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November 29, 2021

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

VIA ELECTRONIC FILING

**RE: Policy Proceeding – Utilization of Storage Resources as Electric Distribution Assets
Docket No. M-2020-3022877**

Dear Secretary Chiavetta:

Attached for filing with the Pennsylvania Public Utility Commission are the Additional Comments of the Pennsylvania Energy Consumer Alliance ("PECA"), Met-Ed Industrial Users Group ("MEIUG"), Penelec Industrial Customer Alliance ("PICA"), Philadelphia Area Industrial Energy Users Group ("PAIEUG"), PP&L Industrial Customer Alliance ("PPLICA"), and West Penn Power Industrial Intervenors ("WPPII") (collectively, "Large Customer Groups"), in the above-referenced proceeding.

Thank you.

Sincerely,

A handwritten signature in black ink that reads 'Charis Mincavage'.

Charis Mincavage
MCNEES WALLACE & NURICK LLC

Counsel to the Pennsylvania Energy Consumer Alliance,
Met-Ed Industrial Users Group, Penelec Industrial
Customer Alliance, Philadelphia Area Industrial Energy
Users Group, PP&L Industrial Customer Alliance, and
West Penn Power Industrial Intervenors

c: Aspassia V. Staevska, Esq., Law Bureau (via email)
Mr. Joe Cardinale, Law Bureau (via email)
Mr. David Edinger, Bureau of Technical Utility Services (via email)

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Policy Proceeding – Utilization :
of Storage Resources as : **Docket No. M-2020-3022877**
Electric Distribution Assets :

**ADDITIONAL COMMENTS OF THE
PENNSYLVANIA ENERGY CONSUMER ALLIANCE,
MET-ED INDUSTRIAL USERS GROUP,
PENELEC INDUSTRIAL CUSTOMER ALLIANCE,
PHILADELPHIA AREA INDUSTRIAL ENERGY USERS GROUP,
PP&L INDUSTRIAL CUSTOMER ALLIANCE, AND
WEST PENN POWER INDUSTRIAL INTERVENORS**

I. INTRODUCTION

On December 3, 2020, the Pennsylvania Public Utility Commission ("Commission" or "PUC") issued a Secretarial Letter requesting that stakeholders answer several questions regarding whether electric utilities should be permitted to install battery electric storage technologies as an alternative to conventional distribution system upgrades, where such alternative technologies would foster reliability and have a lower rate impact to customers as compared to conventional distribution system upgrades.

On February 18, 2021, the Pennsylvania Energy Consumer Alliance ("PECA"), Met-Ed Industrial Users Group ("MEIUG"), Penelec Industrial Customer Alliance ("PICA"), Philadelphia Area Industrial Energy Users Group ("PAIEUG"), PP&L Industrial Customer Alliance ("PPLICA"), and West Penn Power Industrial Intervenors ("WPPII") (collectively, "Large Customer Groups") submitted Comments responding to each of the Commission's questions. Comments were also submitted by Advanced Energy Management Alliance; Calpine Retail Holdings, LLC; Clean Air Council, Sierra Club, Philadelphia Solar Energy Association, POWER Interfaith, and the Union of Concerned Scientists; Convergent Energy + Power; Duquesne Light

Company; Edison Electric Institute; Energy Association of Pennsylvania; Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company; Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor for PJM Interconnection LLC ("PJM"); Natural Resources Defense Council; Office of Consumer Advocate; PECO Energy Company; Pennsylvania Department of Environmental Protection; PJM Power Providers Group; POWER Interfaith; PPL Electric Utilities Corporation; Retail Energy Supply Association; Solar Energy Industries Association; U.S. Energy Storage Association; and UGI Utilities, Inc. – Electric Division.

On August 12, 2021, the Commission issued a Secretarial Letter seeking further comments from stakeholders regarding certain additional issues based on stakeholders' initial comments. On September 14, 2021, the Commission extended the due date for additional comments until November 29, 2021. The Large Customer Groups submit the following additional Comments in response to the questions raised in the Commission's August 12, 2021, Secretarial Letter.

II. COMMENTS

- 1. What are the parameters that would allow for the use of energy storage on the distribution grid? For example, what factors should be used in the consideration of the energy-storage project? Should the energy-storage project meet certain thresholds and demonstrate certain requirements, e.g., demonstration of cost-effectiveness as compared to alternate measures, demonstration of need, required RFPs to solicit potential third-party providers, limitations on project size and scope, etc.?**

Battery energy storage system ("BESS") projects should be adopted by electric distribution companies ("EDCs") only where the benefits of such projects exceed their costs. At this time, conventional distribution system infrastructure upgrades remain the least expensive solution to resolve most reliability and resiliency issues along the distribution grid. To the extent a conventional solution is less expensive than a BESS project and both projects would provide equivalent improvements in reliability or resiliency, then the EDC should choose the conventional

solution because it is the most prudent use of customer dollars. In the unusual situations where a BESS project is less expensive than a conventional solution, or the EDC can demonstrate that the benefits of the BESS project would outweigh the costs, then it would be reasonable for the EDC to consider adoption of the BESS project.

The Maryland Public Service Commission ("Maryland PSC") followed a procedure for reviewing BESS proposals established by statute, which includes several criteria to help manage the costs of BESS projects, that the PUC may be able to adopt for its own process.¹ Under this statute, EDCs were required to conduct requests for proposal ("RFPs") for different BESS ownership models, including utility-only ownership, utility ownership and third-party operation, third-party ownership and operation, and a virtual power plant model, which would aggregate distributed energy storage projects owned by customers or other third parties.² In their BESS applications, EDCs were required to explain the process they used to solicit BESS projects and specifically identify how they decided which ownership model to use.³ This type of RFP process helps ensure that the BESS project proposed for Commission approval is the most affordable and beneficial for customers regardless of ownership. The Large Customer Groups recommend a similar RFP process for EDCs in Pennsylvania for this reason.

In addition, the Maryland statute required each BESS application to the Maryland PSC to include comprehensive estimates of all costs and benefits for the BESS project, including estimated permitting and interconnection costs, projected wholesale market revenues, the value of any distribution investment deferral or replacement due to the BESS project, and an analysis of the rate impact for all customer classes. Through a working group process, the Maryland PSC

¹ Md. PUBLIC UTILITIES Code Ann. § 7-216.

² *Id.* at § 7-216(c).

³ *Id.* at § 7-216(e)(8).

developed the following specific criteria that EDCs were expected to analyze in their BESS applications as part of this cost-benefit analysis: a) deferral or avoided transmission/distribution system upgrades; b) air emissions/health benefits; c) peak demand reduction; d) PJM market revenues; e) reliability and service quality improvements; f) affordability; g) land use/avoidance of impacts; h) impacts on distributed generation hosting capacity; i) benefits for electric vehicle transportation; j) economic development; k) project learnings; l) third-party participation; m) benefits for offshore wind projects; n) grid services – operational flexibility related to delivery of electricity; o) resilience; p) other societal benefits; q) third-party supplier participation; and r) customer willingness to pay.⁴ The Large Customer Groups believe that the majority of these criteria should also be evaluated by EDCs in Pennsylvania as part of their cost-benefit analyses for BESS proposals. As further discussed in the Large Customer Groups' February 18, 2021, Comments, the Large Customer Groups believe a similar working group process could be implemented in Pennsylvania in order to develop a list of Pennsylvania-specific criteria for BESS projects.

2. What EDCs have undertaken energy-storage initiatives as a pilot program and what were the results and lessons-learned?

In Pennsylvania, the Large Customer Groups are only aware of UGI Utilities, Inc.'s ("UGI's") BESS pilot project, which was approved by the Commission as part of the Joint Petition for Settlement in UGI's last base rate case.⁵ UGI proposed this 1.25-megawatt BESS project (hereinafter, the "Ruckle Hill project") to resolve reliability issues at the end of a feeder in a challenging geographical area for UGI's distribution infrastructure. UGI described the BESS

⁴ *In the Matter of Transforming Maryland's Electric Distribution Systems to Ensure that Electric Service is Customer Centered, Affordable, Reliable and Environmentally Sustainable in Maryland*, Case No. 9619 (Submission of the PC44 Energy Storage Working Group dated December 31, 2019), pp. 23-24.

⁵ *Pa. Pub. Util. Comm'n v. UGI Utilities, Inc. – Electric Division*, Docket No. R-2021-3023618 (Order entered Oct. 28, 2021).

location as between the side of a mountain and a railroad line and river. UGI explained that traditional distribution system improvements failed to resolve the reliability issues experienced by customers along this feeder.⁶ The Joint Petition for Settlement explained, in relevant part:

The Commission's approval of UGI Electric's battery storage proposal in this proceeding shall not serve as precedent for any future UGI Electric battery storage proposal or any other electric utility's battery storage proposal. This Settlement reflects a carefully-crafted compromise of the parties' positions and is based on the small size of the battery and the unique circumstances of the Ruckle Hill Road distribution circuit, including its voltage, its status as a worst performing circuit, the surrounding terrain, the nearby vegetation, and the load served by this circuit.⁷

Because the Ruckle Hill project was only recently approved, this BESS is not yet operational, and no results or lessons learned are currently available.

The Large Customer Groups did not participate in UGI's last base rate case and therefore cannot confirm all of the data that was presented by UGI to support the Ruckle Hill project. While the unique geographic circumstances described in UGI's testimony appear to provide support for a BESS solution, it is unclear whether UGI conducted a cost-benefit analysis comparing the costs of a conventional distribution system solution to the Ruckle Hill project. Moving forward, the Commission should consider developing a standardized cost-benefit analysis process that EDCs must follow when presenting BESS proposals to help ensure that EDCs only turn to BESS solutions when the benefits outweigh the costs of the project.

3. Under what circumstances is it appropriate to deploy energy storage as compared to traditional infrastructure upgrades?

See the Large Customer Groups' Response to Question 1, *supra*.

⁶ *Pa. Pub. Util. Comm'n v. UGI Utilities, Inc. – Electric Division*, Docket No. R-2021-3023618 (Direct Testimony of Eric W. Sorber dated Feb. 8, 2021), p. 27.

⁷ *Pa. Pub. Util. Comm'n v. UGI Utilities, Inc. – Electric Division*, Docket No. R-2021-3023618 (Joint Petition for Settlement of All Issues dated July 19, 2021), p. 9.

4. Who should own an energy-storage asset? EDCs, third-party vendors, or some combination of both?

The Large Customer Groups' February 18, 2021, Comments include an extensive discussion on BESS ownership.⁸ Several states have adopted legislative and regulatory schemes that permit utility-owned BESS projects.⁹ The Electricity Generation Customer Choice and Competition Act ("Competition Act"), however, precludes EDCs from owning generation resources.¹⁰ BESS technologies operate like other generation resources when they discharge to the grid and/or serve behind-the-meter load. PJM defines electric storage as a sub-category of generation capacity resources.¹¹ Because there is no underlying legislation in Pennsylvania that explicitly authorizes EDCs to own BESS, the Competition Act arguably could preclude EDC ownership if BESS technology is deemed a generation resource by the Commission.

Both EDC and third-party BESS ownership models exist and can be deployed to resolve reliability and resiliency issues along the distribution system. To the extent the Commission finds that EDC ownership of BESS technologies is prohibited under the Competition Act, EDCs may still rely on third-party owned BESS projects to address these issues. Finally, regardless of the ultimate ownership model, an RFP should remain a requirement for EDCs to minimize the potential costs associated with a BESS solution.

5. What processes should the Commission use to review requests to utilize energy storage as a distribution asset and recover associated costs?

The Commission should evaluate BESS proposals from EDCs either as part of their distribution base rate filings or through separate petitions that request deferral authority for future

⁸ Large Customer Groups' February 18, 2021, Comments, pp. 5-8.

⁹ *See id.*

¹⁰ *See* 66 Pa.C.S. § 2802(14).

¹¹ *PJM Interconnection LLC, Effective Load Carrying Capability Construct*, FERC Docket No. ER21-278-000 (Oct. 30, 2020) (defining a capacity storage resource as a limited duration resource, which is a type of generation capacity resource).

cost recovery. In this proceeding, the Commission is evaluating BESSs that are adopted to serve a distribution system function, such as improving reliability or resiliency of a circuit. Therefore, it would be reasonable for EDCs to pursue cost recovery for such proposals in their distribution base rate cases. To the extent an EDC seeks to install a BESS in between rate cases, however, EDCs also may need to submit standalone petitions related to the proposed BESS for the Commission's consideration.¹² As part of any review, however, the Commission must consider the rate impact on customers that would occur pursuant to an EDC's request to install a BESS.

In either filing, because conventional distribution system repairs and upgrades remain the least cost solution for most situations, the EDC should be required to conduct a rigorous cost-benefit analysis that demonstrates the BESS proposal is cost-effective in order for the EDC to receive cost recovery for the investment. The Large Customer Groups recommend that the Commission establish a working group process to develop the criteria that should be considered by EDCs in this cost-benefit analysis. Possible criteria that may be used for this analysis are discussed further in the Large Customer Groups' Response to Question 1, *supra*.

6. What cost recovery mechanisms should be implemented for the ownership and operation of energy-storage assets?

For purposes of this proceeding, the Commission is evaluating BESS technologies that would be used by an EDC to resolve distribution system constraints or reliability concerns. The Large Customer Groups' Comments offered in this proceeding focus only on BESS projects that serve a distribution system function; however, BESS projects may be operated in a manner that provides no benefit to the distribution grid. An example of such a project would be installing a BESS for the sole purpose of bidding the resource into PJM's frequency regulation markets. As

¹² As discussed in the Large Customer Groups' February 18, 2021, Comments, p.10, BESS technologies are not considered eligible property under 66 Pa. C.S. § 1351, and therefore, cost recovery via EDCs' distribution system improvement charges is prohibited.

regulated distribution system owners and operators, EDCs should only be pursuing BESS projects that solve a distribution system problem. If an EDC does not demonstrate that distribution system improvement is the main purpose of a BESS project, then cost recovery should be prohibited.

Assuming the BESS is installed to resolve a distribution system issue, if the Commission determines that a BESS proposal is cost-effective, then EDCs should be permitted to recover the cost of the project similar to other distribution system assets. EDCs should be expected to minimize the costs of these projects wherever feasible, such as conducting RFPs and considering third-party BESS solutions. Where a BESS is owned and operated by a third party, the overall project cost may be lower for customers. EDC-owned BESSs are included in rate base and EDCs earn a return on all rate base assets. By contrast, a third-party owned BESS would not be included in rate base, and the costs to the EDC for this project would instead be considered an expense. Because EDCs do not collect a return on their expenses, third-party owned BESSs installed to serve a distribution system function may have a lower cost impact for customers.

EDCs should be encouraged to pursue third-party owned BESSs if they offer the least cost solution for customers. Although EDCs will not earn a return on this investment, EDCs' focus should be on promoting safe and reliable service and resolving their distribution system constraints at the least cost to customers. If a BESS is the optimal solution for resolving a distribution system problem, the ownership of the battery and mechanics of cost recovery should have no impact on an EDC's decision to pursue the project.

7. What are the appropriate models and limitations necessary to allow energy storage to participate in wholesale power markets?

The procedures established by the Commission for BESSs adopted as distribution system assets should complement, and where possible, capitalize on wholesale market rules and opportunities for BESSs. While the Commission should strive to ensure that its BESS procedures

are consistent with those established by PJM, the Commission ultimately retains the authority to evaluate and approve BESS projects used by EDCs as distribution system assets.¹³

As discussed in the Large Customer Groups' Response to Question 6, *supra*, if an EDC is planning to adopt a BESS as part of its distribution system, the main function of the BESS should be to fix a distribution system problem. However, there may be opportunities to minimize the cost of a BESS project by bidding the resource into wholesale markets. For example, if the BESS would only be used by the EDC during system outages caused by storms, the BESS could be bid into PJM's frequency regulation markets on days where no adverse weather is expected. Bidding the BESS into the markets should be an ancillary benefit of the BESS used to reduce costs to customers. If the BESS is owned by the EDC, all revenues from the wholesale markets should flow back to customers to reduce the overall cost of the BESS project. If the BESS is owned by a third party, the third party would use the projected wholesale market revenues to reduce the overall contract price charged to the EDC for the BESS. The EDC's contract with a third party also could be structured to both ensure the BESS is used only for distribution system operations during adverse weather events and flow back a percentage of PJM revenues to the EDC's customers. The Large Customer Groups believe BESSs used as distribution system assets should be bid into PJM's markets where feasible to minimize the cost of BESS projects for customers.

¹³ PJM's Order No. 2222 compliance filing, which is expected to include additional rules for BESS participation in PJM's markets, is expected to be filed by February 1, 2022.

III. CONCLUSION

WHEREFORE, Pennsylvania Energy Consumer Alliance, Met-Ed Industrial Users Group, Penelec Industrial Customer Alliance, Philadelphia Area Industrial Energy Users Group, PP&L Industrial Customer Alliance, and West Penn Power Industrial Intervenors respectfully request that the Pennsylvania Public Utility Commission consider and adopt, as appropriate, the foregoing Comments.

Respectfully submitted,

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By 

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