UNITED STATES OF AMERICA BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

New York Independent System Operator, Inc.) Docket No. ER19-2276-000

REQUEST FOR LEAVE TO ANSWER AND ANSWER OF NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.

Pursuant to Rule 213 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission ("Commission"), 18 C.F.R. § 385.213, the New York Independent System Operator, Inc. ("NYISO") respectfully submits this request for leave to answer and answer ("Answer").¹ The Answer responds to certain issues raised in comments and protests submitted in response to the NYISO's June 27, 2019 filing² in this proceeding regarding Distributed Energy Resources and Aggregations (the "June 27 Filing").³ For the reasons described below, the Commission should reject the protests in their entirety. The Commission should accept the June 27 Filing with the limited modifications described in Part II.B(4) of this Answer, and find that the NYISO's proposed tariff revisions are just, reasonable, and not unduly discriminatory.

¹ Capitalized terms not defined in this Answer shall have the meaning set forth in the NYISO Open Access Transmission Tariff ("OATT") and Market Administration and Control Area Services Tariffs ("Services Tariff").

² New York Indep. Sys. Operator, Inc., Proposed Tariff Revisions Regarding Establishment of Participation Model for Aggregation of Resource, Including Distributed Energy Resources, and Proposed Effective Dates, Docket No. ER19-2276-000 (June 27, 2019) ("June 27 Filing").

³ The following parties submitted protests or comments on the June 27 Filing: the New York Transmission Owners (Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., Niagara Mohawk Power Corporation d/b/a National Grid, New York Power Authority, New York State Electric & Gas Corporation, Orange & Rockland Utilities, Inc., Power Supply Long Island, and Rochester Gas and Electric Corporation), Brookfield Energy Marketing, LP, Eastern Generation, LLC and Helix Ravenswood, LLC, the New York State Entities (New York State Public Service Commission and New York State Energy Research and Development Authority), NRG Curtailment Solutions, Inc., and the Joint Parties (Advanced Energy Management Alliance, Advanced Energy Economy, Consumer Power Advocates, Energy Spectrum, Inc., Natural Resources Defense Council, the Sustainable FERC Project, and the New York Battery & Energy Storage Technology Consortium).

I. <u>REQUEST FOR LEAVE TO ANSWER</u>

The NYISO may answer pleadings that are styled as comments as a matter of right.⁴ The Commission also has discretion to accept, and routinely accepts, answers to protests where they help clarify complex issues, provide additional information, are helpful in the development of the record in a proceeding, or otherwise assist in the decision-making process.⁵ The NYISO's Answer to the protests in this proceeding satisfies those standards and should be accepted because it addresses complex issues and provides additional information that will help the Commission fully evaluate the arguments in this proceeding. The NYISO, therefore, respectfully requests that the Commission accept this Answer.⁶

II. ANSWER

A. The NYISO's Proposed Distributed Energy Resource and Aggregation Participation Model is Just and Reasonable

The June 27 Filing proposed a comprehensive set of tariff revisions that will, among other things, (i) permit Distributed Energy Resource ("DER") participation in the NYISO-administered markets, (ii) allow individual facilities to aggregate to provide wholesale market services; (iii) reform the NYISO's metering and telemetry requirements; (iv) permit dual participation, and (v) appropriately value the Installed Capacity provided by Resources with Energy Duration Limitations. The proposed tariff revisions reduce barriers to entry for DER,

⁴ See 18 C.F.R. § 385.213(a)(3).

⁵ See, e.g., Southern California Edison Co., 135 FERC ¶ 61,093, at P 16 (2011) (accepting answers to protests "because those answers provided information that assisted [the Commission] in [its] decision-making process"); New York Indep. Sys. Operator, Inc., 134 FERC ¶ 61,058, at P 24 (2011) (accepting the answers to protests and answers because they provided information that aided the Commission in better understanding the matters at issue in the proceeding); New York Indep. Sys. Operator, Inc., 140 FERC ¶ 61,160, at P 13 (2012); and PJM Interconnection, LLC, 132 FERC ¶ 61,217, at P 9 (2010) (accepting answers to answers and protests because they assisted in the Commission's decision-making process).

⁶ In the interest of limiting the scope of this Answer, the NYISO does not address all issues raised in comments and protests submitted in response to the June 27 Filing. The fact that the NYISO is not responding to all issues raised by parties should not be construed as agreement therewith.

Resources with Energy Duration Limitations, and third-party meter service providers, among others. However, and as discussed below, parties take issue with certain proposals contained in the June 27 Filing and request that the Commission direct the NYISO to adopt alternative approaches. The Commission should reject these proffered modifications.

The NYISO's proposal is the result of a multi-year collaborative process among the NYISO and its stakeholders, during which the NYISO received and analyzed comments and recommendations from a diverse set of stakeholders, including DER and Energy Storage Resource ("ESR") developers and advocates, representatives of existing generation assets, New York's Transmission Owners, representatives of the State of New York, and others. Many of those comments and recommendations are reflected in the proposed tariff revisions.

The tariff revisions proposed in the June 27 Filing also reflect the NYISO's experience operating New York's bulk power system and the NYISO's expected operational needs upon integration of DER and Aggregations. The proposed tariff requirements are comparable to the qualification and technical requirements applicable to other types of resources participating in the NYISO-administered markets, but account for the physical and operational characteristics of DER, Aggregations, and Resources with Energy Duration Limitations.

For the foregoing reasons and as further described below, the Commission should reject the protests submitted in this proceeding and accept the June 27 Filing without modification.

B. Responses to Protests and Comments Concerning Particular Features of the NYISO's Proposal

1. The NYISO's Proposed Revisions to its Capacity Market are Tailored to Address an Evolving Resource Mix

The NYISO's proposed changes to its Installed Capacity market are designed to accommodate New York's evolving resource mix as public policy and market forces drive

development. The NYISO carefully considered available options to address that evolution before developing its final proposals. The proposals offered in the June 27 Filing best meet the NYISO's needs and are just and reasonable.

a) Prohibition of External Duration Limited Resources From Participation in the Installed Capacity Market is Needed for Reliability

Services Tariff Section 5.7 generally allows entities located in a Control Area other than the New York Control Area ("NYCA") to become Installed Capacity Suppliers ("External Capacity Resources"), subject to certain exceptions.⁷ The June 27 Filing proposed to revise Section 5.7 to prohibit External Energy Storage Resources, Intermittent Power Resources, Limited Control Run-of-River Hydro Resources, Resources with Energy Duration Limitations, and facilities that participate in an Aggregation from participation in the Installed Capacity market.⁸

Brookfield Energy Marketing, LP ("Brookfield"), protest the NYISO's prohibition of Installed Capacity market participation by Resources with Energy Duration Limitations.⁹ Brookfield argues that the NYISO has not met its burden of proof under Federal Power Act ("FPA") Section 205 to demonstrate that the proposed revisions are just and reasonable, stating that the NYISO failed to adequately explain why Resources with Energy Duration Limitations

⁷ External Demand Side Resources are explicitly prohibited from participating in the NYISO-administered markets. Services Tariff Section 2.4 (at definition of Demand Side Resource). The Services Tariff does not include rules that permit external Intermittent Power Resources and Limited Control Run-of-River Hydro Resources to participate in the Installed Capacity market. Because of the lack of rules governing external Intermittent Power Resources, the NYISO has historically prohibited their participation in the Installed Capacity market.

⁸ June 27 Filing, proposed revisions to Services Tariff Section 5.7.

⁹ Brookfield operates the Bear Swamp pumped hydroelectric storage facility that currently sells Unforced Capacity in the NYISO-administered markets. Bear Swamp would be defined as a Resource with an Energy Duration Limitation under the NYISO's proposed rules, and therefore will be prohibited from participating in the NYISO's Installed Capacity market when the proposed tariff revisions are permitted to become effective.

should be excluded from participation in the Installed Capacity market.¹⁰ Brookfield reasons that External Resources with Energy Duration Limitations are similarly situated to both external Installed Capacity Suppliers without energy duration limitations, and to NYCA Installed Capacity Suppliers with Energy Duration Limitations.¹¹ Brookfield argues that External Capacity Resources with Energy Duration Limitations should not be subject to disparate treatment.¹²

External Capacity Resources with Energy Duration Limitations are not similarly situated to either External Capacity Resources without energy duration limitations or to NYCA Installed Capacity Resources with Energy Duration Limitations.

Resources with Energy Duration Limitations are not capable of providing Energy in each hour of the Dispatch Day. The NYISO, therefore, must account for each Resource's Energy limitations when developing Day-Ahead and real-time schedules, in emergency conditions, and when determining the value of Installed Capacity provided by Resources with Energy Duration Limitations.¹³ External Capacity Resources with Energy Duration Limitations are not like "conventional" External Capacity Resources because the NYISO does not need to know a conventional Resource's state of charge in order to anticipate that the resource will be able to respond to the NYISO's commitment and dispatch instructions. Understanding an External Capacity Resource's state of charge becomes important when an External Capacity Resource that

¹⁰ Motion to Intervene and Protest of Brookfield Energy Marketing LP, Docket No. ER19-2276-000 (July 18, 2019) ("Brookfield Protest") at 7-8.

¹¹ Brookfield Protest at 11-12.

¹² Brookfield Protest at 14.

¹³ For the reasons the NYISO explained on pages 65 to 77 of the June 27 Filing, the expected Installed Capacity market benefit of Resources with Energy Duration Limitations decreases as the market penetration of those Resources increases. To implement Brookfield's recommendations, the NYISO would need to develop new rules to incorporate participating External Resources with Energy Duration Limitations into its Capacity Value calculations.

sells its Capacity to the NYISO also sells Energy to the "native" Control Area with which it is interconnected. Conventional External Capacity Resources are able to provide services to their native Control Area so long as such sales do not conflict with the External Capacity Resource's obligations to the NYISO. The likelihood of conflicting obligations preventing External Capacity Resources with Energy Duration Limitations from meeting their obligations to the NYISO is significantly higher. Because External Resources with Energy Duration Limitations are Energy-limited, any dispatch by the native Control Area necessarily affects the Resource's ability to provide service to the NYISO at a later time, which is not ordinarily the case for conventional External Capacity Resources.

The NYISO does not know the native Control Area's Energy and Ancillary Services schedules for External Capacity Resources. Conversely, the NYISO's software will use Energy level information to develop Energy and Ancillary Services schedules that are consistent with the Resource with Energy Duration Limitation's capabilities. The lack of information about an External Capacity Resource's Energy schedule(s) in its native Control Area distinguishes External Capacity Resources with Energy Duration Limitations from NYCA Capacity Resources with Energy Duration Limitations. Without information about the External Resource's Energy and Ancillary Services to the NYISO will not be able to determine the External Resource's ability to provide services to the NYCA, which renders these External Resources with Energy Duration Limitations much less useful as an Installed Capacity Supplier than equivalent NYCA Resources.¹⁴

¹⁴ The NYISO could, in the future, endeavor to develop rules and inter-Control Area processes that would allow the NYISO to account for an External Capacity Resource's ability to provide Energy, but that necessary work to permit External Capacity Resources with Energy Duration Limitations was not within the scope of the NYISO's June 27 Filing.

Brookfield's statements that External Capacity Resources with Energy Duration Limitations are similarly situated to both External Capacity Resources without energy duration limitations and NYCA Capacity Resources with Energy Duration Limitations are not accurate. There are material differences that prevent the NYISO from being able to count on the External Capacity Resource with Energy Duration Limitations to meet its schedules and to respond in emergency situations.

Brookfield argues that the authority to assess financial sanctions on External Resources with Energy Duration Limitations mitigates the risk of those Resources failing to deliver Energy when called upon by the NYISO.¹⁵ While the NYISO agrees that financial sanctions can be an effective tool to encourage compliance with NYISO directives, after-the-fact assessment of sanctions will not help NYISO operators address real-time emergency conditions.¹⁶ Without an understanding of the real-time availability of the External Capacity Resource with Energy Duration Limitations, NYISO operators will not be able to count on the Resource to address system needs. The differences described above merit distinct treatment for External Capacity Resources with Energy Duration Limitations, and the NYISO's proposal is reasonable considering the potential reliability impacts.

b) Aggregations at the Transmission Node Level are Appropriate for Installed Capacity Suppliers

The June 27 Filing proposed to require each individual facility within an

Aggregation to be both electrically located in the NYCA and connected to the same NYISO-

¹⁵ Brookfield Protest at 11.

¹⁶ The NYISO's June 11, 2019 filing in Docket No. ER19-2104 proposed to more closely align the financial sanctions applicable to internal and external Installed Capacity Suppliers when those Suppliers fail to respond to a NYISO directive to deliver Energy in response to a Supplemental Resource Evaluation. While failure to deliver in that situation is clearly a concern, the sanction proposed in that filing, and accepted by the Commission, is limited to that specific situation, as opposed to the broader concerns the NYISO has regarding External Resources with Energy Duration Limitations.

identified Transmission Node.¹⁷ As the NYISO described in its filing, requiring individual facilities in an Aggregation to be electrically located behind the same Transmission Node will enable the NYISO to manage transmission constraints and reliability concerns, and will encourage location-specific development of DER in areas where that additional supply is beneficial.¹⁸

The Joint Parties argue that the NYISO's reasons for requiring nodal aggregation may make sense for Energy and Ancillary Service Market participation, but do not make sense for Installed Capacity market participation.¹⁹ The Joint Parties state that the NYISO is "concerned that dispatching across transmission nodes could have the potential to exacerbate transmission constraints," and that "[c]apacity resources are not dispatched in the DER model ... so the same reliability concerns do not exist."²⁰ The Joint Parties further argue that the Transmission Node aggregation requirement will reduce participation in the wholesale market and impair competition and reliability.²¹

The Joint Parties arguments should be rejected because they would significantly increase the complexity of the NYISO's implementation of the DER and Aggregation participation model. The primary purpose of the NYISO's DER and Aggregation market design proposal is to

¹⁷ June 27 Filing at 25. The NYISO proposed to define "Transmission Node" as "[a] bus located inside the NYCA that is identified by the ISO to represent an electrical area to which individual Distributed Energy Resources may aggregate and at which LBMPs are calculated." Proposed revisions to Services Tariff Section 2.20.

¹⁸ June 27 Filing at 25.

¹⁹ Comments of Advanced Energy Management Alliance, Advanced Energy Economy, Consumer Power Advocates, Energy Spectrum, Inc., Natural Resources Defense Council (NRDC), Sustainable FERC Project, the New York Battery & Energy Storage Technology Consortium (NY-BEST), Docket No. ER-19-2276 (July 18, 2019) ("Joint Parties Comments") at 22.

 $^{^{20}}$ Id.

 $^{^{21}}$ *Id*.

provide a single participation model that permits one or more DERs to collectively participate, through *an* Aggregation, in the Energy, Ancillary Services, *and* Installed Capacity markets.

The Joint Parties appear to be asking the Commission to require the NYISO to permit one or more resources to simultaneously participate in two different Aggregations; one aggregation in the Energy and Ancillary Services markets that would be behind a single Transmission Node, and a second Aggregation containing a different (likely expanded) set of resources in the Installed Capacity market aggregated in a Load Zone. The Joint Parties' proposal would add significant additional complexity to the NYISO's implementation of Aggregations; it would require the NYISO to review the bidding behavior of several Energy market Aggregations in order to determine if the associated Installed Capacity market Aggregation(s) have met their Installed Capacity market obligations.²²

The NYISO is not prepared to assume the significant additional tariff development, software development, and administrative burden the Joint parties propose at this time. The Joint Parties proposal would require the NYISO to develop (a) additional Tariff rules that were not proposed in the June 27 Filing, (b) new software capability to track and map each Energy and Ancillary Services market Aggregation's participation and assign it to the corresponding Installed Capacity market Aggregation(s) in order to ensure that all Installed Capacity market requirements are satisfied on a daily basis, and (c) new procedures for NYISO staff to enforce the proposed new requirements.

Successfully implementing the Joint Parties proposed market rules in addition to the proposals submitted in the June 27 Filing would be challenging. The NYISO is not prepared to assume the obligation to implement the additional, complex requirements that the Joint Parties

²² See, e.g., Services Tariff Section 5.12.1 and 5.12.7 for a list of obligations applicable to Installed Capacity Suppliers.

propose. If the Commission were to instruct the NYISO to permit one or more resources to simultaneously participate in two different Aggregations; one Aggregation in the Energy and Ancillary Services markets that would be at a Transmission Node, and a second aggregation containing a different (likely expanded) set of resources in the Installed Capacity market aggregated in a Load Zone, the NYISO's implementation of the tariff revisions included in the June 27 Filing would need to be delayed. The NYISO has not developed a formal estimate of the additional time that would be required to add the functionality the Joint Parties propose, but it would likely be months, not weeks.

The NYISO's proposal to permit one or more resources to collectively participate, through *an* Aggregation, in the Energy, Ancillary Services, and Installed Capacity markets is just and reasonable, and should accepted for filing without modification.

c) The Proposed Capacity Values are Based on Reliability Criteria Used by the New York State Reliability Council

The June 27 Filing included new tariff provisions that would allow Resources with Energy Duration Limitations to participate in the Installed Capacity market and be compensated for the reliability value they provide. The proposed rules valuing the capacity provided by Resources with Energy Duration Limitations were developed by the NYISO based on studies conducted by the NYISO's consultant, General Electric Energy Consulting ("GE Energy"), a consultant retained by certain stakeholders (Astrapé Consulting, LLC), the NYISO's Independent Market Monitor (Potomac Economics), and feedback from stakeholders.

Certain parties protested aspects of the NYISO's proposed Capacity Values. Eastern Generation, LLC and Helix Ravenswood, LLC argue that the NYISO over-valued the reliability benefit provided by Resources with Energy Duration Limitations, and that the NYISO should reduce the value of Resources with Energy Duration Limitations to be consistent with the values identified in the GE Energy study.²³ The Joint Parties, on the other hand, are comfortable with the initial set of Capacity Values identified in the June 27 Filing, but oppose the proposed derate of those Capacity Values once there is 1000 MW of incremental penetration of Resources with Energy Duration Limitations.²⁴

As described in the attached Affidavit of Wesley Hall,²⁵ GE Energy conducted its study using the as-found system in New York and based its assumptions on the criteria established by the New York State Reliability Council ("NYSRC") to establish New York's Installed Reserve Margin ("IRM") as well as the Minimum Locational Installed Capacity Requirements ("LCRs"). The GE Energy study also used the load shapes, load forecasts, load forecast uncertainty and load shifting assumptions that are used in the IRM study to maintain consistency. The assumptions used in the GE Energy study were different than those used in the Astrapé study, and, understandably, produced different results.

As described above, the NYISO's final proposal represents a reasonable framework informed by the three studies and stakeholder feedback. The NYISO firmly believes, however, that it is appropriate to base the proposal on the GE Energy study as that study incorporates criteria and assumptions required by the NYSRC and used in the IRM studies. Recognizing that system conditions and the resource mix continue to evolve, the NYISO included a requirement to conduct new Capacity Value Studies every four years. This periodic reassessment will allow the NYISO to evaluate the resource mix and system conditions to ensure appropriate Capacity

²³ Comments and Limited Protest of Eastern Generation, LLC and Helix Ravenswood, LLC, Docket No. ER19-2276-000 (July 18, 2019) at 12.

²⁴ Joint Parties Comments at 13.

²⁵ Included with this Answer as Exhibit A.

Values. The Commission should reject the protests of Eastern Generation, LLC and Helix Ravenswood, LLC, and the Joint Parties.

2. The NYISO's Proposed Telemetry Standards are Consistent with the Standards Applicable to Other Suppliers and are Necessary to Maintain Situational Awareness and Meet Mandatory Reliability Criteria

The NYISO requires all Resources participating in the Energy and Ancillary Services markets, except for Demand Side Resources participating in the Day-Ahead Demand Response Program, to provide telemetry at a six-second scan rate. A six-second scan rate is needed to (i) maintain situational awareness of the NYCA power system, (ii) operate the NYISO's Automatic Generation Control process to maintain load and generation balance, (iii) meet mandatory bulk power system reliability criteria, including criteria unique to New York State, and (iv) to respond to emergency conditions.²⁶ The tariff revisions challenged by the Joint Parties propose to require Aggregations to meet the existing telemetry requirements.²⁷

The Joint Parties allege that it is "unjust and unreasonable to require six-second telemetry from all DERs greater than 100 kW," arguing that (i) that six second telemetry as opposed to a longer scan interval increases costs on a per-facility basis, creating a barrier to entry, (ii) that there is no "demonstrated improvement in reliability or resource performance," and (iii) that six-second telemetry data does not provide more accurate information than data provided at a one-minute scan rate.²⁸ The Commission should reject the Joint Parties' arguments.

²⁶ DER Real-Time Telemetry and Alternate Telemetry Approach for Small DER, Market Issues Working Group Presentation (Sept. 28, 2018), available at: <u>https://www.nyiso.com/documents/20142/2549675/DER% 206-Second%20Telemetry%20-%20MIWG%2020180928%20MIWG.pdf</u>. See also, DER & NYISO's Real-Time Telemetry Needs (Sept. 24, 2018), available at:

https://www.nyiso.com/documents/20142/2549675/DER%20and%20NYISO%20Telemetry%20Requirement%20-%2020180928_MIWG.pdf.

²⁷ June 27 Filing at 58.

²⁸ Joint Parties Comments at 14-15.

The NYISO recognizes that providing telemetry—at any scan rate—is a cost that must be born by Aggregators and individual DER. Stakeholders raised concerns regarding the costs of telemetry with the NYISO during the stakeholder process, and the NYISO undertook an evaluation of the costs of providing six-second telemetry in response to those concerns. That evaluation indicated that six-second telemetry between a hypothetical 250 kW DER and its Aggregator (*i.e.*, the per-facility costs concerning the Joint Parties) would cost approximately \$1 per MWh per month. The NYISO's evaluation included the following assumptions: (i) one-time metering device and installation cost of \$600,²⁹ (ii) an optional one-time secure gateway and installation cost of \$1,000;³⁰ and (iii) access to an existing broadband internet connection and router. The one-time costs, levelized over five years, result in a per-month cost of \$26.70. In order to account for the monthly maintenance costs for the metering device and secure gateway, the NYISO added \$20 per month which results in a total monthly cost of \$46.70.³¹ The NYISO assumed full output by the hypothetical DER over six hours for each day in the month, which yielded the \$1 per MWh per month cost.³² The NYISO believes the estimate to be a reasonable cost that will allow the NYISO to maintain situational awareness, meet applicable reliability criteria, and respond to emergency conditions.

The Joint Parties' unsupported claim that six-second telemetry does not demonstrate improved reliability is inconsistent with the NYISO's operations. The NYISO currently uses

²⁹ This assumption is based on the cost of a physical meter, installation, and certain necessary communication infrastructure.

³⁰ The assumption includes the cost of the physical device plus installation, commissioning, and testing.

³¹ The \$20 monthly maintenance cost is based on a typical industry maintenance figure for similar technologies.

³² DER & NYISO's Real-Time Telemetry Needs at 3 (Sept. 24, 2018), available at: https://www.nyiso.com/documents/20142/2549675/DER%20and%20NYISO%20Telemetry%20Requirement%20-%2020180928_MIWG.pdf.

six-second telemetry signals to meet mandatory reliability criteria required by the NYSRC. NYSRC Requirement D.1 for Mitigation of Major Emergencies requires that when a transmission facility experiences a thermal overload at or above its Short Term Emergency rating, the NYISO must take immediate corrective action, and must reduce the loading on the transmission facility below the Short Term Emergency Rating within five minutes.³³ The NYISO requires up-to-date (*i.e.*, six-second) information from resources to respond to the thermal overload, and to schedule resources in a manner that mitigates the issue in compliance with the reliability standard. Six-second data allows the NYISO's operators and software (Security Constrained Economic Dispatch and Automatic Generation Control) to identify the optimal resource schedules to mitigate the thermal overload and communicate those schedules to the applicable resources. Changing the telemetry scan rate from six-seconds to one-minute would materially hamper the NYISO's ability to respond to such emergencies.

The NYISO considered stakeholder concerns over the costs of telemetry as it developed its requirements. However, the NYISO determined that the six-second requirement should be extended to DER and Aggregations based on its experience operating New York's bulk power system, the expected impact of DER and Aggregations on that system, and the reliability criteria that the NYISO is required to meet. The NYISO is currently evaluating alternatives to its existing telemetry communications infrastructure in its Pilot Program, and those alternatives may help reduce the costs of telemetry while still providing data at the six-second scan rate. As the NYISO gains experience it may make those alternatives available to DER and Aggregations if the alternatives meet the NYISO's operational needs.

³³ New York State Reliability Council, *Reliability Rules & Compliance Manual*, Part D. Emergency Operations R1.2 (vol. 44) (Apr. 11, 2019), *available at:* http://www.nysrc.org/pdf/Reliability%20Rules%20Manuals/RRC%20Manual%20V44.pdf.

3. The June 27 Filing's Proposed Revisions to Installed Capacity Buyer-Side Mitigation Rules are Just, Reasonable, and Not Unduly Discriminatory

The June 27 Filing proposed limited adjustments to the NYISO's Buyer-Side Mitigation ("BSM") Rules. Specifically, it highlighted that only Distributed Energy Resources with the capability to inject energy into the grid would be subject to the BSM Rules³⁴ and included other minor clarifying changes.³⁵ The June 27 Filing also referenced, but did not modify, the pending compliance proposal in Docket No. ER19-467 to reinstate BSM measures applicable to "Category III" Examined Facilities that plan to provide capacity.³⁶

The New York State Entities and the Joint Parties protest the June 27 Filing's proposal on various grounds. The Commission should reject the protests and accept the NYISO's limited adjustments without requiring any modifications.

First, the New York State Entities reiterate their objections to reinstating the Category III provisions in Docket No. ER19-467-000.³⁷ They attach their protest from that proceeding and incorporate its arguments by reference.³⁸ But the NYISO's proposal to reinstate the Category III provisions is not before the Commission in this docket. The June 27 Filing merely referenced the earlier filing and included the pending language proposed there consistent with the Commission's tariff filing requirements. The New York State Entities' assertion that the June 27

³⁴ The NYISO did not propose to subject Distributed Energy Resources without injection capability that participate through an aggregation to the BSM Rules because such resources are similar to Special Case Resources ("SCRs"). The Commission ruled in 2017 that new SCRs should not be subject to the BSM Rules. *See New York State Public Service Commission, et. al. v. New York Independent System Operator, Inc.,* 158 FERC ¶ 61,137 (2017).

³⁵ See June 27 Filing at 95.

³⁶ *Id.* at n. 218.

³⁷ See Protest and Interventions of the New York State Public Service Commission and New York State Energy and Research Development Authority, Docket No. ER19-2276-000 (July 18, 2019) ("New York State Entities' Protest") at 10-11.

³⁸ *Id*. at 5.

Filing "does not offer any new rationale to justify the proposal"³⁹ is irrelevant because the June 27 Filing did not submit the proposal (which was in fact justified by the NYISO's pleadings in Docket No. ER19-467).⁴⁰ Accordingly, the New York State Entities' arguments concerning the reinstatement proposal are outside the scope of this proceeding and should not be considered in this docket.

Second, the New York State Entities mischaracterize the June 27 Filing by claiming that it would apply the BSM Rules to "all DER, regardless of size and technology,"⁴¹ As noted above, Distributed Energy Resources that participate through an Aggregation by providing load curtailment would not be subject to the BSM Rules under the NYISO's proposal. This treatment is founded on the same rationale underlying the Commission's creation of a blanket exemption for SCRs.⁴²

Third, the New York State Entities and the Joint Parties have not shown that the NYISO's proposal to apply the BSM Rules to Distributed Energy Resources with the capability to inject energy into the grid is unjust, unreasonable, or unduly discriminatory. Commission precedent clearly holds that the BSM Rules should apply to new entrants except when a specific exemption is shown to be justified.⁴³ The required demonstration must establish that resources

³⁹ *Id.* at 10.

⁴⁰ In addition, the New York State Entities mischaracterize the pending proposal in Docket No. ER19-467 as an attempt to "eliminate an existing exemption for small resources." New York State Entities Protest at 5. The NYISO has never proposed, and the Commission has never accepted, such an "exemption." As the NYISO explained, in Docket No. ER19-467 it has proposed to reinstate tariff provisions that were previously eliminated based on a mistaken assumption that there would no longer be "Category III" Examined Facilities.

⁴¹ New York State Entities' Protest at 1.

⁴² See June 27 Filing at 93-94 and n. 219.

⁴³ See, e.g., New York Public Service Commission, et. al. v. New York Independent System Operator, Inc., 153 FERC ¶ 61,022 (2015) (declining to create several proposed exemptions under the BSM Rules that the Commission concluded had not been justified).

lack the incentive or ability to suppress prices. The burden is not on the NYISO to demonstrate that a particular resource has that incentive or ability before applying the BSM Rules.⁴⁴

4. Minor Edits Recommended by the NYTOs

The New York Transmission Owner ("NYTO") comments recommended several minor edits to the tariff revisions accompanying the June 27 Filing. The NYISO agrees that the edits recommended by the NYTOs would improve the proposed tariff revisions. Should the Commission agree, the NYISO proposes to submit revised tariff sections reflecting the edits within thirty (30) days of a Commission Order in this proceeding.

⁴⁴ In addition, as the NYISO has noted with respect to Energy Storage Resources, it may be reasonable to apply the BSM Rules to small resources that are unlikely to suppress capacity prices on an individual basis but that may have a substantial aggregate price impact if they enter the market on a large scale. *See New York Independent System Operator, Inc., Response to April 1, 2019 Letter and Notification of Implementation Issues that Necessitate Additional Limited Compliance Tariff Revisions,* Docket No. ER19-467-000 at 23 (May 1, 2019); *citing Request to Intervene Out-of-Time, Request for Leave to Answer, and Limited Answer of the NYISO Market Monitoring Unit,* Docket ER19-467-000 at (February 25, 2019).

III. <u>CONCLUSION</u>

WHEREFORE, the New York Independent System Operator, Inc. respectfully requests

that the Commission accept this Answer and accept the June 27 Filing in the above-referenced

docket with the limited modifications described herein.

Respectfully Submitted,

/s/ Gregory J. Campbell

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August 2, 2019

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

Exhibit A

UNITED STATES OF AMERICA BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

New York Independent System Operator, Inc.) Docket N

Docket No. ER19-2276-000

AFFIDAVIT OF WESLEY HALL

I. Purpose of this Affidavit

- 1. The purpose of this affidavit is to support the New York Independent System Operator, Inc. ("NYISO") *Responses to Various Intervener Protests* submitted in this proceeding ("NYISO Response") and in support of the GE Analysis of the Capacity Value of Resources with Energy Limitations ("Capacity Value Study") conducted for the NYISO to inform the capacity values for various installed capacity resources with daily energy duration limitations, which were filed by the NYISO in its proposed revisions to Section 5.12 of the NYISO Market Administration and Control Area Services Tariff ("Services Tariff"). The proposed revisions to the Services Tariff were originally filed with the Commission on June 27, 2019.¹
- 2. Specifically, the affidavit describes the purpose and assumptions that were utilized to conduct the Capacity Value Study, which was designed to utilize the modeling methodologies and

¹ New York Independent System Operator, Inc., Proposed Tariff Revisions Regarding Establishment of Participation Model for Aggregations of Resources, Including Distributed Energy Resources, and Proposed Effective Date, Docket No. ER19-2276-000 (June 27, 2019) ("NYISO DER Filing")

assumptions employed by the New York State Reliability Council ("NYSRC") when setting the Installed Reserve Margin ("IRM") for the New York Control Area ("NYCA").

II. Qualifications

- 3. I am presently the Senior Engagement Manager for the GE Multi Area Production Simulation ("MAPS") and GE Multi Area Reliability Simulation ("MARS") software platforms at GE Energy Consulting. Prior to my current role, I was a Principal Consultant in the Power Systems Strategy group for GE Energy Consulting. In my prior capacity, I participated directly in the Capacity Value Study performed for the NYISO.
- 4. I was the primary developer of the approach used for the Capacity Value Study and oversaw the development of the software to implement that approach. I worked with the NYISO to implement and test the study methodology, including the preparation of materials used to support the approach during various stakeholder committee meetings.
- 5. In my prior capacity at GE Energy Consulting, I was responsible for and supervised the team that developed the programs used to perform the analysis consistent with the NYISO's stated market design principals.
- 6. As part of the annual New York State Reliability Council (NYSRC) Installed Reserve Margin (IRM) Study I have led GE Energy Consulting's Review of the NYISO's implementation of the IRM study assumptions. Additionally, I have provided consulting support for the NYISO in developing the methodologies and assumptions used both in the IRM as well as the NYISO's studies to establish the Minimum Locational Installed Capacity Requirements ("LCRs").
- 7. In conducting the Capacity Value Study, GE performed numerous simulations for the NYISO to validate the proposed methodology. These simulations considered the potential impacts of numerous factors, including but not limited to: changes in the system

resource mix, changes in the duration and penetration of resources with energy limitations, and changes in the NYCA wide reliability level.

- 8. In my current role, I lead product development for the GE MARS Software, in which capacity I have supported the use of GE MARS for resource adequacy studies world-wide. My expertise includes software development; economic and reliability planning studies on the impact of state and federal environmental regulations; ICAP market design and analysis; natural gas and electric system coordination; and production cost and resource adequacy modeling.
- 9. In addition to my involvement with the Capacity Value Study, other recent projects I have worked on have focused on resource adequacy modeling and New York Installed Capacity market design issues. I have led studies to determine the market impacts of capacity sales out of New York's Capacity Localities, as well as assisting the NYISO in analyzing the recently adopted alternative methodology for setting LCRs, which was approved by commission in Docket ER18-1743-000. I have significant experience in analyzing New York State Power Systems and working with NYISO stakeholders.
- 10. Prior to joining GE Energy Consulting, I was a planning engineer at the NYISO between 2010 and 2013. In this role, I was focused on determining the system-wide benefits of relieving transmission congestion, as well as economic and reliability analysis of state and federal environmental regulations.
- 11. I hold a Bachelor's Degree in Environmental Engineering from Clarkson University.

III. GE's Analysis of the Capacity Value of Resources with Energy Limitations was performed consistent with industry best practices

12. GE performed the Capacity Value Study using modeling assumptions and techniques that are consistent with the NYSRC IRM Studies. These assumptions are similarly used by

the NYISO to set LCRs. The IRM and LCRs are used to anchor the NYISO ICAP Demand Curves, which set the range of prices available in the NYISO ICAP Spot Market Auctions. The methodologies and assumptions used by the NYSRC and the NYISO are developed with the input of the NYSRC stakeholders through its Installed Capacity Subcommittee ("ICS"). These assumptions include but are not limited to; the use of the 2002, 2006, and 2007 historical load profiles, peak load forecast uncertainty multipliers, forced outage parameters for traditional generating resources, hourly output profiles and variability for wind and solar resources, transmission interface limits and forced outages, as well as emergency operating procedures.

- 13. The starting point for the Capacity Value Study was the 2018 IRM base case, no changes to the underlying system assumptions were assumed and resources with energy limitations were added incrementally to the IRM Base Case. An objective of the Capacity Value Study was to identify the amount of Capacity that resources with energy limitations can contribute to meeting the IRM and LCRs, as such, it is preferable to calculate this Capacity value using the same underlying system modelling as is used to set the requirements. Differing distributions of events can result in the similar capacity requirements but may have different response to perturbations in the system such as the addition of a resource, regardless of its limitations. The timing, duration, and size of loss of load events are all important considerations when calculating capacity value, particularly for units with energy limitations.
- 14. Energy limitations were implemented in GE's analysis as a limit on the duration of time a resource is available to provide capacity to the system. This approach is consistent with how resources with such limitations are obligated to bid into the NYISO's energy market.

While some resources may be flexible enough to provide energy beyond the window analyzed, they are not currently obligated to offer into the market as such. Further, GE's analysis looked at the impacts of assuming resource scheduling diversity which showed little incremental benefit for the smallest block sizes analyzed.

- 15. GE's approach utilized a GE MARS post processing routine developed for this analysis, which scheduled resources with energy limitations against the hourly NYCA capacity margin assuming the resources were fully deliverable within the NYCA. This post processing routine was developed by GE Energy Consulting and verified through a variety of test cases with the NYISO. GE has used similar post processing routines for other capacity valuation studies.
- 16. Resources were assumed to be deliverable anywhere within the NYCA as capacity value is inherently transmission independent analogous to the NYISO's Unforced Capacity metric for traditional resources which is constant regardless of where in New York they are located. The impacts of transmission limitations are appropriately captured in the NYISO's LCR process and reflected in the price differentials in the Installed Capacity Market.
- 17. This concludes my affidavit.

ATTESTATION

I am the witness identified in the foregoing affidavit. I have read the affidavit and am

familiar with its contents. The facts set forth therein are true to the best of my knowledge,

information and belief.

Subscribed and sworn to before me

this 2 day of August, 2019. Notary Public larpreet New tate OLHA6303019 cgistration My commission expires: May 12 2022 Qualified Albany Count

STATE OF New York

) SS.:

COUNTY OF Schenectedy

On the L day of August in the year 2019, before me, the undersigned, a Notary Public in and for said State, personally appeared Desky Holl, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individuals(s), or the person upon behalf of which the individual(s) acted, executed the document

Notary Public tate of New Tork 5.303019 Albony County valitica expires in May 12, 2022

CERTIFICATE OF SERVICE

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

Dated at Rensselaer, NY this 2nd day of August 2019.

/s/ Joy A. Zimberlin

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