity that can be claimed by the Aggregation to the former Generator's demonstrated capability or CRIS limit.

iii. Testing requirements for SCRs that transition to the DER participation model within a Capability Period

The NYISO's SCR program rules require that an SCR demonstrate its maximum enrolled capability at least once in that Capability Period.[33] The SCR's demonstration can be in the form of actual performance in a mandatory event or in a NYISO-scheduled SCR performance test. The NYISO proposes to modify Services Tariff Section 5.12.11.1 to define the testing requirements applicable to SCRs that transition to the DER participation model within a Capability Period:

> When a Special Case Resource is enrolled in a Capability Period and transitions to become a Distributed Energy Resource within that same Capability Period, it shall demonstrate its maximum enrolled megawatt value via performance in a mandatory event or in a performance test, provided, however, that if no such mandatory event occurs prior to the Special Case Resource becoming a Distributed Energy Resource, the Distributed Energy Resource shall participate in a performance test in accordance with the ISO's Aggregation Manual.[34]

This proposed market rule will require all SCRs that participate in the SCR program during a Capability Period to demonstrate their Demand Reduction capability during that Capability Period. The requirement is necessary to validate that a SCR that transitions to a DER was able to provide the amount of capacity that the SCR had committed to provide through its ICAP market offers while it was still a SCR, before it became a DER. For example, a facility may participate in the SCR program for the months of May through July, and then as a DER from August through October. If the NYISO does not call a mandatory SCR event in May, June, or July, the former SCR (now DER) will be obligated to participate in a NYISO scheduled SCR performance test during the August 15 to September 7 testing window.[35]

DER Aggregations containing one or more DER that are required to participate in the SCR performance test will be required to self-schedule Energy (or bid as a price-taker) for the

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Generator's CRIS allocation is less than its capability (*i.e.*, its DMNC), the Generator's capacity is capped at its CRIS allocation.

[33] Services Tariff Sec. 5.12.11.1 (requiring "Special Case Resources not called to supply Energy in a Capability Period … to run a test once every Capability Period in accordance with the ISO Procedures"). The NYISO proposes to move this requirement to a new paragraph as part of the instant filing: "Each Special Case Resource enrolled in a Capability Period shall demonstrate its maximum enrolled megawatt value at least once in the Capability Period via performance in a mandatory event or performance test in accordance with Installed Capacity Manual Section 4.12." Proposed revision to Services Tariff Sec. 5.12.11.1.

[34] Proposed revision to Services Tariff Sec. 5.12.11.1.

[35] *See* Installed Capacity Manual Sec. 4.12.4.5.

date and time of the SCR performance test. The Energy offer MW for the Aggregation must be at least as much as the total capability of the former SCRs that are obligated to participate in the performance test. The DER Aggregation will receive Energy payments for the Energy supplied during the performance test, including Energy supplied by the DER obligated to test (provided that the applicable Locational Based Marginal Price ("LBMP") for Energy meets or exceeds the Monthly Net Benefit Threshold price). Therefore, the NYISO proposes to revise Services Tariff Section 5.12.11.1 to prevent double payment for the same Demand Reductions: "Responsible Interface Parties are not eligible to receive Energy payments, as described in this Services Tariff Section 5.12.11.1, for Demand Reductions caused by Distributed Energy Resources performing in a performance test."[36]

e. Metering Requirements for DER Aggregations and Demand Side Resources

The 2019 DER and Aggregation participation model included a comprehensive set of metering requirements applicable to DER and Aggregations. During development of the ISO Procedures and associated implementation details, the NYISO identified a limited number of tariff revisions that will be necessary to effectively administer and settle Aggregations.

i. Addition of the terms "DER" and "Aggregator," and removal of the terms "Demand Reduction Provider" and "DSASP Provider"

Services Tariff Section 13.3.1, Responsibilities for Metering and Meter Data Services for Aggregations and Demand Side Resources, addresses what entities can provide metering and meter data services to DER Aggregations and Demand Side Resources participating in the DADRP and DSASP, and the responsibilities of the Aggregator and Meter Authority with respect to Aggregation metering. The NYISO proposes a handful of ministerial revisions to clarify the entities subject to Section 13.3.1.

First, the NYISO proposes to add "DER" to the Section 13.3 title. This change clarifies the NYISO's original intent that Section 13.3.1 apply only to DER Aggregations. Single Resource type Aggregations (except Aggregations comprised only of Demand Side Resources) are required to obtain metering and meter data services from the applicable Member System.

Second, the NYISO proposes to add the term "Aggregator" and delete the terms "Demand Reduction Provider" and "DSASP Provider" throughout the Section. Section 13.3.1 became effective in 2020, prior to the implementation of the full DER and Aggregation participation model, in order to provide existing Demand Side Resources the opportunity to obtain metering and meter data services from third-party providers called "Meter Services Entities." At the time Section 13.3.1 became effective "Aggregator" was not a defined term, and therefore was not included in the text of the Section. The NYISO now proposes to add the term "Aggregator" to Section 13.3.1 in advance of the upcoming implementation of its full DER and Aggregation participation model. Similarly, the NYISO included the terms "Demand Reduction Provider" and "DSASP Provider" in Section 13.3.1 to allow participants in the DADRP and DSASP to utilize Meter Services Entities. Consistent with the 2020 DER Order, the NYISO

[36] Proposed revision to Services Tariff Section 5.12.11.1.

proposes to remove those terms upon the date that the DADRP and DSASP are terminated (which is expected to be one year after the NYISO implements its DER and Aggregation participation model).

ii. Requirement for Aggregation to utilize one Meter Authority for all DER in the Aggregation

The NYISO proposes to clarify that an Aggregator may only utilize one Meter Authority for all the individual DER in an Aggregation. Under the 2019 DER and Aggregation participation model each Aggregation will be treated as a single Resource participating in the NYISO-administered markets. The NYISO's billing and accounting systems are not designed to permit more than one Meter Authority to provide revenue-quality meter data for a single Resource. It would be unduly burdensome and of little value to redesign these systems to accommodate multiple Meter Authorities reporting data for a single Aggregation. The NYISO therefore proposes that "[a]ll individual Resources within an Aggregation must use the same Meter Authority." A DER Aggregation may use the applicable Member System, a qualified Meter Services Entity, or a municipal electric utility (where applicable) as its Meter Authority. Single Resource type Aggregations (*e.g.*, an Aggregation comprised of only Energy Storage Resources) are not eligible to use Meter Services Entities.[37]

iii. Modification to the list of entities authorized to provide metering and meter data services for DER Aggregations

The NYISO also proposes to modify Services Tariff Section 13.3.1.1 to reorder the list of entities eligible to provide metering and meter data services to DER Aggregations and Demand Side Resources so that "Member System" is last in the list of entities that are eligible to provide metering services.[38] The NYISO further proposes to require an Aggregator to notify the NYISO of the specific metering and meter data services that the Meter Services Entity, municipal electric utility, or Member System has agreed to provide for each Aggregation.[39] This change will allow the NYISO to have a record of the entities responsible for providing the metering and meter data services for Aggregations.

f. Aggregation Reference Levels

The NYISO uses "reference levels" to test offers (Bids) that Market Parties submit against the NYISO's estimate of how a competitive supplier would offer the same Resource or set of Resources into the Energy and Ancillary Services markets. The 2019 DER and Aggregation Filing proposed to use Bid-based, LBMP based, and cost-based reference levels for

[37] Proposed Services Tariff Section 13.3.1.4.

[38] Proposed revision to Services Tariff Sec. 13.3.1.1.

[39] *Id.*

Aggregations.[40] For the reasons stated below, the NYISO proposes to eliminate the use of LBMP and Bid-based reference levels for Aggregations.[41]

LBMP and Bid-based reference levels are computed based on ninety (90)-day historical data reflecting a Resource's Bids or applicable LBMPs at its location. The 2019 DER and Aggregation participation model permits Aggregations to change their Resource composition on a monthly basis. When an Aggregation's composition changes, using a Bid or LBMP-based reference level that relies on historical data may not produce an accurate estimate of the Aggregation's costs because the DER participating in the Aggregation have changed. The NYISO proposes to implement Cost-based references for incremental energy in a manner that will enable an Aggregator to dynamically reflect different DER technologies within an Aggregation and advise the NYISO of which DER are available on an hourly basis to inform the final reference level costs used to test for economic withholding. Time-based and non-dollar parameters will also be used to develop bid-based, engine-type-based or NYISO determined reference levels.

Cost-based references for Aggregations will be calculated using approved cost data from the NYISO's Reference Level Software. The cost-based reference will be calculated using each DER type's heat rate multiplied by fuel and emissions costs, plus other variable operating costs, risk and opportunity costs. The costs applied for the different expressions in the equation will be different based on the individual DER type. For example, a gas turbine's reference level will be computed largely based on heat rate and fuel costs, while Demand Side Resource reference levels will be computed based more heavily on risk and opportunity costs. Market Participants will still have the option to consult with the NYISO to determine unique references for their Aggregations.

The NYISO's Mitigation References department will create a list of average marginal costs for different resource types (*e.g.*, thermal, hydro, solar, energy storage, demand response). Aggregation Energy offers may include a resource type from the NYISO-created list for each hour to indicate the highest cost resource that is available to produce Energy for the applicable hour. The NYISO-estimated marginal costs of that highest cost DER will be used as the reference level for the entire Aggregation for that hour. This will allow the Aggregator to bid consistent with the reference level for the highest-cost unit in the Aggregation that will be available to participate in the markets. If the Market Participant does not select a specific resource type, or an invalid resource type, then the NYISO-estimated marginal cost of the lowest cost DER in the Aggregation will be used as the reference level for the entire Aggregation for that hour.

g. Economic Customer Baseline Proxy Load Calculation

The NYISO will utilize an Economic Customer Baseline Load ("ECBL") to establish a baseline from which to measure Demand Reductions by DER. The 2019 DER and Aggregation

[40] 2019 DER and Aggregation Filing at 47. Accepted Services Tariff Secs. 23.3.1.4.1, 23.1.4.2.

[41] Proposed revisions to accepted Services Tariff Secs. 23.3.1.4.1, 23.3.1.4.3.

Filing modified an existing baseline methodology to tailor the calculation to Demand Side Resources participating in a DER Aggregation.[42]

The ECBL calculation uses historic metered load from a like-kind time interval over an established look-back window to establish a Demand Side Resource's baseline. The ECBL calculation utilizes a ten-day like-kind look-back window for the ECBL Weekday Window[43] and a three day like-kind ECBL Weekend/Holiday Window.[44] When a Demand Side Resource is dispatched for Energy and/or Regulation Service, the NYISO uses a "Proxy Load" to stand in for the historic metered load.[45] Intervals in which a Demand Side Resource is dispatched for Energy or Regulation are not "like-kind" intervals, and therefore, as originally proposed, when a Demand Side Resource is frequently dispatched, the data used to establish the ECBL can reach back far in time. For example, to establish the ECBL for the five-minute interval beginning at 15:05 on Friday, March 17, 2023, the ECBL would be populated with the Demand Side Resource's telemetered load for the five-minute interval beginning at 15:05 for March 3-16, 2023, provided the Demand Side Resource was not dispatched for the five-minute interval beginning at 15:05 on any of those days. If the Demand Side Resource was dispatched for the five-minute interval beginning at 15:05 on, for example March 7-9, then the lookback period would be February 28 through March 16, but would not include load data for March 7-9.

In order to avoid a protracted look-back window, the NYISO proposes to modify the "Proxy Load" that will be used to calculate the ECBL. Instead of extending the historical look-back window to find like-kind intervals, the NYISO proposes instead to define the Proxy Load as the Demand Side Resource's telemetered load, plus its measured Demand Reductions.[46] With this change, the NYISO will not need to extend the look-back window to identify like-kind intervals when a Demand Side Resource is frequently dispatched. Instead, the ECBL methodology will simply reconstitute the Demand Side Resource's actual load in these intervals by summing the telemetered load with measured Demand Reductions. The NYISO expects this change to result in more accurate ECBLs for all Demand Side Resources but will be particularly effective for Demand Side Resources that are frequently dispatched.

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[42] 2019 DER and Aggregation Filing at 39-41.

[43] The ECBL Weekday Window is the time period reviewed in determining the ECBL for any five-minute interval that takes place on a weekday. It shall consist of the like-kind-five-minute intervals from the previous ten weekdays that correspond to each five-minute interval that is being calculated. Treatment of NERC holidays that occur on weekdays shall be equivalent to all intervals that take place on the weekend. Accepted OATT Sec. 24.2.1.1.

[44] The ECBL Weekend Window is the time period reviewed in determining the ECBL for any five-minute interval that takes place on a weekend. It shall consist of the like-kind intervals from the previous three weekend days of the same type (Saturday or Sunday) that correspond to each five-minute-interval. Treatment of NERC holidays that occur on weekend days shall be equivalent to all intervals that take place on the weekend. Accepted OATT Sec. 24.2.1.1.

[45] Accepted OATT Sec. 24.2.1.2.

[46] Proposed revisions to OATT Sec. 24.2.1.1.

Note that a Demand Side Resource's Demand Reductions will only be added back to the telemetered load when the LBMP for the applicable interval is greater than or equal to the Monthly Net Benefit Threshold price. Demand Reductions provided by Demand Side Resources when the applicable LBMP is less than the Monthly Net Benefit Threshold are "uneconomic" and will not be added back to reconstitute the Demand Side Resource's load.[47]

The NYISO also proposes two corresponding changes to accompany the modified ECBL methodology. First, the NYISO proposes to clarify throughout OATT Section 24 that a Demand Side Resource's "telemetered" load will be used to establish the ECBL. This change from "actual" load more precisely defines the data that will be used. Second, the NYISO proposes to clarify an Aggregator's responsibility for providing data to the NYISO. These changes do not modify the substance of an Aggregator's reporting requirements, but instead provide greater precision to the tariff language.

h. Bid-Production Cost Guarantee Payment and Day-Ahead Margin Assurance Payment Calculations

The 2019 DER and Aggregation Filing proposed eligibility criteria under which DER and Aggregations are eligible for a Bid Production Cost Guarantee ("BPCG") payment and Day-Ahead Margin Assurance Payment ("DAMAP"), and addressed how such payments would be calculated.[48] During the development of the ISO Procedures and software related to the BPCG and DAMAP calculations, the NYISO identified additional necessary modifications to the existing equations and defined terms to integrate DER that include Demand Side Resources. Specifically, the NYISO identified the need to clarify how actual energy ("AE") is determined for DER and Aggregations. AE is an input into both the BPCG payment calculation and the DAMAP calculation.

The NYISO proposes to revise Services Tariff Sections 18.4.2 and 25.3.3.[49] First, the proposed revisions remove the standalone term "Actual Demand Reductions," and instead incorporate actual Demand Reductions into the AE term. Second, the proposed revisions specify that AE is equal to the average Energy injections plus average Demand Reductions minus

[47] "Uneconomic" load reduction is intended only to refer to Demand Side Resource load reductions at times when the applicable LBMP is less than the Monthly Net Benefits Test Threshold price. If a Demand Side Resource's load for a given interval is lower than it otherwise would have been (*e.g.*, because the facility was reducing its Load in response to a retail demand response program) the load reduction will not be added back for the purpose of calculating the ECBL. For example, if a 500 kW Demand Side Resource curtails its load 200 kW in response to a Transmission Owner-initiated demand response call, the ECBL for a given interval will be 300 kW, not 500 kW.

[48] 2019 DER and Aggregation Filing at 60-62. Accepted Services Tariff Secs. 18.4.2 and 25.3.3.

[49] The 2019 DER and Aggregation Filing included revisions to Services Tariff Section 25.3.3 that were blacklined on top of the then-effective version of that section. In the time since the NYISO submitted its 2019 DER and Aggregation Filing, the NYISO has eliminated certain provisions of Section 25.3.3 that the 2019 DER and Aggregation Filing modified. The base tariff version of Services Tariff Section 25.3.3 included with this filing reflects the changes being proposed to the currently effective tariff. It does not include revisions proposed in the 2019 DER and Aggregation Filing (and accepted by the Commission), which modified language that was later eliminated in subsequent proceedings.

average Energy withdrawals, subject to existing limitations in the Services Tariff. Modifying the AE term to separately include injections plus demand reductions minus withdrawals allows a more accurate formulation of the overall performance of a DER or Aggregation that is capable of injecting energy, reducing demand and withdrawing energy, all within a single time interval.

i. Miscellaneous Revisions and Modifications to Defined Terms

The NYISO proposes the following miscellaneous revisions to its Services Tariff that clarify the application of existing rules to DER and Aggregations.

i. Resource Specific Uplift Report

On a monthly basis, the NYISO posts a resource-specific uplift report on its public website.[50] The report currently provides the total payments made across all uplift categories to Generators, DSASP Resources, DADRP Resources, and SCR aggregations. The NYISO proposes to eliminate reporting of DSASP Resources and DADRP Resources when those programs are terminated, and to begin uplift reporting for Aggregations (both DER Aggregations and single Resource type Aggregations) upon implementation of the DER and Aggregation participation model.[51] These changes are necessary to reflect the establishment of the NYISO's DER and Aggregation participation model and termination of the DSASP and DADRP.

ii. Aggregator-initiated removal of DER and/or Aggregations

The NYISO proposes to clarify that an Aggregator retains the authority to remove an individual DER and/or an Aggregation from the NYISO-administered markets upon thirty (30) days' notice, effective at the beginning of a calendar month.[52] This proposed clarification establishes the timeline for removal of DER and Aggregations which will help maintain efficient administration of DER and Aggregations in the NYISO-administered wholesale markets.

iii. Aggregation Operating Parameters

The NYISO proposes to clarify that an Aggregator must ensure that an Aggregation's operating parameters are consistent with the combined operating parameters and applicable interconnection agreements of the individual DER in the Aggregation.[53] Requiring the operating parameters for an Aggregation to be consistent with the operating parameters studied by the applicable distribution utility and/or NYISO (if applicable) helps maintain distribution and transmission system safety and reliability.

[50] Services Tariff Sec. 4.1.3.3.

[51] Proposed revisions to Services Tariff Sec. 4.1.3.3.

[52] Proposed revision to accepted Services Tariff Sec. 4.1.10.

[53] Proposed revision to accepted Services Tariff Sec. 4.1.10.1.

iv. Resources Changing Aggregations

The NYISO proposes minor clarifying revisions to accepted Services Tariff Section 5.12.13.1 regarding Resources changing Aggregations:

> An individual resource within an Aggregation ~~and/or an Aggregation~~ may only change from participating in a homogeneous Aggregation that is not a DER Aggregation to participating in a DER Aggregation at the beginning of a Capability Year, provided that the Aggregation notifies the ISO by August 1 of the year prior to the beginning of the Capability Year. An individual resource within an Aggregation ~~and/or an Aggregation~~ may only change from participating in a DER Aggregation to participating in a homogeneous Aggregation that is not a DER Aggregation at the beginning of a Capability Year, provided that the Aggregation notifies the ISO by August 1 of the year prior to the beginning of the Capability Year.[54]

The NYISO proposes these revisions to clarify the application of accepted Services Tariff Section 5.12.13 to individual DER changing Aggregations.

v. DER Aggregation telemetry requirements

The 2019 DER and Aggregation participation model included comprehensive metering and telemetry requirements that will provide NYISO grid operators real-time situational awareness of Aggregation output via six-second telemetry streams and enable accurate settlements via submission of revenue-quality meter data.[55] One of the market rules included in the 2019 DER and Aggregation Filing required DER Aggregations to submit three streams of telemetry data: (i) the net of Energy injections and Energy withdrawals by Withdrawal Eligible Generators, (ii) Demand Reductions, and (iii) the sum of both (i) and (ii).[56]

During development of the software and ISO Procedures needed to administer the DER and Aggregation participation model, the NYISO determined that it needs to receive Energy injections separate from Energy withdrawals, not the net of the two. Therefore, the NYISO proposes to modify accepted Services Tariff Section 4.1.10.4 to require:

> Real-time telemetry for DER Aggregations shall consist of ~~three~~ four parts: (i) ~~the net of~~ Energy injections, (ii) ~~and~~ Energy withdrawals by Withdrawal Eligible Generators, (iii) Demand Reductions,~~;~~ and (~~iii~~iv) the sum of ~~both~~ (i), (ii) and (iii).

This proposed change will help the NYISO accurately settle Aggregation Energy injections, Energy withdrawals, and Demand Reductions.

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[54] Proposed revisions to accepted Services Tariff Sec. 5.12.13.1.

[55] Accepted Services Tariff Sec. 4.1.10.4; Services Tariff Sec. 13.2.

[56] Accepted Services Tariff Sec. 4.1.10.4.

vi. Removal of Services Tariff Section 4.5.2.4 – Demand Reductions

The 2019 DER and Aggregation Filing proposed to terminate the NYISO's DSASP and DADRP and replace those programs with the comprehensive DER and Aggregation participation model.[57] As part of that termination, the NYISO must remove the tariff requirements associated with the DADRP and the DSASP. The 2019 DER and Aggregation Filing proposed such removal, but inadvertently failed to include removal of Services Tariff Section 4.5.2.4 which addresses Real-Time Market settlements for Demand Reductions provided by DSASP and DADRP Resources. The NYISO therefore proposes to delete Section 4.5.2.4, which rules have been replaced by the Real-Time Market settlement rules applicable to DER Aggregations. As described further in Section IV of this Filing Letter, the NYISO anticipates terminating the DSASP and DADRP, including deleting Services Tariff Section 4.5.2.4, twelve (12) months after the date upon which the DER and Aggregation participation model becomes effective.

vii. Application of Transmission Charges to an Aggregation containing one or more Energy Storage Resources

The NYISO OATT requires Energy Storage Resources to pay a Transmission Service Charge ("TSC") and a New York Power Authority Transmission Adjustment Charge ("NTAC") when the Energy Storage Resource is withdrawing Energy and not providing a service.[58] The NYISO proposes to extend these market rules to Aggregations that contain one or more Energy Storage Resources:

2.7.2.1 Transmission Service Charge – General Applicability

2.7.2.1.5 Payable by Energy Storage Resources: Energy Storage Resources will pay a TSC directly to the Transmission Owner in whose Transmission District the Energy Storage Resource is located for Actual Energy Withdrawals by the Energy Storage Resource when it is not providing a service. An Aggregation containing one or more Energy Storage Resources shall pay a TSC directly to the Transmission Owner in whose Transmission District the Aggregation is located when (i) the Aggregation is not providing a service, and (ii) the sum of the Aggregation's Energy injections and Demand Reductions, less the Aggregation's Energy withdrawals, is negative.

2.7.2.4 NYPA Transmission Adjustment Charge (NTAC)

2.7.2.4.4 Payable by Energy Storage Resources: Each Energy Storage Resource in the NYCA shall pay an NTAC to the ISO based on the Energy Storage Resource's Actual Energy Withdrawals when the Energy Storage Resource is not

[57] 2019 DER and Aggregation Filing at 33.

[58] OATT Secs. 2.7.2.1.5, 2.7.2.4.4. An Energy Storage Resource is being dispatched to provide a service when it: (i) receives a real-time Operating Reserves Schedule; or (2) receives a real-time Regulation Service Schedule; or (iii) is operating and is a qualified Supplier of Voltage Support Service; or (iv) is dispatched Out-of-Merit to meet NYCA or local system reliability.

providing a service. An Aggregation containing one or more Energy Storage Resources shall pay an NTAC to the ISO when (i) the Aggregation is not providing a service, and (ii) the sum of the Aggregation's Energy injections and Demand Reductions, less the Aggregation's Energy withdrawals, is negative.

The market rules requiring stand-alone Energy Storage Resources to pay a TSC and NTAC had not yet been proposed or accepted when the NYISO submitted the 2019 DER and Aggregation Filing. The NYISO, therefore, proposes these tariff revisions to apply TSC and NTAC to Aggregations containing one or more Energy Storage Resources, consistent with how the NYISO applies those charges to Energy Storage Resources participating on a stand-alone basis. The NYISO also proposes minor clarifications throughout OATT Section 2.7.2.1.5 and 2.7.2.4.4 to add "and an Aggregation containing one or more Energy Storage Resources" as applicable.

viii. Definitions

1. Definition of Energy Storage Resource

Energy Storage Resource: In order to qualify for wholesale market participation, Energy Storage Resources must be able to inject at a rate of at least 0.1 MW for a period of at least one hour, except that Energy Storage Resources operating as part of an Aggregation need only be able to inject at a rate of at least 0.01 MW for a period of at least one hour."

As described in Part III(b) of this filing letter, the NYISO proposes to set a minimum DER capability of 10 kW. The proposed modification to the definition of Energy Storage Resource will require Energy Storage Resources participating in an Aggregation to be capable of sustaining that 10 kW over the course of an hour. The proposed requirement mirrors the one-hour sustainability requirement for stand-alone Energy Storage Resources, which rules are necessary to meet the NYISO's bidding and scheduling prerequisites.

2. Definition of Meter Services Entity

A Meter Services Entity ("MSE") is an organization that is authorized by the NYISO to provide metering and meter data services to certain participants in the NYISO's wholesale markets. The NYISO proposes the following modification to the definition of Meter Services Entity:

Meter Services Entity ("MSE"): An entity registered with the ISO and authorized to provide metering and meter data services, as applicable to an Aggregator, ~~Demand Reduction Provider, DSASP Provider,~~ Responsible Interface Party, or Curtailment Service Provider.[59]

[59] The blacklined version of Services Tariff Section 2.13 (Definitions – M) submitted to the Commission in Attachment XII of the 2019 DER and Aggregation Filing inadvertently showed the term "Aggregator" as being

The addition of "Aggregator" will permit MSEs to provide services to Aggregators as described in Services Tariff Section 13.3, and the deletion of "Demand Reduction Provider" and "DSASP Provider" reflects the termination of the NYISO's Day-Ahead Demand Reduction Program ("DADRP") and Demand Side Ancillary Services Program ("DSASP"), respectively. The deletion of "Demand Reduction Provider" and "DSASP Provider," if accepted, will become effective when the NYISO terminates the DSASP and DADRP as described in Section IV of this filing letter.

3. Definition of Station Power

The NYISO proposes a minor revision to the last paragraph of the definition of Station Power in Services Tariff Section 2.19:

> Station Power does not include any Energy: (i) used to power synchronous condensers; (ii) used for pumping at a pumped storage facility or for charging Limited Energy Storage Resources and Energy Storage Resources when that Energy is stored for later injection back to the grid; (iii) provided during a Black Start restoration by Generators that provide Black Start Capability Service; or (iv) used by a Resource in an ~~DER~~ Aggregation.

The NYISO's 2019 DER and Aggregation filing modified the definition of Station Power to exclude the Energy used by a Resource in a DER Aggregation from what the NYISO considers Station Power. As drafted, the exclusion would only apply to heterogenous Aggregations and Aggregations of Demand Side Resources (*i.e.*, DER Aggregations). As the NYISO developed the software and technical details of the 2019 DER and Aggregation participation model, it became clear that the Energy used by a Resource in *any* Aggregation (*i.e.*, DER Aggregations and single Resource type Aggregations) should be excluded from what the NYISO considers as Station Power. The modification will simplify the metering configuration requirements for all DER participating in an Aggregation and aid in the efficient administration of the NYISO's DER and Aggregation participation model.

4. Definition of Wind and Solar Output Limit

Under the NYISO's market rules, an Intermittent Power Resource depending on wind or solar as its fuel is eligible to inject, and be paid for, its entire Energy output onto the system except under certain conditions. When necessary, however, the NYISO has the authority to impose a "Wind and Solar Output Limit," which is a directive not to exceed the unit's Base Point Signal. The NYISO proposes to revise the definition of Wind and Solar Output Limit in Services Tariff Section 2.23 to address wind and solar units participating in an Aggregation:

> **Wind and Solar Output Limit:** A Base Point Signal calculated for an Intermittent Power Resource depending on wind or solar energy as its fuel and which, when

effective tariff (*i.e.*, it was not indicated as a modification in the blackline). The blacklined version of Services Tariff version 2.13 submitted as Attachment II to this filing corrects the inadvertent error and shows the addition of the term to the existing definition of Meter Services Entity.

> sent to the Intermittent Power Resource, shall include a separate flag directing the Intermittent Power Resource not to exceed its Base Point Signal. Intermittent Power Resources that depend on wind or solar energy as their fuel shall be eligible to receive a Wind and Solar Output Limit, except for those that depend on wind for their fuel and were in commercial operation as of January 1, 2002 with name plate capacity of 12 MWs or fewer, and ~~Intermittent Power~~ Resources depending on wind or solar energy as their fuel that participate in a DER Aggregation.

DER Aggregations are defined as heterogeneous Aggregations containing multiple Resource types, or homogeneous Aggregations of Demand Side Resources. DER Aggregations are expected to be dispatchable up and down the Aggregation's operating range and are not eligible to receive the scheduling and settlement protections provided to Resources that depend on wind or solar as their fuel. Therefore, the NYISO proposes to clarify that when a Resource depending on wind or solar energy as its fuel participates in a DER Aggregation, it will not be subject to Wind and Solar Output Limits because (i) the NYISO will not schedule, dispatch, and settle the Resource on its own, and (ii) the Aggregation in which the Resource participates is expected to be fully dispatchable and to follow the NYISO's dispatch instructions. A homogenous Aggregation consisting of only Resources depending on wind energy, or on solar energy, as their fuel will be eligible to receive a Wind and Solar Output Limit.

IV. Request for Flexible Effective Dates

The NYISO respectfully requests Commission action within the standard notice period under Federal Power Act Section 205 which is sixty (60) days of the date of this filing; *i.e.*, by July 31, 2023, accepting the tariff revisions proposed in this filing. Commission action will provide the NYISO and all stakeholders with timely notice that the changes proposed in this filing letter have been accepted, and of the timing of the implementation of the various components described herein. Timely Commission action will also help the NYISO achieve its targeted effective dates for all aspects of this proposal, and the implementation of the NYISO's 2019 DER and Aggregation participation model.

The NYISO requests a flexible effective date of no later than December 15, 2023, for the revisions to the Services Tariff and OATT proposed in Attachments I (clean), II (blackline), III (clean), and IV (blackline). The NYISO further proposes that the revisions to Services Tariff Sections 2.13, 2.19, 4.1.3.3, 4.5.2.4, 5.12.11,13.3.1, and 18 in Attachments V (clean) and VI (blackline) become effective twelve (12) months after the 2023 effective date.

a. Requested Effective Date for Tariff Revisions Updating the 2019 DER and Aggregation Participation Model

The NYISO expects to be able to implement its 2019 DER and Aggregation participation model in the third quarter of 2023, potentially as early as August 1, 2023. The precise effective date for the revisions proposed in Attachments I through IV will depend on the completion of testing, and deployment of the various software and related applications necessary for the DER and Aggregation participation model, system conditions, and other factors, and therefore the NYISO is unable to propose an effective date as of the date of this filing. The NYISO further

intends that the tariff revisions proposed in this filing, and in Docket No. ER19-2276-000, *et al.*, become effective on the same day. The NYISO proposes to submit a compliance filing in both dockets at least two weeks prior to the proposed effective date that will specify the date on which the revisions will take effect. Consistent with Commission precedent, the compliance filing will provide adequate notice to the Commission and Market Participants of the implementation date.[60]

b. Requested Effective Date for Tariff Revisions Related to the Termination of the Demand Side Ancillary Services Program and Day-Ahead Demand Response Program

The 2019 DER and Aggregation Filing included a proposal to terminate the DSASP and DADRP, which will be replaced by the market rules for DER and Aggregations.[61] At this time the NYISO anticipates terminating those two programs twelve (12) months after the date upon which the DER and Aggregation participation model becomes effective. The NYISO and its Market Participants will use the twelve-month overlap to transition existing DSASP and DADRP Resources from their respective programs and into the DER and Aggregation model. This transition period is necessary to facilitate DER and Aggregation registration and enrollment, and to establish the applicable metering and telemetry infrastructure. The transition window will allow existing Resources to remain participants in the NYISO-administered markets while these DER and Aggregation processes are ongoing. The NYISO has discussed the transition period with its stakeholders and expects a twelve-month transition period to be a reasonable amount of time to integrate existing DSASP and DADRP Resources into the DER and Aggregation Model. However, the NYISO may lengthen the transition window if unforeseen circumstances arise that would materially impact the ability of DSASP and/or DADRP Resources to complete the transition process within twelve months. The NYISO commits to continuing to work with its stakeholders on the DSASP/DADRP to DER transition and will evaluate whether an extension of the time needed to complete the transition is necessary closer in time to the expected close of the transition window.

V. Stakeholder Approval

The tariff revisions proposed in this filing were discussed with stakeholders at the NYISO's February 15, 2023, Business Issues Committee ("BIC") meeting and its February 22, 2023, Management Committee ("MC") meeting. The proposed revisions were unanimously approved by both the BIC and MC, with limited abstentions at the BIC, and no abstentions at the MC. On March 21, 2023, the NYISO Board of Directors approved the proposed Tariff revisions for filing with the Commission, pursuant to Section 205 of the Federal Power Act.

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[60] *See, e.g., New York Indep. Sys. Operator, Inc., 106* FERC ¶ 61,111 at P 10 (2004); Docket No. ER 11-2544-000, *New York Indep. Sys. Operator, Inc.*, Letter Order at 1 (February 10, 2011); Docket No. ER15-485-000, *New York Indep. Sys. Operator, Inc*., Letter Order at 2 (January 15, 2015); *New York Indep. Sys. Operator, Inc.*, 151 FERC ¶ 61,057 at P 20 (2015).

[61] 2019 DER and Aggregation Filing at 33.

VI. Communications

Communications and correspondence regarding this filing should be directed to:

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*Person designated to receive service

VII. Service List

The NYISO will send an electronic copy of this filing to the official representative of each party to this proceeding, 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, and the NYISO will send an electronic link to this filing to the official representative of each of its customers and to each participant on its stakeholder committees.

VIII. Conclusion

For the foregoing reasons the NYISO respectfully requests that (i) the Commission accept the Tariff revisions proposed in this filing without any modifications within sixty (60) days, and (ii) grant the NYISO's requested flexible effective dates consistent with Section IV of this filing letter.

Respectfully submitted,

/s/ Gregory J. Campbell
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