

COMMONWEALTH OF PENNSYLVANIA



PATRICK M. CICERO  
Consumer Advocate

OFFICE OF CONSUMER ADVOCATE  
555 Walnut Street, 5th Floor, Forum Place  
Harrisburg, Pennsylvania 17101-1923  
(717) 783-5048  
(800) 684-6560

 @pa\_oca  
 /pennoca  
FAX (717) 783-7152  
consumer@paoca.org  
www.oca.pa.gov

July 1, 2024

**Via Electronic Filing**

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

Re: Petition of PPL Electric Utilities  
Corporation for Approval of its Second  
Distributed Energy Resources  
Management Plan  
Docket No. P-2024-3049223

Dear Secretary Chiavetta:

Attached for electronic filing please find the Office of Consumer Advocate's Answer to PPL Electric Utilities' Petition in this matter.

Copies have been served as shown on the attached Certificate of Service.

Respectfully Submitted,

/s/Harrison W. Breitman  
Harrison W. Breitman  
Assistant Consumer Advocate  
PA Attorney I.D. # 320580  
HBreitman@paoca.org

Enclosures:

cc: Office of Administrative Law Judge (email only: crainey@pa.gov)  
Certificate of Service

CERTIFICATE OF SERVICE

Petition of PPL Electric Utilities :  
Corporation for Approval of its Second : Docket No. P-2024-3049223  
Distributed Energy Resources Management :  
Plan :

I hereby certify that I have this day filed electronically on the Commission’s electronic filing system and served a true copy of the following document, the Office of Consumer Advocate’s Answer to Petition, upon parties of record in this proceeding in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant), in the manner and upon the persons listed below.

Dated this 1<sup>st</sup> day of July 2024.

SERVICE BY E-MAIL ONLY

NazAarah Sabree, Small Business Advocate  
Office of Small Business Advocate  
555 Walnut Street  
1st Floor, Forum Place  
Harrisburg, PA 17101  
ra-sba@pa.gov  
*OSBA*

Allison Kaster, Esquire  
Pennsylvania Public Utility Commission  
Bureau of Investigation & Enforcement  
400 North Street, 2nd Floor West  
Harrisburg, PA 17120  
akaster@pa.gov  
*Counsel for I&E*

Andrew J. Karas, Esquire  
Emily A. Collins, Esquire  
Fair Shake Environmental Legal Services  
647 E. Market Street  
Akron, OH 44302  
akaras@fairshake-els.org  
ecollins@fairshake-els.org  
*Counsel for Natural Resources Defense Council*

Adam E. Gersh, Esquire  
Flaster Greenberg P.C.  
1717 Arch Street, Suite 3300  
Philadelphia, PA 19103  
adam.gersh@flastergreenberg.com  
*Counsel for Sunrun, Inc.*

Devin T. Ryan  
Post & Schell P.C.  
One Oxford Centre  
301 Grant Street, Suite 3010  
Pittsburgh, PA 15219  
dryan@postschell.com  
*Counsel for PPL*

Beren Argetsinger, Esquire  
Keyes & Fox LLP  
PO Box 166  
Burdett, NY 14818  
bargetsinger@keyesfox.com  
*Counsel for Sunrun, Inc.*

Bernice I. Corman, Esquire  
BICKY CORMAN LAW PLLC  
1250 Connecticut Avenue, NW, Suite 700  
Washington, DC 20036  
bcorman@bickycormanlaw.com  
*Counsel for Tesla, Inc., Sun Directed, American Home Contractors, Sunrun, Inc., and Solar Energy Industries Association*

SERVICE BY E-MAIL ONLY (continued)

Judith D. Cassel, Esquire  
Micah R. Bucy, Esquire  
Hawke, McKeon & Sniscak LLP 100  
North Tenth Street Harrisburg, PA  
17101  
jdcassel@hmslegal.com  
mrbucy@hmslegal.com  
*Counsel for Sustainable Energy Fund*

*Counsel for:*  
Patrick M. Cicero  
Consumer Advocate

Office of Consumer Advocate  
555 Walnut Street  
5th Floor, Forum Place  
Harrisburg, PA 17101-1923

Date: July 1, 2024

/s/Harrison W. Breitman  
Harrison W. Breitman  
Assistant Consumer Advocate  
PA Attorney I.D. # 320580  
HBreitman@paoca.org

Christy M. Appleby  
Senior Assistant Consumer Advocate  
PA Attorney I.D. # 85824  
CAappleby@paoca.org

BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PPL Electric Utilities Corporation for :  
Approval of its Second Distributed Energy : Docket No. P-2024-3049223  
Resources Management Plan :

---

ANSWER OF THE OFFICE OF CONSUMER ADVOCATE IN OPPOSITION TO THE  
PETITION OF PPL ELECTRIC UTILITIES CORPORATION

---

Pursuant to Section 5.61 of the Pennsylvania Code, 52 Pa. Code § 5.61, the Office of Consumer Advocate (OCA) provides the following Answer to the Petition of PPL Electric Utilities Corporation (PPL or Company) for Approval of its Second Distributed Energy Resources Management Plan (Petition), in the above-captioned proceeding.

I. INTRODUCTION

On May 20, 2024, PPL filed a Petition through which it seeks approval from the Pennsylvania Public Utility Commission (Commission) of its Second Distributed Energy Resources (DER) Management Plan (Plan). Petition ¶ 37. The Plan governs the interconnection and operation of DERs deployed in PPL’s service territory. If approved, PPL’s Plan would become effective on March 22, 2025, the day after PPL’s First DER Management Plan’s pilot program ends. Petition ¶ 129.

On December 17, 2020, the Commission approved PPL’s First DER Management Plan as modified by the terms and conditions of the Joint Petition for Settlement of All Issues (DER Settlement). *Petition for PPL Electric Utilities Corporation for Approval of its First Distributed Energy Resources Management Plan*, Docket No. P-2019-3010128, Order (Dec. 17, 2020) (PPL First DER Petition); Petition ¶ 69. The DER Settlement set forth the following: (1) requirements

for the use of smart inverters in PPL Electric’s service territory effective January 1, 2021; (2) the terms and conditions for PPL Electric’s Pilot Program, including the submission of a Pilot Implementation Plan; (3) a provision addressing cost recovery of PPL Electric’s DER Management devices; (4) a provision concerning the Company’s agreement to participate in any statewide proceeding initiated by the Commission that focuses on smart inverters, DER management devices, IEEE 1547-2018, IEEE 1547.1, and/or UL 1741; (5) several reporting requirements, including annual reports to the Commission and to customers participating in the Pilot Program; (6) the Company’s compliance tariff supplement; (7) an exemption for electric vehicles (“EVs”) from the Pilot Program; and (8) a provision addressing certain data on program performance to be sent to SEF. PPL St. 1 at 12. Since the start of the pilot, PPL has received 19,464 interconnection applications, of which 7,418 have been included in the pilot and have a DER device installed. Petition at 5.

The Commission’s Regulations at 52 Pa. Code Chapter 75, the Alternative Energy Portfolio Standards (the AEPS), set forth the requirements and standards that Electric Distribution Companies (EDCs) must meet if customer-generators on their system intend to pursue net-metering opportunities and interconnect with the electric distribution grid. *See* 52 Pa. Code § 75.21; *see also* 73 P.S. § 1648.5 (directing the Commission to develop technical and net metering interconnection rules for customer-generators). Furthermore, the AEPS limits EDCs from requiring additional equipment or imposing any other requirement upon DER applicants that is not specifically required by the AEPS. 52 Pa. Code § 75.13(k).

A DER Management device is the communication medium between the DER inverters and the EDC. Petition at ¶ 28. PPL claims that implementation of the DER Management device and the Second DER Plan will allow the Company to “continue to integrate, monitor, and

manage DER resources” to improve safety, reliability and resiliency, reduce interconnection costs, mitigate the impact of DERs on the distribution system and increase the distribution circuits’ hosting capacity across the service territory. Petition ¶ 11; *see also* Petition ¶ 14. As proposed, PPL’s Second DER Management Plan will require that all customer-owned and third party-owned inverter-based DER system installations be equipped with DER Management devices so that PPL can monitor and manage the DERs. Petition ¶¶ 12, 29; PPL St. 1 at 22. Additionally, the Plan will expand on the pilot program by allowing PPL to 1) actively monitor and manage smart inverter settings on all DERs that are in the Pilot Program’s control groups; 2) utilize the Volt/Watt functionality, with customer consent, when the interconnecting DER could create a localized high voltage issue on the distribution system at the time of interconnection, which would not be resolved by the Volt/VAR or Constant Power Factor grid support functions; and (3) make the Pilot Program permanent. Petition ¶ 44. PPL St. 1 at 22-23. Provisions in the DER Settlement that limit the scope of the Pilot Program’s requirements, such as the annual cap of 3,000 DER Management devices, would be eliminated. Petition ¶ 45; PPL St. 1 at 23. Moreover, the Company proposes to install DER Management devices on: (1) solar photovoltaic systems interconnected before the Pilot Program started on January 1, 2021; and (2) inverter-based DERs interconnected after the Pilot Program started without DER Management devices installed on them. Petition ¶ 46; PPL St. 1 at 23. As PPL notes in footnote 6, under the proposed Plan, “customer-generators with these systems must submit a new interconnection application when they upgrade their system, install a new inverter on their system, or by March 22, 2040, whichever is earlier.” Petition at 5, footnote 6.

PPL currently relies on three different DER Management devices: 1) the Smart Collar and Dongle device; (2) the Bridge device; and (3) the Cellular Gateway device. Petition ¶ 31;

PPL St. 1 at 25. The Company would continue to use these DER Management devices and is requesting that it develop and deploy new types of DER Management devices. *Id.*

As of April 30, 2024, there are 26,243 DERs currently interconnected with PPL's system. Petition ¶ 58; PPL St. 1 at 25. PPL states that the Plan will enable PPL to: 1) facilitate and encourage the increased deployment of DERs in its service territory by reducing interconnection costs for customers installing DERs and increasing hosting capacity on distribution circuits; 2) improve the safety, reliability, adequacy, and resiliency of its distribution service by gaining visibility into the DERs' impacts on the distribution system and actively leveraging the grid support functions of the DERs' smart inverters; 3) improve distribution system operation and planning by eliminating "hidden load" at DER points of interconnection; and 4) reduce the Company's capital costs and operation and maintenance expenses that are passed onto ratepayers by, among other things, remotely managing the DERs' voltage support functions to mitigate voltage violations on distribution circuits, which decreases system upgrades as well as costs to manually address voltage violations (e.g., reduction in the number of truck rolls). Petition ¶ 95; PPL St. 1 at 31.

PPL has requested that the Commission address its Petition at the February 20, 2025 Public Meeting in order to allow DER II to replace the current pilot program when it expires on March 21, 2025. Petition ¶¶ 129-131.

## II. ANSWER

In general, the OCA has supported the development of cost-effective distributed generation as a means to improve the reliability of the grid by providing localized sources of electric power. The OCA equally understands the limitations that some current standard inverters have upon the system, including their inability to remain operational during small voltage and

frequency fluctuations of the electric grid and the functionality provided by the proposed replacement with smart inverters.<sup>1</sup> The OCA supported the Company's initial PPL DER pilot as amended by the Settlement.

However, in its Second DER, PPL has proposed a substantial expansion of its First DER pilot including the expansion to control *all* DERs that connect to its system and to retroactively install smart inverters and associated assets to existing DER. PPL St. 1 at 21. As the OCA discusses in more detail below, the OCA has concerns and opposes the Petition as filed. Additional information is needed to assess whether the proposed DER II and the expansion to include all DERs that interconnect to PPL's system should be approved. More information is also needed to assess whether modifications to PPL's Plan are necessary. The OCA has preliminarily identified the following areas of concerns:

A. The OCA Will Evaluate Whether PPL's Current DER Plan Met the Objectives of the Pilot Program.

PPL claims that the Pilot Program demonstrated that PPL can leverage the smart inverters' grid support functions to improve safety, reliability and resiliency, reduce interconnection costs for DER interconnection applicants (e.g., avoidance of paying for distribution system upgrades), mitigate the impact of DERs on the distribution system, and increase the distribution circuits' hosting capacity by monitoring and managing DERs in the service territory. Petition ¶ 14.<sup>2</sup> The OCA will evaluate PPL's claims by reviewing 1) whether PPL achieved its intended objective with the pilot; 2) the metrics PPL utilized to inform of the

---

<sup>1</sup> As PPL explains, "inverters are devices that convert the direct current ("DC") power produced by solar panels into alternating current ("AC") power transported on the electric distribution system for use in homes and businesses." Petition ¶ 19. PPL also claims that smart inverters will provide additional functionality compared to standard inverters. Petition ¶ 20.

<sup>2</sup> The Pilot Program arose out of the Settlement in PPL's first DER proceeding and permitted the Company to conduct a DER Management Pilot Program to test and evaluate the costs and benefits of monitoring and managing DERs. PPL Exh. SS-1 at 1.

pilot's claimed success; 3) the challenges PPL experienced; 4) the customer and developer experience; 5) the actual and forecasted pilots costs, and; 6) which aspects of PPL's second DER Plan were informed by PPL's first DER Plan.

B. The OCA Will Analyze the Cost-Effectiveness of PPL's Proposed Plan.

PPL states that it has seen cost-effective benefits from monitoring and actively managing DERs. Petition ¶¶ 94-101; PPL St. 1 at 31. PPL notes that, based on the data gathered through Program Year 2, PPL Electric's Pilot Program has reduced the Company's operation and maintenance expenses by approximately \$15.33 million and the Company's capital expenditures by approximately \$6.60 million. Petition ¶ 96; PPL St. 1 at 31-32. PPL states that, when compared to the \$128,000 of operation and maintenance expenses and \$6.38 million of capital costs that the Pilot Program has cost as of the end of Program Year 2, the Pilot Program has produced substantial benefits compared to its costs. Petition ¶ 97; PPL St. 1 at 32. The OCA will analyze PPL's claims to ensure that consumers received substantial benefits compared to costs and any impacts of discontinuance or modification of the pilot program.

C. The OCA Will Examine PPL's Technical Claims Regarding IEEE Standard 1547 and UL Standard 1741.

PPL notes that the Second DER Management Plan builds upon the requirements and purposes of IEEE 1547-2018 and UL 1741 SB. Petition ¶¶ 74-93. More information is needed to determine whether these measures are necessary and prudent. The OCA will evaluate PPL's technical claims to determine whether PPL's proposals are reasonable.

D. The OCA Will Analyze PPL's Proposed Tariff Modifications.

As part of its filing, PPL included a pro forma tariff supplement modifying Rule 12 of PPL's tariff, which sets forth requirements related to its Plan. Petition ¶¶ 113-118. The modified

Rule 12 provides customer application details and technical DER equipment standards under the Second DER Management Plan. Petition ¶ 114. Once more information is received by the OCA through discovery, the OCA will analyze PPL's proposed tariff modifications to assess whether PPL's proposed tariff modifications are reasonable.

E. The OCA Will Ensure that PPL's Plan Complies with the Commission's Regulations.

PPL also requests approval pursuant to Section 75.13(k) of the Commission's regulations.

The Commission's regulations state as follows:

The EDC and DSP may not require additional equipment or insurance or impose any other requirement unless the additional equipment, insurance or other requirement is specifically authorized under this chapter or by order of the Commission.

52 Pa. Code § 75.13(k).

PPL notes that it will continue to require new customer-generators to install additional equipment (i.e., the DER management device) and impose additional requirements (e.g., that the customer-generator allow PPL Electric to monitor and manage the DER and that the DER utilize a standardized, non-proprietary communications protocol specified by the utility) that are not specifically authorized under Chapter 75 or a Commission order. Petition ¶¶ 119-121; PPL St. 1 at 35. The OCA will investigate whether PPL is in compliance with the Commission's regulations, other applicable law and Commission orders.

PPL further requests that, to the extent that additional approvals or authorizations are deemed necessary by the Commission to implement the Second DER Management Plan, PPL Electric is requesting such approvals and authorizations. Petition ¶ 122; PPL St. 1 at 36. The OCA will analyze whether additional authorizations or approvals are needed.

PPL states that, unlike with its First DER Management Plan, PPL no longer requires the waivers of the Commission's regulations that it received in the First DER Management Plan proceeding because the updated IEEE and UL standards that the Company proactively implemented have since been automatically incorporated into the Commission's regulations by reference. PPL St. 1 at 36 *citing* 52 Pa. Code § 75.22. The OCA will examine this claim to determine whether PPL's Plan conforms with Commission regulations without the need for waivers.

F. More Details are Needed to Properly Assess PPL's Proposed Plan.

PPL claims that denial of their Petition would adversely affect PPL, PPL's distribution system, PPL's customers, and the Commonwealth. Petition ¶¶ 102-112. The OCA will examine PPL's claims by evaluating PPL's current DER, along with PPL's proposed DER. Moreover, more specificity is needed regarding PPL's Plan in order to appropriately evaluate PPL's proposed DER. Among the issues that the OCA will evaluate 1) the Plan's objectives and how each objective is measured; 2) whether PPL has demonstrated that permanently permitting monitoring and control of all DERs is just and reasonable; 3) how costs are allocated and what costs are DERs paying compared to PPL's distribution ratepayers; 4) whether PPL has demonstrated that retroactively installing DER management devices is reasonable, and; 5) whether PPL's objectives are reasonable and appropriate.

G. The Benefits of PPL's Distribution Energy Resource Management System Are Unclear.

In July 2019, PPL upgraded its Distribution Management System and developed a Distribution Energy Resource Management System (DERMS) to gather DER data, provide DER system forecast capabilities, and provide DER management capabilities. Petition ¶ 68. PPL

claims that there have been substantial increases in DER deployments since its initial pilot and that there will be a continued substantial rise in the number of DER applications as a result of changes to “financial incentives, legislative changes, policy initiatives and Company efforts.” Petition ¶¶ 69-71. However, more information is needed to determine whether DERMS has benefited Pennsylvania’s ratepayers and the impact on DER. The OCA will investigate the value of utilizing DERMS for the residential class. Moreover, the OCA will evaluate whether PPL’s objectives regarding DERMS and whether PPL has achieved its directives and the goals of the program.

Additionally, the OCA will analyze 1) whether DERMS improves DER integration, 2) whether PPL has lowered barriers to interconnection with its DERMS, and; 3) whether PPL is creating services that improve DER integration.

It is also unclear how DERMS will fit in with PPL’s future DER integration strategy and associated investments. The OCA will seek clarity on how DERMS impacts PPL’s investments in communication networks, the other functionalities of DERMS and any accompanying investments, and how DERMS impacts PPL’s future investments generally. The OCA will also seek clarification on which alternatives PPL has analyzed.

#### H. PPL’s Petition Fails to Consider and Address Important Consumer Protections.

The Company cites numerous benefits that will result from the adoption of smart inverters. Such benefits include the ability to safely and reliably interconnect more DERs without additional upgrades to the electric distribution grid, to remotely curtail a DER in the event of an emergency, and to improve the power quality at customer sites through autonomous voltage regulation. *See e.g.*, Petition ¶¶ 36-43, 102-112. This suggests, however, that operational performance of a DER will be affected in certain circumstances. Accordingly, it is critical that

consumer protections are adopted to keep consumers informed and prevent unnecessary interruptions of the DER.

At a general level, the OCA submits that there are three broad areas of protection that must be considered. First, utilities must ensure that customers are appropriately informed of how the Company intends to operate these smart inverters. PPL noted that the implementation of new equipment and DER management protocols requires clear communication with customers. Petition ¶ 47. PPL further notes that customers can learn more about DERs through PPL's website and customer service department. Petition ¶ 48-52. Given that this is a new technology, a customer might not fully understand how, or if at all, the installation of a smart inverter will impact the operation of their DER. It is imperative, therefore, that the customer knows or is familiar with how their DER will be affected. The OCA will evaluate whether PPL's proposed communications to customers are effective.

The second area of protection is consumer privacy. The Commission has made it clear that consumer privacy is of paramount importance. Submission of the Electronic Data Exchange Working Group's Web Portal Working Group's Solution Framework for Historical Interval Usage and Billing Quality Interval Use, Docket No. M-2009-2092655, Order at 10 (June 30, 2016). PPL seeks to access real-time data about a customer's DER, including when it operates and how it operates. Petition ¶ 82. It is critical that consumers are made aware of what data will be collected by the Company.

The last area of consumer protection is limitations on when and how the Company can intervene. If its Petition is approved, PPL has made it clear that it will remotely manage DER assets. Petition ¶ 92. This capability, while beneficial, can also cause concerns about unnecessary interruptions of the customer's DER. The OCA submits that rules should be set for the utility that

would prevent them from unnecessarily interfering with the DER or doing so under circumstances that were not previously made known to the customer.

PPL's Petition, however, does not address any of these important consumer protection concerns. This oversight, combined with the ambiguity of the proposed tariff supplement may have the effect of providing too much discretion to the Company. Additionally, because of this discretion, customers will be uninformed of the consequences of installing a smart inverter, if any apply, and inadequately protected from repeated or unnecessary interference to the customer's DER by the Company. The OCA will address these concerns.

### III. CONCLUSION

For the reasons set forth above, the Office of Consumer Advocate opposes PPL's Petition as filed. More information is needed from PPL to support its claims. The OCA will investigate PPL's filings in order to ensure that Pennsylvania's ratepayers are protected.

Respectfully Submitted,

/s/Harrison W. Breitman

Harrison W. Breitman  
Assistant Consumer Advocate  
PA Attorney I.D. # 320580  
E-Mail: HBreitman@paoca.org

Christy Appleby  
Assistant Consumer Advocate  
PA Attorney I.D. # 324763  
E-Mail: CAppleby@paoca.org

Counsel for:  
Patrick M. Cicero  
Consumer Advocate

Office of Consumer Advocate  
555 Walnut Street  
5th Floor, Forum Place

Harrisburg, PA 17101-1923  
Phone: (717) 783-5048  
Fax: (717) 783-7152

Dated: July 2, 2024

BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of PPL Electric Utilities :  
Corporation for Approval of its Second : Docket No. P-2024-3049223  
Distributed Energy Resources Management :  
Plan :

VERIFICATION

I, Patrick M. Cicero, hereby state that the facts set forth in the Office of Consumer Advocate's Answer to the Petition of PPL Electric Utilities Corporation for Approval of its Second Distributed Energy Resources Management Plan, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: July 1, 2024

Signature:



\_\_\_\_\_  
Patrick M. Cicero  
Consumer Advocate