New York ISO
Independent System Operator

10 Krey Boulevard, Rensselaer, NY 12144
Ph: 518.356.6000 | **Fax:** 518.356.8899

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By Electronic Delivery

Honorable Debbie-Anne A. Reese Esq., Acting Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: *New York Independent System Operator, Inc.*, Proposed Tariff Revisions to Implement Hybrid Storage Resources, Expand Co-located Storage Resource Participation Options and Enhance Fast-Start Resources; Docket No. ER24-____-000

Dear Secretary Reese:

Pursuant to Section 205 of the Federal Power Act ("FPA")[1] and the rules and regulations of the Federal Energy Regulatory Commission (the "Commission" or "FERC"),[2] the New York Independent System Operator, Inc. ("NYISO") submits, in electronic format, proposed revisions to its Open Access Transmission Tariff ("OATT") and to its Market Administration and Control Area Services Tariff ("Services Tariff") to implement enhancements that will expand the participation options available to resources that share a common Point of Injection ("POI"). The proposed Tariff revisions (a) introduce a new Hybrid Storage Resource ("HSR") market participation option, (b) expand the range of resources that can participate using the Co-located Storage Resource ("CSR") model that the Commission accepted in 2021,[3] and (c) implement rules for a Fast-Start Resource (a Generator that can start-up in 30 minutes or less) to add a battery that enhances its operating characteristics.

In this filing the NYISO proposes revisions to its Energy[4] and Ancillary Services market rules, its interconnection process, its metering rules, its Installed Capacity ("ICAP") market participation rules and its Market Mitigation Measures to accommodate the interconnection and participation of HSR, expanded CSR and enhanced Fast-Start Resources.

The Tariff revisions proposed in this filing were unanimously approved by the NYISO's stakeholders at the December 7, 2022 and March 13, 2024 Business Issues Committee meetings and the December 21, 2022 and March 27, 2024 Management Committee meetings. On May 20, 2024 the NYISO reviewed with its stakeholders conforming changes to add the Management

[1] 16 U.S.C. § 824d.

[2] 18 C.F.R. Part 35.

[3] *See New York Independent System Operator, Inc*., 174 FERC ¶ 61,242 (2021); Letter Order, Docket No. ER22-418-001 (January 13, 2022).

[4] Capitalized terms that are not defined in this filing letter are defined in Section 1 of the OATT, Section 2 of the Services Tariff, or in the revisions to Section 1 of the OATT and Section 2 of the Services Tariff that are proposed in this filing.

Committee approved revisions to its interconnection requirements in OATT Section 25 and 30 to the new OATT Attachment HH (Section 40) that the NYISO submitted to the Commission for its consideration as part of its Order No. 2023 and Order No. 2023A compliance filing on May 1, 2024.[5] On April 16, 2024 the NYISO's Board of Directors approved the proposed Tariff revisions included herewith for filing with the Commission.

The NYISO respectfully requests that the proposed new defined term HSR,[6] the proposed revisions to the interconnection rules, the proposed revisions to the Installed Capacity mitigation rules,[7] and the revisions the NYISO developed to allow a battery to be added to enhance the operation of a Fast-Start Resource become effective on July 29, 2024 (the day following the end of the statutory 60-day notice period). Allowing the revisions to OATT Attachment S (Section 25) Attachment X (Section 30) and Attachment HH (Section 40) proposed in this filing to take effect on July 29, 2024 will ensure that the revised parameters will be available for the NYISO to apply to validate and evaluate interconnection requests for proposed HSR and expanded CSR projects in the Application Window for its upcoming interconnection Transition Cluster Study Process that will open on August 1, 2024 and close on October 15, 2024, unless the Commission instructs otherwise.[8] Because the Commission has not yet had the opportunity to fully consider and rule on the compliance revisions to OATT Attachment HH (Section 40) that the NYISO submitted for the Commission's consideration on May 1, 2024 in Docket No. ER24-1915, as amended on May 8, 2024, the NYISO requests and consents to the Commission accepting the revisions to OATT Attachment HH (Section 40) proposed in this filing, contingent on their acceptance in Docket No. ER24-1915.[9] Having the revised OATT Section 40 rules in place to guide the submission of interconnection requests for, and the NYISO's evaluation of, projects that include expanded CSR or HSR resources in effect for the Application Window that opens on August 1, 2024 is critical. The proposed enhancements to the interconnection process support

[5] *New York Independent System Operator, Inc.*, Compliance Filing for Order No. 2023 and Order No. 2023-A; Conditional Request for Prospective Waivers, Docket No. ER24-1915-000 (May 1, 2024) ("Order 2023 Compliance Filing").

[6] The NYISO proposes to add the definition of Hybrid Storage Resource to its Tariffs on July 29, 2024 because that term is used in the NYISO's proposed revisions to its interconnection rules. Adding the definition of Hybrid Storage Resource will help the NYISO determine the rules that will apply to each of the projects it evaluate in the application window for its interconnection transition cluster, which will open on August 1, 2024, unless the Commission instructs the NYISO to do otherwise. As explained in this filing letter, substantial software still needs to be developed and tested to accommodate participation by HSR in the NYISO's Energy, Ancillary Services and Capacity Markets. The NYISO does not anticipate it will be ready to actually allow HSR to participate in its markets until mid- to late-2025.

[7] The only revision to the Installed Capacity mitigation rules proposed in this filing is a change to the definition of "Examined Facility" in § 23.2.1 of the Services Tariff.

[8] *See* Order 2023 Compliance Filing at 29 (requesting a May 2, 2024 effective date for the NYISO's proposed tariff revisions to comply with Order Nos. 2023 and 2023-A to enable NYISO to commence the Transmission Cluster Study Process on August 1, 2024).

[9] The NYISO also recognizes it may be required to make, and consents to making, changes to ensure the revisions to OATT Attachment HH proposed in this filing are aligned with any compliance changes the Commission directs in Docket No. ER24-1915. *See NRG Power Mktg., LLC v. FERC*, 862 F.3d 108, 115 (D.C. Cir. 2017).

participation of these new resource types in the NYISO's markets as soon as possible. The proposed Tariff revisions are included in Attachments I to IV to this filing letter.

The NYISO proposes to make all of the rules necessary to implement enhancements to its existing CSR rules in the Energy, Ancillary Services and Installed Capacity Markets effective on a flexible effective date between October 1, 2024 and December 31, 2024.[10] The proposed Tariff revisions are included in Attachments V to VIII to this filing letter. The NYISO cannot propose a more precise effective date for its expanded CSR market participation rules until the software changes necessary to implement the proposed expansion of the CSR participation model are completed and adequately tested. 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. The compliance filing will provide adequate notice to the Commission and Market Participants of the implementation date for the expanded CSR market participation rules proposed in this filing.[11]

Finally, the NYISO proposes to make all of the rules necessary to implement HSR in its Energy, Ancillary Services and Installed Capacity Markets effective on a flexible effective date between June 1, 2025 and December 31, 2025.[12] The proposed Tariff revisions are included in Attachments IX to XII to this filing letter. The NYISO cannot propose a more precise effective date for its HSR market participation rules until the software changes necessary to implement the proposed HSR participation model are completed and adequately tested. 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. The compliance filing will provide adequate notice to the Commission and Market Participants of the implementation date for the HSR market participation rules proposed in this filing.

[10] The NYISO requests waiver of Section 35.3(a)(1) of the Commission's Regulations (18 CFR § 35.3(a)(1)) to permit its proposed Tariff revisions to become effective more than 120 days after the date this filing was submitted. There is good cause for the Commission to grant this waiver because the NYISO is still working to develop, test and implement software changes that must be completed before the proposed tariff revisions can take effect.

[11] *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).

[12] The NYISO requests waiver of Section 35.3(a)(1) of the Commission's Regulations (18 CFR § 35.3(a)(1)) to permit its proposed Tariff revisions to become effective more than 120 days after the date this filing was submitted. There is good cause for the Commission to grant this waiver because the NYISO is still working to develop, test and implement software changes that must be completed before the proposed tariff revisions can take effect.

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II. BACKGROUND AND OVERVIEW

The NYISO is engaged in an ambitious effort to integrate advanced energy technologies into the wholesale markets it administers. The NYISO's extensive market design efforts complement the work being done by New York State through the Climate Leadership and Community Protection Act ("CLCPA"), which requires that seventy percent (70%) of New York's electric load be served by renewable resources by 2030, and also requires procurement of 6,000 MW of distributed solar resources by 2025, 3,000 MW of ESRs by 2030, and 9,000 MW of offshore wind resources by 2035. The CLCPA requires that one-hundred percent (100%) of New York's electric load be zero-emission by 2040.

Development of market rules for hybrid resources that combine renewable generators and energy storage are a natural, and integral step in the NYISO's efforts. In this filing the NYISO proposes three different enhancements. First, a new HSR market participation model that allows the combination of an Energy Storage Resource ("ESR") with one or more of a wind, a solar, a landfill gas and/or a run-of-river hydro resource. HSR was developed to accommodate utility-scale resources, smaller resources will be able to participate via the Distributed Energy Resource ("DER") rules that the Commission recently allowed to become effective.[13] Second, the NYISO proposes enhancements to the CSR rules that the Commission accepted in 2021. A CSR consists of an ESR and one other Generator that share a Point of Injection ("POI")/Point of Withdrawal ("POW"). The two Generators each submit an offer and can each receive a schedule from the NYISO. The schedules that the NYISO issues to CSR Generators incorporate limitations on maximum injections and withdrawals at their shared POI/POW. The currently effective CSR rules only allow an ESR to share a POI with a wind or a solar Intermittent Power Resource ("IPR"). The rules proposed in this filing will allow an ESR to pair with a far broader range of different Generator types in a CSR configuration, including landfill gas Intermittent Power Resources, Limited Control Run-of-River Hydro Resources and Dispatchable Generators. Finally, the NYISO proposes minor enhancements to Fast-Start Resources to let them add a battery that enhances the Fast-Start Resources operating characteristics. Each of the proposed enhancements is described in greater detail below.

III. OVERVIEW OF HYBRID STORAGE RESOURCE PARTICIPATION MODEL

The NYISO proposes a new market participation model for Hybrid Storage Resources ("HSR"). A HSR is made up of at least two Generators, one Energy Storage Resource and one or more of a wind, and/or a solar, and/or a landfill gas, and/or a run-of-river hydroelectric resource. There can only be one resource of each type (including ESR) in a HSR. There is no

[13] *New York Independent System Operator, Inc*., 187 FERC ¶ 61,022 (2024).

size (MW or MWh) limit on any of the participating resources.[14] A HSR's Generators must all be located behind a single POI that accommodates Energy injections greater than 20 MW.[15]

The NYISO's proposed definition of HSR is:

> **Hybrid Storage Resource ("HSR"):** At least two Generators, one Energy Storage Resource and one or more of a wind Intermittent Power Resource, and/or a solar Intermittent Power Resource, and/or a landfill gas Intermittent Power Resource, and/or a Limited Control Run-of-River Hydro Resource. The Generators must (a) all be located behind a single Point of Injection (as defined in Section 1.16 of the OATT) that accommodates Energy injections greater than 20 MW; and (b) participate in the ISO Administered Energy and Ancillary Services Markets together as a single Resource that is capable of following the ISO's dispatch instructions. A HSR is not permitted to share metering or telemetry with Load, other than its own station service load.
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> Where there are not HSR-specific rules or exceptions, the rules that apply to Generators also apply to HSRs. A HSR can register to be, but is not required to be eligible to withdraw Energy. Where there are not HSR-specific rules or exceptions, Energy withdrawals by HSRs follow the rules for self-managed Energy Storage Resources. The ISO will not consider a HSR's State of Charge when it develops dispatch instructions for, or issues Energy or Ancillary Service schedules to the HSR.

As explained in greater detail below, a Market Participant submits a single offer to make the resources in its HSR available for scheduling and dispatch by the NYISO and is expected to employ some, any, or all of its available Generators (as needed) to comply with the Ancillary Service Schedules and/or real-time dispatch instructions it receives from the NYISO. A key difference between the CSR participation model that the Commission allowed to become effective in 2021 and the HSR model is that the NYISO issues distinct schedules and dispatch instructions to each participating CSR Generator, whereas under the HSR model the NYISO issues one dispatch instruction to the HSR, and the Market Participant decides which Generator or Generators it will use to follow that instruction.

Another novel aspect of the NYISO's proposed implementation of HSR is the development of Operating Reserve Limits ("ORL"), which is the capability, in MW, of a HSR's ESR to produce Energy for at least one hour if the HSR's Operating Reserve schedule is converted to Energy. The NYISO will rely on the ORL that a Market Participant submits with its HSR's offers to determine the quantity of Operating Reserves it can schedule from a HSR.

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[14] The limitation to no more than one Generator of each permitted resource type is necessary to limit the complexity of metering/telemetry arrangements and to enable the NYISO to administer the proposed HSR Capacity market participation rules, which are Generator-specific.

[15] Distributed Energy Resources ("DER") are limited to a maximum of 20 MW each under the NYISO's Tariffs. HSR was developed to allow larger resources at the same electrical location (POI/POW) to participate in the markets on a collective/aggregated basis.

As explained below, the Market Participant will have the ability to update its HSR's ORL in-real time to inform the NYISO when its ability to provide Operating Reserve is reduced due to greater than expected Energy schedules, equipment outages, or other real-time events.

A. Proposed HSR Energy Market Participation Rules

Under the rules proposed in this filing all of a HSR's Generators will participate in the Day-Ahead and Real-Time Energy Market together as a single Resource that is capable of being dispatched from its LOL to its UOL.[16] A HSR's offer curve may include up to 11 price points. The offer curve is ordinarily expected to cover the HSR's entire operating range from withdrawal to injection, consistent with the NYISO's rules for ESR. HSR will not be permitted to submit minimum generation (no load) or start-up offers, but they will be able to self-commit. HSR offers will include UOL and LOL in the same manner as ESRs submit those offer parameters (submit one value in the DAM, values can change hourly in real-time). In addition, a HSR will have the new and unique ability to update (reduce) its UOL and/or LOL ***after*** the real-time market close[17] if it is no longer able to inject or withdraw Energy consistent with the HSR's real-time offer.[18] A HSR will be expected to use the new Grid Operations Coordination Portal ("GOCP") to submit updates to its UOL or LOL after the real-time market closes for a particular hour.[19]

A HSR is required to self-manage the state of charge ("SOC") of its ESR and will be able to charge the ESR "behind the meter" when its resources are producing more Energy than the NYISO dispatch requires the HSR to inject onto the grid. In real-time, the operator of a HSR is expected to employ its collective resources to follow the NYISO's dispatch instructions. Under the rules proposed in this filing a HSR may not be paid, or may be assessed charges, if it fails to follow the NYISO's dispatch instructions.[20]

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[16] A HSR's LOL is analogous to a "CSR withdrawal Scheduling Limit" and a HSR's UOL is analogous to a "CSR injection Scheduling Limit." The key difference is that the NYISO manages CSR Scheduling Limits, whereas it is the Market Participant's responsibility to dispatch a HSR's Resources in a manner that respects the HSR's UOL and LOL and follows the NYISO's dispatch instructions.

[17] The NYISO's Real-Time Market closes 75 minutes before the start of the operating hour for which offers are being submitted.

[18] For example, if a HSR uses up all of the Energy stored in its ESR, the HSR would be expected to derate its UOL below the level included in its Real-Time Market offer to a level that can be achieved by its remaining (wind, solar, landfill gas and/or run-of-river hydroelectric) resources under current and expected market conditions. The HSR's derated UOL would remain in place until its ESR is able to charge sufficiently to support Energy injections.

[19] The NYISO initially developed the GOCP to implement Distributed Energy Resources ("DER") in its markets. The GOCP Users Guide only addresses DER at this time. The NYISO will update the Users Guide to include instructions for HSR to use the GOCP to submit ORL updates in advance of the NYISO's proposed HSR Tariff revisions becoming effective in 2025. Link to current GOCP Users Guide: https://www.nyiso.com/documents/20142/3625950/UG-22-GOCP-UG-v1-0-Final.pdf/dc27aad9-b059-f5a5-e2e4-8d87640fe302

[20] *See, e.g.,* proposed revisions to Services Tariff §§ 15.3A.1, 15.3A.1.1 and 15.3A.1.2.

B. Proposed HSR Ancillary Services Market Participation Rules

HSR will be eligible to provide Voltage Support Service, Regulation Service and Operating Reserves. The ability of a HSR to provide Regulation Service will be predicated on the capabilities of its ESR. Voltage Support Service is addressed in section VI.B.ix of this filing letter.

The NYISO proposes significant changes to its rules for offering Operating Reserves into its markets to better accommodate participation by HSR. A HSR will only be eligible to offer Operating Reserves from its ESR component. Consistent with Northeast Power Coordinating Council ("NPCC") requirements, Operating Reserves must be sustainable for at least one hour when they are activated and converted to Energy.[21] The NYISO proposes new Tariff rules, supported by additional market functionality and customer-facing capabilities, that will help HSRs maximize the Operating Reserves they are able to provide.

HSR will have access to a new offering parameter called an Operating Reserve Limit ("ORL") that the NYISO will use to determine a HSR's maximum Operating Reserve schedule. A HSR's ORL is the capability, in MW, of its ESR to produce Energy for at least one hour if the HSR's Operating Reserves schedule is converted to Energy. The NYISO expects a HSR to determine its ORL based on the ESR's state-of-charge,[22] the HSR's Energy and Regulation Service awards, the ability of its ESR to inject Energy, and the Market Participants risk tolerance.[23] HSRs will submit ORLs with their hourly Day-Ahead and Real-Time Market offers.

A HSR will have the new and unique ability to update (reduce) its ORL ***after*** the real-time market close if it is no longer able to provide the Energy necessary to meet its Day-Ahead Operating Reserve award or the ORL the HSR submitted with its real-time offer. HSR will be expected to use the new GOCP to submit a revised ORL after the real-time market closes for a particular hour. Updates to a HSR's ORL must be submitted timely so the NYISO has the opportunity to use the information in its decision-making. If a HSR submits an ORL update after the NYISO issues an Out-of-Merit ("OOM") dispatch instruction to the HSR, then the HSR will be required to fully comply with the OOM instruction until the NYISO changes that instruction.[24] Accurate and timely reporting by HSR of changes to their ORL, UOL and LOL will be necessary to enable the NYISO to operate a secure and reliable system.

The NYISO proposes a new mitigation measure to address the possibility that a HSR's capability could be physically withheld by submitting an ORL that is less than a HSR's true capability to provide Operating Reserves. The NYISO will, after-the-fact, compare the state-of-charge information it receives for a HSR's component ESR to the ORL that the HSR submitted

[21] *See* NPCC Regional Reliability Directory 5, Rule 6 ("A Balancing Authority's synchronized reserve, ten-minute reserve, and thirty-minute reserve, if activated, shall be sustainable for at least one hour from the time of activation.")

[22] HSR are required to self-manage their State of Charge.

[23] A decision not to offer the available capability of a HSR is subject to review for possible physical withholding. *See* proposed Services Tariff § 23.3.1.1.1.1.

[24] *See* proposed revisions to Services Tariff § 4.4.1.2.

with its hourly offers, or via a post market close update. If the ORL value that the HSR provided is less than 75% of the minimum of (a) the HSR's Beginning Energy Level, or (b) the HSR's emergency ramp rate multiplied by the time period over which the Operating Reserves would have been scheduled, then the ORL submission will fail the "conduct" threshold.[25] When the NYISO finds a potential conduct violation it will next determine if the withholding caused a market impact that exceeds the thresholds set forth in its Market Mitigation Measures.[26] Physical withholding review is necessarily conducted *ex post*, and the Market Mitigation Measures require consultation with the Market Party before financial sanctions can be imposed.[27]

Illustrative, Simplified Example of How the New Operating Reserve Limit Functionality is Expected to Be Used in Practice

To demonstrate how the ORL functionality is expected to be used by a Market Participant that is responsible for offering and operating a HSR, the NYISO offers the following simplified, hypothetical example.

A HSR with an Upper Operating Limit ("UOL") of 75 MW and a Lower Operating Limit ("LOL") of -50 MW consists of (i) a 50 MW (200 MWh) ESR (battery) that is capable of ramping at 10 MW/minute,[28] and (ii) a 100 MW set of wind turbines—an Intermittent Power Resource that is not eligible to provide Operating Reserves in the New York Control Area. The Market Participant is preparing its HSR's offer for the upcoming, on-peak, Real-Time Market hour. The ESR has 40 MWh of fully available stored Energy and the Market Participant expects its wind turbines will produce approximately 25 MW, on average, over the upcoming hour based on its most recent wind forecast. At market-close,[29] the MP elects to submit a -$5/MWh offer to provide up to 25 MW of Energy from its HSR, it offers to provide an additional 10 MW of Energy for $30/MWh, and it offers the rest of the HSR's Energy (40 MW—up to the HSR's UOL) at a price of $60/MW. Based on its projection of Locational Based Marginal Prices ("LBMPs") at the HSR's location for the upcoming hour, the Market Participant does not expect the HSR's Energy schedule to exceed 35 MW at any point during the hour, so it submits an ORL of 30 MW with its real-time offer, which reflects the quantity of stored Energy the HSR will still have available if it is scheduled to produce 35 MW of Energy for the entire market hour.

As the real-time operating hour approaches real-time LBMPs at the HSR's location are ranging from $22-$26 (varying by dispatch interval), consistent with the Market Participant's expectations. Then, just 15 minutes before the start of the relevant real-time market-hour, a large New York Control Area ("NYCA") Generator trips offline, and the LBMP at the HSR's location

[25] However, withholding less than 5 MW of Operating Reserves will not result in a violation of the conduct threshold. *See* proposed revisions to Services Tariff § 23.3.1.1.1.1.

[26] *See* Services Tariff § 23.3.2.1.

[27] *See* Services Tariff § 23.3.3.1.1.

[28] The ESR's 10 MW/minute ramp rate means it can be scheduled to provide up to 50 MW of 10 minute synchronous Operating Reserves in the Real-Time Market. Each RTD dispatch interval is approximately 5 minutes long.

[29] Market close occurs 75 minutes before the start of the relevant Real-Time Market hour.

increases to $75/MWh. The Market Participant sees that the HSR's Real-Time Dispatch ("RTD") advisory schedule projects that RTD will likely dispatch the HSR to produce all of the Energy it offered over the course of the upcoming market-hour while the NYCA recovers from the loss. In response to the change in system conditions and their expected impact on the HSR's dispatch, the Market Participant uses the new GOCP tool to update it's HSR's ORL—reducing it from 30 MW to zero MW for the upcoming hour because the Market Participant now expects the HSR will produce Energy at or near its maximum output for as long as it is able, and that all of the HSR's remaining stored Energy will be used-up, so the HSR will not be able to provide any Operating Reserves.[30]

It is quite possible that the NYISO might need to convert some of its reserves to Energy under the hypothetical facts presented in this example. The NYISO uses the ORL update and any other information the Market Participant submits, such as a UOL update to reflect reduced ability to inject Energy after the Energy stored in the ESR is depleted, to make sure (1) the schedules the HSR receives are feasible, and (2) that the NYISO procures Operating Reserves from resources that will be able to provide Energy on a sustained basis if Operating Reserves are converted to Energy. Accurate and timely reporting by HSR of their ORL, UOL and LOL will be necessary to enable the NYISO to run a secure and reliable system.

C. Proposed HSR Capacity Market Participation Rules

As explained above, a HSR's resources will participate in the NYISO's Energy and Ancillary Services market collectively.[31] That will not be the case for the Capacity Market. Instead, each Generator that is a component of a HSR may be designated to participate as an individual Installed Capacity Supplier consistent with the Capacity Market participation rules the NYISO developed for Co-located Storage Resources. That means:

- Capacity Resource Interconnection Service ("CRIS") will be assigned to specific HSR Generators in the interconnection process based on an election by the developer;

- Each Generator that is a component of a HSR that is designated to participate in the Capacity Market will register as an individual Installed Capacity Supplier;

[30] Because the HSR's stored Energy plus its expected wind output may not be sufficient to allow the HSR to provide 75 MW of Energy (the HSR's UOL) for an entire hour, the Market Participant must also consider whether it needs to reduce its HSR's UOL for the upcoming hour. The Market Participant will also need to take action (by updating its offers for market-hours that have not already closed, or using the GOCP) to reduce the HSR's ORL and UOL for later Real-Time Market hours because the HSR will not have any stored Energy left to provide, so its output will be limited to the Energy produced by its wind turbines.

[31] For example, the Market Participant will submit a single Energy Market offer, receive a single schedule (Day-Ahead) or dispatch instruction (real-time) from the NYISO, and may employ any or all of a HSR's resources to respond to the NYISO's real-time dispatch instruction. A HSR will be subject to a single settlement for its Energy market participation, and for each Ancillary Services Market in which it participates.

- Each Generator that is an Installed Capacity Supplier and a component of a HSR will have its own Dependable Maximum Net Capability ("DMNC") value and will be subject to the DMNC rules for its Resource type;

    - For example, a HSR's ESR will follow the Tariff rules for determining ESR DMNC values; a HSR's solar Intermittent Power Resource ("IPR") will be subject to the DMNC rules that apply to solar IPRs;

- The Market Participant will be responsible for measuring and reporting operating data and operating limits for each Generator that the NYISO will use to calculate its ICAP and UCAP;

- UCAP calculations for HSR component Generators will account for shared constraints that may limit their UCAP. Shared limits may include the HSR's UOL (which represents the HSR's maximum injection at its POI to the grid) and limitations from shared components (such as an inverter bank that is shared by the ESR and the solar Generator) behind the POI;

    - For example, the ESR's derating factor will be determined using both the ESR's Availability Factor and the Availability Factor of the most limiting shared constraint[32];

    - Production factors for wind and solar Intermittent Power Resources ("IPRs") will be determined by considering each Generator's individual performance and the most limiting shared constraint.

The most significant HSR-specific changes to the NYISO's Capacity rules proposed in this filing address data submission requirements and the obligation of a HSR to indicate the availability of its Generators that are Installed Capacity Suppliers. Section 5.12.7.2 of the Services Tariff tailors the NYISO's longstanding "Bid, schedule or notify" obligation to fit HSR. The proposed rule requires a HSR to schedule a Bilateral Transaction, Bid into the Day-Ahead Market, or declare to be unavailable the Installed Capacity Equivalent of the Unforced Capacity that its Energy Storage Resource and any included landfill gas Intermittent Power Resource supply. The proposed rule allows for the possibility that some HSR Generators may not be Installed Capacity Suppliers, and recognizes that wind, solar and limited control run-of-river hydroelectric resources are not required to Bid or schedule a Bilateral Transaction in the Day-Ahead Market, but they are required to notify the NYISO if they suffer an outage.[33]

[32] A detailed explanation of the UCAP calculation for an ESR that participates in a CSR is provided in § 3.8.2 of Attachment J to the NYISO's Installed Capacity Manual. The rules for an ESR that participates in a HSR will be very similar. The Attachment will be updated to address differences between HSR and CSR before the HSR Tariff revisions become effective.

[33] *See, e.g.*, Market Services Tariff section 5.12.11.4 ("Intermittent Power Resources that depend upon wind or solar as their fuel may qualify as Installed Capacity Suppliers without having to comply with the daily bidding and scheduling requirements set forth in Section 5.12.7 of this Tariff…").

Proposed revisions to Section 5.12.5.5 of the Services Tariff identifies the information that HSR Generators that are Installed Capacity Suppliers are required to submit. Information that the NYISO requires in order to accurately calculate the Unforced Capacity ("UCAP") available from each HSR Generator that is an Installed Capacity Supplier includes (a) outage data for each HSR Generator, (b) UOL and LOL data for the HSR and for each Generator that participates in the HSR, and (c) outage and other information on shared limits including the HSR's POI limit, or a limit on an inverter that is shared by two or more of the HSR's Generators.[34] The proposed revision is modeled on the language that was accepted for Co-located Storage Resources.

The NYISO has not identified any new Installed Capacity mitigation rules that are needed to implement HSR. The NYISO proposes to clarify that each component Generator of a HSR will be treated as a distinct Examined Facility for purposes of assessing Buyer Side Mitigation unless the Developer certifies that all of the HSR's participating Generators qualify as Excluded Facilities and the NYISO determines they satisfy the relevant criteria. Otherwise, each Generator will be considered (and may be exempted) individually. Practically speaking, the only HSR component Generator that may require Buyer Side Mitigation review would be a landfill gas Intermittent Power Resource.

D. Proposed HSR Interconnection Rules

In its Order accepting the NYISO's Co-located Storage Resource ("CSR") filing, the Commission accepted tariff revisions to the NYISO's Large Facility Interconnection Procedures in Attachments S and X of the OATT that constitute most of the Tariff changes necessary to allow multi-unit projects to participate in the NYISO's interconnection process.[35] The NYISO subsequently included these tariff requirements in the NYISO's new Standard Interconnection Procedures located in Attachment HH of the OATT that were included in the NYISO's compliance filing in response to Order Nos. 2023 and 2023-A, which filing is currently pending before the Commission.[36]

While the currently effective interconnection procedures allow for the submission and evaluation of multi-Generator Facilities that could include CSRs and HSRs, HSRs are not specifically addressed in the interconnection procedures. As described below and detailed in Sections VI.C.(iii), (iv), and (v) of this filing letter, this filing proposes to add specific references to HSRs as a potential multi-unit participation option that an Interconnection Customer can

[34] Additional information about the data the NYISO will require to be reported is provided on slide 29 of the NYISO's December 21, 2022 presentation to its Management Committee (link): https://www.nyiso.com/documents/20142/35086670/5%20Hybrid%20Aggregated%20Storage%20(HSR)%20Market%20Design%20Proposal%20(MC).pdf/1d5be28f-e9f5-cac3-0ccc-5b13afb1ca15

[35] *See New York Independent System Operator, Inc*., 174 FERC ¶ 61,242 at PP 18-20, 25-26 (2021).

[36] As the NYISO noted in the Order 2023 Compliance Filing, the NYISO consolidated many of the requirements in its existing Attachments S and X of the NYISO OATT into its proposed new OATT Attachment HH, with variations from its existing requirements detailed in the compliance filing. *See* Order 2023 Compliance Filing at 27-28. The requirements in the new Attachment HH of the OATT will replace the rules in Attachments S and X going forward with limited exceptions in the proposed transition rules, subject to the Commission's acceptance of such tariff revisions in the Order No. 2023 proceeding.

propose in an Interconnection Request. The proposed revisions also specify the required parameters for a valid Interconnection Request and the permissible interconnection service levels that a HSR (and other multi-Generator Facilities) may request.

The NYISO proposes to include the described tariff revisions in its interconnection procedures in Attachments S and X to its OATT. In addition, as the NYISO has incorporated many of the underlying Attachment S and X requirements into its proposed new Standard Interconnection Procedures in Attachment HH to its OATT, the NYISO proposes to make conforming revisions to Attachment HH to include the same tariff changes in Attachment HH to ensure consistency for the proposed revisions for its existing and new tariff requirements.[37] In its Order No. 2023 compliance filing the NYISO has requested that the Commission accept the new Attachment HH with an effective date of May 2, 2024, so that the NYISO can commence implementing its new procedures in line with Order No. 2023, including opening the Application Window for Interconnection Requests for its Transition Cluster Study Process on August 1, 2024. In this proceeding, the NYISO does not request that the Commission rule on the merits of its new Attachment HH proposed in its compliance filing or on the NYISO's compliance with any substantive matter in the Order No. 2023 proceeding. Rather, the NYISO solely requests that the Commission determine that the NYISO's proposed tariff revisions for incorporating HSR requirements in its interconnection procedures are just and reasonable, which tariff provisions are currently located in Attachments S and X to the OATT and, pending a Commission determination in the Order No. 2023 proceeding, will thereafter be located in Attachment HH.[38] The NYISO shared its proposed conforming revisions to its Attachment HH with stakeholders and considered their comments in advance of submitting this filing.[39]

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[37] Certain of the edits proposed in Attachments S and X do not conform with Attachment HH due to changes to the interconnection procedures introduced by Attachment HH: (1) edits to a data form in Attachment X that has been consolidated with another data form in Attachment HH that already includes the revisions; (2) edits to clarify that an Interconnection Request for multiple projects on a single site can only be submitted if the projects are alternatives to each other (under Attachment HH, such alternatives are not permitted); and (3) edits regarding modification rules that are no longer applicable under Attachment HH. Alternative, mutually exclusive interconnection requests are no longer allowed.

[38] Because the Commission has not yet had the opportunity to fully consider and rule on the compliance revisions to OATT Attachment HH that the NYISO submitted for the Commission's consideration in Docket No. ER24-1915, the NYISO requests and consents to the Commission accepting the revisions to OATT Attachment HH proposed in this filing, contingent on the Commission's acceptance of the underlying tariff requirements in Attachment HH submitted in Docket No. ER24-1915. Having the revised OATT Section 40 rules in place to guide the submission of interconnection requests for, and the NYISO's evaluation of, projects that include expanded CSR or HSR resources in effect for the Application Window that opens on August 1, 2024 is critical. The proposed enhancements to the interconnection process support participation of these new resource types in the NYISO's markets as soon as possible. In the event the Commission were to reject the adoption of Attachment HH to the OATT in the NYISO's Order No. 2023 compliance proceeding, the NYISO would not apply the Attachment HH rules (including the conforming revisions proposed in this proceeding) and would instead apply the HSR rules in accordance with Attachments S and X to the OATT, subject to any future changes to the NYISO's interconnection procedures it may propose in response to the Commission's directives in the Order No. 2023 proceeding.

[39] *See* the NYISO's March 13, 2024 *Co-located Storage Resource Update Market Design Proposal* to its Business Issues Committee at slide 14; the NYISO's March 27, 2024 *Co-located Storage Resource Update Market Design Proposal* to its Management Committee at slide 15; NYISO's May 20, 2024 *Tariff Modifications to Support Hybrid and Co-located Storage Resources* presentation to its Market Issues Working Group.

In particular, the NYISO proposes the following revisions for HSRs in its interconnection procedures. First, the NYISO proposes to modify Sections 25.3, 25.8, 30.3 and 30.4 (with conforming revisions to OATT Sections 40.2 and 40.5) to establish rules applicable to Interconnection Requests submitted by CSRs, HSRs and other multi-Generator Facilities in the NYISO's interconnection process. These rules include the requirement in OATT Section 30.3.1 (with conforming revision to Section 40.5.5) that an Interconnection Request for a Facility[40] comprised of multiple Generators behind a single Point of Injection must be submitted by a single Interconnection Customer. These rules also limit the maximum permissible Energy Resource Interconnection Service ("ERIS") and Capacity Resource Interconnection Service ("CRIS") that may be requested by multi-Generator Facilities.[41]

Second, the NYISO proposes revisions to the Interconnection Request form in Section 30.14 (with conforming revisions to Section 40.25.1) to require additional information from developers for Facilities that submit Interconnection Requests and to provide clarifying edits to information requested with the Interconnection Request.

Third, the NYISO proposes revisions to the modification provisions in Sections 30.3.2.2 and 30.4.4.2. Revisions to Section 30.3.2.2 provide that prior to entering a Class Year Study, a Developer that modifies its interconnection service election can do so to the extent it is not a Material Modification and subject to limitations on total permissible requested ERIS and CRIS. The NYISO is not proposing a conforming change to Attachment HH which only allows for specific modifications within a short duration early in the study process that does not align with Class Year Study entry deadline contemplated in the revisions to Section 30.3.2.2.[42] In Section 30.4.4.2, the NYISO proposes revisions to allow the combination of two existing queue positions. In light of transition rules proposed in Attachment HH, such combinations can no longer be effectuated.[43]

[40] A "Generating Facility" as defined in the Standard Interconnection Procedures can be a "Generating Facility" or a "Cluster Study Transmission Project." The term, "Generating Facility" is defined as:

> an Interconnection Customer's device(s) for the production and/or storage for later injection of electricity identified in the Interconnection Request or CRIS-Only Request, but shall not include: the Interconnection Customer's Attachment Facilities or Distribution Upgrades. A facility comprised of multiple Generators will be treated as a single Generating Facility if the facility proposed in the Interconnection Request or CRIS-Only Request is comprised of multiple Generators behind a single Point of Interconnection, even if such Generators are different technology types.

See OATT Sections 25.1, 30.1 and 40.1.

[41] *See* proposed revisions to OATT §§ 25.3.1, 25.8.1, 30.3.1, 30.3.2.2 and 30.3.2.6, with conforming revisions to §§ 40.2.3.2, 40.5.6.2, 40.5.6.4 and 40.6.5.6.6.

[42] *See* OATT Section 40.6.3.

[43] *See* OATT Section 40.3.

E. Proposed Outage State and Deactivation Rules for HSR Component Generators

The final set of significant Tariff revisions that the NYISO identified as necessary to accommodate its proposed HSR market design is rules addressing HSR component Generators entering an "outage state" such as a Forced Outage, or an ICAP Ineligible Forced Outage ("IIFO"), or seeking to temporarily or permanently deactivate. The proposed Tariff revisions are, for the most part, set forth in Section 5.18 of the Services Tariff. More limited revisions are proposed to the Generator deactivation rules in Section 38 of the NYISO's OATT.

The NYISO needed to develop a new set of rules to address outages and deactivation of HSR component Generators for two reasons. First, an HSR is comprised of an ESR, plus at least one other Generator that will not be able to fully conform its output to a real-time dispatch schedule at all times.[44] Second, the NYISO's market rules require HSR to follow the real-time dispatch schedule the NYISO issues based on the HSR's offers and system conditions.[45] The HSR market design anticipates that Market Participants will use a combination of (i) high quality data and predictive capabilities, (ii) an appropriate offer strategy, and (iii) the HSR's ESR (in particular, the ESR's ability to withdraw or inject Energy as needed, and to ramp quickly in either direction), to conform HSR output to the real-time dispatch schedule that the NYISO issues. The NYISO is concerned that a HSR may not be able to follow real-time dispatch when its ESR is out-of-service. The rules proposed below were developed to address that concern. The proposed rules allow continued market participation by a HSR that lost its ESR so long as reliability is not compromised, but the rules require the Market Participant to either promptly return the ESR to operation, or to exit the HSR participation model and have each of the remaining resources participate in the markets consistent with their Generator-type(s) (as a wind, solar or landfill gas Intermittent Power Resource, or as a Limited Control Run-of-River Hydro Resource).

Each of the Generators that participate in a HSR will be individually subject to the Outage States and Short-Term Reliability Process rules in the NYISO's Services Tariff and OATT. Each of the component Generators will individually enter outage states such as Forced Outage or ICAP Ineligible Forced Outage. The HSR will be required to take a derate to reflect its reduced capability when one of its component Generators is out-of-service, but the HSR itself will not enter an outage state.

Because the ESR is expected to help the Market Participant conform it's HSR's output to the NYISO's real-time dispatch schedule, its loss represents a more significant concern than the loss of other HSR component Generators. If the ESR suffers a complete Forced Outage (a full derate) then the HSR will be required to temporarily cease operating and exit the markets to

[44] A HSR is comprised of an ESR plus one or more of a solar Intermittent Power Resource, a wind Intermittent Power Resource, a landfill gas Intermittent Power Resource and/or a Limited Control Run-of-River Hydro Resource.

[45] Alternative market participation options, including CSR, exist to accommodate resource configurations that are not able to follow a real-time dispatch schedule.

apply necessary limitations to its capabilities.[46] Without its ESR, a HSR cannot provide Operating Reserves or Regulation Service, cannot withdraw Energy, and its ramp capability is likely to be reduced. The ESR's changed capabilities must be accurately presented to the NYISO's Real-Time Commitment ("RTC") and Real-Time Dispatch ("RTD") programs. Following the temporary outage to ensure its reduced Ancillary Service capabilities and operating limitations are reflected, the HSR will be permitted to return to participating in the markets. It will still be subject to all HSR operating requirements and settlement rules, including the rules related to following NYISO dispatch instructions.[47]

If repairs to the ESR are going to take significant time to complete, the Market Participant will be required to submit a Repair Plan to the NYISO within 120 days of the start of the ESR's forced outage. The Repair Plan will need to demonstrate that the Market Participant is actively working to either repair the ESR or reconfigure the HSR so that the remaining Generators can each participate independently as Intermittent Power Resources and/or as a Limited Control Run-of-River Hydro Resource after the work is finished.

If the NYISO determines that the Market Participant has submitted a Credible Repair Plan that it is actively pursuing, then the HSR will be permitted to continue operating until the repairs (which can include reconfiguration) are completed. If the Market Participant does not submit a Repair Plan, or fails to adequately demonstrate to the NYISO that it is actively working to repair the ESR, then the NYISO will require the entire HSR to shut down at the end of the month that includes the 180th day of the ESR's Forced Outage. The HSR will be eligible to return when the ESR returns to service, or it finishes reconfiguring the remaining Generator(s) so they can each participate in the markets independently as Intermittent Power Resources and/or as a Limited Control Run-of-River Hydro Resource.[48]

The proposed revisions to the NYISO's Short-Term Reliability Process are similar to the proposed Outage State rules. They provide that a HSR's ESR is only permitted to submit a Generator Deactivation Notice to become Retired or to enter a Mothball Outage if all of that HSR's other remaining component Generators will be Retired on or before the Energy Storage Resource's retirement date, or will enter a Mothball Outage on or before the date the ESR enters a Mothball Outage. To comply with the restrictions, a Market Participant must reconfigure and change the market participation model of any non-ESR component Generators that it does not

[46] If the HSR's ESR is operational but another of the HSR's Generators suffers a Forced Outage, the Market Participant will be expected to derate the HSR's UOL, ORL and other affected operating parameters to reflect the HSR's reduced capability while the HSR continues participating in the markets using its remaining Generator(s). The Intermittent Power Resource or Limited Control Run-of-River Hydro Resource that suffered a Forced Outage would be expected to go through the outage states process in the same manner as other Generators. *See* proposed Services Tariff § 5.18.1.1.2.

[47] In addition to the NYISO Tariff rules that apply financial incentives and disincentives to encourage Resources to follow the NYISO's dispatch instructions, if a HSR that elects to continue participating in the markets without an operational ESR is not following ISO dispatch instructions and the ISO system operators or a Transmission Owner determine that the HSR's failure to follow dispatch instructions is detrimentally impacting NYCA or local reliability, then the NYISO may instruct the HSR to cease operating for the remainder of the real-time dispatch day. *See* proposed Services Tariff § 5.18.1.1.1.

[48] *See* proposed revisions to Services Tariff § 5.18.1.8.

intend to deactivate in advance of submitting a Generator Deactivation Notice for a HSR's ESR to the NYISO.[49]

Other revisions proposed to enable the implementation of HSR in the NYISO's markets are described in the section-by-section review of the proposed Tariff revisions below.

IV. OVERVIEW OF PROPOSED ENHANCEMENTS TO THE MARKET RULES FOR CO-LOCATED STORAGE RESOURCES

A. Introduction and Background

In addition to introducing a new HSR market participation model, the NYISO proposes enhancements to its existing Co-located Storage Resource ("CSR") rules that the Commission accepted in 2021.[50] The currently effective CSR rules enable an ESR plus a wind or a solar IPR that share a common Point of Injection/Point of Withdrawal to participate in the ISO Administered Markets as CSR. Each of the participating Generators submits offers and is scheduled or dispatched by the NYISO. The Generator-specific schedule or dispatch instructions the NYISO issues to each of the two Generators that participate as CSR respects their shared CSR injection Scheduling Limit and CSR withdrawal Scheduling Limit.[51]

The NYISO's Market Participants requested that the NYISO expand the range of resources that can be paired with an ESR to participate as CSR. The modifications proposed in this filing significantly expand the range of resources that will be permitted to pair with an ESR to include landfill gas Intermittent Power Resources, Limited Control Run-of-River Hydro Resources and Dispatchable Generators.[52]

CSR and HSR differ in several ways. CSR is limited to just two Generators. HSR can include between two and five Generators (but just one of each resource type). Each CSR Generator submits its own hourly offers, and the NYISO issues schedules and dispatch instructions to each of the CSR Generators that respect the shared CSR Scheduling Limits. A HSR submits a single offer for all of its Generators, and the Market Participant is responsible for deciding how to operate the HSR's Generators to achieve the real-time instructions it receives from the NYISO. Each CSR Generator participates in the markets based on its resource type, and CSR may include Intermittent Power Resources and Limited Control Run-of-River Hydro Resources that are not expected to closely follow the ISO's dispatch instructions and are ordinarily compensated for all of their Energy output (except when specifically instructed to

[49] *See* proposed new OATT § 38.3.1.7.

[50] *See New York Independent System Operator, Inc*., 174 FERC ¶ 61,242 (2021); Letter Order, Docket No. ER22-418-001 (January 13, 2022).

[51] A CSR can only include one Withdrawal Eligible Generator, its ESR. So, the CSR withdrawal Scheduling Limit isn't really "shared," but the CSR Generators' operation is interdependent. For example, scheduling the ESR to withdraw Energy may allow the NYISO to schedule additional injections by the non-ESR Generator.

[52] Dispatchable Generators is a broad category that can include everything from Fast-Start Resources that are able to start-up and be online in 30 minutes or less, to large Generators that may require many hours to start-up, but are able to follow the NYISO's dispatch instructions after they achieve a stable operating configuration.

limit their output to protect reliability).[53] A HSR's Generators participate in the Energy and Ancillary Services markets collectively, and a HSR is always required to closely follow the ISO's dispatch instructions. The installed Capacity Market participation rules are very similar for CSR and HSR Generators—each component Generator of a CSR or HSR participates in the Capacity market individually, and the allowed Capacity Resource Interconnection Service ("CRIS") effectively caps total Capacity market participation by the CSR or HSR Generators.

The proposed expanded definition of CSR is:

> **Co-located Storage Resources ("CSR"):** An Energy Storage Resource and one other type of Generator that is not a Withdrawal-Eligible Generator. The second participating Generator can be a wind, solar or landfill gas fueled Intermittent Power Resource, a Limited Control Run-of-River Hydro Resource, or a Dispatchable Generator which may require commitment and time to start-up. The two Generators must: (a) both be located behind a single Point of Injection (as defined in Section 1.16 of the OATT); (b) participate in the ISO Administered Markets as two distinct Generators; and (c) share a set of CSR Scheduling Limits. Generators that may not participate in the ISO-Administered Markets as components of a CSR include: (i) Limited Energy Storage Resources, (ii) a Generator comprised of a group of generating units at a single location, which grouped generating units are separately committed and dispatched by the ISO, and for which Energy injections are measured at a single location, (iii) Generators participating via a model that can accommodate several participants, including but not limited to Hybrid Storage Resources and Aggregations, and (iv) Generators that serve a Host Load.

The proposed definition intentionally limits CSRs to just one Withdrawal Eligible Generator—the ESR—and limits total participation to just two Generators. These limitations are necessary to address scheduling complexity and allow the NYISO to timely post real-time schedules for CSR Generators that account for the shared CSR Scheduling Limits.

The other important defined term to understand conceptually is "CSR Scheduling Limits." There are two CSR Scheduling Limits, a CSR injection Scheduling Limit and a CSR withdrawal Scheduling Limit. The NYISO's scheduling and dispatch functions ordinarily respect the CSR Scheduling Limits when it issues schedules or dispatch instructions to CSR Generators.[54] Abbreviated definition:

> **CSR Scheduling Limits:** The CSR injection Scheduling Limit is used to determine the combined Regulation Capacity, Operating Reserve and Energy injection schedules for,

[53] An ESR and/or a Dispatchable Generator that participates in a CSR is expected to closely follow the ISO's dispatch instructions.

[54] However, the CSR Scheduling Limits are "soft" limits that can be temporarily violated if enforcing them would require the NYISO to violate a "hard" scheduling limit, such as a CSR Generator's ramp rate. *See* NYISO's November 11, 2021 filing in Docket No. ER22-418-001 and Letter Order issued in Docket No. ER22-418-001 on January 13, 2022.

> and the maximum permitted net injection by a CSR's Generators. The CSR withdrawal Scheduling Limit sets is used to determine the combined Regulation Capacity and Energy withdrawal schedules for, and the maximum permitted net withdrawal by a CSR's Generators.

Minor revisions to the definition of CSR Scheduling Limits are proposed in this filing to address the addition of landfill gas Intermittent Power Resources ("IPRs") and Limited Control Run-of-River Hydro Resources ("LCROR"). These new Generator types are treated, more or less, the same as wind and solar IPRs. The proposed Tariff revisions to accommodate landfill gas IPRs and LCROR are *not* included in the abbreviated definition provided above, but are explained in the NYISO's overview of its proposed CSR Tariff revisions, below.

B. Revisions Proposed to Expand CSR Participation Options

In order to expand CSR to allow participation by landfill gas Intermittent Power Resources, Limited Control Run-of-River Hydro Resources and Dispatchable Generators, the NYISO proposes substantive changes to its market rules, broken down into two categories: (1) changes needed to accommodate landfill gas Intermittent Power Resources and Limited Control Run-of-River Hydro Resources, and (2) changes to the CSR Scheduling Limits to account for Generators that have a minimum stable operating configuration ("Minimum Generation"), including Fixed Block Units, and Generators that require time to start-up.[55]

i. *Changes Proposed to Accommodate Landfill Gas IPRs and Limited Control Run-of-River Hydro Resources*

Unlike wind and solar IPRs which are required to offer flexibly,[56] landfill gas IPRs and Limited Control Run-of-River Hydro Resources ("LCROR") are expected to submit self-committed fixed offers consistent with longstanding settlement rules that were developed to accommodate these resources participation in the markets.[57] To address the possibility that a CSR injection Scheduling Limit could be violated by self-committing either or both of a CSR's Generators, the NYISO proposes revisions to Section 4.2.1.3.2 of the Services Tariff to state, in pertinent part, "[r]esources that participate as CSR shall not submit Day-Ahead Market Bids that would self-commit either of the Generators, or both of the Generators together, to inject or to withdraw a quantity of Energy that exceeds an applicable CSR Scheduling Limit."[58] The revised

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[55] Under the currently effective CSR rules, only the ESR is eligible to provide Regulation Service and Operating Reserves.

[56] Services Tariff § 4.2.1.3.2 ("Day-Ahead Bids by Intermittent Power Resources that depend on wind or solar energy as their fuel shall be ISO-Committed Flexible and shall include a Minimum Generation Bid of zero megawatts and zero costs and a Start-Up Bid of zero cost.")

[57] The currently effective definition of Compensable Overgeneration in Section 2.3 of the Market Services Tariff indicates that all output from a Landfill Gas IPR or LCROR that submits a Self-Committed Fixed Bid is eligible for compensation (the output need not match the Bid amount).

[58] The proposed change also addresses potential concerns about self-committed offers by Dispatchable Generators that participate as CSR. Proposed revisions addressing the Real-Time Market are in Market Services Tariff § 4.4.1.2.1.

rule is needed to prevent CSR Generators from individually or collectively self-committing to schedules that exceed a CSR injection Scheduling Limit.

The second change that is proposed to accommodate participation by landfill gas IPRs and LCROR is needed to address the intermittent and not fully controllable nature of their output. When a pair of CSR Generators' combined Energy and Ancillary Services Schedules is within 10%[59] of the CSR injection Scheduling Limit, the NYISO instructs the wind or solar IPR not to exceed its NYISO-issued schedule. The instruction is effectuated via the application of a Wind and Solar Output Limit. The purpose of this instruction is to provide a buffer to ensure the deliverability of scheduled Ancillary Services and Energy from the participating ESR given the potential for unexpected increases in output from the co-located IPR. When a Wind and Solar Output Limit applies, the IPR is not paid for output in excess of its schedule plus a 3% of upper operating limit ("UOL") tolerance.[60] The IPR may also be subject to additional charges in accordance with Sections 15.3A.1.1 of the Services Tariff for overproducing Energy. Because landfill gas IPRs and LCROR present the same risk of unanticipated overproduction of Energy as wind and solar IPRs do, the NYISO proposes to apply Wind and Solar Output Limits to these Resource types if they participate as CSR and the CSR's total output approaches the CSR injection Scheduling Limit.[61] The proposed revision will treat landfill gas IPR and LCROR that participate as CSR comparably to wind or solar IPRs that participate as CSR.

ii. *Changes Proposed to Accommodate Generators that Are Fixed Block Units or that Have a Minimum Generation Level, and Generators that Require Time to Start-Up*

Dispatchable Generation includes within its broad scope Generators that have a Minimum Generation block plus a dispatchable operating range and Fixed Block Units, which are Fast-Start Resources that can only be dispatched in one of two states: either turned completely off, or turned on and run at a fixed capacity level (ordinarily, the Generator's UOL). Most Dispatchable Generators that are not ESRs requires time to start-up and achieve a stable operating configuration. Because none of the Generator types in the original CSR configuration the Commission accepted in 2021 had minimum output levels or require time to start-up, Tariff revisions are necessary to address and accommodate participation by these new resource types as CSR.

[59] The definition of CSR Scheduling Limits allows the NYISO to change the value that is ordinarily used (which is currently set at > 90% of the CSR Scheduling Limit), based on its experience with actual CSR operation in its markets. The Tariff requires the NYISO to post the % value that is currently in-effect on its website, so CSRs will know when to expect that the NYISO will apply a Wind and Solar Output Limit to the IPR or LCROR. If the NYISO determines that the % value it ordinarily uses should be changed, then the NYISO will post a new value on its website.

[60] Section 4.5.2.1 of the Services Tariff identifies exceptions to this rule that apply when LBMPs are negative, or during reserve pickup reliability events.

[61] The proposed Tariff revisions implementing the proposed change are in §§ 2.3 (definitions of Compensable Overgeneration and CSR Scheduling Limits) and 2.23 (definition of Wind and Solar Output Limit) of the Services Tariff.

The first proposed change addresses possible interaction between self-commitment of the ESR and the CSR injection Scheduling Limit. It provides:

> An Energy Storage Resource that, together with a Generator that submits a Minimum Generation Bid or is a Fixed Block Unit, participates as Co-located Storage Resources shall not submit Day-Ahead Market Bids that would self-commit the Energy Storage Resource to inject Energy such that the Generator's Minimum Generation (or full output for a Fixed Block Unit), plus the Energy Storage Resource's self schedule, exceeds the CSR injection Scheduling Limit.[62]

The proposed rule will prevent a Market Participant from self-scheduling its ESR in a manner that would prevent the NYISO from committing the other Generator that participates in the CSR.

The second Tariff revision is proposed to accommodate CSR Generator start-up and shut-down times, and to ensure that the NYISO will not give a pair of CSR Generators a combined schedule that exceeds the CSR injection Scheduling Limit while the non-ESR Generator is starting-up or shutting-down:

> When a Generator that submits a Minimum Generation Bid or that is a Fixed Block Unit participates as a Co-located Storage Resource, the ISO will treat the Generator as operating at, at least, its Minimum Generation Level (or full output for a Fixed Block Unit) for the purpose of scheduling the Energy Storage Resource whenever the Generator is scheduled, including during start-up and shut-down periods.[63]

Accurately predicting the duration of each and every Generator start-up or shut-down is not possible. The proposed rule was developed to prevent the CSR injection Scheduling Limit from being violated. If the operating bandwidth provided by this rule proves insufficient on a particular operating day, then the Market Participant will need to promptly inform the NYISO, the same as any other Generator that is experiencing operational problems in-day.

Other revisions proposed to expand the resource pairing options for CSR Generators are described in the section-by-section review of the proposed Tariff revisions below.

V. PROPOSED TARIFF REVISIONS TO ENHANCE FAST-START RESOURCES

In addition to requesting the ability to create a CSR that is comprised of an ESR and a Fast-Start Resource,[64] stakeholders asked the NYISO to develop rules that will allow a Fast-Start

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[62] *See* proposed revisions to Services Tariff § 4.2.1.3.2. Proposed revisions addressing the Real-Time Market are in Services Tariff § 4.4.1.2.1.

[63] *Id.*

[64] A Fast-Start Resource is a Generator that submits Start-up Bids, that can respond to an instruction to start, synchronize to the grid, and inject Energy in 30 minutes or less, and that has a minimum run time of one hour or less.

Resource to add or include a battery, where the (most likely fossil) Generator and the battery are operated using a common control system. The NYISO explained to stakeholders that to avoid unnecessary duplication, the "enhanced Fast-Start" request could not overlap the functionality of CSR, and worked with its stakeholders to develop proposed revisions to the definition of Fast-Start Resource in Section 2.6 of the Services Tariff. The modifications the NYISO and its stakeholders developed are set forth below.

> **Fast-Start Resource**: A Generator that (1) submits Start-up Bids and/or Minimum Generation Bids in the Day-Ahead or Real-Time Markets, (2) can respond to instructions to start, synchronize to the NYS Power System and inject Energy within thirty (30) minutes, and (3) has a minimum run time of one hour or less. Fast-Start Resources include but are not limited to Fixed Block Units.
>
> A Fast-Start Resource may be enhanced by an integrated battery component or the addition of a battery, so long as the battery is integrated into the Fast-Start Resource's control system. Such an enhancement may only be used to: (a) decrease start-up time, (b) increase ramp rate, (c) smooth ramp rate, and/or (d) enable the Fast-Start Resource to provide 10-Minute Non-Synchronized Reserve. An enhanced Fast-Start Resource that has not started-up and is not already fully synchronized to the NYS Power System is not eligible to provide Spinning Reserve. An enhanced Fast-Start Resource that is a Fixed Block Unit may not use its battery to add a flexible operating range. An enhanced Fast-Start Resource with a flexible operating range that has started-up and is fully synchronized to the NYS Power System is eligible to use its battery to supplement the Spinning Reserve it can provide, but must ensure the Spinning Reserves will be sustainable for at least one hour if they are converted to Energy. The battery may not be used to increase the Upper Operating Limit of the Fast-Start Resource. An enhanced Fast-Start Resource is not permitted to be a Withdrawal-Eligible Generator, nor may it use Station Power to charge its battery. Finally, except as set forth above, an enhanced Fast-Start Resource is subject to the same market participation rules and requirements as other Fast-Start Resources.

The proposed revisions allow the addition to or inclusion of a battery with a Fast-Start Resource. The proposed rules allow the battery to be used to enhance the Fast-Start Resource's operation, but do not allow the battery, on its own, to enable the Fast-Start Resource to provide services that it would not otherwise be capable of providing. For example, the addition of a battery will not enable an offline Fast-Start Resource to provide synchronized Operating Reserves.[65]

The NYISO requests authority to make the proposed enhanced Fast-Start changes effective on July 29, 2024, 61 days after the date this filing is submitted.

[65] If the Tariff revisions proposed in this filing are accepted it will be possible to create a CSR that is comprised of an ESR (battery) that does not require any time to start-up, and a Fast-Start Resource that requires time to start-up.

VI. SECTION-BY-SECTION REVIEW OF PROPOSED TARIFF REVISIONS

A. Proposed Revisions to Defined Terms in Services Tariff and OATT

i. *Services Tariff Section 2 and OATT Section 1*

The NYISO proposes a number of new defined terms, and proposes to modify several existing defined terms.[66] The proposed changes to the Services Tariff definitions and the OATT definitions are not always identical but they result in a consistent set of defined terms,[67] so the NYISO describes all of the proposed revisions to defined terms that appear in Section 2 of the Services Tariff and in Section 1 of the OATT here.

Under the definitions of **Capacity Limited Resource**, **Energy Limited Resource**, **Energy Storage Resource** and **Hybrid Storage Resource** the NYISO proposes to add a statement explaining that a Resource that is capable of qualifying to participate in the markets under more than one different market participation method must select just one market participation method and follow the rules that apply to the selected participation method.

As explained in Sections IV.A and IV.B of this filing letter above, the NYISO proposes to expand the definition of **Co-located Storage Resources ("CSR")** to allow landfill gas Intermittent Power Resources, Limited Control Run-of-River Hydro Resources, Dispatchable Generators and Block Loaded Fast-Start Resources to participate as CSR. The definition was also revised to make clear that (1) only the ESR is allowed to be a Withdrawal Eligible Generator, and (2) that CSR participation is strictly limited to just two Generators.

The NYISO proposes to modify the definition of **Commenced Repair** to incorporate additional options that will be available to a Market Participant when the ESR in a HSR needs to be repaired or deactivated. The proposed revisions will allow the Market Participant to either choose to repair the ESR, or to deactivate the ESR and reconfigure the HSR's remaining component Intermittent Power Resource(s) and/or Limited Control Run-of-River Hydro Resource so that they can participate in the markets as independent Generators on a going-forward basis.

The proposed revisions to the definition of **Compensable Overgeneration** will allow the NYISO to impose a Wind and Solar Output Limit on landfill gas IPRs and LCROR at times when the combined schedule of the two CSR Generators approaches the CSR injection Scheduling Limit, and to deny landfill gas IPRs or LCROR compensation when they are subject to a Wind and Solar Output Limit and the Generator's total output exceeds its schedule by more than 3% of the Generator's normal UOL. The proposed treatment is comparable to how wind or solar IPRs that participate in a CSR are treated under the currently effective Tariff rules.

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[66] This section does not specifically call-out instances where the NYISO adds the words "Hybrid Storage Resource" to a list of Generator or Resource types in a Tariff definition.

[67] In some cases the definition included in the Services Tariff is a cross-reference to the definition in the OATT, or vice-versa.

The NYISO proposes minor revisions to the definition of **CSR Scheduling Limits** that will enable the NYISO to treat landfill gas IPRs and LCROR that participate in a CSR the same way wind and solar IPRs are treated.

Proposed revisions to the definition of **Fast-Start Resource** are addressed in Section V. of this filing letter.

The NYISO proposes to add **Hybrid Storage Resource ("HSR")** as a new defined term in Section 2.8 of the Services Tariff and Section 1.8 of the OATT. The proposed market rules for HSR are explained in Section III. of this filing letter, above.

Inactive Reserve is, ordinarily, an outage state that a Generator can voluntarily enter for up to six months for reasons that are not equipment related. **Inactive Reserve** is not a Forced Outage and does not have detrimental consequences to a Generators Equivalent Demand Forced Outage Rate ("EFORd"), but does preclude the Generator from participation in the Capacity market. If a HSR loses its ESR, the NYISO proposes to allow the HSR's remaining IPR(s) and/or LCROR to enter Inactive Reserve for more than six months while the Market Participant diligently pursues either (i) repairing or replacing the damaged ESR, or (ii) reconfiguring the IPR(s) or LCROR so that they will be able to participate in the NYISO's markets as independent Generators on a going-forward basis.

Lower Operating Limit ("LOL")—the NYISO proposes to clarify that the Lower Operating Limit for a Hybrid Storage Resource may not be set to greater than zero MW. In other words, a HSR cannot use its LOL to self-commit the HSR to produce Energy.

The NYISO proposes to add the new defined term **Operating Reserve Limit ("ORL")**, which is "The capability, in MW, of a Hybrid Storage Resource to produce Energy for at least one hour if its Operating Reserve schedule is converted to Energy. The capability of a Hybrid Storage Resource to provide Operating Reserves shall be based on the capability of its Energy Storage Resource." The ORL is discussed extensively in Section III.B. of this filing letter, above.

The NYISO proposes that **Station Power** will not include Energy used to charge a Hybrid Storage Resource or the battery of an enhanced Fast-Start Resource.

Consistent with the currently effective rules for ESR, HSR will have a **Start-Up Period** of zero minutes and will not be permitted to submit a **Start-Up Bid**.

A **Supplemental Resource Evaluation ("SRE")** is a type of out-of-market supplemental reliability commitment. The NYISO proposes language specifying the responsibilities of a HSR when it responds to an SRE. A HSR's ESR is expected to be capable of injecting Energy at its full capability for the duration of the HSR's SRE schedule. The proposed rule is consistent with how ESRs are treated.

Finally, the NYISO proposes to add an explanation of the circumstances under which a landfill gas IPR or a LCROR that participate in a CSR may be subject to a **Wind and Solar**

Output Limit. The NYISO explains its proposed rules in Section IV.B.i of this filing letter, above.

B. Proposed Revisions to the Market Services Tariff

i. *Section 4.1.8, Commitment for Reliability*

HSR will be eligible to recover costs they incur responding to an out-of-market reliability commitment on the same basis as ESRs and DER Aggregations. The currently effective rules were accepted by the Commission in the NYISO's 2019 DER filing and recently became effective when the Commission allowed the NYISO to implement DER in its markets.[68]

ii. *Section 4.2, Day-Ahead Market Requirements*

Section 4.2.1.3.1 of the Services Tariff sets forth general rules for Day-Ahead Bids (offers). Proposed additions to this section address HSR. They include the obligation for a HSR to submit a single continuous bid curve representing the Capacity, in MW, available for scheduling in the Day-Ahead Market for each hour of the Dispatch Day. A rule that prevents HSR from submitting a UOL or LOL that would result in a self-commitment to inject or withdraw Energy,[69] and the obligation to submit an Operating Reserve Limit ("ORL") with each of its hourly offers.

Section 4.2.1.3.2 of the Services Tariff addresses Day-Ahead bid parameters. The NYISO proposes several new or revised requirements that will apply to Generators that participate in a CSR. The new rules prohibit either or both of the Generators in a CSR from (individually or collectively) submitting Day-Ahead Market Bids (offers) that would Self-Commit either or both Generators to inject or to withdraw a quantity of Energy that exceeds an applicable CSR Scheduling Limit. The proposed rules also prohibit a CSR's ESR from self-committing at a level that would effectively block the other CSR Generator from being committed because it has a Minimum Generation level. The requirements are necessary to prevent Generators in a CSR from receiving infeasible schedules that could have adverse reliability consequences, or delay the NYISO's posting of the Day-Ahead Market. The proposed revisions to Section 4.2.1.3.2 of the Services Tariff are also discussed in Sections IV.B.i and IV.B.ii of this filing letter, above.

Proposed new Section 4.2.1.3.5 states that in addition to submitting all of the required offer parameters of Generators, a HSR must also submit an ORL for each hour of the Day-Ahead Market Day to indicate the Energy that the Hybrid Storage Resource reasonably expects it will be able to provide for at least one hour if its Operating Reserve schedule is converted to Energy.

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[68] *See also,* discussion of the definition of *Supplemental Resource Evaluation* in this filing letter (above).

[69] HSR are permitted to submit offers that include a self-commitment. However, HSR are not permitted to achieve a self-commitment by over- or under-stating the HSR's physical operating capabilities.

A proposed addition to Section 4.2.3 of the Services Tariff explains that the NYISO's Day-Ahead Security Constrained Unit Commitment ("SCUC") will account for the Operating Reserve Limit a Hybrid Storage Resource submits in determining its schedule.

In Section 4.2.3.1 the NYISO proposes to require Transmission Owners to use the NYISO's new electronic portal (the Grid Operations Coordination Portal ("GOCP") described in this filing letter) to request the availability of a HSR to meet changed local conditions that may cause the NYISO's Day-Ahead Resource schedules to be inadequate. The NYISO fulfills such requests by issuing a Supplemental Resource Evaluation ("SRE").

iii. *Section 4.4, Real-Time Market Requirements*

Section 4.4.1.2 of the Services Tariff addresses real-time bid parameters. Proposed changes to this Section of the Tariff address the NYISO's Real-Time Market implementation of ORLs for HSR. The NYISO starts by requiring the submission of an ORL with each Real-Time Market Bid to indicate the Operating Reserves the HSR reasonably expects it will be able to provide for an hour if its Operating Reserve schedule is converted to Energy. Next, the NYISO addresses the obligation for HSR to timely update their ability to provide Operating Reserves, even after the scheduling window closes for a Real-Time Market hour. Updates provided after market-close must be submitted via the GOCP (electronic portal). When a HSR submits an update to reduce its ORL, it is also expected to submit a reduction to its UOL and/or LOL via the GOCP if reductions to either of those values is also warranted. Updates submitted via the GOCP after market close cannot increase the ORL, UOL or LOL above the value that was submitted with a HSR's offer for the relevant hour.

The proposed revisions to Section 4.4.1.2 of the Services Tariff makes clear that it is the responsibility of the Market Participant to submit updates to its HSR's ORL, UOL and LOL in advance, so the NYISO uses accurate information to determine each HSR's real-time Ancillary Service schedule and Energy dispatch. If the NYISO's operators issue an Out-of-Merit (real-time reliability) dispatch instruction to a HSR, the HSR will be expected to fully comply with the Out-of-Merit instruction. Requests by a Market Participant to change its HSR's UOL, LOL or ORL after the NYISO has issued an Out-of-Merit instruction to the HSR must be approved by the NYISO's operators, and can only be effectuated by the HSR after the NYISO issues a change to the Out-of-Merit instruction.

Proposed revisions to Services Tariff Section 4.4.1.2.1 restates (for the Real-Time Market) several HSR requirements that were already described for the Day-Ahead Market, including the obligation to submit a single, continuous bid curve (covering both injections and withdrawals) and the requirement that HSRs are not permitted to self-schedule by submitting a LOL that is greater than zero MW, or a UOL that is less than zero MW. However, the majority of the proposed revisions to Section 4.4.1.2.1 focus on self-commitment requests by CSR Generators, and in particular on ensuring that the CSR injection Scheduling Limit will not be violated by a pair of CSR Generators submitting self-committed offers that (singly or together) exceed the injection Scheduling Limit. The NYISO explained its proposed revisions to Services Tariff Section 4.4.1.2.1 in greater detail in Sections IV.B.i and IV.B.ii of this filing letter, above.

In Section 4.4.3.1.1 of the Services Tariff the NYISO clarifies the obligation of HSR to timely notify the NYISO of changes to their ability to provide Operating Reserves by submitting ORL updates, and reserves to itself the ability to account for a HSR's ability to sustain an Energy schedule when it issues emergency Energy schedules. The proposed treatment is consistent with the Tariff rules that apply to ESRs today.

iv. *Section 5.12, Capacity Market Requirements*

The NYISO proposes several modifications to Services Tariff Section 5.12 that will tailor its existing Installed Capacity market rules to accommodate HSRs and additional Generator types participating as CSR. As a general rule, each Generator that participates as a CSR or in a HSR will be subject to the Installed Capacity market rules applicable to its Resource type. Additional Installed Capacity market rules are necessary because the Generators will be located behind a shared Point of Injection that may not be able to simultaneously accommodate the full output of all participating Generators, and a derate or outage of the interconnection facilities affects the CSR Generators' ability to provide Unforced Capacity. The tariff modifications described in this section will allow the NYISO to accurately reflect the capacity a CSR or HSR Generator is capable of supplying, and help maintain the reliability of the New York State Transmission System.

In Section 5.12.1 the NYISO introduces HSR and the additional Generator types that will now be able to participate as CSR. No substantive changes to the currently effective Capacity Market rules are proposed.

The NYISO proposes a minor revision to Section 5.12.1.11.3 of the Services Tariff to explicitly recognize that there are Tariff prohibitions that may preclude some Generators located East of the Central-East constraint from providing 10 Minute Non-Synchronized Reserves.

Section 5.12.5.5 of the Services Tariff currently addresses Co-located Storage Resources. Because the Capacity Market rules for Generators that participate as CSR and Generators that participate as HSR are very similar, the NYISO proposes to expand this section to cover HSR in addition to CSR. The proposed rules for HSR Generators largely mirror the existing rules for CSR Generators, and implicitly recognize that a HSR's Lower Operating Limit ("LOL") is analogous to a "CSR withdrawal Scheduling Limit" and a HSR's Upper Operating Limit ("UOL") is analogous to a "CSR injection Scheduling Limit."[70]

Proposed revisions to Section 5.12.6.2 of the Services Tariff better document how Unforced Capacity will be calculated for Generators that participate as CSR or in a HSR, but do not propose any substantive changes to the existing rules.

Section 5.12.7 of the Services Tariff sets forth the baseline Day-Ahead Market obligation for Generators to Bid, schedule (a Bilateral Transaction) or notify the NYISO of an outage, and a number of exclusions from or limitations to those requirements for specific Resource types. The

[70] The key difference is that the NYISO manages CSR Scheduling Limits, whereas it is the Market Participant's responsibility to dispatch a HSR's Resources in a manner that respects the HSR's UOL and LOL and follows the NYISO's dispatch instructions.

NYISO is not proposing to change any of the Bid, schedule or notify rules in this filing, only to clarify how those rules apply to Generators that participate as CSR, or in a HSR. Section 5.12.7.1 of the Services Tariff addresses how the rules apply to Generators that participate in the markets as CSR. The NYISO proposes only one change to the currently effective rules—adding mention of LCROR and (generic) Generators as a possible CSR participants. Proposed new Section 5.12.7.2 adds a parallel set of rules for Generators that participate as HSR. The proposed rules for HSR Generators largely mirror the rules in Section 5.12.7.1 for CSR, but reflect a narrower range of possible Generator participants.

The final proposed revision states that the sanctions in Section 5.12.12.2 of the Services Tariff may apply to a HSR's Generators that fail to comply with the bid/schedule/notify requirements set forth in Section 5.12.7.2 of the Services Tariff. The proposed language is consistent with how the Tariff treats other Generators.

v. *Section 5.18, Generator Outage States*

The NYISO proposes extensive revisions to its Outage State rules to address what must happen if a HSR loses its ESR. At a high level, the NYISO does not expect that a HSR will be able to closely follow real-time dispatch instructions without its ESR. The need and reason for the proposed changes to the Outage State and Short-Term Reliability Process (OATT Section 38) rules is explained in detail in Section III.E of this filing letter. A brief summary of the section-by-section changes to the Outage States rules is provided below.

The NYISO proposes to revise Section 5.18 of the Services Tariff to explain that the outage state rules apply to each of a HSR's Generators individually, and what a HSR must do when one of its component Generators enters an outage state. The proposed rules address both the expected actions by the Generator that is in an outage state, and how the HSR may continue to participate in the markets using its remaining Generators.

Proposed revisions to Section 5.18.1.1 (Forced Outages and Commenced Repair) explain that a HSR's loss of its ESR will be treated differently from the loss of other HSR component Generators. This section also first introduces the concept that "repair" of a HSR that loses its ESR could be achieved by reconfiguring the remaining Generators to each participate in the markets individually based on their resource types. It is up to the Market Participant to decide how it wants to operate the Generators going forward, and to timely submit a repair plan for the NYISO's consideration. The revisions to this section allow continued participation by the HSR's remaining Generators while a repair plan is diligently pursued, subject to additional rules that follow.

Proposed new Section 5.18.1.1.1 explains what a HSR is required to do on the real-time operating day that its ESR experiences a Forced Outage. The rules proposed in this section are necessary because a HSR necessarily relies on its ESR to provide Ancillary Service products such as Regulation Service and Operating Reserves. Proposed Section 5.18.1.1.1 also gives the Market Participant the option to elect to remove its remaining Generators from the market and to temporarily place them in Inactive Reserve while it diligently pursues either (i) the repair or replacement of the HSR's ESR component, or (ii) the reconfiguration of the remaining

Generators so that they can operate as independent Intermittent Power Resources and/or a Limited Control Run-of-River Hydro Resource on a going-forward basis.

Finally, Section 5.18.1.1.1 allows the NYISO or a Transmission Owner to require a HSR to cease operating for the remainder of a real-time operating day if the HSR's inability to follow dispatch instructions is causing reliability concerns.

Proposed new Section 5.18.1.1.2 explains that if a HSR loses one or more of its IPRs or its LCROR, but its ESR is still available, then the HSR is expected to promptly submit derates and continue participating in the markets using its remaining resources.

Proposed revisions to Sections 5.18.1.4 through 5.18.1.6 recognize the option that a HSR is given to submit a repair plan that proposes to reconfigure its remaining Generators instead of repairing or replacing an unavailable ESR.

Sections 5.18.1.6 and 5.18.1.7 of the Market Services Tariff addresses the NYISO's obligation to determine whether a Market Participant has "Commenced Repair" of its Generator by the 160th day of a Forced Outage. Due to the complexity of the determination the NYISO may need to make if it is assessing a repair plan for a HSR's ESR, it proposes to require all updates to be submitted at least 10 days before the date by which the NYISO must issue its decision.

Section 5.18.1.8 addresses what happens if the Forced Outage of an ESR that participates as a component of a HSR expires or terminates and, as a result, that ESR enters an ICAP Ineligible Forced Outage. If the Market Participant has Commenced Repair to repair the ESR or to reconfigure its HSR's remaining Generators to permit them to participate in the markets as independent Generators, then the remaining Generators will be permitted to continue participating in the markets as a HSR so long as the repair is diligently pursued. Otherwise, all of the HSR's Generators will enter an ICAP Ineligible Forced Outage at the same time the ESR does.

Section 5.18.3.1 of the Market Services Tariff addresses Generators entering a Mothball Outage. The NYISO's proposed revisions state that an ESR that participates in the ISO-Administered Markets as a component of a HSR can only enter a Mothball Outage if all of that HSR's component Generators will be in a Mothball Outage or are Retired. An Intermittent Power Resource or Limited Control Run-of-River Hydro Generator that participate in the ISO-Administered Markets as a component of a HSR may enter a Mothball Outage in the same manner an independent Generator would.

vi. *Section 7.2.8, Payment of Actual Energy Withdrawals*

Services Tariff Section 7.2.8 states that when the applicable Load Serving Entity ("LSE") requires an ESR to pay a retail rate for its charging withdrawals, the NYISO will (i) issue a credit to the Customer for the associated Actual Energy Withdrawals, and (ii) assess a charge to the LSE for those same Actual Energy Withdrawals. The NYISO proposes that HSRs will be subject to this same rule for their withdrawals from the grid at their POI/POW. In addition, the

NYISO proposes a minor clarification for CSR, addressing the broader range of non-ESR resources that will become eligible to participate as CSR. The proposed tariff modification will produce accurate settlements for both the ESR that participates in a CSR, and the relevant LSE.

vii. *Section 8.2, Additional Requirements Applicable to Suppliers*

Consistent with the rules that the Commission accepted for CSR in 2021, the NYISO proposes to require Generators that participate in the ISO Administered Markets together in a HSR to (a) share the same bidding entity and billing organization, and (b) provide the ISO at least 60 days advance written notice in order to change the bidding entity or the billing organization.

viii. *Services Tariff Section 13, Metering*

The NYISO proposes new Services Tariff Section 13.2.5, which addresses the real-time metering and data requirements for HSR. The proposed rules are very similar to the rules that apply to ESRs. There are additional data reporting requirements that apply to HSR Generators that are ICAP Suppliers.[71]

ix. *Section 15.2, Voltage Support Service*

The NYISO proposes revisions to Services Tariff Section 15.2.2.1 to explain how voltage support service compensation will be implemented for HSR. The proposed HSR rules are similar to the currently effective rules for CSR.

x. *Section 15.3A, Charges Applicable to Suppliers That Are Not Providing Regulation Service*

Rate Schedule 3-A addresses fees and charges that may apply when a Generator does not follow its NYISO-issued schedule or dispatch. The NYISO proposes revisions to the Overgeneration Charges in Section 15.3A.1.1 to address:

(a) a landfill gas IPR or a LCROR that participate in a CSR, at times when one of these resource types is subject to a Wind and Solar Output Limit and operates above its schedule plus an allowed tolerance; or

(b) A HSR that is not providing Regulation Service, that is scheduled to inject Energy, and that operates above its schedule plus an allowed tolerance.

The proposed overgeneration charge for these resource types is the same as the charge that is assessed to wind and solar Generators under similar circumstances in the currently effective Tariff rules.[72]

[71] *See, e.g.*, proposed Services Tariff Section 5.12.5.5.

[72] All of the identified Generator types are potentially eligible to receive out-of-market REC incentives to produce additional Energy.

The NYISO also proposes to revise Section 15.3A.1.2 to make HSRs subject to Persistent Over-Withdrawal Charges on the same basis that ESRs are subject to those charges under the currently effective Tariff rules.

xi. *Section 15.4, Operating Reserves*

Section 15.4 of the Services Tariff addresses the provision of Operating Reserves. ESRs, including ESRs that participate as CSR or in a HSR, are eligible to provide Operating Reserves. IPRs are not currently eligible to provide Operating Reserves in New York. The NYISO proposes two categories of revisions to Section 15.4: (a) revisions to address the provision of Operating Reserves by a HSR, and (b) revisions that recognize CSR may now include two Generators (an ESR and a Dispatchable Generator) that are each capable of providing Operating Reserves. The provision of Operating Reserves by a HSR is explained in Section III.B of this filing letter.

In proposed revisions to Sections 15.4.1.3, 15.4.2.1 and 15.4.3.1 the NYISO explains that ORL values and updates that a Market Participant submits for its HSR are expected to be based on the physical or operational capability of the HSR's ESR, not on "economic" limitations.[73]

Proposed revisions to Market Services Tariff Sections 15.4.2.1 and 15.4.3.1 explain how the CSR injection Scheduling Limit and the CSR withdrawal Scheduling Limit apply to limit combined Energy and Ancillary Service Schedules. For net injection schedules (measured at the Point of Injection/Point of Withdrawal) the sum of the amount of Energy,[74] Regulation Service and Operating Reserves the CSR Generators are scheduled to provide are not ordinarily[75] permitted to exceed the CSR injection Scheduling Limit. For net withdrawal schedules (again, measured at the Point of Injection/Point of Withdrawal) the net amount of Energy that the ESR is scheduled to withdraw,[76] plus the amount of Regulation Service the CSR Generators are scheduled to provide, are not ordinarily permitted to exceed the CSR withdrawal Scheduling Limit.

The NYISO also proposes revisions to Section 15.4.3.1 of the Market Services Tariff to explain that the Operating Reserves award a HSR receives may be limited based on its ORL.

Finally, the NYISO proposes to revise Section 15.4.3.5 (Performance Tracking and Supplier Disqualifications) to make clear that when a HSR's scheduled Operating Reserves are converted to Energy, the HSR's performance will be measured against its Operating Reserve

[73] Using the ORL to withhold available capability will be subject to evaluation for possible physical withholding.

[74] The amount of Energy the ESR is scheduled to provide can be a negative value if the ESR is scheduled to withdraw Energy.

[75] The CSR Scheduling Limits are "soft" limits that can be temporarily violated if enforcing them would require the NYISO to violate a "hard" scheduling limit, such as a CSR Generator's ramp rate. *See* NYISO's November 11, 2021 filing in Docket No. ER22-418-001 and Letter Order issued in Docket No. ER22-418-001 on January 13, 2022.

[76] Only the ESR can be scheduled to withdraw Energy, but injections by the other CSR Generator affect the calculation.

obligation at the time of conversion, and will not consider any not-yet-implemented or subsequently submitted Operating Reserve Limit. This requirement will provide additional incentive for Market Participants to timely update their HSR's ORLs. To protect electric system reliability the NYISO requires accurate information about the Operating Reserves its HSRs are able to provide.

xii. *Section 17.1, LBMP Calculation*

Section 17.1 of the NYISO's Market Services Tariff addresses the calculation of LBMPs. The changes proposed in this section (1) state that the NYISO's dispatch of Generators that participate as CSR will consider CSR Scheduling Limits in both the Day-Ahead and Real-Time Markets; (2) treat HSRs similar to ESRs; and (3) do NOT extend the NYISO's offline GT pricing logic to Fixed Block Units that participate in a CSR.

The NYISO's offline GT pricing logic uses the offers of offline GTs (which the Tariffs refer to as "Fixed Block Units") that are capable of being started in 10 minutes or less to price some constraints even when the NYISO does not actually start the relevant GT. The NYISO's external Market Monitoring Unit ("MMU"), Potomac Economics, has criticized this pricing rule.[77] The NYISO is still considering how it will more completely address the concerns its MMU has raised, but is taking this opportunity NOT to extend the offline GT pricing logic to Fixed Block Units that participate as CSR. The proposed Tariff revisions are in Sections 17.1.2.1.2.1 and 17.1.2.1.2.2 of the Market Services Tariff, they state that Fixed Block Units **that do not participate in a Co-located Storage Resource**, are capable of being started and meeting Minimum Generation Levels in ten minutes or less, and that have not been committed by RTC, are treated as flexible (*i.e*. able to be dispatched anywhere between zero (0) MW and their UOL_N or UOL_E, whichever is applicable).[78]

xiii. *Section 18, Bid Production Cost Guarantees*

The NYISO proposes minor revisions to add HSR to its Bid Production Cost Guarantee ("BPCG") settlement rules. The NYISO proposes to treat HSR consistent with how ESRs are treated.

xiv. *Section 23.2, Mitigation Measures*

In Section 23.2 of the Market Services Tariff the NYISO proposes to add language to the definition of "Examined Facility" to explain how the several Generators that are part of a CSR or HSR Project will be evaluated for or excluded from possible Buyer Side Mitigation.

[77] Potomac Economics' *2022 State of the Market Report for the New York ISO Markets* raises offline GT pricing concerns on page x of the executive summary, on pages 65-66 of the Report, and elsewhere in the Report. Potomac's *2023 State of the Market Report for the New York ISO Markets* will also identify the concern when it is published.

[78] The proposed revisions achieve the intended purpose of NOT extending the offline GT pricing logic to Fixed Block Units that participate as CSR.

xv. *Section 23.3, Energy Market Physical Withholding Revisions*

Under the Mitigation Measures set forth in Section 23 of the Services Tariff, the NYISO applies prospective mitigation or assesses an after-the-fact financial penalty when: (a) a Bid or action that violates a Tariff-specified **conduct** threshold occurs, ***and*** (b) the NYISO determines that the conduct violation caused an **impact** that exceeds one of the Tariff-specified impact thresholds.[79]

The NYISO proposes to add a new physical withholding conduct threshold to Section 23.3.1.1.1.1 of the Market Services Tariff to address the potential for a HSR to withhold Operating Reserves by submitting an overstated Operating Reserve Limit ("ORL"). The test compares a HSR's Beginning Energy Level (state-of-charge), or the HSR's ramp rate if it is more constraining, to the ORL value the HSR submitted.[80] The NYISO proposes to use the same conduct threshold in rest-of-state as it proposes for the New York City Constrained Area at times when transmission constraints are active. The NYISO may propose changes after it gains practical experience implementing the new ORL conduct threshold.

xvi. *Sections 23.4.3, Sanctions*

In order to determine if a violation of the physical withholding threshold it proposes to add to Section 23.3.1.1.1.1 of the Market Services Tariff has occurred the NYISO will first need to obtain data from the Market Party about the Beginning Energy Level (state of charge) of the ESR that is part of the HSR (the NYISO will not receive this information in real-time). So, mitigation to address an overstated ORL will always be applied *ex post*. In part because it is not possible for the NYISO to set a reference level for a constantly fluctuating value like an ESR's state of charge, the NYISO determined that an after-the-fact financial sanction is the appropriate mitigation measure to apply if a HSR overstates its ORL significantly enough to violate the applicable conduct and impact thresholds. The NYISO proposes revisions to Sections 23.4.3.2 and to add a new Section 23.4.3.3.1.3 to the Market Services Tariff to implement the proposed new penalty. Proposed Section 23.4.3.3.1.3 makes clear that the HSR is not expected to make Energy that is less than it's ESR's Lower Storage Limit available to provide Operating Reserves. Otherwise, the penalty calculation is the same for a HSR as it would be for other resources that engaged in physical withholding.

C. Proposed Revisions to the OATT

i. *Section 2.7, Billing and Payment*

The NYISO proposes to revise Sections 2.7.2.1.5[81] and 2.7.2.4.4[82] of the NYISO's Open Access Transmission Tariff ("OATT") to: (1) apply the same Tariff rules to Hybrid Storage

[79] Most (but not all) of the impact thresholds are set forth in Section 23.3.2.1 of the Mitigation Measures.

[80] The HSR's Beginning Energy Value is not required to be provided to the NYISO in real-time. It will need to be obtained from the Market Participant.

[81] OATT Section 2.7.2.1.5 addresses payment of the Transmission Service Charge or "TSC."

[82] OATT Section 2.7.2.4.4 addresses payment of the NYPA Transmission Adjustment Charge or "NTAC."

Resources as are currently in effect for Energy Storage Resources, and (2) clarify that a CSR may be comprised of an ESR plus one of a variety of different Generator types.

ii. *Section 38.3, Short-Term Reliability Process*

Consistent with its proposed revisions to the Outage State rules in Section 5.18 of the Market Services Tariff, the NYISO proposes to add a new Section 38.3.1.7 to the OATT which will prevent a HSR from submitting a Generator Deactivation Notice proposing to become Retired unless all of the HSR's other remaining Generators are, or will become, Retired on or before the date the ESR is Retired. The NYISO proposes a similar restriction on the ability of a Market Participant to submit a Generator Deactivation Notice to put it's HSR's ESR in a Mothball Outage. The Tariff revisions explain that compliance with the proposed restrictions can be achieved by reconfiguring the HSR's Generators and changing the market participation model(s) that apply to the HSR's non-ESR component Generators in advance of submitting a Generator Deactivation Notice for the ESR. The NYISO is not proposing any restrictions on the ability of a HSR's IPR or LCROR to enter a Mothball Outage or to become Retired, other than compliance with currently effective Tariff rules.

iii. *Sections 25.3, 25.8, 30.3, 30.4 and 40.5, Interconnection Requests, CRIS Requests and Maximum Permissible ERIS and CRIS*

The NYISO proposes to revise several subsections of OATT Sections 30.3 and 30.4 (with conforming revisions to Section 40.5) to establish rules applicable to Interconnection Requests submitted by CSRs, HSRs and other multiple Generator Facilities in the NYISO's interconnection process. The NYISO proposes additional revisions in OATT Sections 25.3 and 25.8 regarding the maximum levels of ERIS and CRIS that can be requested at the Interconnection Request stage.

In OATT Sections 30.3.1 and 40.5.5, the NYISO proposes to add language requiring that an Interconnection Request for a Facility comprised of multiple Generators behind a single Point of Injection must be submitted by a single Interconnection Customer.

In OATT Sections 30.3.2.2 and 40.5.6.2, the NYISO proposes rules to limit the maximum permissible ERIS for multiple Generator Facilities. For Projects comprised of multiple Generators, the requested allocation for ERIS of the individual Generators is subject to the following limitations:

1) the requested ERIS for the ESR in a CSR or HSR cannot exceed the lesser of the Point of Injection limit or its nameplate; and

2) the requested ERIS for each Resource in a CSR or HSR, other than the ESR, cannot exceed the lesser of (a) the Point of Injection limit plus the full withdrawal capability of the Energy Storage Resource or (b) the relevant Resource's nameplate.

The NYISO's proposed revisions to Sections 30.3.2.2 and 40.5.6.2 make clear that as a result of the above rules, the total ERIS for a Facility may be less than the sum of the ERIS for the individual Generators.

The maximum CRIS that can be requested is set forth in Sections 25.8.1 and 40.5.6.5. The NYISO proposes revisions to that section to apply the currently effective rules for CSR to HSR and to single technology Facilities with multiple units. Under these rules, the requested MW level of CRIS must be requested at the Facility level, allocated among the multiple Generators as requested by Interconnection Customer; provided, however, the requested MW level of CRIS cannot exceed the minimum of the following:

1) the expected maximum injection capability in MW for the Facility as described in the Interconnection Request or CRIS-Only Request, as applicable, including all co-located Generators sharing the same injection limit (*e.g.*, the entire CSR, entire HSR, or entire multi-unit single technology resource); provided, however, if the Project includes a Resource with Energy Duration Limitation, its expected maximum injection capability in MW is limited by the Interconnection Customer-selected duration;

2) the nameplate capacity of the Facility (i.e., collective injection capability of all units within the proposed Facility expressed in MW); or the sum of the Facility's requested and existing ERIS, as applicable.

iv. *Sections 30.3.2.2 and 30.4.4.2, Modifications of the Composition of Multi-Generator Facilities*

The NYISO proposes revisions to the modification provisions in Sections 30.3.2.2 and 30.4.4.2. Revisions to Section 30.3.2.2 provide that prior to entering a Class Year Study, a Developer that modifies its interconnection service election can do so, so long as the change does not result in a Material Modification and is consistent with limitations on total permissible requested ERIS and CRIS. The NYISO is not proposing a conforming change to Section 40, which only allows for specific modifications within a short duration early in the study process that does not align with Class Year Study entry deadline contemplated in the revisions to Section 30.3.2.2.[83]

The NYISO also proposes revisions to Section 30.4.4.2 to allow projects in the NYISO's interconnection queue to combine existing queue positions into a single Interconnection Request. The NYISO is not proposing a conforming change to Section 40. In light of transition rules in Section 40, such combinations can no longer be effectuated.[84] The revisions to Section 30.4.4.2 allow Facilities in the Interconnection Queue with a validated Interconnection Request on or before the effective date of HSR tariff revisions to, prior to the return of the executed Interconnection Facility Study Agreement, combine into a single Interconnection Request, regardless of whether the Facilities are different technologies and regardless of whether the

[83] *See* OATT Section 40.6.3.

[84] *See* OATT Section 40.3.

combined Project's requested ERIS or CRIS increases as a result of combining the queue positions. Such modifications are subject to the existing limitation in Section 30.4.4.2 that the Facilities must (i) be co-located behind the same Point of Interconnection; (ii) submit a revised Interconnection Request reflecting the modification to become a Project comprised of multiple Generators as well as identifying the Developer of record for purposes of the interconnection process; and (iii) demonstrate the manner in which such Developer of record retains Site Control for the combined Project. Section 30.4.4.2 further provides that upon the NYISO's approval of such modification, the combined Project shall proceed as a single Project for purposes of the next interconnection study required for the Project more advanced in the interconnection study process (*i.e.*, a Project with a completed SRIS may combine with a Project without a completed SRIS; provided however, the combined Project will be evaluated as a single Project in the Class Year Study).

v. *Sections 25.3.1, 25.8.1, 30.3.1, and 40.2.3.2 and 40.5.6.6, Increases in ERIS and CRIS Resulting from Multi-Generator Facility Modifications*

The NYISO proposes to revise the rules applicable to ERIS and CRIS increases to address modifications to multi-Generator Facilities. Revisions to Sections 30.3.1 and 40.2.3.2 limit the maximum permissible ERIS for a multi-Generator Facility that modifies its configuration to change from operating as a multi-Generator Facility to become one or more standalone Generators. Under the proposed rule, the total ERIS of standalone Generator(s) behind a single Point of Injection cannot exceed the Point of Injection limit. This is necessary to address a situation where, for example, a HSR's ESR suffered a forced outage, and the Market Participant elects to reconfigure the remaining Generators to each operate on a stand-alone basis instead of repairing the ESR and continuing to operate the combined Generators as a single Facility.

For increases in CRIS, the NYISO proposes to revise Sections 25.3.1, 25.8.1, 30.3.2.6 and 40.5.6.6 to apply the currently effective Tariff rules for CSRs to HSRs as well. In addition, Sections 25.3.1, 30.3.2.6 and 40.5.6.6 provide that for increases in CRIS, to the extent a Generator later combines with other Generator(s) to become a co-located resource (*e.g.*, CSR, HSR or DER), the combined Facility is not eligible for any additional CRIS increase above a single increase of up to 2 MW, without proceeding through a deliverability evaluation in a Cluster Study or Expedited Deliverability Study.

vi. *Sections 30.14 and 40.25.1, Interconnection Request Form*

The NYISO proposes revisions to its Interconnection Request form in Sections 30.14 and 40.25.1 to require additional information for Facilities that submit such requests and to provide clarifying edits to information requested:

- Revisions to provide for additional Facility types that may be specified on the Interconnection Request: proposed CSRs, proposed HSRs, and proposed multi-unit Generating Facilities not seeking to participate as a CSR or HSR;[85]

- Revisions to require information for multi-Generator Facilities at the Generator and Facility level;

- Revisions to more clearly delineate information required for different resource types;

- Revisions to clarify that for ESRs, the maximum sustained injection should be calculated at the Minimum Duration for full discharge;

- Revisions to clarify that the MW or requested ERIS should be at the Point of Interconnection and be the maximum summer or winter net NW, whichever is greater;

- Revisions to clarify the specific information required on the form for Facility location, nameplate rating for temperature sensitive Facilities, reactive power capability, model types;

- Revisions to clarify that power-flow and dynamic models must be supplied at a later stage of the interconnection study process; and

- Revisions to clarify the file types required for modeling data.

D. Miscellaneous and Ministerial Changes

The NYISO's proposed revisions to the OATT and Services Tariff include a number of minor revisions intended to conform, clarify or clean-up existing language. The NYISO proposes to make the following types of revisions in a number of places in the Tariffs.

- correct capitalization;

- revise or correct internal tariff cross-references;

- correct spacing and formatting;

- insert or delete periods and commas; and

- update the headings and section numbering to address new, revised, and deleted tariff provisions.

[85] *See* OATT 40.25.1.

The NYISO includes with this filing clean tariff records of Services Tariff Sections 2.3, 13 and 23.3. The records submitted with this filing incorporate ministerial revisions to the records submitted in Docket Nos. ER24-2040-003 and ER19-2276-006 to correct the NYISO's inadvertent omission of Tariff revisions that were previously accepted by the Commission in Docket No. ER19-2276 with an effective date of April 16, 2024.

VII. EFFECTIVE DATES

The NYISO respectfully requests that the proposed new defined term HSR,[86] the proposed revisions to the interconnection rules, the proposed revisions to the Installed Capacity mitigation rules,[87] and the revisions the NYISO developed to allow a battery to be added to enhance the operation of a Fast-Start Resource become effective on July 29, 2024 (the day following the end of the statutory 60-day notice period). Allowing the revisions to OATT Attachment S (Section 25) Attachment X (Section 30) and Attachment HH (Section 40) proposed in this filing to take effect on July 29, 2024 will ensure that the revised parameters will be available for the NYISO to apply to validate and evaluate interconnection requests for proposed HSR and expanded CSR projects in the Application Window for its upcoming interconnection Transition Cluster Study Process that will open on August 1, 2024 and close on October 15, 2024, unless the Commission instructs otherwise.[88] Because the Commission has not yet had the opportunity to fully consider and rule on the compliance revisions to OATT Attachment HH (Section 40) that the NYISO submitted for the Commission's consideration on May 1, 2024 in Docket No. ER24-1915, as amended on May 8, 2024, the NYISO requests and consents to the Commission accepting the revisions to OATT Attachment HH (Section 40) proposed in this filing, contingent on their acceptance in Docket No. ER24-1915.[89] Having the revised OATT Section 40 rules in place to guide the submission of interconnection requests for, and the NYISO's evaluation of, projects that include expanded CSR or HSR resources in effect for the Application Window that opens on August 1, 2024 is critical. The proposed enhancements to the interconnection process support participation of these new resource types in

[86] The NYISO proposes to add the definition of Hybrid Storage Resource to its Tariffs on July 29, 2024 because that term is used in the NYISO's proposed revisions to its interconnection rules. Adding the definition of Hybrid Storage Resource will help the NYISO determine the rules that will apply to each of the projects it evaluate in the application window for its interconnection transition cluster, which will open on August 1, 2024, unless the Commission instructs the NYISO to do otherwise. As explained in this filing letter, substantial software still needs to be developed and tested to accommodate participation by HSR in the NYISO's Energy, Ancillary Services and Capacity Markets. The NYISO does not anticipate it will be ready to actually allow HSR to participate in its markets until mid- to late-2025.

[87] The only revision to the Installed Capacity mitigation rules proposed in this filing is a change to the definition of "Examined Facility" in § 23.2.1 of the Services Tariff.

[88] *See* Order 2023 Compliance Filing at 29 (requesting a May 2, 2024 effective date for the NYISO's proposed tariff revisions to comply with Order Nos. 2023 and 2023-A to enable NYISO to commence the Transmission Cluster Study Process on August 1, 2024).

[89] The NYISO also recognizes it may be required to make, and consents to making, changes to ensure the revisions to OATT Attachment HH proposed in this filing are aligned with any compliance changes the Commission directs in Docket No. ER24-1915. *See NRG Power Mktg., LLC v. FERC*, 862 F.3d 108, 115 (D.C. Cir. 2017).

the NYISO's markets as soon as possible. The proposed Tariff revisions are included in Attachments I to IV to this filing letter.

The NYISO proposes to make all of the rules necessary to implement enhancements to its existing CSR rules in the Energy, Ancillary Services and Installed Capacity Markets effective on a flexible effective date between October 1, 2024 and December 31, 2024.[90] The proposed Tariff revisions are included in Attachments V to VIII to this filing letter. The NYISO cannot propose a more precise effective date for its expanded CSR market participation rules until the software changes necessary to implement the proposed expansion of the CSR participation model are completed and adequately tested. 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. The compliance filing will provide adequate notice to the Commission and Market Participants of the implementation date for the expanded CSR market participation rules proposed in this filing.[91]

Finally, the NYISO proposes to make all of the rules necessary to implement HSR in its Energy, Ancillary Services and Installed Capacity Markets effective on a flexible effective date between June 1, 2025 and December 31, 2025.[92] The proposed Tariff revisions are included in Attachments IX to XII to this filing letter. The NYISO cannot propose a more precise effective date for its HSR market participation rules until the software changes necessary to implement the proposed HSR participation model are completed and adequately tested. 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. The compliance filing will provide adequate notice to the Commission and Market Participants of the implementation date for the HSR market participation rules proposed in this filing.

VIII. STAKEHOLDER APPROVAL

The Tariff revisions proposed in this filing were unanimously approved by the NYISO's stakeholders at the December 7, 2022 and March 13, 2024 Business Issues Committee meetings and the December 21, 2022 and March 27, 2024 Management Committee meetings. On May 20, 2024 the NYISO reviewed with its stakeholders conforming changes to add the Management Committee approved revisions to its interconnection requirements in OATT Section 25 and 30 to the new OATT Attachment HH (Section 40) that the NYISO submitted to the Commission for its

[90] The NYISO requests waiver of Section 35.3(a)(1) of the Commission's Regulations (18 CFR § 35.3(a)(1)) to permit its proposed Tariff revisions to become effective more than 120 days after the date this filing was submitted. There is good cause for the Commission to grant this waiver because the NYISO is still working to develop, test and implement software changes that must be completed before the proposed tariff revisions can take effect.

[91] *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).

[92] The NYISO requests waiver of Section 35.3(a)(1) of the Commission's Regulations (18 CFR § 35.3(a)(1)) to permit its proposed Tariff revisions to become effective more than 120 days after the date this filing was submitted. There is good cause for the Commission to grant this waiver because the NYISO is still working to develop, test and implement software changes that must be completed before the proposed tariff revisions can take effect.

consideration as part of its Order No. 2023 and Order No. 2023A compliance filing on May 1, 2024.[93] On April 16, 2024 the NYISO's Board of Directors approved the proposed Tariff revisions included herewith for filing with the Commission.

IX. COMMUNICATIONS

Communications and correspondence regarding this filing should be directed to:

Robert E. Fernandez, Executive Vice President,
General Counsel and Chief Compliance Officer
Karen Georgenson Gach, Deputy General Counsel
Raymond Stalter, Director of Regulatory Affairs
*Alex M. Schnell, Assistant General Counsel,
Registered Corporate Counsel
*Sara B. Keegan, Assistant General Counsel
New York Independent System Operator, Inc.
10 Krey Boulevard
Rensselaer, NY 12144
Tel: (518) 356-6000
Fax: (518) 356-8825
aschnell@nyiso.com
skeegan@nyiso.com

*Persons designated to receive service

X. LIST OF DOCUMENTS SUBMITTED

The NYISO respectfully submits the following documents with this filing letter:

1. A clean version of the proposed revisions to the OATT, effective July 29, 2024 (Attachment I);

2. A blacklined version of the proposed revisions to the OATT, effective July 29, 2024 (Attachment II);

3. A clean version of the proposed revisions to the Services Tariff, effective July 29, 2024 (Attachment III);

4. A blacklined version of the proposed revisions to the Services Tariff, effective July 29, 2024 (Attachment IV);

[93] *New York Independent System Operator, Inc.*, Compliance Filing for Order No. 2023 and Order No. 2023-A; Conditional Request for Prospective Waivers, Docket No. ER24-1915-000 (May 1, 2024).

5. A clean version of the proposed enhanced CSR revisions to the OATT, with an effective date to be determined (but expected to be between October 1 and December 31, 2024) (Attachment V);

6. A blacklined version of the proposed enhanced CSR revisions to the OATT, with an effective date to be determined (but expected to be between October 1 and December 31, 2024) (Attachment VI);

7. A clean version of the proposed enhanced CSR revisions to the Services Tariff, with an effective date to be determined (but expected to be between October 1 and December 31, 2024) (Attachment VII);

8. A blacklined version of the proposed enhanced CSR revisions to the Services Tariff, with an effective date to be determined (but expected to be between October 1 and December 31, 2024) (Attachment VIII);

9. A clean version of the proposed HSR revisions to the OATT, with an effective date to be determined (but expected to be between June 1 and December 31, 2025) (Attachment IX);

10. A blacklined version of the proposed HSR revisions to the OATT, with an effective date to be determined (but expected to be between June 1 and December 31, 2025) (Attachment X);

11. A clean version of the proposed HSR revisions to the Services Tariff, with an effective date to be determined (but expected to be between June 1 and December 31, 2025) (Attachment XI); and

12. A blacklined version of the proposed HSR revisions to the Services Tariff, with an effective date to be determined (but expected to be between June 1 and December 31, 2025) (Attachment XII).

XI. SERVICE

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

XII. CONCLUSION

WHEREFORE, for the foregoing reasons the New York Independent System Operator, Inc. respectfully requests that the Commission accept this filing without requiring any modifications, on the effective dates specified in Section VII. of this filing letter.

Respectfully submitted,

NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.

By: */s/ Alex M. Schnell*
Alex M. Schnell
Assistant General Counsel,
Registered Corporate Counsel
Sara B. Keegan
Assistant General Counsel

cc: Janel Burdick
Emily Chen
Matthew Christiansen
Jignasa Gadani
Jette Gebhart
Leanne Khammal
Jaime Knepper
Kurt Longo
David Morenoff
Jason Rhee
Douglas Roe
Eric Vandenberg