FEDERAL ENERGY REGULATORY COMMISSION OFFICE OF ENERGY POLICY AND INNOVATION Washington, D.C. 20426

April 11, 2016

Reference: Electric Storage Participation in Regions with Organized Wholesale Electric Markets

Docket No. AD16-20-000

Ray Stalter Director, Regulatory Affairs New York Independent System Operator

Dear Mr. Ray Stalter,

Pursuant to authority delegated to the Director, Office of Energy Policy and Innovation, under 18 C.F.R. § 375.315(b)(2) (2015), the New York Independent System Operator's (NYISO's) response is requested in the above-referenced proceeding regarding the applicability of Regional Transmission Operator (RTO) and Independent System Operator (ISO) market rules to electric storage resources.¹

Commission staff has been examining the use of electric storage resources to help meet wholesale electricity needs for some time. In 2010, staff issued a Request for Comments Regarding Rates, Accounting and Financial Reporting for New Electric Storage Technologies.² Commission staff has also continued to conduct informal outreach on electric storage issues and has addressed electric storage issues in certain cases.³ In addition, there have also been some key developments in the technology and

² Request for Comments Regarding Rates, Accounting and Financial Reporting for New Electric Storage Technologies, Docket No. AD10-13-000, June 11, 2010.

³ See, e.g., PJM Interconnection, L.L.C., 134 FERC ¶ 61,177 (2011); PJM Interconnection, L.L.C., 132 FERC ¶ 61,203 (2010); Western Grid Development, LLC,

¹ For purposes of this inquiry, Commission staff defines an electric storage resource as a facility that can receive electric energy from the grid and store it for later injection of electricity back to the grid. This includes all types of electric storage technologies, regardless of their size and storage medium, or whether they are interconnected to the transmission system, distribution system, or behind a customer meter.

cost-effectiveness of electric storage resources. Most recently, at the November 19, 2015 Commission meeting, the Commission hosted an energy storage panel to discuss developments in the electric storage industry and the participation of electric storage resources in the RTO and ISO markets.⁴

In light of these developments, staff is interested in examining whether barriers exist to the participation of electric storage resources in the capacity, energy, and ancillary service markets in the RTOs and ISOs potentially leading to unjust and unreasonable wholesale rates. Staff also expects to examine, if potential barriers exist, whether any tariff changes are warranted.

In the attached data request, staff seeks information on rules that affect the participation of electric storage resources in the NYISO markets, including, but not limited to, the eligibility of electric storage resources to participate in the NYISO markets, the qualification and performance requirements for market participants, required bid parameters, and the treatment of electric storage resources when they are receiving electricity for later injection to the grid.

Please file a response to the data request attached to this letter on or before Monday, May 2, 2016 in Docket No. AD16-20-000.

Sincerely,

J. Arnold Quinn, Director Office of Energy Policy and Innovation 2

130 FERC ¶ 61,056 (2010).

⁴ Energy Storage Panel, Docket No. AD16-12-000 (Nov. 19, 2015).

Attachment

Data Request: Electric Storage Participation in Regions with Organized Wholesale Electric Markets

For each of the below questions, please provide with the answer, as applicable, citations to relevant tariff provisions, business practice manuals, or other documentation that supports the response.

The Eligibility of Electric Storage Resources to be Market Participants

- 1. If electric storage resources are eligible to qualify as sellers in the capacity, energy, and/or ancillary service markets, please indicate the resource types (e.g. limited energy resource, generator, demand response, etc.) for which they may qualify in each market. In addition, please list where each applicable resource type is defined in the tariff, as well as the criteria for qualifying as each resource type.
- 2. Are certain types of resources ineligible to participate as sellers in the capacity, energy, or ancillary service markets by definition? If so, please explain which types of resources are ineligible to participate in which markets and why, including citations to any authority for such ineligibility (e.g., NERC standards, etc.).
- 3. To the extent that electric storage resources are *ineligible* to qualify as sellers in the capacity, energy and ancillary service markets for a resource type, please explain why.
- 4. When electric storage resources are eligible to participate in the capacity, energy, and ancillary services markets, are there different rules for different types of electric storage resources? For example, are there different qualification or performance requirements for batteries versus pumped storage resources? If so, please state these rules and explain the distinctions they draw for the participation of different types of electric storage resources.
- 5. Can electric storage resources set the price in the capacity, energy, and ancillary service markets? If not, please explain all circumstances under which electric storage resources are not eligible to set the market-clearing price.

Qualification Criteria and Performance Requirements

- 1. What are the minimum capacity requirements and minimum offer sizes to sell capacity, energy, and ancillary services?
- 2. What are the technical qualification criteria for each type of resource eligible to participate in the capacity, energy, and ancillary service markets, as applicable?
- 3. What are the technical performance requirements for providing capacity, energy, and ancillary services in NYISO's markets, as applicable?

4. What are the bases for these qualification and performance standards (e.g., North American Electric Reliability Corporation (NERC) reliability standards)? Please provide the technical and operational justifications for these qualification and performance standards, with citations if possible.

Bid Parameters for Electric Storage Resources

1. What are the required bid parameters for each defined resource type to sell in the capacity, energy and ancillary service markets? Are there additional bid parameters that each defined resource type may submit? Are there any bid parameters unique to electric storage resources in each market?

Distribution-Connected and Aggregated Electric Storage Resources

- 1. Are there opportunities for electric storage resources connected to the distribution system, or a subsystem thereof, to participate in the capacity, energy, and ancillary service markets? If so, please describe those opportunities (i.e., in which markets, as what type of resource, and subject to what tariff provisions may such electric storage resources participate?).
- 2. Are there opportunities for aggregated electric storage resources to participate in the capacity, energy, and ancillary service markets? If so, please describe those opportunities (i.e., in which markets, as what type of resource, and subject to what tariff provisions may such electric storage resources participate?).
- 3. If electric storage resources are providing services to the wholesale market and to another entity (e.g., a distribution utility), and if there are tariff provisions that permit or penalize potential deviation from the RTO/ISO economic dispatch signal in that circumstance, please provide them.

When Electric Storage Resources are Receiving Electricity

- 1. Under what circumstances would an electric storage resource submit bids to buy energy in the wholesale markets (i.e., when would an electric storage resource be a wholesale buyer under NYISO's market rules/tariff)?
- 2. If electric storage resources must bid to buy electricity from NYISO's market, what are the minimum load obligations, minimum bid sizes, or other minimum parameters to buy electricity in each market? For example, is there a minimum consumption limit to be eligible to pay the locational marginal price (LMP) for energy or a minimum charging duration that must be met to be a wholesale buyer?
- 3. Do electric storage resources participating in the capacity, energy, and ancillary service markets always pay LMP for the electricity they receive, and if not, under what circumstances do they not?
- 4. Are there circumstances when an electric storage resource receives energy but is not considered load and therefore does not pay for its consumption? For example, if an electric storage resource provides frequency regulation and is asked to receive energy (i.e., provide regulation down) is that considered consumption or

provision of frequency regulation, and is the resource charged a wholesale rate for this action?

Potential Changes to the Rules Affecting Electric Storage Resources

- 1. Are there any forthcoming or pending proposals or on-going stakeholder processes that could change or contemplate changing the rules by which electric storage resources can sell into NYISO's markets? If so, please describe the proposals or stakeholder processes briefly and provide citations to any relevant websites or public documents.
- 2. Are there any forthcoming or pending proposals or on-going stakeholder processes that could change or are contemplating changing the rules by which electric storage resources buy electricity from NYISO's market? If so, please describe the proposals or stakeholder processes briefly, and provide citations to any relevant websites or public documents.