Edison Electric INSTITUTE

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VIA E-MAIL

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

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

Dear Secretary Chiavetta,

The Edison Electric Institute (EEI) respectfully submits this letter to the Pennsylvania Public Utility Commission (Commission or PUC) in response to the Secretarial Letter issued on December 3, 2020 in Docket No. M-2020-3022877, *Policy Proceeding—Utilization of Storage Resources as Electric Distribution Assets.* EEI has been monitoring energy storage proceedings across the country and appreciates the opportunity to provide the PUC with a national perspective on the integral role electric companies can play in supporting the deployment of energy storage, how electric distribution company (EDC) deployment of these resources benefits the reliability and resiliency for all customers and describe the value and benefits of EDC projects in this area.

EEI is the association that represents all U.S. investor-owned electric companies. Our members provide electricity for 220 million Americans and operate in all 50 states and the District of Columbia. EEI's members include the following investor-owned electric companies in the Commonwealth: Duquesne Light, First Energy, PECO, PPL Electric Utilities Corporation, and UGI Utilities. Collectively, the electric power industry supports more than 7 million jobs in communities across the United States. EEI's member companies, deliver safe, reliable, affordable, and increasingly clean electricity that powers the economy and enhances the lives of all Americans.

EEI members annually invest more than $110 billion to make the energy grid stronger, smarter, cleaner, more dynamic, and more secure; to diversify the nation's energy generation mix; and to integrate new technologies that benefit customers. EEI members are united in their commitment to get as clean as they can, as fast as they can, while keeping reliability and affordability front and center for the customers and communities they serve.

Throughout the United States, electric companies are leading the way on energy storage. In fact, electric companies are the largest users and operators of all forms of energy storage in the U.S., including pumped hydropower, batteries, flywheels, compressed air, and thermal storage. Accordingly, electric companies are critical partners in implementing energy storage technologies,

representing approximately 60 percent of total investment in battery storage technology, and owning, procuring, or utilizing 97 percent of all grid-connected energy storage today.[1]

Currently, almost a dozen states are investigating or have established a process for incorporating storage and DERs into distribution system planning (DSP). These investigative and implementation proceedings usually include reviewing key issues such as grid operation and modernization, DER visibility, data security, stakeholder engagement and safety. Modernizing DSP planning processes, with specific emphasis on integrating new grid technologies, including battery storage, provide electric companies, states, and stakeholders opportunities for meaningful engagement, deliberation of risks and benefits, and makes proposed investment plans more transparent.[2] The learnings from the other states that are reviewing DSPs including Massachusetts, Maryland, New York, and Ohio, could be valuable to the Commission as it explores the planning process.

There are Various Business Models and Uses for Energy Storage

In this proceeding, the Commission is exploring policies in which distribution companies can substitute conventional upgrades with use of other technologies, such as battery storage, with a specific focus on maintaining or enhancing reliability. In addition, the PUC recognizes the potential questions around whether a battery storage asset is operating as generation or distribution, which raises cost recovery questions if incorporated as part of a traditional rate review. What these questions rightly recognize is that energy storage is a technology that may not always fit cleanly into traditional generation, transmission, or distribution classifications.

Electric companies are increasingly using energy storage to add flexibility, reliability, and resiliency in supporting generation, transmission, and distribution operations. Energy storage is not a single technology but rather a host of different technologies with vastly different operating characteristics, cost structures, and benefits.[3] The type of energy storage technology deployed in a location is largely determined by an area's resources, needs, and market structure. When deployed at the appropriate location and scale, energy storage can be used in various ways to enhance electric distribution company operations, optimize, and support the energy grid, and enrich the customer experience.

Nationally, existing laws and regulations in this area were developed at a time when pumped hydro was essentially the only form of energy storage. As a result, most laws and regulations on energy storage do not typically account for specific use cases, the intrinsic flexibility of newer storage technologies, or allow for the provision of multiple services. To address these gaps, regulations and standards on energy storage should recognize the flexibility of the various types of energy storage, the best ways each energy storage technology can be used, and allow for the use of energy storage technologies to be on equal footing with other resources, regardless of whether they support generation, transmission, distribution, or their location either in front of or behind-the-meter (BTM).

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[1] *See* EEI, *Energy Storage Trends & Key Issues.* (June 2020). https://www.eei.org/issuesandpolicy/Energy%20Storage/2020_June_Storage_Key_Trends_Solutions_FINAL.pdf

[2] *See* Lawrence Berkeley National Lab, "Overview of Integrated Distribution Planning Concepts and State Activity." (March 2018). https://emp.lbl.gov/publications/overview-integrated-distribution

[3] Edison Electric Institute, "Harnessing the Potential of Energy Storage: Storage Technologies, Services, and Policy Recommendations." (2017) https://www.eei.org/issuesandpolicy/generation/Documents/EEI_HarnessingStorage_Final.pdf

To realize the full benefits of energy storage, the Commission should allow energy storage to provide multiple services and be fairly compensated for each service provided.[4] The value of energy storage is determined by the specifications and maximizing revenue streams for all possible uses of an individual project, which makes it difficult to compare costs among energy storage projects since the value is highly dependent on specific use cases. The ability to tap into multiple value streams and to stack the values to maximize an asset's potential will be increased if EDCs are able to procure, own, and operate energy storage.[5] Electric companies are best positioned to maximize the value and cost-effectiveness of energy storage when permitted to use the same storage asset in multiple ways.

In the District of Columbia, during the Modernizing the Energy Delivery System for Increased Sustainability (MEDSIS) process, the Working Group agreed that the DC PSC should classify and regulate energy storage by its primary function and that electric companies should be able to own energy storage for the primary purpose of providing grid reliability services.[6] Further, during that process, the Energy Storage Association presented its ownership principles, which include that regulated electric companies in restructured markets should not be restricted from owning and operating energy storage; that where regulations require classification of traditional categories, an asset's primary function should be used; and that regulations should be updated and made specific for storage assets, rather than for storage to be forced into other asset classifications.[7] As a result of this inquiry, the PA PUC should review and endorse these positions in order to clarify EDCs' abilities and expectations in the Commonwealth.

EDC ownership and operation of energy storage can provide necessary information to best maintain the reliability, resilience, and safety of the distribution system. Accordingly, EDCs need visibility and operational control of the DERs that are integrated into the distribution system, including energy storage, for planning and daily operational purposes. In the event of a major disruption, an EDC can utilize an energy storage asset it owns in a variety of ways to address the situation, whereas a third party may be contractually prohibited from operating beyond warranty limitations or be obligated to provide service to a private customer. An EDC's provision of reliable service is better facilitated and achievable through system control and its important obligation to serve all customers.

A prohibition of EDCs' ownership of BTM storage could prevent the use of a potentially apt tool to meet reliability obligations and limit innovation.[8] Other Commissions across the country have recognized the benefits of EDC ownership of BTM storage. For example, the California Public Utilities Commission has allowed investor-owned electric companies to own BTM storage,

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[4] *See id.*
[5] *See* EEI, *Electric Companies Help Maximize the Benefits of Energy Storage.* (2019). https://www.eei.org/issuesandpolicy/Energy%20Storage/EEI%20Energy%20Storage%20Ownership_042019_Final.pdf
[6] *See* Modernizing the Energy Delivery System for Increased Sustainability. May 31, 2019. Prepared for Public Service Commission of the District of Columbia by Smart Electric Power Alliance (SEPA). https://dcpsc.org/PSCDC/media/PDFFiles/HotTopics/GridModernizationFinalReport.pdf *at* 108-109.
[7] *See* Energy Storage Association. *Ownership and Competition Policy Principles*. (2018). https://energystorage.org/wp/wp-content/uploads/2019/09/2018_policy_position_-_ownership_and_competition.pdf
[8] *See* p. 110 *Modernizing the Energy Delivery System for Increased Sustainability*. (May 31, 2019). Prepared for Public Service Commission of the District of Columbia by Smart Electric Power Alliance (SEPA). https://dcpsc.org/PSCDC/media/PDFFiles/HotTopics/GridModernizationFinalReport.pdf

recognizing "that there may be beneficial applications of utility-owned or utility-contracted energy storage projects behind-the-meter."[9]

Given the benefits of EDC ownership of storage described above, the Commission should clearly articulate electric companies' right to procure, own, and operate energy storage, as they do any other technology that assists in the ability to optimize and support the energy grid, that ensures the grid's reliability and resiliency, and that maximizes customer benefits. Some states, including California, Connecticut, Illinois, New York, Massachusetts, and Maine, have established laws and/or regulations that explicitly permit investor-owned electric companies to own energy storage as distribution or transmission assets. The Commission should look to these states for guidance on the benefits that can inure to all customers as a result of EDC ownership and operation of these resources.

Allowing EDCs to Own and Operate Distributed Energy Resources Helps Ensure Equitable Access for All Customers

EDCs' direct participation, ownership, and operation of both energy storage and other DERs is vital to ensure that the benefits described above are realized by all customers, regardless of socio-economic situation. Electric companies, by virtue of the regulatory compact, can (and do) support markets that private investors may not find attractive because of unfavorable economics.

Equal opportunity and access to technology programs for all Pennsylvania residents, including those classified as low income, should be supported. The Commission should look to successful program designs in other states to determine what makes the most sense in terms of technology targeting. Notably, states like Massachusetts, New York, and Rhode Island[10] that have made income qualified technology adoption a priority have done so by allowing EDC ownership of those resources – a clear way to ensure greater penetration of resources, such as private solar, in communities where customers either do not have access to, authority for, or the funds necessary for deployment. These same principles can easily be applied to the deployment of battery storage.

Electric Distribution Company Energy Storage Projects Provide Real World Learning Without Unreasonable Risk to System Reliability and Resilience

Authorized small-scale projects provide an important and often necessary step for distribution companies to understand how a new technology will function. When permitted, EDCs use projects that are limited in scope to evaluate the benefits and capabilities of a technology without unreasonable risk to system reliability and resilience or the creation of a potentially large-scale stranded cost. The Commission can allow for more innovation and exploration of ideas in the regulated space by allowing such projects. In short, EDC led projects allow the freedom and experience to build confidence, familiarity, and understanding of a technology prior to a request for full-scale deployment.

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[9] *See* California Public Utilities Commission, "*Order Instituting Rulemaking Pursuant to Assembly Bill 2514 to Consider the Adoption of Procurement Targets for Viable and Cost-Effective Energy Storage Systems*," Decision No. 13-10-040. (Oct. 17, 2013). https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M079/K533/79533378.PDF.

[10] *See* p. 156-157 *Modernizing the Energy Delivery System for Increased Sustainability*. (May 31, 2019). Prepared for Public Service Commission of the District of Columbia by Smart Electric Power Alliance (SEPA). https://dcpsc.org/PSCDC/media/PDFFiles/HotTopics/GridModernizationFinalReport.pdf

Any evaluation or approval of EDC energy storage or DER projects, including their benefits, should not be done strictly on the basis of traditional cost-benefit analysis, as the benefits of new technology are typically neither fully known nor realized until a project's completion. Real world examples are needed to understand the limitations of a technology's viability - relying on hypotheticals and projections in perpetuity is not enough. Moreover, because a project's results or a technology's ultimate use may not have the outcome that was originally expected nor result in full scale deployment does not mean there was no value or benefit to customers in the exploration; the value is in the process. Evaluation of unproven technology should be more flexible than rigid – it is the only way that such projects will ever be approved in the regulatory space.

Finally, the Commission should also be flexible and expedient once a new technology is ready for full-scale deployment. Long lead times for implementation after approval prevents customers from enjoying and maximizing the benefits of innovative technology. By ensuring implementation is done in an expedient and efficient manner, both customers and electric distribution companies can have more options – a characteristic customers increasingly desire.

Conclusion

As the Commission works to formulate its policies around energy storage, EDCs should play an integral role in owning, procuring, and operating energy storage at all levels of service — generation, transmission, and distribution, as this ability will be an important and vital component of achieving cost-effective solutions that benefits all customers. As explained *supra,* EDCs are uniquely positioned to enhance the benefits and value of energy storage for customers and the broader energy grid and will help encourage the deployment of energy storage and other DER technologies throughout the Commonwealth.

Thank you for the time and opportunity to provide comment on these important issues. EEI commends the PUC for instituting such an important inquiry and is available if the Commission has any follow up questions or requires more information about any of the information included above.

Respectfully submitted,

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