



June 10, 2026

Via Electronic Filing

Matthew L. Homsher, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

Re: Distributed Energy Resources Participation in Wholesale Markets, Chapter 57
[Docket No. L-2023-3044115](#)

I. Introduction

The Natural Resources Defense Council (“NRDC”) respectfully submits these comments to the Pennsylvania Public Utility Commission (“PUC” or “Commission”) on its Notice of Proposed Rulemaking (“NOPR”) implementing FERC Order No. 2222 at the distribution level in Pennsylvania.¹ NRDC participated during the Advanced Notice of Proposed Rulemaking (“ANOPR”) stage and appreciates the thoughtful rules proposed by the Commission.

NRDC is an international non-profit organization with over 700 lawyers, scientists, and other environmental specialists working since 1970 to protect our public natural resources, health, and climate. NRDC has over three million members and online activists worldwide. Additionally, NRDC’s Sustainable FERC Project, founded in 1995, is a partnership of state, regional, and national environmental and other public interest organizations that advocate before

¹FERC Order No. 2222, Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators, 172 FERC ¶ 61,247 (2020).

FERC, the U.S. Department of Energy (“DOE”), regional transmission organizations (“RTOs”), and state utility commissions.

As the Commission is well aware, PJM is in the midst of a capacity shortfall that is likely to last for several years. It is therefore critical to note that Distributed Energy Resources (“DERs”) avoid PJM’s problematic interconnection queue and delays from transmission construction, thereby representing a potential source of new capacity that may be available years sooner than traditionally interconnected resources.

The Commission’s NOPR makes meaningful progress toward implementing Order 2222 in Pennsylvania by providing a flexible framework that enables DER participation in PJM wholesale markets. NRDC particularly supports the Commission’s decision to allow the possibility for net-metered customer-generators to provide ancillary services through Distributed Energy Resources Aggregations (“DERAs”) under § 57.263(a)(2). Pennsylvania is among the first PJM states to adopt that position in its rulemaking text, and such a decision may provide meaningful benefits to Pennsylvania ratepayers. NRDC urges the Commission to maintain that provision and to build on it.

While the draft rules represent a key step forward, NRDC offers suggested improvements in these comments, which are intended to expand the benefits of Order 2222 implementation and ensure that sufficient detail and consistency are included in the required utility tariff filings. First, the categorical preclusion of net-metered customer-generators from PJM energy and capacity markets in § 57.263(a)(1) unnecessarily limits the ability of other Component DERs located at the same premise from participating in these markets. Second, the NOPR defers nearly all implementation requirements and details to individual electric distribution company (“EDC”) tariff filings, without specifying universal requirements and data access provisions that each

filing must address. The combination of these features creates a substantial risk that DERA market entry in Pennsylvania will be slower and more fragmented than necessary.

NRDC's comments are organized as follows: Section II urges the Commission to maintain § 57.263(a)(2) as drafted; Section III asks the Commission to revise § 57.263(a)(1) so that the preclusion applies only to the injection of energy from the net-metered resource itself and does not prevent other Component DERs on the same premise from participating in PJM energy and capacity markets as double-counting concerns are addressed, and further asks the Commission to direct consideration of a successor compensation mechanism as part of its forthcoming universal review [interconnection NOPR](#); and Section IV proposes universal filing requirements for each EDC's § 57.263 tariff, covering data access, implementation costs and cost allocation, reporting, and codes of conduct for EDCs and DERAs.

II. The Commission Should Maintain Proposed § 57.263(a)(2), Authorizing Net-Metered Customer-Generators to Provide Ancillary Services Through DER Aggregations

Proposed § 57.263(a)(2) authorizes net-metered customer-generators to participate in PJM ancillary services markets through DERAs. NRDC supports this provision as proposed and urges the Commission to maintain it in the final rule. The provision is supported by the record developed in the ANOPR and places Pennsylvania ahead of comparison states in opening wholesale market opportunities for net-metered customer generators.

As the Commission found in its NOPR, “net metering customers do not provide ancillary services as part of their net metering participation since they are not dispatched in real-time to meet system needs, as would be required if the Component DER was participating in the

ancillary services market as part of a DERA Resource.”² Net metering is a compensation mechanism that credits a customer for energy delivered to the grid; it does not compensate the customer for the frequency regulation, operating reserves, voltage support, or other ancillary services that distinguish wholesale-market ancillary-services products from net-metered energy. A net-metered customer generator, therefore, should not be precluded from providing additional services as part of a DERA, and there is no risk of duplicative compensation.

This conclusion is consistent with the position that NRDC advanced in its ANOPR comments.³ It was also supported by multiple other parties as part of the ANOPR process.⁴ This position is further supported by FERC, which has explicitly found that Component DERs that participate in net metering programs may also participate in the PJM ancillary services market and should be explicitly allowed in the Commission’s rules.⁵

FERC’s Order 2222 requires regional transmission organizations to “allow distributed energy resources that participate in one or more retail programs to participate in [their] wholesale markets.”⁶ Restrictions on dual retail/wholesale participation are permissible only “if narrowly designed to avoid counting more than once the services provided by distributed energy resources in RTO/ISO markets.”⁷ Because net metering does not compensate for ancillary services, double-counting is not an issue with ancillary services markets.

For these reasons, NRDC urges the Commission to maintain § 57.263(a)(2) in the final rule, as proposed.

² NOPR Order at 1990

³ See NRDC ANOPR Comments at 9 (filed May 29, 2024)

⁴ CADRE ANOPR Comments at 35-40; University of Delaware Comments at 11-13

⁵ *PJM Interconnection, L.L.C.*, 188 FERC ¶ 61,076, P 32 (July 25, 2024)

⁶ FERC Order No. 2222, 172 FERC ¶ 61,247, P 160 (2020)

⁷ *Id.*

III. Proposed § 57.263(a)(1) is Too Stringent in Precluding all Customer-Generators from Participating in the PJM Capacity and Energy Markets

Proposed § 57.263(a)(1) explicitly precludes customer-generators receiving service under an EDC's net metering tariff from participating in PJM capacity and energy markets through DER aggregations.⁸ This includes injection of energy from a net metered generation resource as well as load reductions from behind-the-meter battery storage or demand-side resources. NRDC does not dispute the underlying principle that net metering compensation, which pays for energy and capacity at retail rates, should not be duplicated by wholesale-market compensation for the same services. NRDC's concern is that the proposed rule, as drafted, is broader than necessary to address that principle. Specifically, NRDC asks that the Commission:

- (1) revise the rule so that the preclusion in § 57.263(a)(1) applies only to the injection of energy from net metering facilities and does not preclude other Component DERs, such as behind-the-meter batteries at the same premise from participating in these markets, when and if double-counting concerns can be addressed; and
- (2) as part of the forthcoming universal review of interconnection regulations NOPR (or any related proceeding), direct consideration of an alternative EDC compensation tariff that allows customer-generators to participate in PJM energy and capacity markets without triggering double-counting concerns.

Together, these refinements would ensure that § 57.263(a)(1) addresses the double-counting risk without inadvertently foreclosing alternative forms of DER participation in wholesale markets in the future.

⁸ NOPR Order at 2003

A. The Restriction in § 57.263(a)(1) Should Be Drafted as Conditional Rather Than Categorical, So That Net-Metered Component DERs Are Not Permanently Foreclosed From Future Participation as Double-Counting Concerns Are Addressed

As proposed, § 57.263(a)(1) states that customer generators receiving service under the EDC’s net metering tariff “are precluded” from participating as DER Aggregation Resources in PJM capacity and energy markets.⁹ NRDC urges the Commission to revise the rule so that other Component DERs at the same premise could participate in these markets, assuming the Commission can adequately address double-counting concerns.

The Commission’s reasoning for the (a)(1) preclusion is based on the recognition that double counting could otherwise occur by allowing any Component DERs at a premise taking service under a net metering tariff to participate in energy and capacity markets, absent submetering or another alternative. This is consistent with FERC’s most recent treatment of PJM’s tariff. In the order accepting PJM’s second Order 2222 compliance filing, FERC accepted PJM’s premise-level treatment of net-metered Component DER as “narrowly designed to avoid double counting” — but explicitly grounded that acceptance in the technical constraints of PJM’s existing account-level metering framework, not in a substantive judgment that co-located non-net energy metering (“NEM”) resources actually create double counting.¹⁰ FERC emphasized that the restriction only applies to the injection of energy at a premise on a net metering tariff and does not preclude Component DERs from providing load reductions at the same premise.¹¹ FERC thus expressly contemplated that there is the potential for Component DERs at the same premise to participate in wholesale energy and capacity markets.

⁹ *Id.*

¹⁰ *PJM Interconnection, L.L.C.*, 188 FERC ¶ 61,076, P 43 (July 25, 2024)

¹¹ *PJM Interconnection, L.L.C.*, 188 FERC ¶ 61,076, P 43 (July 25, 2024)

A rule that flatly precludes net-metered customer-generators from participating in PJM energy and capacity markets forecloses the possibility that other Component DERs at the same premise could participate in these markets in the future. Examples of Component DERs that may be able to participate in energy and capacity markets in the future include behind-the-meter battery resources and demand-side resources. This could only occur if the Commission is able to address the issue of double-counting. Adding flexibility to the rule today can avoid the need to update it in the future if the double-counting issue is addressed.

The Commission has acknowledged the existence of a PJM tariff “release valve” that allows participation in PJM energy and capacity markets where (1) the EDC confirms to the PJM Office of the Interconnection that participation will not violate the restrictions on duplicative compensation, and (2) the Office of Interconnection determines that the participation otherwise meets the applicable requirements.¹² The release valve is one specific instance of the conditional framing that NRDC urges here. As PJM has explained, the valve “is specifically designed to account for possible future innovation or scenarios where resources may be able to participate in both the energy and capacity markets while simultaneously respecting the must-offer requirement and prohibitions on double counting.”¹³ Despite this acknowledgment, the rule text of § 57.263(a)(1) does not reflect the release valve and would foreclose its operation at the state level.

NRDC therefore urges the Commission to revise § 57.263(a)(1) so that the preclusion applies only to the injection of energy from a net metered generation resource and not to other Component DERs, assuming the issue of double-counting can be adequately addressed.

¹² NOPR Order at 1991-1992

¹³ NOPR Order at 1992

B. The Commission Should Direct Consideration of a Successor DER Compensation Mechanism as Part of the Forthcoming Interconnection NOPR

Based on PJM’s rules, NEM resources remain barred from PJM energy and capacity markets.¹⁴ That outcome is appropriate for a customer-generator who chooses net metering. However, NEM successors that avoid double compensation, while allowing DERs to more actively participate in markets, should be considered through rate design processes.

NRDC urges the Commission, as part of the forthcoming interconnection NOPR or any related proceeding, to consider an alternative EDC compensation tariff that allows the customer-generator to leave net metering and have the resource’s grid-delivered energy compensated on a non-NEM basis. This could be accomplished through a grid services tariff that pays the customer for services delivered to the grid outside the net-metering construct.¹⁵ Because the customer would no longer be receiving NEM compensation, the double-counting concern that justifies the § 57.263(a)(1) bar may be addressed, and the resource could participate in PJM energy and capacity markets through a DERA without triggering duplicative compensation.

This recommendation is consistent with the ANOPR record’s recognition that DERA participation will, over time, exert downward pressure on retail rates by avoiding investments in generation, transmission, and distribution.¹⁶ Realizing that benefit requires a compensation pathway that does not lock customer-generators into a single retail mechanism (net metering) that, in turn, precludes wholesale participation in two of the three PJM market products.

Because the design of an alternative compensation tariff implicates rate design, cost allocation, and interconnection considerations beyond the scope of the present rulemaking,

¹⁴ PJM Tariff, Attachment K-Appendix § 1.4B(b)(ii)(a)

¹⁵ McDonnell, et. al., “Distributed Energy Resource (DER) Integration Framework: Regulatory Innovation for DER Compensation and Cost Allocation”, Lawrence Berkely National Lab. January 2025, at 11-23. Available at https://eta-publications.lbl.gov/sites/default/files/2025-02/der_integration_framework_final_20250117.pdf

¹⁶ NOPR Order at 1987

NRDC does not ask the Commission to resolve those questions here. NRDC asks only that the Commission acknowledge the gap and direct that it be addressed in the forthcoming interconnection NOPR or in any related proceeding.

IV. The Commission Should Establish Universal Filing Requirements Rather Than Defer Substantive Implementation to Individual Utility Tariff Filings

Proposed § 57.263 requires each EDC serving at least 100,000 customers to file a tariff providing for DERA Resource participation in PJM markets, but the rule does not specify minimum requirements for those tariffs or require consistent statewide implementation. Instead, it leaves the substantive elements of implementation to individual utility filings, with each EDC free to propose its own approach subject to Commission review of the tariff filing itself. That approach creates two related problems. First, it poses a substantial risk of fragmentation across the Commonwealth's EDCs, with DERAs facing different requirements, processes, and data formats from one utility territory to the next. Second, in the absence of universal requirements, each EDC will have discretion to determine which supporting documentation and analysis to include with its filing. This may be especially problematic with regards to presenting implementation costs and establishing fees for DERAs.

NRDC therefore urges the Commission to establish universal filing requirements in this rulemaking that each EDC's tariff must address. NRDC's recommendations are organized across four areas: (A) data access; (B) implementation costs and cost allocation; (C) reporting; and (D) codes of conduct.

A. Data Access (§ 57.265)

Proposed § 57.265 requires EDCs to provide "component DER data" to DERAs with operator consent and in a Commission-approved format. However, the Commission refers the

specific details regarding data exchange to the Electronic Data Exchange Working Group (“EDEWG”), while acknowledging that differences in each utility’s systems and capabilities vary and that it will approve interim provisions until a more standardized format is developed.¹⁷ NRDC supports the underlying principle but recommends two refinements.

First, the scope of required data should expand beyond “component DER data” as currently described to include the registration fields PJM requires for Component DER DERA Resources participating in PJM markets.¹⁸ To the extent that information is in the EDC’s possession, the rule should make clear that it is available to the DERA through a Commission-approved process, and on a timeline that does not impede registration.

Second, and more importantly, the Commission should set a firm timeline for the EDEWG to establish statewide data access policies. Without a date certain for statewide provisions, the Commission’s interim measure could remain in effect for many years. If the EDEWG cannot reach consensus in a timely manner, then the Commission will need to address these provisions itself through a follow-up proceeding to avoid a fragmented and onerous implementation process.

B. Implementation Costs and Cost Allocation

The NOPR defers rate questions to subsequent EDC tariff filings and rate cases, but the Commission should articulate cost-causation principles in this rulemaking. Doing so will provide direction for EDC filings, support consistent treatment across EDCs, and prevent each utility from proposing its own cost-allocation approach. It will also ensure that EDCs are consistently

¹⁷ NOPR Order 1998-1999.

¹⁸ See PJM Tariff, Attachment K-Appendix § 1.4B(b) (specifying the information and data that a DER Aggregator must obtain and verify in coordination with the EDC at registration)

developing and supporting fees on DERAs contemplated in § 57.264(3)(b) and not socializing costs that are more appropriately borne by DER customers.

Costs of Order 2222 implementation fall into four broad categories: (1) interconnection costs for Component DERs; (2) EDC application processing and review costs under § 57.264; (3) data sharing and information system costs; and (4) Distributed Energy Resource Management Systems (“DERMS”), override capability, and other distribution-level integration costs.

The first two categories should be borne, in part, by the resources that cause them. Interconnection costs will be more fully addressed through the forthcoming universal review of interconnections rulemaking. However, in that rulemaking, the Commission should consider requiring development of an export tariff. An export tariff is a contractual agreement that governs how system costs are collected on an ongoing basis from DERs connected to the distribution system. The costs collected from DERs through an export tariff would cover utility costs associated with exporting energy to the distribution system.¹⁹ An export tariff would more equitably and transparently allocate and collect costs from DERs.

Application processing costs are recoverable through the fee authorized by § 57.264(b), which should be set at a level that recovers the EDC’s actual costs without becoming a barrier to entry. Neither category should be socialized to non-participating ratepayers.

The third and fourth categories are more challenging. NRDC focuses primarily on DERMS, because it is likely to be the largest single cost driver of Order 2222 implementation at the distribution level.

¹⁹ McDonnell, et. al., “Distributed Energy Resource (DER) Integration Framework: Regulatory Innovation for DER Compensation and Cost Allocation”, Lawrence Berkely National Lab. January 2025, at 26-26. Available at https://eta-publications.lbl.gov/sites/default/files/2025-02/der_integration_framework_final_20250117.pdf

DERMS investments are likely needed to implement the override obligation and requirements contained in the proposed rules. Proposed § 57.265 requires each EDC to establish dispatch override procedures, and the PJM tariff requires real-time override capability for distribution safety and reliability.²⁰ An EDC cannot exercise targeted overrides without system-level visibility into DER location and behavior on its feeders. This type of visibility and operational control will likely require investment in a DERMS system.

As articulated in the NOPR, there are likely to be benefits from DERA market participation that will accrue to all customers.²¹ These benefits may justify socializing some portion of DERMS and data-sharing costs. However, those benefits have not been quantified and are not guaranteed to materialize. Accordingly, an EDC's tariff filing must include a quantification of DERA participation implementation costs, including those for DERMS or to enable data access, and a proposal on whether those costs will be borne by DERs or socialized across the EDC customer base. Where an EDC's tariff filing seeks socialization of costs, the filing should be required to include a detailed analysis of cost-effectiveness and functionality, including comparison to alternative approaches. An export tariff or similar mechanism would also be an appropriate mechanism to recover DERMS' costs from DERs in proportion to their use of the EDC's distribution-level systems. By requiring transparent, up-front quantification and justification of these costs, Pennsylvania can ensure that implementation costs are reasonable and that all customers will benefit from Order 2222.

²⁰ See PJM Tariff, Attachment K-Appendix § 1.4B(f)

²¹ See NOPR Order at 1987

C. Utility Reporting Obligations and Annual Report Contents

The NOPR contains no reporting requirement once EDC tariffs are approved. As a result, once an EDC files its § 57.263 tariff, the Commission will have no visibility into whether the rule is functioning as intended, except through the dispute process. NRDC recommends annual reporting, which can be combined with other required reporting, if appropriate. At a minimum, the proposed annual DERA report should contain:

- (1) Component DER applications received, approved, and denied during the reporting period, with denial reasons categorized by reference to the § 57.264 review criteria;
- (2) Application processing times measured against the 60-day § 57.264 review window, including the share of applications processed within 30, 45, and 60 days;
- (3) The number, duration, and affected capacity of dispatch overrides issued under § 57.265;
- (4) DERA data-access requests received under § 57.265 and the times to fulfillment;
- (5) Disputes initiated under § 57.266 and their resolution, including any effects on queue position;
- (6) Aggregate registered DER capacity in the EDC's service territory, disaggregated by PJM market (energy, capacity, and ancillary services) and Component DER type; and
- (7) Fees charged under § 57.264(b) during the reporting period, including the number of applications to which each fee category applied.

NRDC recommends the proposed annual report be made public.

D. Code of Conduct for EDCs and DERAs

Subchapter P does not include a code of conduct or other explicit requirements for EDCs or DERAs, other than requirements around EDC application processing time. A transparent, statewide understanding of the expectations for each entity can help address issues before they arise by clearly articulating consumer-protection rules for DERAs' marketing to and contracting with customers, and the potential for self-preferencing rules that favor EDCs' affiliates over other DERAs. Both gaps should be addressed in this rulemaking, in two parallel codes that can be enforced through the dispute mechanism in § 57.266 and verified through the reporting framework in Section IV.C above.

The DERA Code of Conduct should address consumer-facing obligations: accurate marketing and trained sales staff; written contracts disclosing benefits, fees, and non-performance penalties; clear opt-out and exit rights; reasonable limits on dispatch where dispatch could affect health, safety, or essential service; complaint and dispute procedures; data-privacy and cybersecurity obligations (consistent with established frameworks such as DOE DataGuard); and recordkeeping sufficient to support Commission oversight.

The EDC Code of Conduct should address competitive neutrality: conflict-of-interest mitigation in the EDC's § 57.264 review of DERA applications; no cross-subsidization of EDC or affiliated VPP offerings by regulated revenues; no information advantage to an EDC-affiliated aggregator over competing DERAs (tying directly to the data-access concern in Section IV.A above); non-discriminatory treatment of competing DERAs in registration, dispatch override, and disputes; and affiliate disclosure to customers in any solicitation involving an EDC or its affiliate.

The Office of Consumer Advocate identified the EDC affiliate conflict-of-interest concern in its ANOPR comments and recommended that the Commission adopt an analog to the Electric Generation Supplier Code of Conduct at 52 Pa. Code § 54.122.²² NRDC supports that recommendation and urges that the EDC and DERA codes be developed in parallel, so as to also have transparent expectations for DERAs. § 54.122 provides a workable structural model on the EDC side, particularly for the affiliate-disclosure and non-discrimination provisions, although the substance must be adapted to the operational realities of DERA participation under PJM's tariff.

Both codes should be expressly tied to the § 57.266 dispute resolution mechanism and to the annual reporting framework in Section IV.C.

V. Conclusion

NRDC sincerely appreciates both the opportunity to submit these comments and the Commission's time and attention to this critical issue. We look forward to working with the PUC and relevant stakeholders to develop programs to increase deployment of DERs and DERAs across Pennsylvania in a manner that reduces costs, enhances grid reliability, and delivers a cleaner economy for all.

²² OCA ANOPR Comments at 17