



April 22, 2024

Via Electronic Filing

Secretary Rosemary Chiavetta
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor
Harrisburg, PA 17120

**RE: Distributed Energy Resource Participation in Wholesale Markets
Investigation / Docket No. L-2023-3044115**

Secretary Chiavetta:

Enclosed for filing please find Comments on behalf of Solar United Neighbors in the above-captioned proceeding. Word®-compatible copies will be circulated to the contact persons for this matter via electronic mail in accordance with the Commission's Order posted on February 22, 2024, in this proceeding.

Sincerely,

/s/ Glen Brand

Glen Brand
Vice President
Policy and Advocacy Program
Solar United Neighbors
1350 Connecticut Ave. NW, Suite 412
Washington, D.C., 20036



April 22, 2024

Electronically filed

Secretary Rosemary Chiavetta
Pennsylvania Public Utility Commission
Commonwealth Keystone Building, 2nd Floor
400 North Street, 2nd Floor
Harrisburg, PA 17120

**Re: Docket No. L-2023-3044115—Pennsylvania Public Utilities Commission,
Advanced Notice of Proposed Rulemaking on Distributed Energy Resources
Participation in Wholesale Markets—Comments of Solar United Neighbors**

Dear Secretary Chiavetta:

Solar United Neighbors (“SUN”) respectfully submits these comments for filing in the above referenced proceeding pursuant to the Pennsylvania Public Utilities Commission (“Commission”) Order initiating the above referenced Advanced Notice of Proposed Rulemaking (“ANOPR”) issued February 22, 2024.

I. SOLAR UNITED NEIGHBORS

SUN is a nonprofit organization formed in 2007 that works to promote an equitable energy system through the wide scale adoption of rooftop solar and other clean distributed energy resources (“DERs”). SUN has over 22,500 supporters in Pennsylvania who include residential and commercial ratepayers of the Commonwealth’s electric distribution companies (“EDCs”) as well as solar, battery storage, and other DER providers.

SUN provides educational and consumer resources to assist customers considering investments in rooftop solar and other DERs. SUN’s advocacy is rooted in the premise that

solar, battery storage, and other supporting DER technologies will create thousands of good-paying local jobs, keep energy dollars local, strengthen communities, provide human health and environmental benefits, and help drive down the costs of electricity for all ratepayers.

II. DERS ARE A CRUCIAL RESOURCE TO MEET GRID NEEDS AND REDUCE RATEPAYER COSTS

The U.S. Department of Energy’s *Pathways to Commercial Liftoff: Virtual Power Plants* (“Liftoff Report”) estimates that between projected generator retirements and growing electricity demand, the U.S. utility system must meet up to 200 GW of peak demand by 2030 with new resources and nearly double that to achieve 100% clean electricity by 2030.¹ The Liftoff Report highlights the potential for aggregated customer-sited DERs, often referred to as a virtual power plant (“VPP”), to help meet these peak demand needs and save ratepayers billions of dollars annually.² Other studies confirm this potential including the Brattle Group’s recent report that VPPs could save California ratepayers alone \$550 million annually by 2035.³

In the PJM territory the dynamic between generator retirement and peak demand growth has resulted in the potential for near-term resource adequacy shortfalls. PJM projects approximately 40 GW of existing generation capacity in the territory will retire by

¹ U.S. Dept. of Energy, *Pathways to Commercial Liftoff: Virtual Power Plants* (Sept. 2023). Available at https://liftoff.energy.gov/wp-content/uploads/2023/09/20230911-Pathways-to-Commercial-Liftoff-Virtual-Power-Plants_update.pdf (“Liftoff Report”).

² *Id.* at 3.

³ Hledik, R. et al., Brattle Group, *California’s Virtual Power Potential: How Five Consumer Technologies Could Improve the State’s Energy Affordability* (Apr. 2024). Available at <https://www.brattle.com/wp-content/uploads/2024/04/Californias-Virtual-Power-Potential-How-Five-Consumer-Technologies-Could-Improve-the-States-Energy-Affordability.pdf>.

2030⁴ while peak demand will increase by over 20 GW for both the summer and winter periods over the same time period.⁵ The risk to reliability becomes particularly pronounced in the winter as electrification for heating creates a substantially wider peak demand period and shifts the load loss risk profiles from summer to winter with approximately 60% of the load-loss risk in winter concentrated during the last four hours of the day.⁶

The coordinated operation of DER aggregations through VPP programs administered by EDCs would provide a flexible load management resource to reduce peak demand (and provide other grid services) during peak periods at key times throughout the year. DER aggregations participating in wholesale markets may be able to provide some of these benefits; however, the complexities and timing for when these resources will be allowed to participate, limitations in the wholesale market structure's ability to provide distribution level benefits, differences between PJM needs and distribution system needs, and other related issues highlight the need to enable VPP programs at the distribution level.

III. COMMENTS ON SELECTED TOPICS IDENTIFIED IN THE ANOPR

SUN commends the Commission for initiating this rulemaking to identify solutions for DER aggregations to participate in the PJM wholesale market pursuant to FERC Order No. 2222 and to identify pathways to unlock the value of DERs at the distribution system level. While this rulemaking is an important effort to provide prospective market

⁴ PJM, *Energy Transition in PJM: Resource Retirements, Replacements & Risks* (Feb. 24, 2023). Available at <https://www.pjm.com/-/media/library/reports-notices/special-reports/2023/energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx>.

⁵ PJM, *PJM 2024 Load Forecast Report* (Feb. 1, 2024). Available at <https://www.pjm.com/-/media/library/reports-notices/load-forecast/2024-load-report.ashx>.

⁶ PJM, *Energy Transition in PJM: Emerging Characteristics of a Decarbonizing Grid* (May 17, 2022). Available at <https://www.pjm.com/-/media/library/reports-notices/special-reports/2022/20220517-energy-transition-in-pjm-emerging-characteristics-of-a-decarbonizing-grid-white-paper-final.ashx>.

participants clarity on state jurisdictional rules, protocols, and standards for DER aggregations to provide wholesale market services, it also highlights the need for a similar effort to establish statewide standards and programs for implementation by the EDCs to enable DERs to provide grid services at the distribution system level.

L. Distribution Level Benefits

At the DERA stakeholder meeting, it was noted that Order 2222 and PJM's DAPM focus on DERA participation in PJM wholesale markets, and the attendant benefits for competition, efficiency and reliability at the wholesale level. However, to fully account for the impact of DERs and DERAs, their beneficial impact at the distribution level, including system planning and addressing contingencies, must be recognized. The PUC seeks comment on whether and how it should account for the distribution level benefits of DERAs.

SUN supports market structures and regulatory programs that enable DERs to provide transmission *and* distribution level services. SUN agrees that the distribution level benefits of DERs should be also recognized, including system wide and locational capacity benefits, as well as energy and ancillary service benefits. As discussed further herein, SUN recommends the Commission establish a VPP program framework for implementation by EDCs to unlock these distribution system benefits.

The wholesale market structure is not able to account for distribution level value and therefore a significant amount of DER grid service value cannot be realized if participation is limited to the PJM market. Moreover, DER aggregations will not be eligible to participate in PJM until—at the earliest—2026 for energy and ancillary services markets, and later for capacity market participation.⁷ Once PJM is open to DER aggregations, the regulatory and market complexities of participation—as evidenced by the extensive

⁷ See FERC Order No. 2222 Explainer: Facilitating Participation in Electricity Markets by Distributed Energy Resources. Available at <https://www.ferc.gov/ferc-order-no-2222-explainer-facilitating-participation-electricity-markets-distributed-energy>.

process PJM is undergoing to implement FERC Order 2222 and the number of topics and substantive issues identified in the ANOPR for stakeholder input—will remain a significant barrier. This dynamic demonstrates the importance of establishing programs for implementation by the EDCs that allow DER aggregations to provide distribution level grid services to benefit Pennsylvania ratepayers directly.

Indeed, the Commission’s Final Policy Statement Order on the utilization of storage resources as distribution assets recognizes that energy storage can provide distribution system solutions and encourages the EDCs to consider these resources in their system planning.⁸ EDC administered VPP programs in Pennsylvania have enormous potential to help meet grid needs and provide ratepayer benefits. SUN recommends the Commission take the next step in advancing the utilization of energy storage and other DERs to provide distribution system services by developing a VPP program framework for implementation by the EDCs.

This framework should establish core grid service opportunities along with standards for key program elements while allowing for flexibility to address evolving needs over time. Certain aspects of program implementation are necessarily specific to individual EDCs, but it is crucial that major policy issues and technical standards be established and applied to each EDC on a statewide basis. This will ensure core program requirements are applied consistently across the state, will avoid adjudicating such issues on a case-by-case or utility-by-utility basis, and at the same time provide flexibility to adapt the program over time to meet changing distribution system needs.

Other states across the country have developed or are in the process of developing

⁸ Docket No. M-2020-3022877, Utilization of Storage Resources as Electric Distribution Assets, Final Policy Statement Order (April 4, 2024).

VPP programs for implementation by their respective EDCs. These programs are increasingly important load management resources for utilities to help reduce peak demand and provide other grid services to improve grid reliability and lower costs for ratepayers. For example, the ConnectedSolutions program in Massachusetts is a peak demand reduction program that targets the summer peak season and compensates customers for discharging their battery storage device to reduce customer load and export additional stored power to the grid during peak demand events called by the EDCs.⁹ The program provides net-benefits to participating customers and non-participating ratepayers and is an increasingly important tool for managing peak load and reducing ratepayer costs.¹⁰ Other states have similar programs targeting similar services and there are multiple resources available to the Commission, the EDCs, customers, and DER industry participants to assist in the development of VPP programs in Pennsylvania.

SUN thus urges the Commission to initiate a separate proceeding to establish a statewide VPP program framework for implementation by the EDCs to unlock the grid, customer and ratepayer value of DERs for distribution system services.

⁹ Mass Save, Battery Storage, <https://www.masssave.com/residential/rebates-and-incentives/battery-storage-and-evs/batteries>.

¹⁰ See, e.g., Clean Energy Group, *ConnectedSolutions: A New Funding Mechanism to make Battery Storage Accessible to All* at 34 (summarizing daily dispatch incentive costs, demand reductions, and benefit projections from the ConnectedSolutions program offering and projecting substantial net benefits to ratepayers); see also Mass. Dept. Pub. Util., Docket Nos. 20-33 through 20-36, Order filed July 28, 2020 (approving program administrators daily dispatch programs for residential batteries (ConnectedSolutions) and finding the program provides net benefits); Mass. Dept. Pub. Util. Docket No. 21-120 through 21-129, Order filed January 21, 2022 (approving program administrators 2022-2024 energy efficiency plans, including the daily dispatch (ConnectedSolutions) program, confirming the program continues to provide net ratepayer benefits).

IV. CONCLUSION

SUN appreciates the opportunity to submit these comments and looks forward to working with the Commission and stakeholders to develop durable VPP programs across the Commonwealth.

Respectfully submitted,

/s/ Glen Brand

Glen Brand

Vice President

Policy and Advocacy Program

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1350 Connecticut Ave. NW, Suite 412

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CERTIFICATE OF SERVICE

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

I hereby certify that on this day, April 22, 2024, I served a copy of Solar United Neighbors' Comments in accordance with the requirements of 52 Pa. Code § 1.54. Word®-compatible copies have been circulated to the contact persons for this matter via electronic mail in accordance with the Commission's Order posted on February 22, 2024, in this proceeding.

****Served Word®-Compatible Copies via Electronic Mail***

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Date: April 22, 2024

/s/ Corey Cochran
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