BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Distributed Energy Resources Participation in Wholesale Markets	: :	Docket No. L-2023-3044115

COMMENTS OF
PPL ELECTRIC UTILITIES CORPORATION ON
THE NOTICE OF PROPOSED RULEMAKING ORDER

I. INTRODUCTION

On December 18, 2025, the Pennsylvania Public Utility Commission ("Commission" or "PUC") issued a Notice of Proposed Rulemaking Order ("NOPR") seeking comments from interested parties on its proposal to "add regulations to include provisions for Distributed Energy Resources (DERs) participating as DER Aggregation Resources on electric distribution company (EDC) distribution facilities, consistent with FERC Order 2222."[1] According to the Commission

> [t]he aggregation of component DERs requires specific technical requirements and review not currently in our regulations. Therefore, we propose creating a separate Subchapter P at Chapter 57 entitled "Distributed Resources" and beginning with Section 57.261 (relating to the purpose) as set forth in the Annex.[2]

[1] *Distributed Energy Resources Participation in Wholesale Markets,* Notice of Proposed Rulemaking Order at 1, Dkt. No. L-2023-3044115 (Dec. 18, 2025) ("NOPR"). This NOPR followed earlier process on an Advance Notice of Proposed Rulemaking Order ("ANOPR") issued February 22, 2024, in the same docket.

[2] *Id.*

The NOPR directed Comments to be filed within 60 days of the NOPR's publication in *The Pennsylvania Bulletin.* The NOPR was published on April 11, 2026, with Comments by interested parties due June 10, 2026.

PPL Electric Utilities Corporation ("PPL Electric" or the "Company") appreciates the opportunity to provide input on the issues raised in the NOPR and comment on the draft regulations in the Annex.[3] The Company supports the Commission's effort to define its role in implementing FERC Order No. 2222 ("Order No. 2222").[4] It believes that the Commission's focus should be directed at protecting ratepayers and ensuring that the electric distribution companies ("EDCs") that it regulates have the tools that they need to maintain the safety and reliability of the distribution system, without increasing costs to non-participants in aggregations. As discussed below, the NOPR, in several respects, is insufficient to achieve these goals and undermines affordability efforts.

II. DEFINITIONS USED IN THE COMMENTS

Prior to addressing the substance of the NOPR, the Company describes its usage of three key terms used in these Comments, as it found the use of capitalized terms in the NOPR somewhat inconsistent. Moreover, the NOPR often summarized ANOPR comments of third parties that used the same capitalized terms in different manners than the Commission itself.

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[3] Attachment 1 to these Comments is a redline of the Regulations Annex, showing PPL Electric's proposed changes. Attachment 2 is a clean version of the same.

[4] *Participation of Distributed Energy Res. Aggregations in Mkts. Operated by Reg'l Transmission Orgs. & Indep. Sys. Operators*, Order No. 2222, 172 FERC ¶ 61,247 (2020), *order on reh'g*, Order No. 2222-A, 174 FERC ¶ 61,197, *order on reh'g*, Order No. 2222-B, 175 FERC ¶ 61,227 (2021) (collectively, "Order No. 2222," unless citing to specific order).

First, PPL Electric uses "Component DER," based on context, to refer to *either* an actual physical resource/load that can be aggregated or the person/entity associated with the Component DER, *i.e.*, typically the resource owner or lessee or the retail account holder (providing demand response). It appears that the Commission uses the term Component DER to refer sometimes to the physical facility and sometimes to the associated entity, but then it also uses the term "DER operator" or "Component DER operator" to refer to this associated entity. Indeed, the Commission proposes to define "DER operator" as "any entity operating a DER or seeking to interconnect a DER in Pennsylvania." PPL Electric opposes the creation of the new definition "DER operator," as it is unnecessary, confusing,[5] and has no equivalent term in the PJM Tariff. Separate terms for the physical asset or load and its "owner" (or lessee) are unnecessary, just as a term such as "merchant generator" often is used to refer to a physical asset or its owner.[6]

Second, PPL Electric uses the term "DER Aggregation" to refer to what both the Commission and PJM refer to as a "DER Aggregation Resource" and what the Commission *also* calls a "DERA Resource." The term DER Aggregation Resource as used in the NOPR is confusing because the Commission at times refers to Component DERs "participating ***as*** a DER Aggregation Resource" (*e.g.,* NOPR at 10, 27, 38) or as

[5] The term DER operator is confusing because while one entity may physically operate a DER, it does so pursuant to a DER Aggregator's operating instructions (who, in turn, issues those operating instructions at the behest of PJM). And, a DER Aggregator's operating instruction may be overridden by an EDC. Thus, who "operates" a DER depends on a given situation.

[6] Similarly, the term "Customer-generator" is already used to describe systems participating in net metering under Chapter 75. *See* 52 Pa. Code § 75.12 (defining "Customer-generator facility").

participating ***as*** a DERA Resource (*e.g.,* NOPR at 26). A Component DER, however, does not participate ***as*** a DER Aggregation Resource; rather it participants ***in*** a DER Aggregation Resource (*i.e.*, DER Aggregation). (A DER Aggregation Resource may be comprised of a single Component DER, but even in such case, the Component DER would be participating ***in*** a DER Aggregation Resource.) In any case, inclusion of the term "Resource" after DER Aggregation causes confusion based on the plain meaning of "resource" and thus DER Aggregation is used for clarity.[7]

Third, PPL Electric uses the term "DER Aggregator" to refer to the legal entity that registers a DER Aggregation with PJM and interacts with PJM. The Commission defines "DERA" to refer to a "DER Aggregator" on page 8 of the NOPR. But, it also uses the term DERA to refer to the aggregation itself, stating, for example, at page 14 that it sought comments on procedures to permit retail customers to "participate ***in*** DERAs." Similarly, commenters such as the Office of Consumer Advocate, use "DERA" to refer to the DER Aggregation.[8]

III. SUMMARY

The primary role of the Commission is to ensure the provision of safe, reliable retail electric service at reasonable rates by EDCs. PPL Electric fears that some of the Commission's proposals in its NOPR regarding Order No. 2222 will not meet these

[7] Although PJM uses the term DER Aggregation Resource for a DER Aggregation, given its lack of clarity, PPL Electric prefers to use DER Aggregation here.

[8] *E.g.,* NOPR at 13 ("The OCA submits that existing DERs that are aggregated into a new or existing DERA must comply as part of or along with the same interconnection process for proposed DERAs so that they can be safely and reliably operated.").

objectives. The Commission can and should do more to ensure that Order No. 2222's complexities will *not* "haunt … RERRAs—let alone the reliability of the grid and the pocketbooks of consumers—for a very long time."[9] The issues of greatest importance to the Company are summarized below.

PPL Electric is most concerned about the fact that the Commission has backed away from a position that it held steadfastly throughout the FERC proceedings involving Order No. 2222—that net energy metering ("NEM") customer-generators are already compensated sufficiently (at a cost to other retail ratepayers) and thus merit no additional compensation through parallel participation in a DER Aggregation under Order No. 2222. Existing NEM compensation shifts costs onto the backs of non-NEM customers and lessens affordability. Rewarding NEM customers with additional compensation is inequitable. The PUC's position also risks conflicting with FERC because, as discussed *infra*, FERC stated in no uncertain terms that Relevant Electric Retail Regulatory Authorities ("RERRAs") could prohibit retail customers from participating in *any* state program from also participating in a DER Aggregation. Allowing NEM customer-generator participation in Order No. 2222 could require EDCs to expend significant costs that could be spread to other retail ratepayers, particularly if FERC were to assert jurisdiction over certain costs of Order No. 2222 implementation and prevent the state from financially protecting non-participants. With the Commonwealth already having

[9] *PJM Interconnection, L.L.C.*, 182 FERC ¶ 61,143 (2023), Christie concurrence at P 11.

about 100,000 NEM customer-generators, the participation review costs alone could be significant. *See infra* Section V.A.

Separately, the Commission appears to have watered down consumer protections for ratepayers from DER Aggregators, despite the fact that demand response and energy efficiency aggregators that interface with retail customers have been accused of committing massive fraud in recent years by FERC.[10] States with retail choice and NEM similarly have seen a wide variety of abuses of retail customers (*e.g.*, slamming, misrepresentations). DER Aggregation opens the door to retail choice contracts that include hidden automatic consents to be a Component DER for the retail choice provider. *See infra* Section III.D.

As to the continued safe and reliable operation of EDC distribution systems, the NOPR recognizes the importance of the EDC-Component DER relationship, but leaves significant issues to be resolved in other proceedings. To best ensure Order No. 2222 is implemented in a manner that causes no harm, it is vital that the Commission ensure that each and every potential Component DER has a *new* agreement with its EDC to address

[10] *See, e.g.*, *American Efficient, LLC*, et al., Order Assessing Civil Penalties, 195 FERC ¶ 61,043, Docket No. IN24-2-000 (Apr. 15, 2026) (determining that "American Efficient, LLC and its affiliates … stole half a billion dollars from hard-working Americans by collecting compensation for fake 'energy efficiency resources'" in "one of the largest and most brazen frauds in the history of the Federal Energy Regulatory Commission").

interconnection[11] (if necessary) and operations.[12] Existing DER interconnection agreements may not address issues such as information sharing, the override of DER Aggregator instructions, such that a new form of agreement is necessary. The requirement of a "Component DER Agreement," that includes interconnection provisions, if needed, is a better solution than the proposed tariff. Moreover, requiring a Component DER Agreement will allow EDCs to weed out entities who are not eligible to participate in wholesale markets at an earlier stage in the process, facilitating timely and efficient registration of DER Aggregations with PJM. *See infra* Section VII.B.

Another issue with the NOPR is that its directives with regard to the regulation of the DER Aggregator-EDC relationship are unclear. FERC will regulate *most* aspects of the interaction and relationship between an EDC and DER Aggregator; but, given the need for data exchanges, the Commission can regulate certain aspects of communications and data exchanges between EDCs and DER Aggregators. Such communication protocols should ensure that appropriate retail billing[13] will occur and allow EDCs to safely operate and maintain their facilities. *See infra* Section VII.A.

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[11] *E.g.,* Order No. 2222 at PP 90-104 (FERC disclaiming jurisdiction over such agreements). PJM notes that "Resources will go through their applicable state interconnection process prior to entering the PJM registration process." *See DER Aggregator Participation Model: Full Model Design,* PJM FERC Order 2222 Team (Mar. 9, 2026), *available at* https://www.pjm.com/-/media/DotCom/committees-groups/subcommittees/disrs/2026/20260309/20260309-item-05---updated-der-aggregator-participation-model---full-model-design---informational-only.pdf at 43.

[12] Interconnection provisions would be unnecessary if the Component DER is not injecting energy.

[13] *See* PPL Electric ANOPR Comments at 30.

Finally, the Company has an overall cost concern. All ratepayers already have borne significant costs due to PJM's lengthy and complex implementation efforts, which costs are passed through rates paid to PJM. It is questionable whether Order No. 2222 participation will lower PJM market prices at all,[14] so the remaining costs of DER Aggregations should be borne by those causing the costs.

Below, PPL Electric comments on the topics identified in the NOPR in the order presented in the NOPR. Each section ends with a discussion related to the proposed regulations associated with the relevant topic. Attached to these Comments is PPL Electric's redline of the Regulations Annex, suggesting changes to the proposed regulations, which changes are discussed below with regard to each relevant NOPR section.

IV. LEGAL AUTHORITY AND JURISDICTION

A. The Commission's Regulatory Authority Over Matters Related to Order No. 2222 Is Broader than Stated in the NOPR.

The NOPR contains a very abbreviated discussion of Commission jurisdiction over public utilities and distribution service. The Commission will do a disservice to retail customers—especially those not participating in DER aggregations—if it reads its

[14] The CAISO has explained to FERC that the California programs leave little incentive for eligible resources to participate in DER Aggregations. CAISO Transmittal Letter at 3, Docket No. ER21-2455 (filed July 19, 2021). Indeed, the CAISO website lists seven DER Aggregators, none of which could be larger than 20 MW and three of which must not be selling any wholesale power as they lack any FERC-jurisdictional tariff. The NYISO informed the Commission that in two years, only six DER Aggregations have formed and all are comprised only of demand side resources (which already could participate in the NYISO). NYISO Informational Report, Docket No. ER23-2040 (Apr. 15, 2026).

Order No. 2222-related jurisdiction too narrowly. Although the regulation of EDCs is the *primary* source of the Commission's regulatory authority, FERC itself indicated that RERRAs had fairly expansive authority in Order No. 2222.[15] Although FERC requires that any role for RERRAs in coordinating the participation of DER Aggregators in the PJM market be contained in the PJM Tariff, it does *not* require rules and regulations governing EDC-Component DER relationships be in the PJM Tariff. As discussed below, where the Commission can assert jurisdiction, and doing so will protect retail customers and the reliability of the distribution system, it should do so. Additionally, a DER Aggregator, like any other entity doing business in Pennsylvania, is subject to Pennsylvania law.[16]

B. The EDC-Component DER Relationship Must Be Regulated by the Commission.

1. Jurisdiction Over Dual Participation in Retail and Wholesale Programs

In the NOPR, the Commission stated that it has jurisdiction to prevent *double counting* between retail and wholesale compensation.[17] This finding is understated and PPL Electric is concerned that the Commission has abandoned its opposition to *double*

[15] FERC explained that a RERRA's role may include: "developing interconnection agreements and rules; developing local rules to ensure distribution system safety and reliability, data sharing, and/or metering and telemetry requirements; overseeing distribution utility review of distributed energy resource participation in aggregations; establishing rules for multi-use applications; and resolving disputes between distributed energy resource aggregators and distribution utilities over issues such as access to individual distributed energy resource data." Order No. 2222 at P 324.

[16] If the Commission believes that it lacks any needed regulatory authority, there remains time to procure it before Order No. 2222 takes effect.

[17] NOPR at 15.

compensation in light of FERC's rulings on *double counting*, as will be discussed in Section V.A, *infra*. The Commission's *exclusive* jurisdiction over dual participation in Commonwealth and federal programs allows it to prohibit a DER's participation in a Commonwealth program if it also seeks be in a DER Aggregation. FERC gave RERRAs *full* authority to dictate whether customers that participate in DER Aggregations may *also* participate in retail/state programs, such as NEM.[18] RERRAs "continue to have authority to condition participation in their retail distributed energy resource programs on those resources not also participating in RTO/ISO markets, which should allow them to mitigate any double-compensation concerns."[19] As discussed *infra*, in an era when affordability is *the* number one concern of politicians, PJM, EDCs, and retail ratepayers, the Commission's authority *must* be used to prevent increases in subsidies and cost shifts. The fact that FERC has opened the door to dual participation does not mean that the Commission cannot and should not slam it shut.[20]

2. Interconnection and Operations of Component DERs

Another vital role for the Commission relates to the fact that in Order No. 2222, FERC granted the Commission jurisdiction over the interconnection of resources at the distribution system level that were Component DERs, including qualifying facilities

[18] "[A] regulatory authority is able to condition a distributed energy resource's participation in a retail distributed energy resource program on that resource not also participating in the RTO/ISO markets." Order No. 2222 at P 61.

[19] Order No. 2222 at P 162.

[20] If dual participation is permitted, the cost of having NEM customer generators participate in wholesale markets through DER Aggregations, including changes to the NEM program itself, should not be borne by other NEM customers.

("QFs"). This interconnection authority is vital to distribution system safety and reliability.[21] The Commission also has jurisdiction over an EDC's distribution system operations, and such authority can be used to require agreements between EDCs and Component DERs, as discussed *infra*.

C. The Company Supports the Electronic Data Exchange Working Group and the Commission's Authority over Its Role.

The Commission rejects the position that it can regulate DER Aggregators, holding "regarding Commission oversight of DER[ ]A[ggregator]s, the proposed regulation limits such oversight because DER[ ]A[ggregator]s fall under FERC jurisdiction."[22] PPL Electric disagrees. Information, data exchange, and communication pathways between the EDC and the DER Aggregator regarding Component DERs will be necessary for retail billing and other distribution system-related purposes. FERC has not acted to preempt state commission oversight of tariffs, agreements, or operating procedures related to the same.[23] The PJM Tariff indicates that "[a]ll DER Aggregators shall remain in full compliance with the tariffs, agreements, and operating procedures of the applicable Electric Distribution Company, and the rules and regulations of any Relevant Electric Retail Regulatory Authority, in accordance with their executed DER

[21] Order No. 2222-A at P 80: "the final rule in no way prevents state and local regulators from amending their interconnection processes to address potential distribution system impacts due to the participation of distributed energy resources in aggregations."

[22] NOPR at 26.

[23] In its ANOPR Comments, PPL Electric expressed its view that EDCs and DER Aggregators would need a new standard agreement to govern the sharing of information between both parties, at the very least, for billing and market settlement purposes. PPL Electric ANOPR Comments at 5.

Aggregator Participation Service Agreement."[24] FERC would not have accepted this provision if it agreed with the position that RERRAs had *no* oversight of DER Aggregators. PPL Electric continues to support its ANOPR position that it is imperative that the Commission assert some authority over DER Aggregators.[25]

D. DER Aggregators and Consumer Protection

As discussed below, consumer protection should be a primary focus of the Commission in light of the history of FERC-authorized aggregators.

1. Background

In the ANOPR, the Commission asked whether the Pennsylvania Unfair Trade Practices and Consumer Protection Law ("UTPCPL") applies to the DER Aggregator-Component DER relationship and whether regulations can or should be adapted to address consumer protection in that relationship.[26] A DER Aggregator is offering retail customers the service of buying and reselling products (energy/capacity/ancillary services/demand response) from their Component DERs and thus clearly falls with the UTPCPL. PPL Electric previously indicated that the Commission should license DER Aggregators to operate in EDCs service territories.[27] The NOPR mentions other ANOPR comments to this effect. For example, the Commission states that "[a]t the [DER Aggregation] stakeholder meeting, it was noted that PUC licensing or registration of

[24] PJM Tariff, Att. N-4, DER Aggregator Participation Service Agreement, § 2.0(b).

[25] PPL Electric ANOPR Comments at 28.

[26] ANOPR at 35.

[27] PPL Electric ANOPR Comment at 23.

[DER Aggregation]s is needed to ensure that the PUC has control over [DER Aggregation]s and can oversee how [DER Aggregation]s manage customer authorizations for data sharing and how [DER Aggregation]s obtain customer consent, verified by the utility."[28] In the NOPR, the Commission states:

> Multiple stakeholders recommend establishing a state-level licensing or registration process for [DER Aggregation]s, similar to that used for electricity generation suppliers and natural gas suppliers. This licensing process should ensure [DER Aggregation]s have appropriate qualifications, cybersecurity protection, necessary insurance and bonding and valid points of contact for EDC communication. They also state that the PUC should establish marketing regulations, including penalties for violations and potential license revocation when warranted.[29]

All of these concerns, however, have been dismissed by the Commission, leaving Component DER customers unprotected. There are no consumer protection regulations proposed. That hands-off approach has not gone well in other circumstances, as discussed below.

2. Consumer Protection through State Oversight Is Necessary.

Consumer-facing gas and electricity programs have proven time and again to require state oversight, as evidenced by retail choice abuses,[30] disreputable solar panel

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[28] ANOPR at 35.

[29] NOPR at 16.

[30] For example, a comprehensive study of the Ohio energy market found that 72% of retail electricity offers over a decade were more expensive than the default utility price. Laura A. Bischof, *OSU Study: Consumers don't save money when they go with alternative electricity suppliers*, THE COLUMBUS DISPATCH (Jan. 6, 2025). Nine energy service companies affiliated with NRG, including Gateway Energy Services and Green Mountain Energy, reached a $71 million settlement with New York regulators to resolve allegations of widespread overbilling and

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installers/leasers,[31] and as most concerning here, in the energy efficiency and demand response aggregation field. Fraudulent demand response and energy efficiency aggregation schemes have flourished at FERC, where there has been no state oversight.

The schemes of Ketchup Caddy and Voltus within the MISO market, using automated "scraping" tools to obtain retail customer data from utility websites without the owners' knowledge or consent, were perhaps among the most egregious. These aggregators registered thousands of uncontracted accounts in capacity auctions and

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the improper enrollment of approximately 278,000 customers. Felix Day, *Allegations of ESCO overbilling returns $71 million to New Yorkers*, CBS6 ALBANY (WRGB) (Apr. 16, 2026). The New Jersey Attorney General filed suit against a gas retail choice provider (Palmco) for promising rates up to 20% lower than current utility suppliers and providing a guarantee they would never exceed utility rates. In reality, Palmco's charges for natural gas were 83% to 712% higher than prior utility rates. DEP'T OF LAW & PUB. SAFETY, OFF. OF THE ATT'Y GEN., *NJ Att'y Gen., Div. of Consumer Affs., & Bd. of Pub. Utils. File Suit Against Three Third -Party Energy Suppliers That Allegedly Defrauded Hundreds of Consumers Through Misrepresentations of Monthly Bill Reductions*, (June 4, 2014).

[31] The NYC Department of Consumer and Worker Protection (DCWP) sued Radiant Solar for a fraudulent scheme involving 18 million in predatory loans affecting at least 370 consumers. The company was accused of using deceptive advertising to promise "immediate savings" while secretly enrolling victims in massive loans with 3 million in hidden fees and operating without a license. Installations were often shoddy and hazardous, causing structural issues like leaky roofs, after which the firm ignored complaints and abandoned efforts to secure promised tax incentives. NYC CONSUMER & WORK PROTECTION, *DCWP Sues Solar Firm and Operator for Predatory Loans, Junk Fees, and Shoddy Installations*, (Jan. 28, 2026). A 91-year-old Philadelphia resident was targeted by a Graysquare Solar salesman who forged his name on a contract and created a fake email to secure a loan without his consent. The scheme falsely promised government savings but instead resulted in a $50,000 debt and a lien being placed on the victim's paid-for home by the finance company Solar Mosaic. This was one of over a hundred similar solar-related legal cases reported in the region. Jeff Brady, *Rooftop solar has a fraud problem. The industry is working to build back trust*, NPR (Aug. 14, 2024). The Texas Attorney General CAM Solar for fraudulent sales involving misrepresented energy savings, tax-credit eligibility, and undisclosed fees. Investigations revealed defective, improperly installed systems that caused property damage and left consumers with ongoing financing obligations for equipment that failed to work. Press Release, KEN PAXTON THE ATT'Y GEN. OF TEX., *Att'y Gen. Ken Paxton Sues San Antonio-Based Solar Co. for Fraudulent Sales of Solar-Panel Sys. to Texans* (May 21, 2026).

collected payments for load reduction they could not deliver.[32] In a somewhat similar vein, American Efficient falsely claimed ownership and control of energy reduction resources. Instead of providing actual energy reductions, the company purchased sales data from retailers for fractions of a penny and used those records to claim credit for energy savings they assumed would result from the use of such products. This "paper-shoveling" scheme allowed them to clear over 20 gigawatts of fraudulent capacity and illegally extract nearly $500 million from U.S. consumers over ten years.[33] These examples demonstrate the extremes to which aggregators may go to take advantage of RTO-run FERC programs that seem to inevitably contain loopholes. Protection is called for.

E. Proposed Regulations Relating to Jurisdiction

PPL Electric's suggested changes to the Regulations Annex are largely discussed in the sections below, but reflect the positions set forth above on the scope of Commission jurisdiction. The regulation of the Component DER-EDC relationship is largely found in PPL Electric's proposed Section 57.265. The EDC-DER Aggregator relationship is addressed in proposed Section 57.266. Finally, although merely a placeholder, PPL Electric's proposed Section 57.268 would address DER Aggregator licensing.

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[32] Ethan Howland, *FERC orders Ketchup Caddy to pay $27M for MISO demand response fraud*, UTILITY DIVE (Dec. 6, 2024) and Ethan Howland, *Voltus agrees to pay $18M to settle allegations it violated MISO demand response rules*, UTILITY DIVE (Jan. 7, 2025).

[33] FERC, *FERC Penalizes 'Money-for-Nothing' Energy Efficiency Fraud by Am. Efficient* (Apr. 15, 2026).

V. DEFINITIONS IN THE REGULATIONS ANNEX

PPL Electric has reviewed and redlined the Commission's proposed "Definitions" in Section 57.262. PPL Electric explains its suggestions below regarding edits and additions to the existing list of proposed definitions.

A. Proposed Regulations Relating to Definitions

Component DER. The definition of Component DER should be broadened to include the legal entity associated with the physical DER, whether it be load, generation, storage, etc. The term readily can be understood based on the context in which it is used, as discussed above.

Component DER Agreement. PPL Electric has added a new definition because of its position that each Component DER requires an agreement with its EDC. If a new Component DER will inject energy, this agreement will include interconnection provisions. Any customer with a pre-existing DER interconnection agreement should be required to execute a replacement agreement if it wishes to be classified as Component DER and participate in the wholesale markets as part of a DER Aggregation.[34] Component DERs that do not inject energy also need such an agreement, as it also will address operational billing, metering, and operational matters.[35]

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[34] *See* PPL Electric ANOPR Comments at 5 (discussing need for agreements with Component DERs).

[35] *See id*. at 9-10 (PPL Electric's position on the type of agreement needed has coalesced on the concept of Component DER Agreement). As discussed in Order No. 2222-A, the 60-day review process afforded EDCs assumes that the EDC already has reviewed safety, reliability, and related issues during a state-jurisdictional interconnection process. *See* Order No. 2222-A at P 79 ("[W]hen the Commission found that RTOs/ISOs must include potential impacts on distribution

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DER. The definition of DER is broadened somewhat by PPL Electric's suggested edits in the Regulations Annex.

DER Aggregation. PPL Electric is only suggesting changing the name of DER Aggregation Resource for greater clarity, given that a DER Aggregation can be made up of many resources and singular use of resource is confusing.

DER Aggregator—Distributed energy resource aggregator. Although the Commission-proposed definition mirrors the PJM Tariff definition, because the regulation stands alone, i.e., is not within the PJM Tariff, clarifying edits are helpful. The change from DERA to the term "DER Aggregator" was discussed *supra*.

DER operator. The introduction of the term "DER operator" (undefined by PJM or FERC) is unnecessary and confusing. Each Component DER has someone—an owner, operator, agent—who is legally responsible for the Component DER itself taking appropriate actions. Using the term "Component DER" is sufficient, as the EDC and DER Aggregator would know who the proper contact(s) is/are for each Component DER based on their respective agreements with such entities.

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system reliability as a criterion in the distribution utility review process, the Commission was referring specifically to any incremental impacts from a resource's participation in a distributed energy resource aggregation *that were not previously considered by the distribution utility during the interconnection study process for that resource*."). Some Component DERs may not have gone through a state-jurisdictional interconnection process, or existing interconnection processes and agreements may not address Component DER issues; thus, there is a need for an agreement that is specific to Component DERs.

EDC. The definition of EDC does not match PJM Tariff definition. The Commission should retain the NOPR definition, but should be aware of potential implementation inconsistencies due to the mismatch with PJM's definition.

PJM Member. This term is used in the proposed Regulations and PPL Electric supplied a definition.

PJM Market Participant. This term is used in the proposed Regulations and PPL Electric supplied a definition.

VI. GENERAL PROVISIONS

In Section III of the NOPR, the Commission indicated that it is proposing three narrowly tailored conditions on Component DER participation. As discussed below, PPL Electric strongly objects to the first condition relating to permitting participation by NEM customer generators at all. The second condition, relating to PJM Tariff compliance is not controversial, but the Commission's attempt to implement it creates a problematic conflict with the PJM Tariff. The third condition, imposing a vague "tariff" filing requirement on EDCs does not appear to be the best means to achieve the Commission's goals as compared to the use of a standard EDC-specific agreement.[36]

[36] PPL Electric does not object to any standard agreement being reflected in a tariff, but found that the Commission had not explained sufficiently what it expected would be contained in the referenced tariff, or even who would be subject to the tariff.

A. The Commonwealth-Mandated Subsidies Already Received by NEM Customers from Other Ratepayers Will Result in Inequitable, Double Compensation.

1. NEM Customers-Generators Are Paid for *all* Ancillary Services Required to Be Purchased from PJM to Serve Load, Despite Not Providing Any Such Services.

Most NEM customer-generators are residential customers who *otherwise* would pay per kwh-based rates that are calculated to include the costs of all PJM-mandated ancillary services and other PJM fees that are owed by their load serving entity for the month.[37] Those rates also include costs of transmission service, distribution service, and non-bypassable service costs (which could include nuclear decommissioning costs and the costs of programs for low-income customers.) NEM customer-generators, when they are operating and serving their own load pay nothing, despite the fact that they remain connected to the system and would be served if their generator failed. Certain ancillary services, as well as their interconnectedness, ensure that they can be served if their generator failed. When NEM customer generators are not producing sufficient energy to cover their load, e.g., if their generator is a solar panel and it is nighttime or cloudy), their load serving entity procures every service PJM requires on their behalf. But, under NEM law, the customer could pay absolutely nothing for these many services for load that is offset by NEM generation.

[37] The focus of this discussion is on residential customers, which are the vast majority of NEM customer-generators.

This result can occur because of the credit received for kWh produced that go unused on site. That credit is the full retail rate for Tier I or Tier II resources. Commonwealth law currently states in part Title 52 Section 75.13(d):

> An EDC and DSP shall credit a customer-generator *at the full retail kilowatt-hour rate*, which shall include generation, transmission and distribution charges, for each kilowatt-hour produced by a Tier I or Tier II resource installed on the customer-generator's side of the electric revenue meter, up to the total amount of electricity used by that customer during the billing period. If a customer-generator supplies more electricity to the electric distribution system than the EDC and DSP deliver to the customer-generator in a given billing period, the excess kilowatt hours shall be carried forward and credited against the customer-generator's kilowatt-hour usage in subsequent billing periods at the *full retail rate*. Any excess kilowatt hours that are not offset by electricity used by the customer in subsequent billing periods shall continue to accumulate until the end of the year.

Emphasis added. When a NEM customer-generator receives a credit, i.e., a payment, at the full retail rate (i.e., including not only generation, but also transmission, distribution charges, ancillary services, non-bypassable charges, etc.), it is often referred to as "full NEM" program.[38] Most importantly here, because ancillary service costs are baked into retail rates, NEM customers are "paid" as if they are providing ancillary services whenever their DER is producing extra energy.[39]

A full NEM program is extraordinarily generous. For example, it can pay a credit as if solar panels were providing transmission service to the NEM customer-generator,

[38] In some states, a full NEM customer receives kWh as credits rather than the monetary value of the kWh.

[39] Such "payment" may be effectuated by not having their energy consummation metered and billed.

such that when the NEM customer-generator is actually using the transmission system to have energy delivered to its load, it can pay with credits that are based on a fiction that solar panels can provide transmission service. That is, a NEM customer-generator with solar panels may pay nothing for transmission at all over a billing period, despite being connected to that system and using the transmission system constantly in overnight (i.e., dark) hours.[40] Who pays for the transmission service used by NEM customer-generators? All other retail load.[41]

Although full NEM was once quite common, its popularity is fading, largely due to affordability issues and the recognition that it is fundamentally unfair to other retail customers due to cost shifts. Full NEM is still in place in about 20 states,[42] while other states have transitioned away from the practice (some states never adopted NEM).[43] A map published in May 2025 shows the status of full NEM in early 2025:[44]

[40] Some may argue that such a NEM customer-generator may never use the transmission system in "on peak" hours, but *other* retail customers are paying kWh rates pay for their off-peak usage of the transmission system. As transmission becomes a larger portion of retail bills, the notion of paying NEM customer-generators as if they provided their own transmission by including transmission costs in the credit is all the more absurd and creates even larger cost shifts.

[41] Some may argue that NEM customer-generators are *reducing* the overall need for transmission to serve peak load, but such arguments do not apply to other costs such a nuclear plant decommissioning costs.

[42] SOLARTECH, *What is Net Metering in Solar? Complete 2025 Guide* (Jan. 16, 2026).

[43] *Id.*

[44] Yena Suh, *Evaluating the Impact of Reduced Compensation Structures on Residential Solar Net Metering* (May 1, 2025).

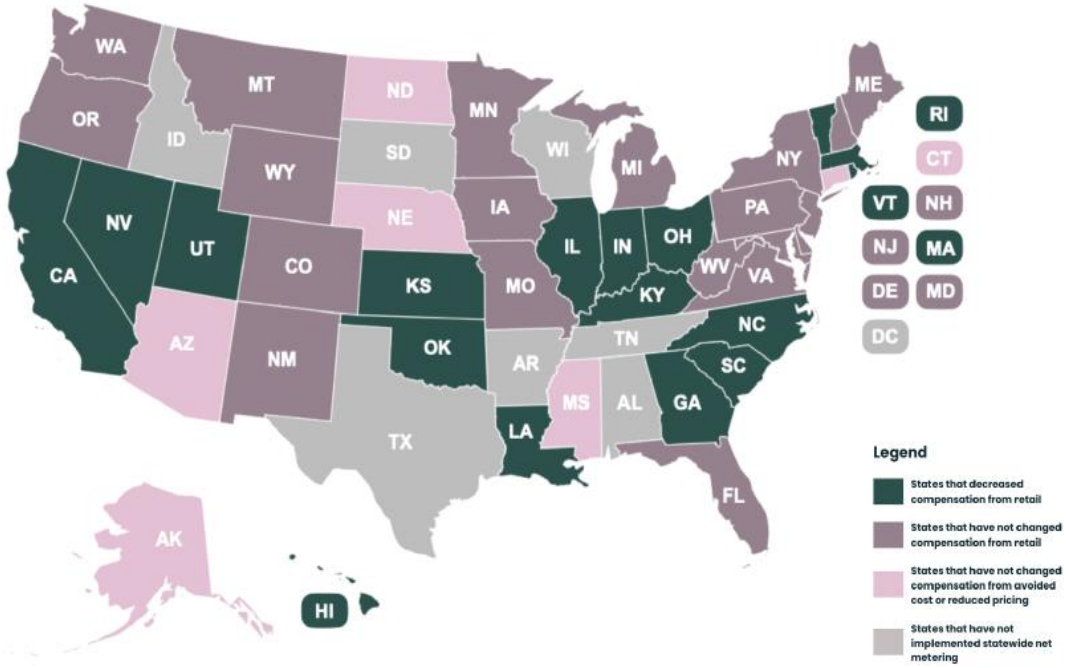

Figure 3. Map of Net Metering Incentives: *This map of the United States illustrates which states have decreased compensation from an initial retail rate compensation,*

Innumerable websites reflect the same data and trends in NEM compensation, i.e., away from full NEM.[45]

[45] California adopted a Net Billing Tariff that slashed the compensation rate for NEM by roughly 75%. Kavya Balaraman, *California lowers compensation rate for rooftop solar, prompting fears of a steep drop in installations*, UTILITY DIVE (Dec. 16, 2022). Similarly, new customers of Arizona Public Service Company are now enrolled in the Resource Comparison Plan where exported solar energy is credited at a fixed rate below the full retail price (which applied to existing NEM customers). *See* APS's *Rate Rider RCP Partial Requirements Serv. For New On-Site Solar Distrib. Generation Res. Comparison Proxy Export Rate*. New York transitioned from traditional 1:1 (full) net metering to a compensation model called the Value of Distributed Energy Resources almost a decade ago to reduce compensation rates for solar owners. *See* Robert Walton, *New York issues DER valuation order under REV docket to transition from net metering*, UTILITY DIVE (Mar. 9, 2017).

The reason states have started to transition away from NEM compensation at the full retail rate is simple. It simply costs far too much for other ratepayers to subsidize participating NEM customer-generators at the retail rate and get only energy, and perhaps a reduction in the capacity obligation, in return. For example, the California Office of Ratepayer Advocate issued a paper in 2024 indicating that, in California alone, NEM customer-generators were costing non-participating ratepayers about $8.5 billion annually.[46] Although the adverse impact of full NEM was felt most heavily in California, far less populated states have observed the need to end problematic cost shifts. The Maine Office of the Public Advocate had long raised concerns about the costs of Maine's expanded net energy billing program, which costs were expected to top $234 million in 2025 alone and $1.2 billion over 16 years,[47] before full NEM was eliminated. Arizona Corporation Commission Chair Doug Little remarked, "I think we've accomplished something pretty historic today," when he voted to eliminate the full NEM program for Arizona's solar customers and switching to a value-based compensation approach.[48]

2. The Commission, Supported by the EDCs, Had Been at the Forefront of the Affordability Issue, Recognizing the Double-Compensation Problem.

The discussion above raises the question why should NEM customer-generators be paid for their excess energy through credits that reflect the value of ancillary services, and

[46] The Public Advocate's Office in California Fact Sheet (August 2024).

[47] The Press Release accompanying Maine's LD 1777, An Act to Reduce Costs and Increase Customer Protections for the State's Net Energy Billing Program.

[48] Krysti Shallenberger, *Updated: Arizona regulators end retail net metering in value-of-solar proceeding*, UTILITY DIVE (Dec. 21, 2016).

many other services they do not provide, and also be paid for ancillary services that they would provide through a DER Aggregation. At the very least, the latter "double compensation" payment should be returned to the load serving entity to reduce its retail rates. Throughout the FERC proceedings on Order No. 2222 and its implementation, the Commission properly identified double compensation as a significant concern if NEM customers were allowed to participate as Component DERs.[49] PPL Electric echoed the same concerns both before FERC[50] and the Commission.[51]

The PUC's then Vice Chairman stated in comments to FERC after a technical conference on DER market participation that if a net-metered 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."[52] In the PJM compliance phase of Order No. 2222, this Commission cogently explained:

> participants in the Pennsylvania retail net metering program already receive revenues for all aspects of PJM's wholesale

[49] Comments and Limited Protest of the PUC to PJM's Compliance Filing re Order 2222, Docket No. ER22-962 (filed Mar. 31, 2022) ("March 2022 PUC Comments"); Comments of V.P. Place, Vice Chairman of the PA PUC, Docket No. RM18-9 (filed June 26, 2018) ("Place Comments").

[50] Motion for Leave to Answer and Answer of the Indicated PJM Utilities Addressing PJM Order No. 2222 Compliance Filing at 31-38, Docket No. ER22-962 (filed May 2, 2022) ("May 2022 PJM TO Comments"); Comments and Request for Second Compliance Filing of the Indicated PJM Utilities Addressing PJM Order No. 2222 Compliance at 28-31, Docket No. ER22-962 (filed April 1, 2022) ("April 2022 PJM TO Comments").

[51] PPL Electric ANOPR Comments at 23-26.

[52] Place Comments at 7.

> markets, and more, for the energy they send to the distribution grid. Accordingly, if they were permitted to participate in the wholesale markets as part of a DER Aggregation Resource, that resource would be again receiving payments for the same wholesale component the resource already received compensation from the retail net metering program, resulting in double compensation, which FERC and PJM appropriately prohibits.[53]

PPL Electric and other utilities in the Indicated PJM Utilities group have made similar assertions, emphasizing that the retail credit rate often encapsulates all wholesale values. They have argued that NEM customer-generators "generally have several opportunities to receive an energy credit or payment equivalent to full retail rates that fully compensates them for all services that they offer for energy, capacity *and* ancillary services" such that allowing them to participate in wholesale ancillary services markets would mean that they would "impermissibly receive duplicative compensation."[54] They further stated that the blanket tariff provision PJM proposes regarding net energy metered resources both opens the door to double-counting and puts unnecessary burden on the EDCs to close that door based on net energy metered tariffs that vary from state to state.[55] A failure of the Commonwealth to close this door would cause ratepayers to bear the burden of double compensation.

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[53] March 2022 PUC Comments at 6.

[54] April 2022 PJM TO Comments at 30. They also noted the next month that in Pennsylvania, in particular "EDCs must pay NEM resources for a 'bundled' supply product that includes generation, transmission, capacity, ancillary services and distribution components as compensation for the electricity the customer-generator sends to the distribution grid." May 2022 PJM TO Comments at 36.

[55] April 2022 PJM TO Comments at 30.

Critically, this issue about NEM customer-generator participation is not solely about double compensation for ancillary service costs, which are relatively small. It also is about the principle that the Commission currently is tasked to enforce a state law that already provides compensation for innumerable services NEM customer-generators do not provide and the cost of such subsidies falls on the backs of other customers. If a NEM participant consumes 900 kWh a month, 500 kWh of which is generated from its on-site generation and 400 kWh of which is from off-site sources, and generates 900 kWh in total, it pays nothing to support low-income programs, transmission, distribution, energy efficiency, etc. *Other* ratepayers must *fully* fund these services and programs, including paying the share associated with the amounts not paid by such NEM participant despite its 400 kWh of consumption. But the NEM participant is paid in credits as if it did fund these services and programs. That is, the equity of the double compensation for ancillary services must be considered in the context of the compensation for all *other* services not provided (but used) and all *other* program funding not paid by NEM participants.

3. A Focus on "Double Counting" Ignores Affordability Concerns.

In its NOPR, relying almost entirely on FERC's position on double *counting*, and ignoring its own and EDCs' double *compensation* arguments, the Commission proposes that NEM customers *should* be able to participate in ancillary service markets if the DER Aggregator can meet the PJM Tariff requirements for using Component DERs to sell ancillary services. Specifically, the Commission found that while NEM customer-generators could not participate in capacity and energy markets, they could participate in ancillary service markets, holding that:

> The Commission agrees with the commenters that indicated that customer-generators receiving service under an EDC's net metering tariff shall be excluded from participating in the wholesale capacity and energy markets as a DER Aggregator Resource[56] as they are already being compensated for providing capacity and energy through the EDC's retail net metering tariff. The Commission, however, also agrees with the commenters who indicated that customer-generators can participate in the wholesale ancillary services markets as a DER Aggregator Resource as 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 well as a DERA Resource.[57] Accordingly, if a customer-generator receiving service under a net metering tariff can be dispatched in real-time to meet system needs they should be able to also receive compensation from the wholesale ancillary service market as well as a DERA Resource.[58]

The Commission appeared to take this position based on FERC's opinion that double counting is a problem, but not double compensation. FERC's position on double counting, can be summarized quite simply as follows: It does not matter how much a DER is compensated by a state program in determining whether it can participate in a DER Aggregation. FERC explains in its March 1, 2023, PJM Compliance Order, that "being credited for a product may not be the same as providing a service. This difference

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[56] The use of the term "DER Aggregator Resource" appears erroneous because a NEM customer-generator would be a Component DER participating ***in a*** DER Aggregation Resource (i.e., DER Aggregation) that in turn participated in the capacity and energy markets.

[57] This phrase is unclear as Component DERs generally would be too small to be participating in the ancillary services market directly; also, a Component DER could not both be participating in the ancillary services market directly *and* in a DERA Resource (i.e., DER Aggregation).

[58] NOPR at 25-26. This last sentence is confusing because it indicates that a Component DER could receive compensation directly from the market *and* as part of a DER Aggregation.

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."[59] FERC's only stated concern in Order No. 2222 cases is with "services provided."[60] In contrast, FERC dismissed concerns regarding double compensation due to the fact that many states credit NEM customers for services they do not provide, such as ancillary services.[61]

Ironically, FERC is quite concerned with double compensation *outside* the Order No. 2222 context, *if* it has jurisdiction over both forms of compensation. In the context of storage as a substitute for transmission, FERC routinely recognizes that double compensation is not merited if transmission ratepayers are paying the full cost of service of a storage device. In fact, FERC issued a Policy Statement on this very issue:

> One issue associated with an electric storage resource receiving cost-based rate recovery while concurrently receiving compensation for market-based rate services involves potential double recovery of costs borne by the relevant cost-based ratepayers. Most participants in the technical conference and commenters believe that double recovery can be addressed by appropriate market revenue crediting.

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[59] March 1, 2023 PJM Compliance Order at P 136.

[60] July 25, 2024 PJM Compliance Order at P 24 ("We are not persuaded by the arguments that PJM should have retained its original double counting proposal that assessed 'products credited' rather than 'services provided.'"); *see also* Order No 2222, 172 FERC ¶ 61,247 at PP 160-161 ("we find that it is appropriate for RTOs/ISOs to place restrictions on the RTO/ISO market participation of distributed energy resources through aggregations after determining whether a distributed energy resource that is proposing to participate in a distributed energy resource aggregation is (1) registered to provide the same services either individually or as part of another RTO/ISO market participant").

[61] July 25, 2024 PJM Compliance Order at P 24.

> 16. While we believe there may be additional approaches for addressing this concern beyond the one proposed in *Western Grid*, we clarify that crediting any market revenues back to the cost-based ratepayers is one possible solution. The Commission has sought to prevent the subsidization of public utility shareholders at the expense of their captive customers.[62]

That is, according to FERC's own policy, if a service provider is fully compensated for services provided, it should receive no additional compensation. As already discussed, a NEM customer-generator is well more than fully compensated for excess kWh that it produces.

In sharp contrast to its own double compensation policy for storage as transmission, if a storage DER located in PJM on an EDC system was paid, *under a state commission approved/mandated program*, its full cost of service (and a rate or return) for a storage device that was serving as a substitute for a more expensive distribution upgrade, and retail distribution ratepayers were paying those costs, under FERC policy, the DER could become a Component DER and store and sell wholesale energy and retain the profits, perhaps doubling or tripling its return.[63] Based on its holdings relating to Order No. 2222, FERC would find that the storage device could revenue stack retail and wholesale revenues, despite the fact, that if *FERC* had jurisdiction over *both* services, it would *not* permit such stacking under its own policy statement.

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[62] *Utilization of Elec. Storage Res. for Multiple Servs. When Receiving Cost-Based Rate Recovery*, 158 FERC ¶ 61,051 at PP 15-16 (2017).

[63] Because FERC only has jurisdiction over the wholesale sales of the storage device, it would lack any authority to mandate a credit back to the retail ratepayers who paid for the full costs of the storage device.

FERC's position regarding double counting is all the more illogical in that many view NEM as a banking system. That is, kWh are "banked" when the NEM generator provides excess energy. The kWh can be withdrawn in hours that energy (as well as transmission, distribution, ancillary services, etc.) is needed by the NEM customer-generator's load. But the ancillary services product was not in fact "banked" if it was sold for compensation by a DER Aggregator. The DER Aggregator has effectively stolen the kWh from the bank, gotten paid for them and passed a portion of the payment to the NEM customer-generator, who is still going to be able to retrieve the stolen ancillary services from the bank.

In sum, FERC's position accepting double compensation falls apart upon greater scrutiny and should not be embraced by this Commission . FERC clearly and unequivocally told the states that they could prevent such double compensation. Indeed, states typically have an obligation that retail rates remain just and reasonable and thus should take state-mandated compensation into account in determining whether dual participation is just and reasonable. The *only* entity that can protect retail ratepayers here is the Commission. It should do so. Any other result would be arbitrary and capricious and lead to unjust and unreasonable rates for non-NEM ratepayers.

4. The NOPR Ignores the Cost and Complexity of Trying to Implement Dual NEM-DER Aggregation Participation.

There is another reason that dual participation should be prohibited. In the NOPR's discussion of dual participation, the Commission at no point discusses any of the complexities associated with dual participation, if it were allowed, let alone the costs.

PPL Electric is very concerned that the requirements for ancillary service participation may require additional metering and reconciliation between PJM and retail meters. This will add complexity to the retail billing/crediting of NEM customer-generators. More importantly, dual participation could result in tens of thousands of Component DERs trying to register with DER Aggregators. Yet, the Commission has not adopted regulations that would ensure that non-participating retail ratepayers would not bear any of these administrative expenses. At the least, the fee for reviewing a DER Aggregation, should be based on actual costs, or on the number of Component DERs that must be reviewed, if NEM customer-generators may participate. And, all costs associated with additional administrative costs to implement dual participation, if allowed, should be tracked and paid for by Component DERs or DER Aggregators.

5. In Sum, the Commission Should Re-Adopt Its Well-Reasoned Position on NEM Participation.

Nothing has changed since the Commission formed its initial position that NEM customer generators already are paid sufficient compensation (including compensation for services they do not provide) under Commonwealth law. FERC rejected the Commission's well-reasoned initial position because FERC *only* regulates Component DERs' *wholesale* sales, not whether the compensation they are receiving for their assets participation in wholesale markets as part of a DER Aggregation is causing unjust and unreasonable *retail* rates. The Commission has an entirely separate duty to ensure that

EDC's rates are just and reasonable, which they will not be if all retail ratepayers must *further* subsidize NEM customers.[64]

B. The Commission's EDC Tariff Requirement Is Unclear.

The NOPR provides that a Component DER must meet all the requirements of the PJM Tariff and should not adversely impact the safe and reliable operation of the EDC distribution system.[65] Actually, a Component DER is not itself subject to the PJM Tariff, as it is not a PJM Member; rather, the PJM Tariff only defines Component DER and sets size, registration, and other requirements for participation in DER Aggregations. PJM does not interact with Component DERs. PPL Electric agrees with the Commission that a Component DER should *not* adversely impact the safe and reliable operation of the EDC distribution system. The Commission proposes a new regulation in Section 57.263(c) that states: "An EDC allowing DER Aggregation Resource participation within their service territory shall file a tariff with the Commission that provides for DER Aggregation Resource participation consistent with this chapter." An EDC has no choice but to allow what the Commission calls a "DER Aggregation Resource,"[66] so the first clause of this

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[64] If the Commission rejects these arguments, PPL Electric continues to maintain its position that customers should be prohibited from switching between Component DER and NEM status no more than annually. PPL Electric ANOPR Comments at 25-26.

[65] NOPR at 26.

[66] Based on a recent FERC order, a state does *not* have to allow DER Aggregations comprised *entirely* of demand response resources. In Order No. 2222-B, FERC left the issue of the demand response opt-out to the Notice of Inquiry in Docket No. RM21-14-000. FERC closed that docket earlier this year, permitting states to opt out. *See Participation of Aggregators of Retail Demand Response Customers in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 195 FERC ¶ 61,032 (2026). Given existing demand response programs, the Commission should not permit homogeneous demand response

(Continued…)

regulation seems meaningless. As to the tariff requirement, PPL Electric is uncertain as to what subject matters the tariff would address or even whether the tariff would apply to DER Aggregators or Component DERs. Given the scope of the Commission's jurisdiction, PPL Electric must presume the tariff applies to Component DERs.[67]

In any case, PPL Electric has expressed a preference for a Component DER Agreement to address matters subject to the Commission's jurisdiction. As noted, PPL Electric proposes the concept of a Component DER Agreement to address issues subject to Commission regulation that would ensure the safe and reliable operation of the distribution system. Although further work is necessary, the agreement should cover interconnection service, if needed, but also address: metering, data sharing, billing, override protocols, cybersecurity protections, and customer consent for the EDC to provide data to a DER Aggregator. There is time to further develop this concept and a process for obtaining the relevant agreement well prior to the effectiveness of Order No. 2222 in PJM. Per its ANOPR Comments, an updating of Chapter 75 may be required to

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DER Aggregations, as it would be duplicative. In any case, there should be only one homogenous route to demand response participation and it already exists. A second route is unnecessary, particular in light of the massive frauds mentioned earlier.

[67] As already discussed, with a narrow exception as to data and (perhaps) fees, FERC would decide if the DER Aggregation-EDC relationship were even subject to any form of tariff or agreement.

address Component DER Agreements.[68] Similarly, Chapter 75 may require new provisions related to metering for Component EDCs.[69]

C. Proposed Regulations Related to the General Mandate

For the reasons discussed in Section V.A, proposed Subsection 57.263(a)(1) should be revised to prohibit all NEM customer-generators from participating as a Component DER in a DER Aggregation. (*See* PPL Electric Subsection 57.263(b)).

For the reasons discussed in Section V.B, proposed Section 57.263(a)(2) should be revised to include the requirement for a customer seeking Component DER status to have a Component DER Agreement (a new agreement or a replacement for a pre-existing interconnection agreement). Such document will be the primary means for the Commission to ensure the safety and reliability of the EDCs' distribution systems. (*See* PPL Electric Subsection 57.263(c)). Also, proposed Subsection 57.263(c) is too vague, as the NOPR provides insufficient guidance as to what such tariff would address. (In addition, there is no regulation indicating who must take service under such tariff.) As discussed, PPL Electric suggests each EDC using a standardized agreement developed by that EDC (the Component DER Agreement) and the Commission include a general description of the contents of a Component DER Agreement in its Regulations. In addition, there will need to be a process for obtaining such an agreement. (*See* PPL Electric Subsection 57.263(e)).

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[68] *See* PPL Electric ANOPR Comments at 7-9. This process will in turn allow the review of a DER Aggregator's registration submission to occur within the required 60 days, as interconnection and operational issues largely will be addressed already.

[69] *See* PPL Electric ANOPR Comments at 15-17.

Finally, proposed Subsection 57.263(d) should be revised to reflect FERC's definition of a small utility. (*See* PPL Electric Subsection 57.263(d)).

VII. REVIEW OF COMPONENT DER APPLICATIONS

The "Review of Component DER Applications" section of the NOPR, as well as the proposed regulations, appear to conflate separate topics—EDC review of Components DERs and the two-part EDC reviews of DER Aggregator-submitted registrations of DER Aggregations (which must be submitted by the DER Aggregator to PJM, through the PJM-mandated process). For example, the NOPR states at page 27, "[i]n the proposed section 57.264, the Commission proposes three requirements EDCs must follow in reviewing requests *by a [DER Aggregator], a DER operator or PJM* for approval of a Component DER to participate in the PJM wholesale energy, capacity, and/or ancillary services markets as a DER Aggregation Resource." Only a DER Aggregator, however, submits a registration to participate in the PJM markets. And, *only* PJM asks the EDC to review the request. The Comments on this topic summarized by the Commission veer between discussions of Component DERs and DER Aggregators, with little recognition that the commenters may be discussing entirely different topics given non-standard nomenclature. This NOPR section also addresses cost recovery issues. PPL Electric below clarifies how the "program" works and the role the Commission should play and is permitted to play in light of the PJM Tariff and FERC's jurisdiction.

A. To the Extent a Component DER Would "Apply" to an EDC, It Would Be to Obtain a DER Component Agreement.

There does not appear to be a need to dictate a review process for a Component DER's participation in a DER Aggregation, separate from the first (15-day) review process in the PJM Tariff, *if* PPL Electric's proposal of a Component DER Agreement is accepted. Under its proposal, a request for a Component DER Agreement is the means by which PPL Electric will learn if a DER is seeking to participate in a DER Aggregation, *before* the PJM process even begins.

The process for obtaining a Component DER Agreement would include a fee. Such fee could be set when a process is developed. If a brand new interconnection is necessary as part of that process, the relevant Component DER Agreement would address recovery of the interconnection costs.[70] Such interconnection costs should be borne by the retail customer with the Component DER.[71] It is not appropriate to socialize these costs across the customer base.

The final effectiveness of a Component DER Agreement would be contingent upon the Component DER being found to be a part of DER Aggregation approved by PJM.

[70] *See* PPL Electric ANOPR Comments at 18.

[71] *Id.* at 20.

B. The PJM Tariff Dictates the *Process* for Review of DER Aggregations Sought to be Registered by a DER Aggregator But It Does Not Set *All* of the Criteria and Fees.

Review of a DER Aggregator's registration of a DER Aggregation is performed by both PJM and the EDC in accordance with a *process* set forth in the PJM Tariff. The Commission should not adopt regulations that would be preempted by that federal *process*. But, if a state commission has adopted reliability and safety rules and criteria for distribution system operations, EDCs would be subject to these and the EDC would take such substantive policies into account in its review of individual Component DERs seeking to be registered as part of a DER Aggregation and its (incremental) review of the DER Aggregation's impact on the EDC's distribution system. In this manner, RERRAs have an *indirect* role in reviewing DER Aggregator registration submissions.[72] FERC also has indicated that PJM can coordinate with stakeholders to develop guidance documents that could include a list of illustrative review criteria or Component DER operating parameters.[73] PPL Electric has no issue with the Commission playing a role in such process.

As to a fee for an EDC's two-step review a DER Aggregator's registration of a DER Aggregation with PJM, Order No. 2222 did not indicate whether or not a specific fee could be recovered by the EDC through a FERC-jurisdictional rate. The NOPR states that with regard to "costs related to the review process and EDC development of

[72] Mar. 1, 2023 PJM Compliance Order at P 313 notes that what PJM cannot do is set distribution utility safety and reliability criteria.

[73] *Id*.

Component DER operations on their distribution system, the Commission does not propose establishing a set fee or cost recovery mechanism at this time,"[74] but proposes that EDCs may establish a fee, without addressing jurisdiction.[75] PPL Electric agrees. Order No. 2222 does not preclude or limit state or local regulation of: retail rates; distribution system planning, distribution system operations, or distribution system reliability; distributed energy resource facility siting; and interconnection of resources to the distribution system that are not subject to Commission jurisdiction, such that there is an argument such fee could be state-jurisdictional.[76] No matter the jurisdiction, a fee should be adopted and credited against distribution rates, to relieve distribution ratepayers of costs that they should not bear, as the fee relates to distribution system operations. PPL Electric does not yet have a proposal for such fee. If FERC were to claim exclusive jurisdiction over such a fee, the Commission should support the recovery of *any and all* costs associated with the registration process from the DER Aggregator.

The PJM Tariff and Order No. 2222 also do not dictate how EDCs should recover any and all other costs associated with allowing Component DERs to participate in DER Aggregations. As mentioned *supra,* such costs include the entire cost of interfacing with Component DERs and their DER Aggregators for operational and billing purposes. There is no reason that non-participants should pay for such costs. The DER Component Agreement could be used for recovery of such costs through a Customer Fee.

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[74] NOPR at 39.

[75] *Id.*

[76] Order No. 2222 at P 61.

C. Non-Allocated Cost Recovery

As to costs that cannot be allocated to DER Aggregators of Component DERs (if any), PPL Electric argued in its ANOPR Comments (at 35) that EDCs should be permitted to recover these costs based on established cost of service principles. Because basic ratemaking precedent (as well as takings principles) requires utilities to be permitted to recover the prudent costs of implementing requirements imposed on them by regulators,[77] PPL Electric believes a *specific* cost recovery mechanism is unnecessary. That is, only if the non-allocated costs associated with implementing Order No. 2222 were to be treated differently than *other* utility costs, would the Commission need to adopt regulations relating to their recovery.[78]

D. Proposed Regulations Relating to Component DERs

As discussed in Section VI, PPL Electric proposes a new regulation that would allow cost recovery by an EDC for reviewing a DER' Aggregators registration application for a DER Aggregation submitted to PJM. (*See* PPL Electric Section 57.267.) That said, if FERC asserts exclusive jurisdiction over such rate, the Commission should support the direct assignment of the actual costs, including overheads, of such review.

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[77] For example, PURPA requires that FERC's regulations "ensure that an electric utility that purchases electric energy or capacity from a qualifying cogeneration facility or qualifying small power production facility in accordance with any legally enforceable obligation entered into or imposed under this section recovers all prudently incurred costs associated with the purchase." 16 U.S.C. § 824a-3(m)(7).

[78] *See* PPL Electric ANOPR Comments at 20.

VIII. COMPONENT DER OPERATIONS

The Commission addresses two issues in the "Component DER Operations" section of its NOPR: data exchange between EDCs and DER Aggregators and EDC override of dispatches of Component DERs/DER Aggregations.

A. Data Exchange Between EDCs and DER Aggregators

The NOPR defers the issue of data exchange between EDCs and DER Aggregators to the Electronic Data Exchange Working Group ("EDEWG"). PPL Electric has no objection to this approach, as protocols are needed.[79] In Order No. 2222, FERC stated at Paragraph 324 that one RERRA role could include "data sharing." The NOPR also proposes that Component DERs may consent to EDCs providing data to DER Aggregators.[80] Additionally, PJM explained to FERC that a DER Aggregator may use EDC meter data to settle a DER Aggregation[81] (which would require the EDC providing access to Component DER data). Finally, an EDC could need access to DER Aggregator data on Component DERs to accurately calculate at retail bills to a customer with Component DER. PPL Electric therefore suggests that the EDEWG develop a data exchange agreement between an EDC and a DER Aggregator with regard to Component DER data that covers all possible data exchange needs.[82] Time is of the essence, given the PJM implementation date.

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[79] *See* PPL Electric ANOPR Comments at 27.

[80] NOPR at 29; Proposed Rule § 57.265(a).

[81] May 1, 2025, PJM Compliance Order at P 23.

[82] *See* PPL Electric ANOPR Comments at 5.

The Commission proposes in Subsection 57.265(a) that EDCs shall provide a DER Aggregator access to Component DER data upon consent of the Component DER in a format approved by the Commission. It then states that each "EDC can propose a data access format for Commission approval in the EDC's tariff filing." As already noted, the purpose of the *tariff* requirement is unclear and not PPL Electric's preferred approach. Rather, the required data format could be identified in an EDC-DER Aggregator Data Exchange Protocol or Agreement.

B. Component DER Overrides

The Commission agreed with PPL Electric that EDCs should retain the authority to override Component DER dispatch to maintain safe and reliable electric distribution service, finding it consistent with PJM's position. The Commission thus proposes in Subsection 57.265(b), that each EDC shall establish Component DER dispatch override procedures that include a description of the conditions under which the EDC will override a dispatch request. The proposed regulation also requires EDCs to describe the notices to be given when a dispatch is to be overridden during (1) preplanned maintenance; (2) emergency conditions; (3) any other conditions established by the EDC; and (4) when the EDC's system returns to normal operations. According to the Commission, each EDC is to describe when the notices will be provided under each condition as well as the method the notice will be provided to PJM, the DER Aggregator

and DER operators (i.e., Component DERs). (EDCs' approaches to overrides may differ based on whether they have DERMS in place.[83])

This Commission's authority regarding overrides is limited to the Component DER-EDC relationship, however. The information about overrides issued to Component DERs best resides in the Component DER Agreement described *supra*. Indeed, the Commission's requirements dictate the need for such an agreement that addresses overrides. The Component DER Agreement will provide EDCs the opportunity to identify the types of reasons for overrides, an issue discussed in PPL Electric's ANOPR Comments. As to communications with PJM and DER Aggregators, *PJM* has developed an operational framework that facilitates communication between the FERC-jurisdictional parties (PJM, DER Aggregator, and EDC) for various scenarios.[84] The Commission's authority rests only with the EDC-Component DER, given FERC already has acted with regard to the override issue as to the non-Component DER entities.

C. Proposed Regulations Related to Component DER Operations

Given its position discussed in Section VII.A, PPL Electric has added a proposed regulation (*see* PPL Electric Section 57.266) addressing the need for a data sharing agreement (or protocol) between an EDC and DER Aggregator.

For the reasons discussed in Section VII.B, PPL Electric has modified Section 57.265 to integrate the Commission's concepts with what it envisions would be reflected

[83] *See* PPL Electric ANOPR Comments at 10.

[84] March 1, 2023 PJM Compliance Order at P 207; May 1, 2025 PJM Compliance Order at P 171.

in a Component DER Agreement. The edits also reflect that the Commission regulation would relate only to interactions between the EDC and Component DER.

IX. DISPUTES

A. The Scope of Dispute Resolution Should Be Clearer.

Proposed Section 57.266(a) requires DER Aggregators and Component DERs to attempt to resolve all disputes regarding DER interconnection and EDC actions promptly, equitably and in a good faith manner. The Commission also indicates in its proposed regulations that entities can use the Commission's complaint and petition process and it will not impact an EDC's state-jurisdictional interconnection queue process. Section 57.266 thus implicitly addresses *only* interconnection disputes (*see* Subsection 57.266(c)), even though it mentions "EDC actions," a broad and vague term. The regulation would be clearer if it separated "interconnection disputes," which could only occur between an EDC and the Component DER, and could impact the state-jurisdictional interconnection queue, from other disputes (non-interconnection disputes) within the scope of the Commission's jurisdiction, which disputes could include a DER Aggregator or even PJM.[85]

B. Proposed Regulations Relating to Dispute Resolution

For the reasons discussed immediately above, PPL Electric proposes changes to Section 57.266 to clarify that not all Commission-jurisdictional disputes might be related

[85] For example in its March 1, 2023 PJM Compliance Order (at P 356), FERC stated that the "appropriate entity to adjudicate disputes regarding whether an override instruction was reasonable and appropriate to ensure the safety and reliability of the distribution system is the RERRA, not PJM or the IMM."

to interconnections of Component DERs. As a result, the provision concerning queue position applies only to Interconnection disputes. (*See* PPL Electric Section 57.268).

X. CONCLUSION

In drafting Order No. 2222-related regulations, the Commission must be mindful of several factors, including the scope of its jurisdiction and its primary mission, protecting ratepayers. Additionally, it should ensure that the documentation necessary to ensure the Component DER-EDC relationship is appropriately addressed is simple and can be implemented efficiently. As permitted, some Commission regulation of the DER Aggregator is appropriate. PPL Electric's Comments have focused on these issues, providing guidance as to how these goals can be achieved, recognizing there is still work to be done, particularly as to: 1) a Component DER Agreement (rather than a tariff approach coupled with an interconnection agreement, if the latter is needed); and 2) an EDC-DER Aggregator communications agreement or protocol.

PPL Electric appreciates the opportunity to provide these Comments on the changes required to implement FERC Order No. 2222 and respectfully requests that the Commission take these Comments into consideration in developing a Final Rule.

Respectfully submitted,

_____

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June 10, 2026

Attachment 1 – Redlined Annex

ANNEX

TITLE 52. PUBLIC UTILITIES

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CHAPTER 57. ELECTRIC SERVICE

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Subchapter P. DISTRIBUTED ENERGY RESOURCES

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§ 57.261. ~~§ 57.261.~~ Purpose.

This subchapter sets forth the requirements that apply to Component DERs, DER ~~operators, DERAs~~Aggregators and EDCs related to DER Aggregation ~~Resource~~ participation in the energy, capacity, and/or ancillary services markets of PJM through its Intra-PJM Open Access Transmission Tariff, ~~VI. Administration and Study of New Service Requests; R, OATT~~ Attachment K – Appendix Section 1.4B, DER Aggregator Participation Model.

§ 57.262. ~~§ 57.262.~~ Definitions.

The following words and terms, when used in this subchapter, have the following meanings, unless the context clearly indicates otherwise:

Commission—The Public Utility Commission of the Commonwealth.

Component DER—Any resource that is located on an EDC distribution system, any subsystem thereof, or behind a customer meter, and is used in a DER Aggregation ~~Resource~~ by a ~~DERA~~ DER Aggregator to participate in the energy, capacity, and/or ancillary services markets of PJM through the DER Aggregator Participation Model. A Component DER may not exceed 5 MW. Component DER may also refer to the entity whose account is associated with a given Component DER.

Component DER Agreement—An agreement governing the operations of a Component DER and, if necessary, the interconnection of a Component DER.

Customer-generator—A nonutility owner or operator of a net metered distributed generation system with a nameplate capacity of not greater than 50 kilowatts if installed at a residential service or not larger than 3,000 kilowatts at other customer service locations, except for customers whose systems are above 3 megawatts and up to 5 megawatts who make their systems available to operate in parallel with the electric utility during grid emergencies as defined by the regional transmission organization or where a

microgrid is in place for the primary or secondary purpose of maintaining critical infrastructure, such as homeland security assignments, emergency services facilities, hospitals, traffic signals, wastewater treatment plants or telecommunications facilities, provided that technical rules for operating generators interconnected with facilities of an EDC, electric cooperative or municipal electric system have been promulgated by the institute of electrical and electronic engineers and the Commission.

Customer-generator facility—The equipment used by a customer-generator to generate, manage, monitor and deliver electricity to the EDC.

DER Aggregation ~~Resource~~—Comprised of one or more Component ~~DER~~DERs. A DER Aggregation ~~Resource~~ is used by a DERA to participate in the energy, capacity, and/or ancillary services markets of PJM through the DER Aggregator Participation Model. A DER Aggregation ~~Resource~~ is capable of satisfying a minimum energy and/or ancillary services market offer of 100 kW. The market participation eligibility of a DER Aggregation ~~Resource~~ shall be determined in accordance with the physical and operational characteristics of the underlying Component ~~DER~~DERs that comprise the DER Aggregation ~~Resource~~.

DER Aggregator Participation Model—The participation model described in PJM Tariff, Attachment K-Appendix, section 1.4B.

DER Capacity Aggregation Resource—One or more DER ~~Aggregation Resources~~Aggregations that participates in the PJM Reliability Pricing Model, capable of satisfying a minimum capacity market offer of 100 kW, or is otherwise treated as capacity in ~~PJM's~~PJM's markets, such as through a Fixed Resource Requirement Capacity Plan.

DER — Distributed energy resource—Energy resources interconnected at the distribution level. ~~The~~As used in this subchapter, the term ~~refers to generation~~includes supply side and demand side resources~~, load sources, and energy storage resources.~~.

DER ~~operator~~ ~~Any entity operating a DER or seeking to interconnect a DER in Pennsylvania.~~

~~DERA~~Aggregator — Distributed energy resource aggregator—An entity that is a ~~PJM~~ Market Participant as defined by the PJM Operating Agreement that:

(i) ~~(i)~~ uses one or more DER ~~Aggregation Resources~~Aggregations to participate in the energy, capacity, and/or ancillary services markets of PJM through the DER Aggregation Participation Model; and

(ii) ~~(ii) has~~is the counter-party to a fully-executed DER Aggregator Participation Service Agreement~~.~~ provided by PJM. A ~~DERA~~DER Aggregator must be a PJM member.

Electric distribution system—

(i) ~~(i)~~ The facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries from interchanges with higher voltage transmission networks that transport bulk power over longer distances. The voltage levels at which electric distribution systems operate differ among areas but generally carry less than 69 kilovolts of electricity.

(ii) ~~(ii)~~ Electric distribution system has the same meaning as the term Area electric power system, as defined in 3.1 of IEEE Standard 1547-2018.

EDC — Electric distribution company—~~A~~ As defined in 66 Pa. C.S. § 2803, a public utility providing facilities for the jurisdictional transmission and distribution of electricity to retail customers, except building or facility owners/operators that manage ~~an~~the internal distribution system ~~which serves a~~serving such building or facility and ~~which supplies~~that supply electric power and other related electric power services to occupants of ~~that~~the building or facility.

EGS — Electric generation supplier—

(i) A person or corporation, including municipal corporations which choose to provide service outside their municipal limits except to the extent provided prior to December 16, 2006, brokers and marketers, aggregators or any other entities, that sells to end-use customers electricity or related services utilizing the jurisdictional transmission and distribution facilities of an EDC or that purchases, brokers, arranges or markets electricity or related services for sale to end-use customers utilizing the jurisdictional transmission and distribution facilities of an EDC.

(ii) The term excludes building or facility owner/operators that manage the internal distribution system serving the building or facility and that supply electric power and other related power services to occupants of the building or facility.

(iii) ~~(iii)~~ The term excludes electric cooperative corporations except as provided in 15 Pa.C.S. Chapter 74 (relating to generation choice for customers of electric cooperatives).

*FERC—*The Federal Energy Regulatory Commission.

MW — Megawatt—A unit of power representing 1,000,000 watts. An MW equals 1,000 kWs.

Net metering—The means of measuring the difference between the electricity supplied by an electric utility or EGS and the electricity generated by a customer-generator when any portion of the electricity generated by the alternative energy generating system is used to offset part or all of the customer-~~generator's~~generator's requirements for electricity.

PJM — PJM Interconnection, L.L.C.—An RTO serving thirteen states, including the Commonwealth of Pennsylvania and the District of Columbia.

PJM Member—an entity that satisfies the requirements of the PJM Operating Agreement, section 11.6 and that (i) is a member of the LLC immediately prior to the Effective Date, or (ii) has executed an Additional Member Agreement in the form set forth in Operating Agreement, Schedule 4.

PJM Market Participant—a Market Buyer, a Market Seller, and/or an Economic Load Response Participant, except when that term is used in or pertaining to Tariff, Attachment M, Tariff, Attachment Q, Operating Agreement, section 15, Tariff, Attachment K-Appendix, section 1.4 and Operating Agreement, Schedule 1, section 1.4. "Market Participant," when such term is used in Tariff, Attachment M, shall mean an entity that generates, transmits, distributes, purchases, or sells electricity, ancillary services, or any other product or service provided under the PJM Tariff or Operating Agreement within, into, out of, or through the PJM Region, but it shall not include an Authorized Government Agency that consumes energy for its own use but does not purchase or sell energy at wholesale. "Market Participant," when such term is used in or pertaining to Tariff, Attachment Q, Operating Agreement, section 15, Tariff, Attachment K-Appendix, section 1.4 and Operating Agreement, Schedule 1, section 1.4, shall mean a Market Buyer, a Market Seller, an Economic Load Response Participant, an FTR Participant, a Capacity Market Buyer, or a Capacity Market Seller.

Retail electric customer or customer—A direct user of electric power as defined by 66 Pa.C.S. § 2803 (relating to definitions).

RPM Auction — Reliability Pricing Model Auction—the Base Residual Auction or any Incremental Auction held by PJM.

RTO — Regional transmission organization—An entity approved by the FERC that is created to operate and manage the electrical transmission grids of the member electric transmission utilities as required under FERC Order 2000, Docket No. RM99-2-000, FERC Chapter 31.089 (1999) or any successor organization approved by the FERC.

§ 57.263. ~~§ 57.263.~~ General provisions.

(a) ~~(a)~~ EDCs with 100,000 or more customers shall allow DER Aggregation ~~Resource~~ participation within their service territories ~~under the following conditions:~~.

(b) ~~(1)~~ Customer-generators receiving service under the ~~EDC's~~EDC's net metering tariff are precluded from participating as a ~~DER Aggregator Resource in the PJM capacity and energy markets~~Component DER.

(c) ~~(2) The~~A Component DER ~~was~~must have a Component DER Agreement to be approved by the EDC and PJM as part of a DER Aggregation ~~Resource~~ of a ~~DERA~~DER Aggregator to participate in the energy, capacity, and/or ancillary services markets of PJM through the PJM DER Aggregator Participation Model.

(d) ~~(b)~~ EDCs ~~with~~ that distributed 4 million MWh or less ~~than 100,000 customers~~in the previous fiscal year, may allow DER Aggregation ~~Resource~~ participation within their service territories upon Commission approval.

~~(c) An EDC allowing DER Aggregation Resource participation within their service territory shall file a tariff with the Commission that provides for DER Aggregation Resource participation consistent with this chapter.~~

~~**§ 57.264. Review of Component DER Applications.**~~

(e) ~~(a) EDCs shall establish~~ Component DER Agreements will be standardized agreements that address metering, data sharing, billing, override protocols, cybersecurity protections, consent for the EDC to provide a DER Aggregator (once identified) access to the Component DER's data in a format approved by the Commission, and, if applicable, interconnection service.

(1) An EDC will have a process for ~~receiving and reviewing requests from a DERA, DER operator or PJM for approval of~~ a customer with a DER asset seeking to become a Component DER to obtain a Component DER ~~to participate in the PJM energy, capacity, and/or ancillary services markets as a~~ Agreement.

~~(1)~~(2) A Component DER ~~Aggregation Resource in the PJM~~ Agreement will not be effective until the relevant DER Aggregator has an effective DER Aggregator Participation ~~Model with the following conditions:~~Service Agreement that includes the Component DER.

~~(1) The process must allow for electronic submission of requests.~~

~~(2) The EDC shall complete review of the request within 60 days of submission.~~

~~(3) The EDC shall describe in detail the reasons for any denial of a request.~~

~~(b) The EDC may establish a fee approved by the Commission for processing a request.~~

§ 57.264. ~~§ 57.265.~~ Component DER Interconnections and Operations.

~~(a)~~ EDCs shall ~~provide DERA access to~~ establish Component DER ~~data upon consent of the DER operator in a format approved by the Commission.~~

(a) ~~(b) EDCs shall establish DER Component~~ dispatch override procedures that include the following:

(1) ~~(1)~~ A description of the types of conditions under which the EDC ~~will~~may override a PJM dispatch request issued through a DER Aggregator by contacting the Component DER.

(2) ~~(2)~~ A description of the notices to be given when a PJM dispatch request issued through a DER Aggregator is to be overridden by the EDC contacting the Component DER under the following conditions:

(i) ~~(i)~~ Pre-planned maintenance.

(ii) ~~(ii)~~ Emergency conditions.

(iii) ~~(iii)~~ Other conditions established by the EDC.

(iv) ~~(iv)~~ Return to normal system operations.

(3) ~~(3)~~ A description of when the notices the EDC will ~~be provided~~provide under each condition as well as the method ~~the~~of notice that will be provided to ~~PJM, DERA and~~the Component DER ~~operator~~when an EDC overrides a PJM dispatch request issued through a DER Aggregator by contacting the Component DER.

(b) ~~§ 57.266.~~ The override procedures will be included in the Component DER's Interconnection and Operations Agreement or Operations Agreement, as applicable.

§ 57.265. Data Exchange Between EDC and DER Aggregator

(a) A Component DER may consent for the EDC to provide a DER Aggregator access to the Component DER's data.

(b) An EDC and DER Aggregator will enter into a data exchange agreement.

§ 57.266. DER Aggregator Registration Review Fee

(a) And EDC may charge a fee of $____ to review a DER Aggregator's registration application for a DER Aggregation.

~~§ 57.265.~~§ 57.267. Disputes.

(a) ~~(a) A party~~Interconnection Disputes

(1) A Component DER and EDC shall attempt to resolve all disputes regarding Component DER interconnection ~~and EDC actions~~ as provided in this chapter promptly, equitably and in a good faith manner.

(2) ~~(b)~~ When a dispute arises, ~~a party~~either entity may seek immediate resolution through complaint and petition procedures available through the Commission.

(3) ~~(c)~~ Pursuit of dispute resolution shall not affect a Component DER interconnection applicant with regard to consideration of an interconnection request or an interconnection ~~applicant's~~applicant's position in the ~~EDC's~~EDC's interconnection queue.

(b) Non-Interconnection Disputes

(1) Relevant parties shall attempt to resolve all other disputes (non-interconnection disputes) subject to the jurisdiction of the Commission promptly, equitably and in a good faith manner.

(2) When a non-interconnection disputes dispute arises, an entity may seek immediate resolution through complaint and petition procedures available through the Commission.

§ 57.268. DER Aggregator License Requirement

[To be Developed by Commission]

Attachment 2 – Clean Annex (PPL Version)

ANNEX

TITLE 52. PUBLIC UTILITIES

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CHAPTER 57. ELECTRIC SERVICE

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Subchapter P. DISTRIBUTED ENERGY RESOURCES

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§ 57.261. Purpose.

This subchapter sets forth the requirements that apply to Component DERs, DER Aggregators and EDCs related to DER Aggregation participation in the energy, capacity, and/or ancillary services markets of PJM through its Intra-PJM Open Access Transmission Tariff, Attachment K – Appendix Section 1.4B, DER Aggregator Participation Model.

§ 57.262. Definitions.

The following words and terms, when used in this subchapter, have the following meanings, unless the context clearly indicates otherwise:

Commission—The Public Utility Commission of the Commonwealth.

Component DER—Any resource that is located on an EDC distribution system, any subsystem thereof, or behind a customer meter, and is used in a DER Aggregation by a DER Aggregator to participate in the energy, capacity, and/or ancillary services markets of PJM through the DER Aggregator Participation Model. A Component DER may not exceed 5 MW. Component DER may also refer to the entity whose account is associated with a given Component DER.

Component DER Agreement—An agreement governing the operations of a Component DER and, if necessary, the interconnection of a Component DER.

Customer-generator—A nonutility owner or operator of a net metered distributed generation system with a nameplate capacity of not greater than 50 kilowatts if installed at a residential service or not larger than 3,000 kilowatts at other customer service locations, except for customers whose systems are above 3 megawatts and up to 5 megawatts who make their systems available to operate in parallel with the electric utility during grid emergencies as defined by the regional transmission organization or where a microgrid is in place for the primary or secondary purpose of maintaining critical

infrastructure, such as homeland security assignments, emergency services facilities, hospitals, traffic signals, wastewater treatment plants or telecommunications facilities, provided that technical rules for operating generators interconnected with facilities of an EDC, electric cooperative or municipal electric system have been promulgated by the institute of electrical and electronic engineers and the Commission.

Customer-generator facility—The equipment used by a customer-generator to generate, manage, monitor and deliver electricity to the EDC.

DER Aggregation—Comprised of one or more Component DERs. A DER Aggregation is used by a DERA to participate in the energy, capacity, and/or ancillary services markets of PJM through the DER Aggregator Participation Model. A DER Aggregation is capable of satisfying a minimum energy and/or ancillary services market offer of 100 kW. The market participation eligibility of a DER Aggregation shall be determined in accordance with the physical and operational characteristics of the underlying Component DERs that comprise the DER Aggregation.

DER Aggregator Participation Model—The participation model described in PJM Tariff, Attachment K-Appendix, section 1.4B.

DER Capacity Aggregation Resource—One or more DER Aggregations that participates in the PJM Reliability Pricing Model, capable of satisfying a minimum capacity market offer of 100 kW, or is otherwise treated as capacity in PJM's markets, such as through a Fixed Resource Requirement Capacity Plan.

DER — Distributed energy resource—Energy resources interconnected at the distribution level. As used in this subchapter, the term includes supply side and demand side resources.

DER Aggregator — Distributed energy resource aggregator—An entity that is a Market Participant as defined by the PJM Operating Agreement that:

(i) uses one or more DER Aggregations to participate in the energy, capacity, and/or ancillary services markets of PJM through the DER Aggregation Participation Model; and

(ii) is the counter-party to a fully-executed DER Aggregator Participation Service Agreement provided by PJM. A DER Aggregator must be a PJM member.

Electric distribution system—

(i) The facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries from interchanges with higher voltage transmission networks that transport bulk power over longer distances. The

voltage levels at which electric distribution systems operate differ among areas but generally carry less than 69 kilovolts of electricity.

(ii) Electric distribution system has the same meaning as the term Area electric power system, as defined in 3.1 of IEEE Standard 1547-2018.

EDC — Electric distribution company— As defined in 66 Pa. C.S. § 2803, a public utility providing facilities for the jurisdictional transmission and distribution of electricity to retail customers, except building or facility owners/operators that manage the internal distribution system serving such building or facility and that supply electric power and other related electric power services to occupants of the building or facility.

EGS — Electric generation supplier—

(i) A person or corporation, including municipal corporations which choose to provide service outside their municipal limits except to the extent provided prior to December 16, 2006, brokers and marketers, aggregators or any other entities, that sells to end-use customers electricity or related services utilizing the jurisdictional transmission and distribution facilities of an EDC or that purchases, brokers, arranges or markets electricity or related services for sale to end-use customers utilizing the jurisdictional transmission and distribution facilities of an EDC.

(ii) The term excludes building or facility owner/operators that manage the internal distribution system serving the building or facility and that supply electric power and other related power services to occupants of the building or facility.

(iii) The term excludes electric cooperative corporations except as provided in 15 Pa.C.S. Chapter 74 (relating to generation choice for customers of electric cooperatives).

FERC—The Federal Energy Regulatory Commission.

MW — Megawatt—A unit of power representing 1,000,000 watts. An MW equals 1,000 kWs.

Net metering—The means of measuring the difference between the electricity supplied by an electric utility or EGS and the electricity generated by a customer-generator when any portion of the electricity generated by the alternative energy generating system is used to offset part or all of the customer-generator's requirements for electricity.

PJM — PJM Interconnection, L.L.C.—An RTO serving thirteen states, including the Commonwealth of Pennsylvania and the District of Columbia.

PJM Member—an entity that satisfies the requirements of the PJM Operating Agreement, section 11.6 and that (i) is a member of the LLC immediately prior to the Effective Date, or (ii) has executed an Additional Member Agreement in the form set forth in Operating Agreement, Schedule 4.

PJM Market Participant—a Market Buyer, a Market Seller, and/or an Economic Load Response Participant, except when that term is used in or pertaining to Tariff, Attachment M, Tariff, Attachment Q, Operating Agreement, section 15, Tariff, Attachment K-Appendix, section 1.4 and Operating Agreement, Schedule 1, section 1.4. "Market Participant," when such term is used in Tariff, Attachment M, shall mean an entity that generates, transmits, distributes, purchases, or sells electricity, ancillary services, or any other product or service provided under the PJM Tariff or Operating Agreement within, into, out of, or through the PJM Region, but it shall not include an Authorized Government Agency that consumes energy for its own use but does not purchase or sell energy at wholesale. "Market Participant," when such term is used in or pertaining to Tariff, Attachment Q, Operating Agreement, section 15, Tariff, Attachment K-Appendix, section 1.4 and Operating Agreement, Schedule 1, section 1.4, shall mean a Market Buyer, a Market Seller, an Economic Load Response Participant, an FTR Participant, a Capacity Market Buyer, or a Capacity Market Seller.

Retail electric customer or customer—A direct user of electric power as defined by 66 Pa.C.S. § 2803 (relating to definitions).

RPM Auction — Reliability Pricing Model Auction—the Base Residual Auction or any Incremental Auction held by PJM.

RTO — Regional transmission organization—An entity approved by the FERC that is created to operate and manage the electrical transmission grids of the member electric transmission utilities as required under FERC Order 2000, Docket No. RM99-2-000, FERC Chapter 31.089 (1999) or any successor organization approved by the FERC.

§ 57.263. General provisions.

(a) EDCs with 100,000 or more customers shall allow DER Aggregation participation within their service territories.

(b) Customer-generators receiving service under the EDC's net metering tariff are precluded from participating as a Component DER.

(c) A Component DER must have a Component DER Agreement to be approved by the EDC and PJM as part of a DER Aggregation of a DER Aggregator to participate in the energy, capacity, and/or ancillary services markets of PJM through the PJM DER Aggregator Participation Model.

(d) EDCs that distributed 4 million MWh or less in the previous fiscal year, may allow DER Aggregation participation within their service territories upon Commission approval.

(e) Component DER Agreements will be standardized agreements that address metering, data sharing, billing, override protocols, cybersecurity protections, consent for the EDC to provide a DER Aggregator (once identified) access to the Component DER's data in a format approved by the Commission, and, if applicable, interconnection service.

(1) An EDC will have a process for a customer with a DER asset seeking to become a Component DER to obtain a Component DER Agreement.

(2) A Component DER Agreement will not be effective until the relevant DER Aggregator has an effective DER Aggregator Participation Service Agreement that includes the Component DER.

§ 57.264. Component DER Interconnections and Operations.

(a) EDCs shall establish Component DER dispatch override procedures that include the following:

(1) A description of the types of conditions under which the EDC may override a PJM dispatch request issued through a DER Aggregator by contacting the Component DER.

(2) A description of the notices to be given when a PJM dispatch request issued through a DER Aggregator is to be overridden by the EDC contacting the Component DER under the following conditions:

(i) Pre-planned maintenance.

(ii) Emergency conditions.

(iii) Other conditions established by the EDC.

(iv) Return to normal system operations.

(3) A description of when the notices the EDC will provide under each condition as well as the method of notice that will be provided to the Component DER when an EDC overrides a PJM dispatch request issued through a DER Aggregator by contacting the Component DER.

(b) The override procedures will be included in the Component DER's Interconnection and Operations Agreement or Operations Agreement, as applicable.

§ 57.265. Data Exchange Between EDC and DER Aggregator

(a) A Component DER may consent for the EDC to provide a DER Aggregator access to the Component DER's data.

(b) An EDC and DER Aggregator will enter into a data exchange agreement.

§ 57.266. DER Aggregator Registration Review Fee

(a) And EDC may charge a fee of $____ to review a DER Aggregator's registration application for a DER Aggregation.

§ 57.267. Disputes.

(a) Interconnection Disputes

(1) A Component DER and EDC shall attempt to resolve all disputes regarding Component DER interconnection as provided in this chapter promptly, equitably and in a good faith manner.

(2) When a dispute arises, either entity may seek immediate resolution through complaint and petition procedures available through the Commission.

(3) Pursuit of dispute resolution shall not affect a Component DER interconnection applicant with regard to consideration of an interconnection request or an interconnection applicant's position in the EDC's interconnection queue.

(b) Non-Interconnection Disputes

(1) Relevant parties shall attempt to resolve all other disputes (non-interconnection disputes) subject to the jurisdiction of the Commission promptly, equitably and in a good faith manner.

(2) When a non-interconnection disputes dispute arises, an entity may seek immediate resolution through complaint and petition procedures available through the Commission.

§ 57.268. DER Aggregator License Requirement

[To be Developed by Commission]