UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

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PJM Interconnection, L.L.C.	)	Docket No. ER22-962-000
	)	

COMMENTS OF THE INDEPENDENT MARKET MONITOR FOR PJM

Pursuant to Rule 211 of the Commission's Rules and Regulations,[1] Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor ("Market Monitor") for PJM Interconnection, L.L.C. ("PJM"),[2] submits these comments responding to the filing submitted in this proceeding by PJM Interconnection, L.L.C. ("PJM") on February 1, 2022 ("February 1st Filing"). The February 1st Filing was submitted in compliance with the Order No. 2222, issued September 17, 2020.[3]

Order No. 2222 requires RTOs to revise their tariffs to accommodate participation of distributed energy resources (DERs) in the wholesale market. Order No. 2222 defined DER as "any resource located on the distribution system, any subsystem thereof or behind a customer meter" and included demand response resources in the definition. The stated goal of Order No. 2222 is to remove barriers for small distributed resources to enter the wholesale market by allowing them to aggregate. PJM proposes to accomplish this in part

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1 18 CFR § 385.211 (2021).

2 Capitalized terms used herein and not otherwise defined have the meaning used in the PJM Open Access Transmission Tariff ("OATT"), the PJM Operating Agreement ("OA") or the PJM Reliability Assurance Agreement ("RAA").

3 *See Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Order No. 2222, 172 FERC ¶ 61,247 (2020) ("Order No. 2222"), *order on reh'g*, Order No. 2222-A, 174 FERC ¶ 61,197 (2021), *order on reh'g*, Order No. 2222-B, 175 FERC ¶ 61,227 (2021).

by weakening PJM wholesale power market qualification and performance requirements. The order states that removing barriers would encourage competition which can increase the efficiency of the RTO markets and reduce the risk of over procurement by including DERs in RTOs' planning. The Commission's goals are clear and would, if implemented appropriately by PJM, enhance competition as intended. But rules defining products and the requirements for participation in PJM markets are essential to the continued efficient and competitive functioning of PJM markets and are not barriers to be removed.

The February 1st Filing creates strong incentives for electric distribution companies ("EDCs") to benefit from their monopoly status as the gatekeepers of the distribution grid and from their advantage over companies that rely on competitive markets based on the fact that EDC revenues are guaranteed by cost of service regulation, because it "does not prohibit a distribution utility from forming its own DER Aggregation Resources."[4] Allowing EDCs to participate in the wholesale market as distributed energy resource aggregators and also as the distribution system operator is analogous to allowing PJM to participate in the wholesale market. No wholesale market rules can sufficiently mitigate the market power of the EDCs under the proposed dual role for the EDCs. Nevertheless, this dual role must be directly addressed at the wholesale market level to protect the competitive market. If the EDCs are potential competitors in wholesale power markets, the EDCs become subject to FERC jurisdiction for that purpose. PJM cannot and should not attempt to shift responsibility for these issues, created by the February 1st filing, to the states.[5] The February 1st Filing does not directly address these issues and does not comply with the requirements that the PJM tariff ensure nondiscriminatory registration processes and nondiscriminatory utility overrides of PJM dispatch instructions.[6]

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4 February 1st Filing at 15.

5 *See* February 1st Filing at 15–16.

6 *See* Order No. 2222 at PP 292, 310.

Maintaining the nodal market design is essential to the efficiency of the PJM markets. It is a founding principle of the PJM markets without which the market cannot function competitively or effectively. The February 1st Filing clearly supports the nodal design. The Market Monitor supports the nodal energy market requirement in the February 1st Filing.

The failure in the February 1st Filing to establish a maximum allowable size for DER aggregation is not consistent with the stated purpose of the Commission's DER policy and will create inefficient and noncompetitive barriers to entry to the small participants that the DER policy is intended to support.

The February 1st Filing includes several areas in which the proposed rules are incomplete, inadequate or nonexistent, including the role of EDCs in a competitive wholesale power market; EDCs' gatekeeper role for all DER aggregators; EDCs' authority to override PJM dispatch instructions; inadequate market power mitigation rules in the energy and capacity markets; the lack of definition of cost-based offers; the lack of must offer requirements in the energy market; the use of static rather than dynamic modeling impact factors; the absence of a maximum size limit on DER aggregations; net revenue calculations; the impact of DER aggregations on transmission planning; rules for net metered resources; the definition of continuous DER; and rules for resources that can both inject and curtail load.

New rules need to be developed. The rules governing DERs need to be detailed in the tariff, rather than the PJM manuals, to ensure adequate review, consistent application, and transparency.

As with other significant market innovations, distributed energy will evolve in anticipated and unanticipated ways. Distributed energy could be disruptive to the wholesale power markets in both productive and nonproductive ways. Increasing the opportunities to compete is productive and will enhance competition. Creating the ability of regulated EDCs to compete with market participants is not productive and will undermine competition. The risk of not getting the rules right from the outset is that nonproductive rules will gain inertia and vested interests and be much more difficult to fix in the future.

The Commission should direct PJM to address the missing elements of the proposed rules and to eliminate the nonproductive elements of the proposed rules.

I. COMMENTS

A. PJM DER Rules Should Prevent the Exercise of Market Power in the Wholesale Power Market by Electric Distribution Companies.

The February 1st Filing (at 15) recognizes the conflicts of interest for EDCs participating in the wholesale market as DER aggregators while acting as the distribution system operator. However, the February 1st Filing does not provide a solution to mitigate the vertical market power inherent in this situation. The February 1st Filing does not explicitly recognize or account for the fact that EDCs are guaranteed their revenue requirements under state regulatory processes. That provides an unfair competitive advantage to an EDC that acts as a DER and competes with market entities that do not have such guarantees. The review process created and implemented by EDCs, which defines DER opportunities and whether and where DER entities may interconnect to the EDC system, cannot be nondiscriminatory if the EDC is comparing its own DER proposals to the proposals of competitive market participants. The EDCs' ability to override PJM dispatch instructions cannot be nondiscriminatory if the EDC is deciding between the dispatch of its own DERs and those of competitive market participants. But the February 1st Filing simply avoids these issues despite the fact that the issues have the potential to undermine the competitiveness of the PJM wholesale power market. The February 1st Filing (at 66 - 69) does not require a nondiscriminatory EDC review of DER aggregations in the registration process.[7] The February 1st Filing (at 77 – 78) points to jurisdictional issues as the reason for

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[7] *See Id.* at PP 292–293.

failing to address the Order No. 2222 requirement that the EDC process to override PJM dispatch be transparent and nondiscriminatory. The conflicts of interest for the EDC should be addressed explicitly. PJM and FERC clearly have jurisdiction here and the rules need to be clear and the issues need to be addressed. EDCs should not be approved to sell into the PJM market at market based rates. The Commission relies on RTO tariffs to mitigate market power in the wholesale markets and cannot approve a seller with market power to participate in the market at market based rates unless that market power is adequately mitigated.[8] There is no satisfactory way to mitigate the market power of EDCs if they are allowed to participate as both DER aggregators and as the distribution system operators.

1. Vertical Market Power Issues Are Unavoidable with an EDC Dual Role.

When EDCs participate as DER aggregators and also control other aggregators' access to the market, a structurally competitive market does not and cannot exist. Control of competitors' access to the market or control over a competitors' inputs in the market is vertical market power, which creates an anticompetitive advantage for EDC aggregators.[9]

Although the goal of Order No. 2222 is to remove barriers to entry for small DERs and to enhance competition, the order states "market participation agreements for distributed energy resource aggregators should not preclude distribution utilities, cooperatives, or municipalities from aggregating distributed energy resources on their systems or even microgrids from participating in the RTO/ISO markets as a distributed energy resource aggregation."[10]

EDCs are not simply one among various business models that can compete head to head as distributed resource aggregators. EDCs have vertical market power unlike any

8 *See* Order No. 697 (119 FERC ¶ 61,295) and Order No. 861 (168 FERC ¶ 61,040).

9 *See* Tirole, J. (1988). The Theory of Industrial Organization. Cambridge: MIT Press.

10 *See* Order No. 2222 at PP 340, 353.

other business model, and, if permitted, EDCs' participation as distributed energy resource aggregators would create a barrier to participation by all other business models. Including EDCs is not efficient or cost-effective, and it does not fit the PJM market design. EDCs should not be permitted to serve as distributed energy resource aggregators. It is not possible to define conditions under which other business models can compete with EDCs.

EDCs have unique access to sensitive market data that is not available to their DER competitors. EDCs have detailed knowledge of their distribution system and are in a position to identify the best locations for new DERs as a result. EDCs own and control the existing revenue quality meters and have unique access to the meter data that is essential to competitors. If EDCs need new investment, they can recover the cost through cost of service ratemaking, which guarantees return on investment. Competitive DER aggregators have none of these advantages.

EDCs have a critical role to play in the development of DERs as the distribution system operator. EDCs will need to invest in infrastructure and develop new ways to manage their increasingly complex systems. EDCs have significant new and expanding business opportunities without being aggregators and competing directly with market DER aggregators.

The choice is between the goal of increased wholesale power market competition from the increased participation of small DER providers and a policy allowing distribution utilities with vertical market power to participate as distributed energy resource aggregators. Competition is the right choice.

The EDCs' role in the wholesale power market is within the Commission's authority. It is within the Commission's authority to ensure just and reasonable wholesale rates. The Commission should prohibit the exercise of market power by EDCs because EDCs could harm competitive wholesale market markets by exercising market power.

2. The February 1st Filing Does Not Ensure a Nondiscriminatory Registration Review Process

The Commission directed PJM "to modify its tariff to incorporate a comprehensive and non-discriminatory process for timely review."[11] This review is the review of potential DER aggregations by the EDCs. Although both the Commission and PJM acknowledged the possibility that the review process could create barriers to DER aggregation resources, the February 1st Filing does not ensure that the distribution utility's review of DER aggregations is nondiscriminatory or even substantively address the issue.[12] [13] The February 1st Filing proposes a "pre-registration" process and makes clear that PJM sees the interaction between the DER aggregator and the EDC for this pre-registration process as outside its purview and that PJM will not intervene in any disputes.[14] "Encouragement of coordination" and "good faith efforts" do not constitute a nondiscriminatory process.[15] Preregistration is for wholesale market participation and thus, wholesale market rules should apply. As one minimal element of the process, PJM should require EDCs to present concrete evidence when they reject a DER aggregation resource's registration.

3. The February 1st Filing Does Not Ensure a Nondiscriminatory and Transparent EDC Override Process.

Order No. 2222 requires that the EDC override process be contained in the tariff and that the process "must be non-discriminatory and transparent" while still addressing distribution reliability concerns.[16] The EDC override process is the process by which the

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11 Order No. 2222 at P 292.

12 *Id*. at P 293.

13 February 1st Filing at 15–16.

14 February 1st Filing at 63–66.

15 February 1st Filing at 63–64.

16 Order No. 2222 at P310.

EDC can override the market dispatch of DER from the wholesale market dispatch instructions. The February 1st Filing fails to establish any principles to define appropriate situations for overrides and defers all the authority to the EDC and RERRA, including dispute resolution.[17] When the EDC can refuse the PJM dispatch instruction of its competitors for any reason and there is no process for PJM to verify whether that override is legitimate, the override process cannot be nondiscriminatory or transparent. When an EDC can determine the operation of its competitors or its own resources based on its own nontransparent approach, the override process is neither transparent nor nondiscriminatory. When the override process differ across EDCs, the market signals for DER aggregation resources are inconsistent and inefficient.

B. The New DER Market Rules Should Maintain Consistency with the Nodal Market Design and the Reliability of the Transmission System.

PJM is a nodal market. Locational Marginal Pricing based on the nodal market model is fundamental to the success of the PJM markets. In PJM, generation resources are dispatched and priced nodally. Allowing DER aggregation across nodes is not necessary and would distort the market signals indicating where capacity and energy are needed and what their value is when operating.[18] Full integration of DERs in the market on a level playing field with other resources requires a nodal model that does not allow for aggregation across nodes. The Market Monitor supports the February 1st Filing's proposal to require DERs to be aggregated at a single node.

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[17] *See* February 1st Filing at 76–78.

[18] February 1st Filing at 48–51.

1. Dynamic Modeling Impact Factors Needed for Efficient Markets.

PJM proposes to use a distribution factor (dfax), which PJM calls a modeling impact factor, provided by the EDC to assign component DERs to pricing nodes.[19] The modeling impact factor represents each component DER's impact on a pricing node. Each component DER will be assigned to a primary pricing node on which it has the largest impact, or the highest modeling impact factor. Component DERs that are assigned to the same pricing node can be in the same DER aggregation resource. Although the February 1st Filing requires component DERs to share the same primary node, the continued accuracy of the assigned primary node is not guaranteed.

PJM will combine the locational factor of each component DER with a capability factor based on the registered nameplate capacity of the component DER to determine a modeling impact factor that PJM will use for pricing and dispatch in the market. But these factors are static. Due to the dynamic nature of any grid, whether wholesale or distribution level, the static modeling impact factors will inevitably be wrong after a relatively short period of time. PJM has not proposed to routinely review and update modeling impact factors. According to PJM's proposal, the modeling impact factor will also determine the LMP for DER aggregation resources.[20] Small inaccuracies in pricing node assignments and modeling impact factors will grow as DERs grow and the distribution grid changes.[21] PJM should have accurate information about resources' locations and the modeling impact

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19 *See* PJM Staff, "Order 2222 Design Full Proposal (pp 34-41)," DER & Inverter-Based Resources Subcommittee (December 21, 2021), which can be accessed at: <https://www.pjm.com/-/media/committees-groups/subcommittees/dirs/2021/20211122/20211122-item-06-updated-pjm-dera-proposal.ashx>.

20 *Id.* at 37.

21 See IMM, "Response to PJM Order 2222 Design Discussion," DER & Inverter-Based Resources Subcommittee (September 24, 2021) at 7–8, which can be accessed at: <https://www.pjm.com/-/media/committees-groups/subcommittees/dirs/2021/20210924/20210924-item-03-imm-order-2222-issues.ashx>.

factors should be updated in real time based on the distribution grid topology in order to ensure system reliability and correct nodal pricing. PJM should be required to routinely review and modify the pricing node assignments and modeling impact factors of DERs. The Commission should require PJM to add this provision to the tariff.

C. There Should Be a Maximum Size Limit for DER Aggregation Resources.

The purpose of expanding the role of DERs in the wholesale power market is to provide opportunities to participate that have not been available to small, local sources of energy and capacity. As Order No. 2222 states (at P 28), "Individual distributed energy resources often do not meet the minimum size requirements to participate in the RTO/ISO markets under existing participation models and often cannot satisfy all the performance requirements of the various participation models due to their small size." Part of PJM's proposal is to significantly weaken the rules governing participation in the wholesale power market in order to make it easier for small DER aggregators to participate. While the need to weaken the rules has not been supported, it is clear that there is no need to weaken the rules as they apply to market participants that are not small and local. To be consistent with the purpose of Order No. 2222 and to ensure that larger market participants do not use the weaker rules as a way to evade market rules that currently apply to them, a maximum size should be defined. The absence of such a size limit creates the likelihood that the purpose of Order No. 2222 will be subverted and that large participants will dominate the DER space rather than the small, local resources that the rule is intended to facilitate.

As identified in the February 1st Filing, resources participating in the DER aggregator participation model must comply only with weaker rules, including: exemption from the PJM interconnection process; no must offer requirement in the capacity market; exemption from the RPM Minimum Offer Price Rule (MOPR) when co-located with retail load; exemption from the market seller offer cap when co-located with retail load; and the ability to reduce load and inject power into the grid at the same time. Even for small DERs, these exemptions from the basic market rules are not necessary to promote participation.[22] However, larger resources on the distribution system that are already capable of participating in the PJM markets under the current rules should not be eligible for these exemptions. Larger resources should not be permitted to take advantage of the DER aggregator participation model to avoid their obligations under the current market rules.

The February 1st Filing (at 43 – 45) proposes the maximum size limit of 5 MW for component DERs but does not propose a maximum size requirement for DER aggregation resources.[23] Without a maximum size limit for DER aggregation resources, it is possible to aggregate multiple components without limit at a single location on the distribution system and register as a DER aggregation resource. Without a maximum size limit, it can be expected that large aggregators, including existing wholesale power market participants, will quickly dominate the DER space. This outcome is inconsistent with the purpose of the DER rules. Such an aggregator should be prohibited from participating in the DER aggregator participation model. There are no barriers to entry for such resources that need to be addressed by the new DER rules. The goal of Order No. 2222 is to encourage participation of small DERs in the wholesale market and not to provide a loophole to existing PJM market rules for large market participants. The purpose of the size cap is to ensure that small, local projects have access to the wholesale power market. The purpose of the size cap is to help ensure competition and only appropriate barriers to entry for distributed energy resources.

In PJM, there is a significant number of generation resources that are less than 5 MW. Of new projects that came online in PJM since 2011, 17.4 percent of the projects are

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[22] February 1st Filing, Attachment B Revisions to the PJM Open Access Transmission Tariff, Operating Agreement, and Reliability Assurance Agreement.

[23] February 1st Filing, at 43–45.

less than 5 MW.[24] The 5 MW cutoff proposed in the February 1st Filing is more than large enough to ensure that the maximum size limit is not a barrier to entry.

For these reasons, the Market Monitor recommends a 5 MW maximum size cap on DER aggregation resources.

D. Small Resources Should Not Be Exempt from Market Power Mitigation.

Small resources can and do have market power. Arguments that there will be limited opportunities for DER aggregations to exercise market power are speculative and have not and cannot be proven. Resources in local areas with limited competition are likely to have market power in the same way that local market power exists in the current PJM market. If the number of competitors involved in DER aggregation is comparable to the number of competitors in demand response or energy efficiency aggregation, competition will be limited. The ownership of demand response resources is highly concentrated in PJM. There is no valid argument for excusing DER aggregation resources from market power mitigation. There is no downside to having market power mitigation rules. If they are not triggered, then there is no issue. But there is no basis for the assertion that market power cannot and will not exist in the DER space. There is a downside to not having market power mitigation rules. The result will be to permit the exercise of market power and to undermine confidence in PJM markets. This in turn will create a barrier to entry by the small participants the DER rules are intended to protect if they cannot rely on the absence of market power and cannot expect to be protected from the exercise of market power.

1. DER Aggregation Resources Require Cost-Based Offer Rules.

The Market Monitor supports that the February 1st Filing (at 36) requires DER aggregation resources to submit cost-based offers. However, the cost-based offer rules are not clearly defined for some resources and for some aggregations of heterogeneous

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24 *See 2021 State of the Market Report for PJM*, Vol II. (March 10, 2022) at 615–618.

resources. PJM should be required to develop transparent rules in Schedule 2 of the Operating Agreement and Manual 15 to address both issues. The February 1st Filing simply fails to address the issues and allows a blanket exception to the cost-based offer rules. This misapplication of the seldom used exception rule in Manual 15 to DERs is not acceptable.[25] Manual 15, Section 1.8 exists to allow exceptions to rules within Manual 15, it is not intended to create new rules for specific resource types. Section 1.8 cannot be used by PJM to define exceptions to Operating Agreement Schedule 2 or to define fuel cost policy exceptions, as PJM proposes. Nonzero cost-based offers for DER aggregation resources will require fuel cost policies, but that is not possible under Section 1.8. DER aggregators should participate in the PJM Cost Development Subcommittee to help develop rules for submitting nonzero cost-based offers for heterogeneous resources and for resource types without defined cost-based offers.

Like all other resources submitting nonzero energy market cost-based offers, DER aggregation resources will be required to provide detailed supporting data. Data will include the operating capabilities of all Component DERs, their fuel consumption, heat rate, emissions rates, emissions allowance costs, taxes, subsidies, and maintenance costs. The standards are defined in Schedule 2 of the Operating Agreement. PJM should be required to make clear that all the rules in Schedule 2 of the Operating Agreement apply to DER aggregation resources without exception.

2. The Energy Market Power Mitigation Rules in the February 1st Filing Are Inconsistent.

The February 1st Filing includes tariff changes addressing market power mitigation rules in the energy market but does not include market power mitigation rules addressing

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25 The February 1st Filing (at 36) allows heterogeneous DER aggregations to "utilize PJM's Manual 15, section 1.8 cost methodology and approval process to obtain an exception to its cost methodology calculation." February 1st Filing at 36.

offer parameters.[26] The market rules should be consistent. Dispatchable DER aggregations will require ramp rates along with economic minimum, economic maximum, emergency minimum, emergency maximum limits, and turn down ratios. Use of such parameters is subject to the rules in the Operating Agreement requiring accurate ramp rates and defined use of emergency operating limits, including the unit specific parameter process in Operating Agreement, Schedule 1, Section 6.6 and all other rules for parameter mitigation.

3. DER Aggregation Resources Should Be Subject to the Market Power Rules in the Capacity Market

The February 1st Filing also proposes to exempt DER aggregation resources that are co-located with retail load from the capacity market seller offer cap ("MSOC") and the minimum offer price rule ("MOPR").[27] Considering the nature of DERs, it is likely that a majority of DERs will be co-located with retail load. As a result, the February 1st Filing exempts most DER aggregation resources from the basic market power mitigation rules in the capacity market. An explicit goal of Order No. 2222 is that distributed energy be brought into the RTO markets to aid in RTO planning, a goal that cannot be achieved if DER aggregation resources do not participate in the capacity market under the same rules that apply to generation resources. There is no reason to exempt DERs from basic market power mitigation rules in the capacity market. This point is emphasized when the interactions between DERs and sellers of non DER generation are considered and the portfolio market power incentives and possibilities are considered.

The February 1st Filing (at 55–56) allows DER aggregation resources to self schedule and to offer a dispatchable range "at their election."[28] However, the February 1st Filing does

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26 February 1st Filing at Attachment B, Operating Agreement, Schedule 1, Section 1.2 and Section 1.4B(j).

27 February 1st Filing, Attachment B, Revisions to the PJM Open Access Transmission Tariff, Operating Agreement, and Reliability Assurance Agreement, § 1.4B(k),(l).

28 February 1st Filing at 55-56.

not clarify how self scheduling will satisfy the day-ahead energy market must offer requirement. According to the PJM proposal presented at the DER & Inverter-Based Resources Subcommittee, DER aggregation resources can self schedule at zero MW.[29] When a capacity resource self schedules at zero MW in the day-ahead market, it has not met the must offer requirement. The PJM tariff should apply the energy market must offer requirement to DER aggregation capacity resources.

The Commission should direct PJM to ensure that DERs are subject to the market power mitigation rules in the capacity market.

E. Demand Response Is Not the Same as DER Aggregations.

Demand response resources are not the same as DER. The rules for demand response resources and the rules for DER aggregation resources should not be the same because the two resource types function very differently in the PJM market. DER aggregation resources can inject energy into the grid while demand response resources cannot. Demand response resources are emergency only and calling on demand response resources triggers a PJM emergency and a PAI under the capacity market rules. Energy injection requires complex reliability studies and different market rules while energy withdrawal does not. If demand response resources wish to inject power to the grid, they can participate as part of a DER aggregation resource. Many DERs will have generation and storage components that operate routinely and have the ability to inject power to the grid. Under the current rules for demand response resources in PJM, demand response does not take on the obligations of market participation as generation resources. These assumptions do not hold for DER aggregation resources. While demand resources offer without cost justification or market power mitigation, DER aggregation resources must submit cost-

29 *See* PJM Staff, "Order 2222 Design Full Proposal," DER & Inverter-Based Resources Subcommittee (December 21, 2021) at 76, which can be accessed at: <https://www.pjm.com/-/media/committees-groups/subcommittees/dirs/2021/20211122/20211122-item-06-updated-pjm-dera-proposal.ashx>.

based offers if they wish to inject energy into the grid. While demand response resources are allowed up to 60 days to submit meter data, DER aggregation resources should be subject to same telemetry rules as other supply resources, if they wish to inject energy into the grid.

1. Rules for the Continuous DER Model Should Be Clearly Defined for Efficient Dispatch and Settlements.

The February 1st Filing includes a new resource type called continuous DER which refers to resources located behind the meter of retail load with net injection capability. But the February 1st Filing does not propose any tariff changes regarding the continuous DER model or demand response resources with injection capability. The tariff should clearly define a distinct set of rules for resources that can both inject energy and reduce load.

Continuous DER that operate regularly, not just when called upon for load curtailment, are not demand response, even if they are metered with co-located load. For a continuous DER to receive payment for load reduction, it must have "the ability to reduce a measurable and verifiable portion of its load, as metered on an EDC account basis."[30] If the continuous DER cannot prove its load reduction portion accurately, it should not be eligible for demand response compensation. For example, when calculating the customer baseline ("CBL"), the continuous DER must be able to provide an accurate normal energy usage profile which includes the normal operation of generation. Since the continuous DER is not demand response, the Net Benefits Test should not be applied, which should be clearly stated in the tariff. To avoid double compensation, the tariff should also ensure that the total compensated MW for load reductions and energy injections from the continuous DER does not exceed the lesser of the economic maximum output limit of the generator or the actual generation output.

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30 OA Schedule 1 § 8.2.

The Commission should direct PJM to eliminate the proposed approach to continuous DER until there are specific rules developed and approved by the Commission that define the product and exactly how it will work.

F. Double Counting Should Not Be Allowed.

No resource should be paid more than once for its services. Net energy metering means paying for resources on the distribution system resources at the full retail rate.[31] As a result of the fact that retail rates include all wholesale market costs, there is no way to avoid double compensation for net energy metering resources if they were to participate directly in any of the wholesale markets.

The February 1st Filing proposes to allow a component DER that is also a net energy metering resource to participate in the PJM ancillary services markets while not allowing its participation in the capacity or the energy markets.[32] Net energy metering resources should not be allowed to participate in any PJM wholesale market including the ancillary services markets. The retail rate is an administratively determined rate for utilities to recover all costs plus a regulated rate of return. All the costs incurred at the wholesale market are included in the cost of service rate making process. Therefore, compensation at the retail rate means compensating for all the wholesale costs, including energy, capacity and ancillary services.

Some stakeholders argue that there is a way for net energy metering resources to participate in the capacity market without double counting by participating as a capacity only resource. This argument is incorrect; capacity is not a standalone product. Capacity resources have a must offer requirement in the energy market. Net energy metering

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31 *See* IHS Markit, "PJM solar and battery forecast 2021: Phase II–Forecasts," Load Analysis Subcommittee (December 6, 2021), which can be accessed at: <https://www.pjm.com/-/media/committees-groups/subcommittees/las/2021/20211206/20211206-item-04a-ihs-markit-pjm-solar-and-battery-forecasts.ashx>.

32 February 1st Filing at 39–42.

resources' participation in the capacity market itself is double counting. As a capacity resource, a net energy metering resource in a DER aggregation resource must participate in the energy market, which is another double counting occasion. All capacity resources should accept the associated obligations. Fulfilling PJM capacity performance obligations requires participation in the energy market. DER aggregation resources are on the supply side of the capacity market and there is no justification for avoiding the energy market must offer requirement.

For ancillary services market participation, as long as the ancillary services costs are reflected in the retail rate, the net energy metering resources will be paid more than once if it sells ancillary services to the PJM wholesale power market. The Market Monitor recommends a net energy metering resource not be allowed in the ancillary services market, the capacity market or the energy market.

The February 1st Filing proposes to allow some exceptions to the restriction of net energy metering resources' participation in PJM energy and capacity markets if the EDC or PJM approves.[33] The language does not specify any decision criteria for approving exemptions. This level of discretion by the EDC and PJM should be avoided, particularly if an EDC can approve its own participation.

G. The Lack of PJM Interconnection Process Should Not Prevent PJM from Getting Necessary Information to Protect the Reliability and the Efficiency of the Wholesale Power Markets.

Exempting DER aggregation resources from the PJM interconnection process should not threaten transmission grid reliability. If DER aggregation resources do not go through the PJM interconnection process, their impact on the transmission system is unknown. Particularly if DER resources increase as anticipated, it cannot be assumed that DERs will have minimal impact on the transmission system. If DER aggregation resources are left

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33 February 1st Filing at 41–42.

unstudied, an increase in DER participation will make it harder to define CIRs for non DER aggregation resources, will make queue management even more difficult for non DER aggregation resources and could have impacts on the reliability of the transmission system. PJM must have all the data it needs for its interconnection studies, its reliability studies and for real-time operations in order to facilitate the efficient planning and operation of the grid.

Although the Market Monitor supports PJM's effort to collect necessary information for the planning process and reliability studies, it is not clear, in the February 1st Filing, whether the information PJM needs will be required. The February 1st Filing refers to Operating Agreement, Section 1.5.4 without any relevant changes in the language. For example, PJM proposes at the DER & Inverter-Based Resources Subcommittee that electric distribution companies coordinate with the transmission owners to provide the required data.[34] This is not included in the February 1st Filing. If a resource participates in the wholesale market, it must be able to provide any information that is required to the wholesale market operator. Jurisdictional issues should not prevent PJM from getting the necessary information. The Market Monitor recommends including clear language about the data requirements for DER aggregation resources and relevant roles and responsibilities in the tariff.

The Commission should require that PJM include clear requirements for DER resources to provide data, including timing and details of data.

In the February 1st Filing, there is no required interconnection study for individual DER aggregation resources but these resources will be included in the Regional Transmission Expansion Plan (RTEP) process. That means not only the individual DER aggregation resources' impact on the system will be unknown but the costs they impose

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34 *See* PJM Staff, "Order 2222 Design Full Proposal," DER & Inverter-Based Resources Subcommittee (December 21, 2021) at 19, which can be accessed at: <https://www.pjm.com/-/media/committees-groups/subcommittees/dirs/2021/20211122/20211122-item-06-updated-pjm-dera-proposal.ashx>.

will be shared by all the loads in the zone in which the DER are located and/or in the entire PJM region.

H. The New Market Rules Should Anticipate a Significant Increase in DER Participation.

The DER rules should be based on the anticipation that the Commission's goals will be achieved and that DER will grow significantly and quickly and that DERs will have a significant effect on the PJM market. The initial set of rules is critical because it will shape how resources will participate in the markets for decades. If the established rules provide preferential treatment to DERs at the beginning, the resources will not adapt to achieve competitiveness in the market and there will be an incentive to become a DER aggregation resource rather than a wholesale market resource. To avoid significantly undermining PJM's competitive markets, a thorough and complete review of all the DER aggregation rules is essential. The rules governing DERs need to be detailed in the tariff, rather than the PJM manuals, to ensure adequate review, consistent application, and transparency.

The February 1st Filing includes several areas in which the proposed rules are incomplete, inadequate or nonexistent, including the role of EDCs in a competitive wholesale power market; EDCs' gatekeeper role for all DER aggregators; EDCs' authority to override PJM dispatch instructions; inadequate market power mitigation rules in the energy and capacity markets; the lack of definition of cost-based offers; the lack of must offer requirements in the energy market; the use of static rather than dynamic modeling impact factors; the absence of a maximum size limit on DER aggregations; net revenue calculations; the impact of DER aggregations on transmission planning; rules for net metered resources; the definition of continuous DER; and rules for resources that can both inject and curtail load.

II. CONCLUSION

The Market Monitor respectfully requests that the Commission afford due consideration to these comments as it resolves the issues raised in this proceeding.

Respectfully submitted,

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Dated: April 1, 2022

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Eagleville, Pennsylvania,
this 1st day of April, 2022.

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