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February18, 2021

VIA ELECTRONIC FILING

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

Re: Utilization of Storage Resources as Electric Distribution Assets
Docket No. M-2020-3022877

Dear Secretary Chiavetta:

Pursuant to the Pennsylvania Public Utility Commission's Secretarial Letter dated December 3, 2020 in the above-captioned proceeding, enclosed herewith for filing are the Comments of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company.

Please contact me if you have any questions regarding this matter.

Very truly yours,

Tori L. Giesler

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Enclosures

c: As Per Certificate of Service

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

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

COMMENTS OF METROPOLITAN EDISON COMPANY, PENNSYLVANIA ELECTRIC COMPANY, PENNSYLVANIA POWER COMPANY AND WEST PENN POWER COMPANY

I. INTRODUCTION

On December 3, 2020, the Pennsylvania Public Utility Commission ("Commission") issued a Secretarial Letter announcing its initiation of the above-captioned generic docket intended to explore whether policies should be adopted that would allow electric distribution companies ("EDCs") the opportunity to substitute conventional distribution upgrades with alternatives, specifically, electric storage, as a distribution asset in their effort to enhance or maintain distribution reliability. In its Secretarial Letter, the Commission invited interested parties to provide comments on this topic generally and in particular as to three specific questions:

1. What applications can electric storage provide as a distribution asset for utilities that would facilitate improved reliability and resiliency?
2. What are the defining characteristics of electric storage used for distribution asset planning as distinguished from generation resources? What thresholds, if any, would classify electric storage as a generation resource and therefore outside permitted distribution ratemaking and recovery?
3. Is it prudent for utilities to include electric storage in their distribution resource planning and, if so, where and under what circumstances? Further, is it appropriate for utilities to include such investments in rate base?

By Secretarial Letter issued on December 30, 2020, those comments were set to be due on or before February 18, 2021.

Consistent with the Secretarial Letter, Metropolitan Edison Company ("Met-Ed"), Pennsylvania Electric Company ("Penelec"), Pennsylvania Power Company ("Penn Power") and

West Penn Power Company ("West Penn") (collectively, the "Companies") submit these comments in response to the Commission's Secretarial letter.

II. COMMENTS

The Companies appreciate the opportunity to submit comments on the utilization of storage resources as electric distribution assets and the Commission's recognition of EDCs' need to transition toward a future which accommodates evolving needs of customers with increased reliability and resiliency. The changing circumstances of electricity generation and consumption make investments in grid modernization and advanced technologies more important than ever. More fundamentally, the development of thoughtfully deployed storage offers a new tool available to EDCs when determining how to respond to ever-changing reliability challenges, including those brought about by increasingly volatile weather patterns. Responding to these changing circumstances will also require investments in the necessary infrastructure, systems, and personnel in order to transform the legacy distribution grid into a modern, resilient distribution system optimized to coordinate with transmission operations and wholesale markets.

As EDCs, the Companies and their peers maintain responsibility and accountability for ensuring the safety of not only their workers, but the safe and reliable operation of the distribution system on behalf of their customers and the public. Additionally, we appreciate the Commission's recognition that the current regulatory framework for utilities in the Commonwealth may need some reevaluation to support these technology options. The Companies encourage the Commission and other policymakers to consider using the current regulatory mechanisms in place to their fullest potential, and to remove regulatory barriers that may exist for EDCs, in order to provide a mechanism for potential investments. With this in mind, the Companies offer input on each of the specific questions posed as follows.

1. **What applications can electric storage provide as a distribution asset for utilities that would facilitate improved reliability and resiliency?**

The use of storage as a distribution asset most typically will fall into one of two different types of purpose-driven categories: 1) to maintain or enhance reliability and resiliency, and 2) to provide targeted voltage support and control. In any application, it must be considered that electric utilities remain in the best position to evaluate where such deployments, if applicable, will provide the most benefit to their systems at the least cost to customers. Regardless of its application, the optimal amount and placement of energy storage will be dependent on the unique needs of each EDC. The key to maximizing this benefit for EDC customers is the strategic integration of energy storage technologies, which electric utilities are in the best position to determine. The application of storage as a distribution resource in each of these types of scenarios is discussed further below.

Reliability and Resiliency

Identification of the specific grid need or the root cause behind consideration for energy storage is critical to determining whether storage is in fact an appropriate solution to the problem. With regard to reliability and resiliency, energy storage is most effectively used primarily as back up supply. That is, storage will not serve to eliminate the root cause of outages, such as equipment failures, weather, animals, and trees. However, it may be deployed as a viable alternative or supplement to traditional infrastructure build out in cases of non-existent or weak circuit ties, offering redundancy where those outages do occur. Specifically, reliability could be enhanced in these instances by utilizing energy storage at the end of long radial feeders or at the edge of the service territory. The targeted placement of storage at these locations, in certain cases, may allow an EDC to utilize those assets as backup supply more economically than it could build additional circuit ties, which in many instances may require transmission extensions, distribution extensions, and substation construction.

Voltage Support and Control

Another opportunity to take advantage of the benefits of storage in a distribution environment relates to the penetration of distributed energy resources ("DER"). In particular, in situations where many small, dispersed generators are aggregated or effectively 'dispatched' by an aggregator, EDCs should expect to encounter new challenges in managing their system reliability. This most often will present in relation to overloads, voltage regulation and proper coordination of overcurrent devices as distribution circuit power flow becomes two-way, needing to be met in order to protect both people and the system. From a power quality perspective, utility-deployed energy storage could be used on a distribution system to aide in voltage regulation or to help manage the impact of variable resources to the larger distribution system. When operated by the EDC in an appropriate application, such storage could serve to maintain proper steady state voltage or reduce voltage flicker resulting from load variability due to higher incidences of interconnected distributed generation.

In fact, in a future with widespread electrification, including mainstream use of electric vehicles, the benefits distribution systems could gain from available, properly managed energy storage are numerous while at the same time alleviating unintended pressure on those systems. For example, storage could be deployed to provide EDCs the flexibility that is needed to accommodate increases in load in various circumstances, including during peak and non-peak hours, associated with increased electrification more generally, and with respect to increased electrification of the transportation sector, specifically. With increased adoption of electric vehicles and distributed energy resources interconnected to the distribution system, the Companies welcome the discussion of exploring innovative technologies to provide cost-effective benefits for their customers.

2. **What are the defining characteristics of electric storage used for distribution asset planning as distinguished from generation resources? What thresholds, if any, would classify electric storage as a generation resource and therefore outside permitted distribution ratemaking and recovery?**

Generally, energy storage refers to infrastructure that allows for the on-demand absorption and release of electrical energy into the electric grid in parallel. Examples of energy storage resources include pumped-hydro storage systems, compressed-air energy storage, compressed gas storage systems, battery-based AC energy storage systems, flywheels, and electrochemical capacitors – to name a few. By definition, energy storage should not be considered a "generation resource". Instead, the defining characteristics relative to whether recovery through distribution rates should be permitted must be viewed as related to the applications in which energy storage are used.

That is, electric storage dedicated to use as a distribution asset should be limited to a storage asset that is deployed by a utility for its own operation, control and maintenance in a way that supports the deploying EDC's distribution operations, which assets should be included in distribution ratemaking. This includes energy storage intended to assist EDCs in managing distribution loading, enhancing reliability and resiliency, or for purposes of voltage management. Energy storage can be used within distribution planning to reduce system peak loads for both planned and contingency scenarios. It can also be considered as a non-wire alternative to traditional infrastructure investments and can be utilized as a distribution solution for a transmission system contingency. In these types of applications, the storage is used as a utility asset and regulated investment in a way that is designed to benefit customers in the form of greater operational flexibility, and in turn, enhanced grid reliability – in exactly the same way traditional investment is applied.

Meanwhile, energy storage deployed for the sole purpose of participation in PJM or ancillary markets should not be included in distribution utility ratemaking. Similarly, costs incurred by a utility solely to accommodate energy storage for customer-installed generation should not be included in ratemaking but rather should be passed on directly to the customer driving that increased expense.

3. Is it prudent for utilities to include electric storage in their distribution resource planning and, if so, where and under what circumstances? Further, is it appropriate for utilities to include such investments in rate base?

To put it simply, the answer is yes to both questions. As explained earlier in these comments, distribution resource planning should begin to consider DER – including energy storage – as one available tool that prudently would include any or all options appropriate for the particulars of that EDC's system. Such investments may serve to obviate or reduce the need for other, more traditional distribution investments which, where appropriately targeted, may be deployed at a lesser cost than those traditional investments. As energy storage technology improves and costs decrease, energy storage is expected to become more economical, making storage a potentially more frequently viable solution. For these reasons, any such investment must be made only after undertaking a careful analysis of the various solutions available to ensure prudency is achieved.

Further, it must be recognized that not all utilities are at the same starting point. Each utility distribution system has a unique configuration, circuit topology, weather exposure/vulnerability, and is at varying stages for the implementation of modern digital technology. As such, different EDCs require varying levels of infrastructure investment in order to capture the benefits of a modern distribution grid, with those benefits materializing at varying times. Because of these factors, such improvements take careful time and planning. Therefore, a

phased in approach will be necessary and appropriate in order to implement energy storage solutions.

Finally, investments made to implement the energy storage examples described above (or other justifiable applications) are appropriate for utilities to include in rate base. After all, the deployment of storage in these contexts would provide benefits to customers and may even be in lieu of other distribution investment in the more traditional sense. For these reasons, it would be inappropriate to do anything other than to allow those assets to be included in rate base and recovered in distribution rates. Therefore, Commission policies should support full and timely cost recovery for investments in energy storage similar to other distribution infrastructure investments.

Other jurisdictions have begun to recognize this philosophy as applied to the deployment of storage as a distribution system asset in appropriate applications. As one neighboring example, the State of Maryland recently signed into law the Energy Storage Pilot Project Act, which requires each Maryland regulated investor-owned electric company to develop energy storage pilot projects. The Act provides that for purposes of the pilot programs, the Maryland Public Service Commission ("PSC") may, on a project-by-project basis, allow an electric company to own or operate an energy storage device, participate in all available PJM Interconnection, Inc. wholesale revenue markets in order to realize benefits for their customers, and provide full and timely cost recovery at the rate of return authorized in the utility's most recent base rate case, taking into account any use of an asset that may not be included in base rates, in addition to other items delineated in the bill that the PSC is permitted to authorize for purposes of the pilot program only.

III. CONCLUSION

Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company appreciate the Commission's opportunity to provide comments in response to the Secretarial Letter. The Companies look forward to further collaboration and discussion with the Commission and interested stakeholders on this important topic.

Respectfully submitted,

Dated: February 18, 2021

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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Utilization of Storage Resources as Electric Distribution Assets	**:** **:**	**Docket No. M-2020-3023877**

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true and correct copy of the foregoing document upon the individuals listed below, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

Service by first class mail, as follows:

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Dated: February 18, 2021

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