

FERC NOPR on Energy Storage and DER: “Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators”



Steven Shparber

Counsel

RMISTF

January 24, 2017

- **Title of Notice of Proposed Rulemaking:** "Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators"
- **Scope:** Two parts
 1. Market rules for Electric Storage Resources
 2. Participation model for Distributed Energy Resource Aggregators
- **FERC Docket No.** RM16-23-000 (and AD16-20-000)
- **Release date:** Nov. 17, 2016
- **Reply due date:** Feb. 13, 2017

Electric Storage Resource Market Participation

Goal: Establish a participation model that recognizes the physical and operational characteristics of electric storage resources

1. Ensure electric storage resources can provide capacity, energy, and ancillary services, if technically capable
2. Bidding parameters that reflect and account for physical and operational characteristics of electric storage resources
 - Proposed examples: State of Charge, Max charge rate, Max discharge rate
3. Ability to set market clearing price as a buyer and seller (charge & discharge)
4. Market participation size threshold: 100 kW (0.1 MW)*
5. Sale of energy to a wholesale electric storage resource which is then sold back to the market must be at LMP

Distributed Energy Resource Aggregation

Goal: Define and establish a participation model for distributed energy resource aggregation

FERC definition of DER

- *Any source or sink of power that is located on the distribution system, any subpart thereof, or behind a customer meter.*

Items to consider for DER aggregations

- Locational requirements and distribution factors (DFAX)
- Metering, telemetry, and data requirements
- Coordination between RTO, EDC, and Aggregator (§ 153-156)
- Market participation agreements for DER Aggregators

APPENDIX – Language of Proposed Rule



In consideration of the foregoing, the Commission proposes to amend Part 35 Chapter 1, Title 18 of the *Code of Federal Regulations* as follows:

PART 35 – FILING OF RATE SCHEDULES AND TARIFFS

Amend § 35.28(b) as follows, by adding new paragraphs (9) through (12).

§ 35.28 (b) Definitions

(9) *Electric storage resource* as used in this section means a resource capable of receiving electric energy from the grid and storing it for later injection of electricity back to the grid regardless of where the resource is located on the electrical system.

(10) *Distributed energy resource* as used in this section means a source or sink of power that is located on the distribution system, any subsystem thereof, or behind a customer meter.

(11) *Distributed energy resource aggregator* as used in this section means the entity that aggregates one or more distributed energy resources for purposes of participation in the capacity, energy and ancillary service markets of the regional transmission organizations and independent system operators.

(12) *Organized wholesale electric markets* as used in this section means the capacity, energy, and ancillary service markets operated by regional transmission organizations and independent system operators.

(9) Electric Storage Resources.

(i) Each Commission-approved independent system operator and regional transmission organization must have tariff provisions providing a participation model for electric storage resources that

- a. Ensures that electric storage resources are eligible to provide all capacity, energy and ancillary services that they are technically capable of providing in the organized wholesale electric markets;
- b. Incorporates bidding parameters that reflect and account for the physical and operational characteristics of electric storage resources;
- c. Ensures that electric storage resources can be dispatched and can set the wholesale market clearing price as both a wholesale seller and wholesale buyer consistent with existing rules that govern when a resource can set the wholesale price;
- d. Establishes a minimum size requirement for participation in the organized wholesale electric markets that does not exceed 100 kW; and
- e. Specifies that the sale of energy from the organized wholesale electric markets to an electric storage resource that the resource then resells back to those markets must be at the wholesale locational marginal price.

(10) Distributed Energy Resource Aggregators.

- (i) Each independent system operator and regional transmission organization must have tariff provisions that allow distributed energy resource aggregations to participate directly in the organized wholesale electric markets. Each regional transmission organization and independent system operator must establish distributed energy resource aggregators as a type of market participant and must allow the distributed energy resource aggregators to register distributed energy resource aggregations under the participation model in the regional transmission operator or the independent system operator's tariff that best accommodates the physical and operational characteristics of the distributed energy resource aggregation.

- (ii) Each regional transmission operator and independent system operator, to accommodate the participation of distributed energy resource aggregations, must establish market rules on:

(cont...)

(cont...)

- a. Eligibility to participate in the organized wholesale electric markets through a distributed energy resource aggregation;
- b. Locational requirements for distributed energy resource aggregations;
- c. Distribution factors and bidding parameters for distributed energy resource aggregations;
- d. Information and data requirements for distributed energy resource aggregations;
- e. Modification to the list of resources in a distributed energy resource aggregation;
- f. Metering and telemetry system requirements for distributed energy resource aggregations;
- g. Coordination between the regional transmission organization or independent system operator, the distributed energy resource aggregator, and the distribution utility;
- h. Market participation agreements for distributed energy resource aggregators.