

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

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Electric Storage Participation in Markets Operated by  
Regional Transmission Operators and Independent  
System Operators

Docket Nos. RM16-23-000  
AD16-20-000

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**COMMENTS OF THE ORGANIZATION OF MISO STATES**

On November 17, 2016, the Federal Energy Regulatory Commission (Commission) issued the subject Notice of Proposed Rulemaking (NOPR) and proposed to amend its regulations under the Federal Power Act (FPA) to remove barriers to the participation of electric storage resources and distributed energy resource aggregations in the capacity, energy, and ancillary service markets operated by Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs) (organized wholesale electric markets). The Organization of MISO States (OMS) appreciates the opportunity to share its views on these important matters.

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**I. Introductory Comments**

OMS generally supports the Commission's rulemaking efforts to integrate Energy Storage Resources (ESRs) and Distributed Energy Resources (DERs) in wholesale markets, with the condition that applicable state and local laws, and applicable orders and rules of Relevant Electric

Retail Regulatory Authorities (RERRA), are clearly acknowledged and observed in Commission orders that result from this NOPR. These state and local authorities determine distribution interconnection processes, retail ratemaking, and tariffs between retail customers with DERs and applicable Load Serving Entities (LSE) or Local Distribution Companies (LDC). If state and local laws are followed, and RTOs coordinate with RERRAs regarding potential retail and wholesale conflicts as described below, this rule has the potential to increase market accessibility for energy storage and smaller distributed resources, as well as increase customer engagement. With proper policy implementation and price formation, this NOPR will hopefully lead to the integration of resources that provide system benefits that do not currently fit well within existing RTO resource definitions. Any forthcoming order should maintain the focus on physical and operational abilities of resources, and remove arbitrary RTO hurdles based on tariff definitions or market rules.

## **II. Comments Pertaining to Energy Storage**

### **A. Managing State of Charge, Reliability, and Bidding Parameters**

RTOs must develop rules that strike a balance between transmission reliability and ease of market entry and operations for ESRs. RTOs will need assurance, such as operational limits and governing controls, that transmission-interconnected ESRs won't impair reliability. While universal RTO parameters for maximum charge and discharge rates appear to be fair and easy to apply, unique interconnections at ESR locations may require technical studies to ensure operational parameters are adequate for all ESRs. Most of these protocols could be implemented in the RTO interconnection agreement process, which may need to differentiate between ESRs and generating resources. Reliability concerns regarding distribution-interconnected ESRs must first adhere to applicable RERRA regulations over LDCs and retail customers seeking to install

these resources.

RTO Emergency Operations Procedures may also need updates to reflect enhanced control and response from ESRs during emergencies, especially for those ESRs that receive capacity credit and qualify as emergency-related resources. Regarding NERC reliability standards, a thorough NERC stakeholder review may be needed before forcing ESRs into NERC compliance programs.

With regards to bidding parameters, some ESR technologies will need the ability to provide fast-start ancillary services to realize system benefits, and RTO participation models for ESRs must be integrated with FERC rules now being developed for fast-start pricing in Docket No. RM17-3-000. In order to implement ESR participation models, RTOs will need to holistically review the various software packages they use for bidding, settlements, etc. in order to incorporate ESRs and their system benefits.

### **B. Energy Storage as a DER and Pricing**

RTO participation models must differentiate between transmission-interconnected ESRs and distribution-interconnected ESRs. The OMS's primary concern is the interplay and potential overlap between wholesale and retail rates for energy use of retail customers. While storage resources interconnected at the transmission level may be charged the LMP for energy use and paid LMP for discharging energy, the price for all energy use at the distribution level is subject to the retail ratemaking authority of the RERRA, where applicable. Retail customers are prohibited from purchasing energy directly from the wholesale market for a retail action in many state statutes in retail-regulated jurisdictions. If a distribution-interconnected ESR can qualify as a wholesale market participant, there must be separate metering for the ESR and the retail customer's load, unless a single meter is explicitly allowed by the RERRA. Simply measuring

net energy would allow a retail customer to purchase energy at the wholesale rate for a retail action, undermine the authority of the RERRA, and allow the retail customer to avoid contributing to the cost of distribution facilities. An order requiring RTOs to observe state and local laws, which will define the ability and extent of distribution-level resource participation at the wholesale level, could help prevent these issues. The OMS's concerns regarding DER jurisdictional and operational issues, including ESRs at the distribution level, are further described in the next section.

### **III. Comments Pertaining to DERs**

#### **A. Recognition of Applicable State and Local Laws and RERRAs**

When developing rules for the integration of Demand Response (DR) and Aggregators of Retail Customers (ARCs) in wholesale markets in Order 719, the Commission allowed RTOs to accept bids from ARCs “unless the laws or regulations of the relevant electric retail regulatory authority do not permit the customers aggregated in the bid to participate.”<sup>1</sup> The Commission further clarified, “The Commission’s intent was not to interfere with the operation of successful demand response programs, place an undue burden on state and local retail regulatory entities, or to raise new concerns regarding federal and state jurisdiction...”<sup>2</sup>

The OMS perceives several jurisdictional and operational parallels between the aggregation of retail customers for the purpose of DR, and aggregation of retail customers for the purpose of DER integration in wholesale markets. State laws for the interconnection of DERs already provide rules and responsibilities for RERRAs, LDCs, LSEs, and retail customers. Retail tariffs also exist for the LSE or LDC procurement of DER generation,

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<sup>1</sup> *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719, 125 FERC ¶ 61,071 at P 155.

<sup>2</sup> *Id.*

through either state law or as approved by RERRAs in applicable retail ratemaking processes. With these retail rules and processes, DERs are already included in the wholesale market on the LSE's demand side.

With the knowledge of state jurisdiction and DER laws, and existing LSE programs and operations that already include DERs, the OMS requests that the Commission add specific language in its DER rules that is similar to the treatment of DR integration in wholesale markets in Order 719. Commission rules should allow RTOs to accept supply side offers from DER aggregators "unless the laws or regulations of the relevant electric retail regulatory authority do not permit" DER aggregations. This will ensure state laws and applicable RERRA authorities are followed.<sup>3</sup>

Finally, the Commission correctly identified in its NOPR that DERs under retail net metering should not qualify for wholesale markets, due to concerns about double compensation and the fact that the retail customer is a net consumer of energy. The Commission should also be aware that net metering is not the only form of retail tariff that procures energy from retail customer energy production. Many utilities have retail tariffs that are power purchase agreements with their customers, in which the utilities buy the entire customer's energy production regardless of retail energy use. Any retail tariff that pays a customer for a product or service must not also be compensated at the wholesale level for the same product or service that is procured at the retail level.

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<sup>3</sup> The Illinois Commerce Commission generally supports recognition of state laws and applicable RERRA authorities. Such general support does not, however, extend to instances in which state laws and/or applicable RERRA authority actions in a state raise costs for, or have other detrimental impacts on, other states. The Illinois Commerce Commission is concerned that the referenced language from FERC Order 719 for demand response (DR) aggregation has effectively prevented DR aggregation from developing in the Midwest where nearly all of the MISO States have prohibited DR aggregators and, consequently, has increased region-wide wholesale market prices. In order to avoid a similar outcome if comparable language is included in FERC's rule for DER aggregation, the Illinois Commerce Commission recommends against inclusion of such language and does not support this paragraph.

## **B. Geographic Aggregations and Price Formations**

Geographic limitations of DER aggregations will depend on the market type and associated zones, which should account for transmission constraints that either have reliability or market impacts. For example, in MISO's capacity market there are several Local Resource Zones (LRZ). Use of capacity credit is limited to the LRZ of a generator's location unless import and export limits allow for zonal transfers to other LRZs. If DERs are eligible to create capacity credits, reliability issues may arise if DER aggregations are mixed across LRZs. Similarly, MISO has separate Ancillary Market Zones. Aggregation of DERs providing ancillary services across these zones should not be allowed.<sup>4</sup> Dispatch of cross-zone aggregation would lead to ancillary services being provided in different zones, possibly leading to reliability issues. Energy markets may allow for broader aggregation, pending individual RTO studies that consider transmission constraints. For operational efficiency, it would be prohibitive to create a generation node for each DER resource. Therefore, RTOs will need to create protocols for averaging across load zones to create energy prices for DER aggregators. Likewise, RTOs will also have to establish settlement protocols to ensure that the appropriate load zones pay for DER energy sales. To do so, RTOs should be instructed to work through appropriate stakeholder processes to revise their Tariffs for appropriate market zone limitations, price formation, and settlements for both DERs and impacted load zones. For example, RTOs may find that DERs selling energy must not be aggregated across significant transmission constraints, and will need to identify wholesale energy market aggregation limitations through either Tariff or Business Practice revisions. The California ISO DER proposal outlines how this will be done in that RTO, and other RTOs should

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<sup>4</sup> The Illinois Commerce Commission believes there is no convincing reason to restrict DER aggregations across zones unless there are binding constraints. The OMS comments recognize this key point with respect to the energy market, and cross-zone aggregation should also be allowed in the capacity and ancillary services markets unless there are binding constraints.

establish a process as well.

The Commission must also decide how to treat DER energy generation that occurs during periods of negative wholesale prices. When a DER becomes a wholesale market participant, it will choose to forego the LSE or LDC retail tariff, if available, in order to sell into the wholesale market. When wholesale market prices are negative, the DER must either cease generation or be exposed to those negative prices. The purpose of the price signal is to incentivize behavior based on the market conditions at the time. In this case, a negative price signal may have been caused by congestion or reliability issues, and should result in efficient market actions – a decrease in generation and increase in load until normal, positive prices return. The OMS believes that wholesale DERs should receive the same negative price signals as other market participants for the purpose of market efficiency and grid reliability.

### **C. Coordination with LSEs, LDCs, and RERRAs**

Effective coordination with LSEs and LDCs that have third-party DER aggregation allowed in their service territory will be crucial for successful implementation. In retail choice areas, this requires coordination among LDCs, which must have DER awareness for distribution operations, and LSEs, which must have DER awareness to accurately forecast and bid their load in wholesale markets. If these entities do not have awareness of DER activity within their own operational footprints, both system and market impacts could negatively affect reliability and market efficiency. The Commission-accepted California ISO proposal allows the LDC to review the wholesale market entry of DER within their operational territory. This allows LDCs within the RTO to identify and resolve applicable utility tariff and RERRA requirements, as well as technical issues arising from the interconnection at the distribution level. The Commission should instruct all RTOs to develop a similar process to allow for LSE and LDC review and

input.

Many vertically-integrated LSEs already have DER programs and tariffs, and successfully participate with these resources in wholesale markets on the demand side. Going forward, if DERs are paid under a retail tariff, LSEs in MISO should be able to continue operating their DER programs on the demand side of the market. This practice will allow current state net metering policies and other retail tariffs to continue without concern of double compensation or jurisdictional issues that arise between retail and wholesale prices for energy use. This will also allow for continued realization of other operational awareness and efficiency that already occurs for vertically-integrated LSEs with existing DER programs. Similarly, RTOs may need to collect baseline information on DERs within LSE territories for purposes of system awareness and reliability, and perhaps more granular information in areas of high DER penetration.

RTO coordination with RERRAs should also be a high priority. In order to assure applicable state and local laws are followed, RERRAs will also need some awareness of DER activity within the geographic footprint under their jurisdiction. The Commission should draft language in applicable orders to ensure RTOs coordinate with RERRAs, and provide DER information to applicable state and local authorities.

#### **D. Information about DER Owners and Telemetry Requirements**

To the extent information about DER owners is needed for system reliability and market operations, RTOs should have the ability to gather relevant information on the DERs that qualify as a DER within a market participant aggregation and have volunteered to so participate. However, RTOs should be cognizant of customer privacy concerns and the potential that sensitive data may become the target of malicious cyber actors or may become compromised through a

failure to secure adequate protections or negligence. RTOs should take all steps necessary to protect any and all private customer information, including personally identifiable information and any other sensitive data, to prevent any cyber security breaches. Although there may not be an initial need for NERC to gather information from DERs for reliability and security standards, NERC may desire to coordinate with RTOs if DER penetration levels increase substantially in the future.

With regards to telemetry requirements, DERs should be metered separately from the host site's load. If DERs participate in a wholesale energy market, they will sell energy at the wholesale level and receive LMP as the price for energy sales. However, energy use at the distribution level, ultimately consumed as a retail action, is a retail sale subject to the ratemaking authority of the RERRA. As stated above, there must be a distinction between a wholesale action and a retail action. For example, a retail customer, which would also be a wholesale market participant under this NOPR, must not be allowed to interface with the LSE using a DER storage device and a single meter that accounts for both wholesale storage activity and the customer's retail energy use. In this instance, the retail customer could claim it is a wholesale market participant and its net energy use will be charged at the wholesale LMP instead of the retail rate set by the RERRA. Any wholesale-retail loopholes that would allow a retail customer to purchase wholesale energy for a retail action must be discovered and closed.

#### **IV. Conclusion**

RTOs operate wholesale markets in unique geographic territories, and as Reliability Coordinators and Balancing Authorities, they must implement federal regulations to accommodate unique generation and load profiles. Under their transmission footprints, RTOs also have a variety of RERRAs that regulate distribution territories according to unique state and

local energy policies. In order for this NOPR to achieve success, there must be adequate guidance for RTOs to work through stakeholder processes and develop final Tariff revisions that fit the specific needs of their operational systems, and work in tandem with state and local energy policies. This is the only way to ensure storage and DER wholesale market activity will sustain the reliability of both transmission and distribution operations.

The primary focus of the OMS is to ensure that Commission rules and MISO Tariff revisions that come out of this NOPR will uphold state and federal cooperation, which is required given the inherent interconnectivity between distribution and transmission systems. The OMS realizes that the RTO stakeholder processes that result from this NOPR will need to accommodate states, including state laws, policies, and programs. MISO should work diligently to coordinate with states on any complex market, reliability, and jurisdictional issues that may arise.

Dated: February 13, 2017