

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

Participation of Distributed Energy Resource  
Aggregations in Markets Operated by Regional  
Transmission Organizations and Independent  
System Operators

Docket No. RM18-9-000

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**COMMENTS OF ANDREW  
G. PLACE, VICE CHAIRMAN OF THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

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**I. INTRODUCTION**

On April 27, 2018, The Federal Energy Regulatory Commission (FERC) requested post-technical conference comments by state and local regulators to directed questions concerning the operational effects that Distributed Energy Resources (DER) participation in the wholesale market could have on facilities they regulate. I have a particular interest in this topic and wish to emphasize that my comments are solely my own, and do not necessarily reflect the positions of any other Commissioner or of the Pennsylvania Public Utility Commission (PAPUC) as a whole. I hereby submit my Comments (“Comments”) in response to the Notice of Request for Comments and Technical Conference, dated April 27, 2018, in the above captioned docket. Below are my comments to the questions directed to state and local regulators.

## QUESTION 1

**What are the potential positive or negative operational impacts (e.g., safety, reliability, and dispatch) that DER participation in the wholesale market could have on facilities regulated by state and local authorities?**

Operational effects could be positive and negative. Positive impacts include enhanced competition, lower distribution system losses and peak demand reductions to the extent deliveries during system peak demand are shifted to off-peak demand periods, as well as voltage regulation, potential to avoid future distribution investments and enhance resiliency associated with proximity of supply to load. Deployment of battery systems along the distribution grid, in particular, offers the potential for significant benefits to the reliability of distribution and transmission systems. For example, short-term and long-term operational benefits can occur if wholesale market signals related to PJM aggregate demand are closely correlated with distribution feeder demands. Lastly, environmental benefits can accrue to the extent DER policies support state renewable energy and greenhouse gas reduction policies.

However, it is also possible that DER participation in wholesale markets could negatively impact distribution system operations. For example, participation in ancillary service markets, such as frequency regulation, could have negative impacts on distribution systems by imposing strains on distribution system equipment. Also, coordination of DER, such as storage, all injecting or withdrawing in a harmonized manner on a distribution system feeder could impose additional strains and costs on the distribution system. EDCs will ultimately need to have operational authority, as authorized by state regulators and provided for in tariffs, to protect distribution operations

should wholesale market commitments by DER operators or aggregators conflict with safe, reliable and affordable service on distribution system networks. Wholesale DER market participants will need to comply with state level EDC interconnection agreements with DER owners to mitigate these potential impacts on the EDC systems. Gaining visibility to these resources, where cost effective and in compliance with consumer protection rules, would also help address these concerns. Gaining visibility would be desirable for future high-DER penetrations on the distribution system whether or not the DERs participate in wholesale markets.

**How should the costs associated with monitoring and addressing such potential impacts on the distribution grid caused by the NOPR proposal be addressed, and fairly allocated?**

Any negative impacts, and associated cost allocation rules to mitigate those impacts or encouraging DER deployment and coordination, should be the jurisdiction of the states, as it involves cost allocation associated with the distribution system. State regulators are the proper entities for reviewing distribution system impacts of wholesale DER systems, and rewarding, or charging DER market participants for monitoring costs and system impact costs. Wholesale market participants and their agents should be subject to applicable tariff requirements for wholesale market participants operating on distribution systems, and be subject to state regulation, where authorized by state statute. As an example, states may choose to socialize certain costs as they modernize the grid in response to state policies to support distributed resources. Conversely, states may choose to allocate costs to owners of DER resources that impose costs related to system upgrades driven by the interconnection and operation of the DER.

**Are existing retail rate structures able to allocate costs to DER aggregations that utilize the distribution systems, and if not, what modifications or coordination are feasible?**

Retail rate structures are the exclusive jurisdiction of the states, and are regulated and reviewed through various state statutes, rulemakings, policy statements, and individual rate case proceedings. The state regulatory commissions have a duty to ensure that costs are appropriately allocated, and will continue to do so, taking into consideration relevant principles, including cost causation, beneficiary pays, fairness and equity, impact on efficiency or environmental goals, and gradualism. As DER aggregation grows, retail rate structures, costs assigned to DER and DER compensation will need to evolve, as the impacts on the distribution system networks evolve. The PAPUC has an open proceeding examining retail rate structures in preparation for existing and emerging issues, such as declining per-customer usage and the growth of distributed resources such as electric vehicles, batteries, and solar PV systems that will impact utility revenue and cost recovery.

Retail rate structures are not the only tool for cost allocation. Distribution system interconnect procedures can require DER participant payment for system impacts attributable to connected DERs. DER interconnect procedures may need to be updated to reflect any additional costs, or benefits, to the distribution system related to DER participation in the wholesale market.

Rate structures will also evolve irrespective of whether DER resources are used in wholesale and/or retail markets. Where DER facilities almost exclusively participate in wholesale markets, wholesale rates will likely drive pricing structures. Where facilities

are embedded with retail load, more complex resolutions regarding the allocation of costs and compensation will be required by the state regulatory authorities.

## **QUESTION 2**

### **Do state and local authorities have operational concerns with a DER aggregation participating in both wholesale and retail markets?**

In short, yes. It will be critical for FERC to require RTOs to work actively with states and EDCs to ensure that dual wholesale/retail participation is handled in a way that safeguards the reliability and safety of the distribution system network, or even improves the reliability and safe operation of the distribution system in a more efficient manner. Potential concerns, as noted in my responses to the first inquiry, includes distribution system instability, the need for additional system facilities, or increased system energy losses. DER compliance with all applicable distribution utility tariffs and distribution system operating procedures, as approved by state regulators, should be required by the ISO/RTO for DER participating in the wholesale market. To the extent a state determines a particular resource's participation is not appropriate, due to operational impacts on the distribution grid, or due to retail rate concerns, the ability of the state regulatory authority to restrict DER participation in the wholesale market should be maintained.

It will also be important that FERC establish reasonable performance criteria for aggregated DER systems to ensure that distribution grid reliability is not in any way reduced. Aggregate performance of DER systems participating in wholesale markets at the distribution system level should be as reliable as supply resources operating on the transmission system for the provision of energy, capacity and/or ancillary services. This

does not mean the same rules need apply – only that the quality and the reliability of the service be maintained.

**If so, what, if any, coordination protocols between states or local regulators and regional markets would be required to facilitate DER aggregations' participation in both retail and wholesale markets?**

As to operational coordination protocols, see response immediately above.

**Could the use of appropriate metering and telemetry address the ability to distinguish between markets and services, and prevent double compensation for the same services?**

In some circumstances, yes. However, the details of such metering and telemetry rules may vary by state, or even EDC. Again, RTO's should be required to work closely with states and EDCs to ensure such metering and telemetry rules are consistent with state DER compensation rules and EDC meter infrastructure requirements. FERC has appropriately highlighted that metering and telemetry requirements should not impose unnecessarily burdensome costs on the DER aggregators and individual DER resources in DER aggregation as it may create a barrier to their participation. A careful balance must be struck to ensure sufficient accuracy of wholesale market performance and operational visibility against the cost of any mandated metering and telemetry requirements. State metering requirements and practices should be utilized where feasible and adequate to measure performance to avoid additional costs.

**What is the role of state and local regulators in monitoring and regulating the potential for such double compensation? How should regional flexibility be accommodated?**

Use of the PJM stakeholder process, with state regulator and EDC participation, should be emphasized in order to provide transparency on wholesale and retail market rules applicable to wholesale DER aggregation. State regulator participation will be particularly important, since state compensation rules regarding net metering, value of DER, or microgrids are vital in deciding whether double, or overcompensation is occurring. Compensation for the services can be tied to different value streams. For instance, avoided distribution costs or state policy objectives implemented as part of an alternative energy program may drive the compensation for a retail-level program, and a wholesale capacity price may drive the compensation for a wholesale level service. State regulators, through distribution utility tariffs, should have ultimate jurisdiction over rules regarding regulation of DER involving dual participation in wholesale and retail markets for a given DER. Thus, regional and state level flexibility will be required. As an example, if a DER is receiving full net metered retail value for its energy, capacity and ancillary services over the year pursuant to a given state net energy metering tariff, it may be unjust and unreasonable for this same resource to bid into PJM wholesale energy, capacity and ancillary service markets while receiving retail rate compensation under net metering. Additionally, storage, coupled with behind the meter solar, can provide opportunities for arbitrage between retail and wholesale markets. On the other hand, it may not be reasonable to require a storage resource to pay retail rates for injection into a storage on a micro-grid where storage injection and withdrawal is used exclusively for

wholesale activities, other than during a grid emergency. State level regulations and orders, combined with distribution utility tariffs and agreements, will need to be complied with by DER participating in the wholesale market to ensure retail pricing policies applicable to state tariffs are not inappropriately avoided.

### **QUESTION 3**

**What entities should be included in the coordination processes used to facilitate the participation of DER aggregations in RTO/ISO markets? Should state and local regulatory authorities play an active role in these coordination processes? Is there a need to modify existing RTO/ISO protocols or develop new protocols to accommodate state participation in this coordination? What should be the role of state and local regulators in the NOPR's proposed distribution utility review of DER aggregation registrations?**

All affected stakeholders should be part of the coordination process. However, state regulators and EDCs will need a substantive role to ensure that state jurisdiction is preserved as it relates to market activities on the distribution system by DER wholesale market participants and their agents. This subject is clearly an area where FERC jurisdiction of wholesale rates will need to recognize the state jurisdiction over distribution systems. Any proposed wholesale tariff or manual mechanisms must be coordinated with State Commissions, and, to the extent States may wish to exercise regulatory jurisdiction over DER aggregation registrations, such review or approval should be included in the FERC regulation and subsequently recognized and incorporated into an RTO's Tariffs and/or agreements. Some examples where states may exercise important state jurisdictions as it relates to DER participation and coordination may include, but are not limited to:



- Distribution utility review of registrations to ensure accuracy and consistency in DER resource parameters with distribution system interconnection requests;
- Application of any applicable state distribution utility interconnect requirements for wholesale market participation;
- Application of any dual wholesale/retail participation restrictions of the state or state required measurement, telemetry and accounting requirements;
- Application of any real-time or day-ahead operational reporting requirements or operational restrictions of distribution utilities, as approved by state regulators;
- Compliance with state confidentiality requirements of retail customer data.

New data sharing protocols to accommodate DER participation in the wholesale markets, where relevant, are strongly encouraged to streamline costs for such exchanges of information, in accordance with wholesale and state requirements. In terms of communications with RTO's, it will be the responsibility of the wholesale market participant, including a DER aggregator, to communicate to RTOs its approved activities on a distribution system. These same entities would also be expected to interface with the EDCs for resource interconnection at the distribution system level and distribution system related operational activities.

#### **QUESTION 4**

**Does the proposed use of market participation agreements address state and local regulator concerns about the role of distribution utilities in the coordination and registration of DERs in aggregations? Are the proposed provisions in the market participation agreements that require that DER aggregators attest that they are compliant with the tariffs and operation procedures of distribution utilities and state and local regulators sufficient to address such concerns?**

In general, a market participation agreement that recognizes state jurisdiction and requires compliance with all state rules, regulations and distribution utility tariffs and agreements should be sufficient, so long as such participant agreements do not limit state jurisdiction of DER's distribution system operations.

## QUESTION 5

**What are the proper protections and policies to ensure that DER aggregations participating in wholesale markets will not negatively affect efficient outcomes in the distribution system?**

Again, respecting the state role, by requiring wholesale market participants operating on the distribution system to adhere to state rules and regulations for distribution system and retail program protections and policies, as well as in distribution utility tariffs and agreements, should ensure potential negative outcomes can be effectively mitigated. Given the complexity of the issues, it is likely that such protections and policies will need to evolve over time. States should be accorded an opportunity to exercise their authority to modify these protections and policies as the means of improving on DER aggregation in the wholesale markets evolve.

## QUESTION 6

**During the technical conference, some panelists noted interest in a limited optout provision which would allow states to require DERs to choose participation in either the RTO/ISO market or retail compensation programs, but not both. How would such a limited opt-out be implemented? What are the benefits and drawbacks of such an approach?**

As noted above, state regulators, through rules and regulations, as well as distribution utility tariffs and agreements, should have ultimate authority over the dual participation of DER in wholesale and retail markets for a given DER. In some instances, given a state's retail programs and DER compensation policies, it may be appropriate to permit dual participation in different markets – energy, capacity, ancillary markets. In other instances, a state's retail programs and DER compensation policies may preclude, or render unjust and unreasonable, dual participation. In yet other

instances, a DER facility's location on the distribution grid may preclude wholesale market participation, unless certain metering and facility investments are made by the EDC and paid for by the DER provider or wholesale market participant.

In general, states should retain jurisdiction over the level of retail and wholesale market participation of DER facilities located on the distribution grid for the reasons articulated – to ensure least cost and reliable service to retail customers.

Respectfully submitted,

/s/ Andrew G. Place

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**CERTIFICATE OF SERVICE**

I HEREBY CERTIFY that I am on this date serving a copy of the foregoing document upon each person designated on the official service list compiled by the Federal Energy Regulatory Commission in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure.

Dated at Harrisburg, PA this 26th day of June 2018.

Respectfully submitted,

/s/ James P. Melia  
James P. Melia