



March 1 FERC Order 2222: Directives Discussion Double Counting, Metering and Telemetry, Dispatch Agent

PJM Staff

DISRS

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Double Counting

- **Double Counting Services:** limit the participation of resources in RTO/ISO markets through a distributed energy resource aggregation (DERA) that are receiving compensation for the same services as part of another program.
 - Double Counting not permitted in PJM markets; resources cannot be compensated for the same MWs/services in retail and wholesale

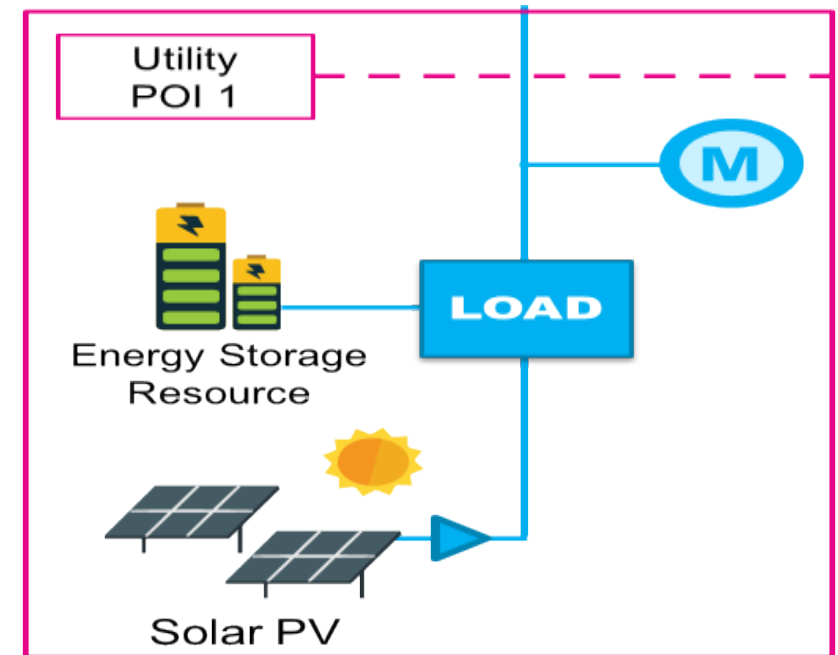
- **Paragraph 136:** However, PJM’s proposed tariff requires an assessment of whether the “**same product is not also credited**” rather than whether, as the Commission discussed in Order No. 2222, **the same service is being provided by the Component DER**. Being credited for a product may not be the same as providing a service. This difference may be relevant because a **Component DER participating in a net energy metering retail program, for example, may be credited for a product or service that it does not actually provide**. As a result, it is unclear whether PJM’s proposed tariff fully complies with this requirement. Accordingly, we direct PJM to file, within 60 days of the date of the issuance of this order, a further compliance filing to clarify why Tariff, Attachment K-Appendix, section 1.4B(h) and Operating Agreement, Schedule 1, section 1.4B(h) assesses whether the “same product is not also credited as part of a retail program” rather than whether the same service is not also being provided in a retail program, to include an explanation of how this language as proposed is consistent with Order No. 2222, or alternatively to revise this language such that it is consistent with Order No. 2222.”

- A DER Aggregator may participate in the PJM energy, capacity, and/or ancillary services markets through the DER Aggregator Participation Model using DER Aggregation Resources containing one or more Component DER that also participate in one or more retail programs. The Office of the Interconnection shall only **credit** a DER Aggregator for the sale of a product **or service** in the PJM energy, capacity, and/or ancillary services markets if that same product **or service** is not also **provided credited** as part of a retail program, including but not limited to a Component DER participating in a retail net energy metering program.
- A DER Aggregator may participate in the PJM energy, capacity, and/or ancillary services markets through the DER Aggregator Participation Model using DER Aggregation Resources that provide multiple services in the PJM energy, capacity, and/or ancillary services markets through the DER Aggregator Participation Model. A Component DER shall not be registered with multiple DER Aggregation Resources, or participate as part of another Market Participant outside of the DER Aggregator Participation Model. The Office of the Interconnection shall only **credit** a DER Aggregator for the sale of a product **or service** in the PJM energy, capacity, and/or ancillary services markets if that same product is not also **provided credited** as part of another wholesale sale.

- **Retail Net-Energy Metering (NEM):** DER Resources modeled at a location with a NEM rate and wanting to participate in wholesale markets through a DERA.
 - Participation in wholesale market of a component DER will need to be approved by EDC after evaluation of resource(s) participation in NEM and the associated revenue for that participation.
 - The check will be implemented in the Utility Review process, and will be on a utility-by-utility basis to capture different utility NEM requirements.

- **Paragraph 141:** However, we agree with protesters that PJM’s proposed restriction may not be narrowly designed with respect to **Component DER that are not participating in a net energy metering retail program and are co-located at a site where at least one resource is participating in a net energy metering retail program.** We find that, because PJM clarifies that Attachment K-Appendix, section 1.4B(b) and Operating Agreement, Schedule 1, section 1.4B(b) would apply to such a Component DER, PJM’s proposed restriction may unnecessarily limit participation of Component DER in the PJM energy and capacity markets **solely based on their location and not based on a double counting concern.** While PJM appropriately supported its proposed general exclusion against participation in its energy and capacity markets as to Component DERs that are participating in a net energy metering retail program because they are compensated for providing energy in retail programs, **it is unclear why it is appropriate for PJM to apply that same exclusion to Component DER that are not participating in a net energy metering retail program merely because they are co-located at a site where at least one resource is participating in such a retail program.** Accordingly, we direct PJM to file, within 60 days of the date of issuance of this order, a further compliance filing to explain how its proposed general exclusion from the energy and capacity market of Component DER that are not participating in net energy metering retail programs but are located at sites where at least one resource is participating in a net energy metering retail program is narrowly designed, and if necessary, to revise its restriction.

- NEM tariffs typically rely on a net meter, which does not differentiate between the resources that are injecting power.
- PJM assumes injecting MW are receiving compensation through the NEM, regardless if the source is solar PV or storage.



- iv. Participation of the Component DER in an electric distribution company's retail program at the time of registration, and whether such participation precludes participation of the Component DER in the energy, capacity, and/or ancillary services markets of PJM, and as defined in the PJM Manuals;
 - a. Component DER that participate in a net energy metering retail program may only participate with grid injections in the PJM ancillary services markets, and may not participate in PJM energy or capacity markets, unless:
 1. the electric distribution company confirms to the Office of the Interconnection that participation of the Component DER in a net energy metering retail program or tariff approved by the Relevant Electric Retail Regulatory Authority will not violate the restrictions on duplicative compensation, as described in Tariff, Attachment K-Appendix, section 1.4B(h) and Operating Agreement, Schedule 1, section 1.4B(h); and
 2. the Office of the Interconnection determines that the participation of the Component DER otherwise meets the applicable requirements for energy market or capacity market participation.

- FERC asked PJM to review participation of DER resources that are co-located with NEM compensated DER.
- Sub-metering may not solve the problem, and introduces reconstitution for different sub components.
- If sub-metering solutions are possible at a DER Component, PJM could rely on sub-meter data for participation in a DER aggregation.
- PJM plans to keep as-filed language and restrict participation of DER resources that are co-located with NEM compensated DER.



Metering and Telemetry

- P249 - With respect to metering, we find that PJM’s proposal partially complies with the requirement to revise its tariff to establish market rules that address metering requirements necessary for distributed energy resource aggregations to participate in RTO/ISO markets and to explain why its proposed metering requirements are just and reasonable and do not pose an unnecessary and undue barrier to individual distributed energy resources joining a distributed energy resource aggregation. **We find that PJM’s basic description of its metering practices for DER Aggregation Resources in its tariff is incomplete because it lacks the deadline for meter data submission for settlements.** In Order No. 2222, the Commission found that metering and telemetry requirements significantly affect the terms and conditions of the participation of distributed energy resource aggregations in RTO/ISO markets and, therefore, these requirements must be included in the RTO/ISO tariffs. **Further, the Commission found that RTO/ISO tariffs should include a basic description of the metering and telemetry practices for distributed energy resource aggregations as well as references to any specific documents that will contain further technical details.** We find that the meter data submission deadline is a key component of metering practices for DER Aggregators and therefore should be included in the tariff, as part of the basic description Order No. 2222 requires. Accordingly, we direct PJM to file, within 60 days of the date of issuance of this order, a further compliance filing to revise PJM’s tariff to include the meter data submission deadline for settlement

- Objective is to have consistent requirements for all DER data submission.
- Injections will be submitted to PowerMeter.
- Load reductions will be submitted to DR Hub.

- Existing Metering Requirements located in Manual 14D
 - Section 4.2.2: Metering Plan
 - Section 4.2.3: Metering for Individual Generators
 - *“...a Generation Owner can negotiate data transmission to and from PJM through the local utility or transmission facilities owner. This allows the Generation Owner the flexibility to use already proven and acceptable methods of data transfer to **minimize initial startup costs and procedures, while meeting all of the current requirements** for providing data to PJM.”*
 - *“...can be supplemented with the use of the Internet-based PJM Tools such as inSchedule and Data Viewer, further expanding the data transfer capabilities between the customer and PJM without a direct connection to PJM.”*

- Real-time (RT) revenue data is required to be submitted into PowerMeter either on a 5 minute or hourly basis in accordance with Manual 28, sections 1A and 3
 - [Current PowerMeter and InSchedule deadlines](#) – PowerMeter is next business day
- MW data true up
 - Generator RT MWh use the One-Month-Lag Meter Correction process via PowerMeter
 - LSE RT load MWh use the Two-Month-Lag Load Reconciliation process via InSchedule (needed because generator metering updated)

- DERAs will be settled at the aggregation level in PJM Markets; however, meter data will need to be submitted at the individual DER level.
- This will allow PJM the ability to properly settle MWh for different types of DERs and accurate wholesale/retail settlements need to occur.

- PJM will settle Demand Response resources participating in a DERA (homogeneous or heterogeneous) with Order 745 requirements.
- Demand Response resources that wish to participate in a DERA will have the following additional requirements:
 - Submit metered data through DR Hub following the PowerMeter deadline (1 business day after the Operating Day)
 - Mapped at a pricing node (instead of the zonal residual aggregate)

- Current Metering requirements in the Tariff are sparse ([OATT Part IX.B GIA Appx 2 Section 8](#))
 - “All Metering Equipment installed pursuant to this Appendix 2 to be used for billing and payments shall be revenue quality Metering Equipment and shall satisfy applicable ANSI standards and Transmission Provider’s metering standards and requirements.”
- PJM is planning to add additional citations to relevant PJM manuals as to the specifications for metering and telemetry.

- Metering requirements for participation in DER will align with the other DER requirements.
- Mass market Demand Response resources that wish to participate in a DERA will have the following additional requirements:
 - Submit metered data through DR Hub following the PowerMeter deadline (1 business day after the Operating Day)
 - Mapped at a pricing node (instead of the zonal residual aggregate)
- Additional details discussed in [Manual 19 Attachment C](#).

- Non-capacity DERAs under 10 MW do not need telemetry, unless the DERA directly impact the BES.
 - Participating in the Ancillary Service markets for regulation need to comply with the regulation market's telemetry requirement.
- Capacity DERA need telemetry (regardless of size) at the aggregate level, not the DER Component level.
 - Aggregate data should factor in all component values.
 - Subject to appropriate PJM Manual rules, including the required state of charge for batteries, breakdown of solar and wind data, etc.

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