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February 18, 2021

VIA E-FILE
Ms. Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

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

Dear Ms. Chiavetta:

Enclosed you will find the Comments of UGI Utilities, Inc. – Electric Division in the above-referenced docket.

Sincerely,

/s/ Michael S. Swerling
Michael S. Swerling

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

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

UGI UTILITIES, INC. – ELECTRIC DIVISION'S
COMMENTS TO THE COMMISSION'S SECRETARIAL LETTER

I. INTRODUCTION

On December 3, 2020, the Pennsylvania Public Utility Commission ("Commission" or "PUC") issued a Secretarial Letter to explore the viability of enhancing reliability and resiliency through utility-owned electric storage assets. According to the Commission, grid connected batteries, in appropriate circumstances, may enhance distribution system reliability more economically than traditional investments. To that end, the Commission issued three questions, the answers to which it contemplates will help guide and develop policymaking in this area. Interested parties were directed to submit comments by February 18, 2021.[1] UGI Utilities, Inc. – Electric Division ("UGI Electric") hereby submits its comments to the December 3, 2020 Secretarial Letter.

II. COMMENTS

A. What applications can electric storage provide as a distribution asset for utilities that would facilitate improved reliability and resiliency? Reliability, Substations, poor performing circuits?

[1] Per the December 3, 2020 Secretarial Letter, comments were due by January 18, 2021. However, on December 28, 2020, the Office of Consumer Advocate ("OCA") requested a 30-day extension of the filing deadline, which was granted on December 30, 2020, thereby extending the comment deadline to February 18, 2021.

While there are numerous differing types of energy storage assets ("ESAs")[2], UGI Electric believes the Commission's intent concerning the instant policy focus is primarily related to battery storage technologies. Therefore, UGI Electric's comments are likewise focused in that regard. Unlike grid-attached generation, which transforms one form of input energy (e.g., gas, oil, coal, solar, wind, hydro) to another form of output energy (i.e., electrical), electric storage in application has the advantage of creating time shifts between electrical energy input and electrical energy output and doing so in rapid, controlled and planned manner. Applications for energy storage are vast, from cell phone batteries, to electric and hybrid vehicles, to large utility-scale applications and many in between. As costs of battery storage continue to decline and further advances in battery technology and performance are made, utility-scale applications and opportunities will continue to expand.

As a result, the application of this ESA technology to distribution resiliency has become a more practical and cost-effective option for targeted applications on the distribution system. Battery installations make sense in situations where traditional resiliency options do not from a load, cost and/or application perspective.[3] By ensuring continued operation of electric facilities (through better resource deployment targeted at reducing outage times), batteries can deliver

[2] Examples of ESAs include, but are not limited to, lithium-ion batteries, redox flow batteries, and superconducting magnetic energy storage systems ("SMES"). Lithium-ion batteries have an electrochemical device that charges or collects energy from the gird and discharges it as needed. Redox flow batteries convert chemical energy into electrical energy through reversible oxidation and reduction of working fluids. SMES systems store energy within a magnet that can discharge megawatts of power in a fraction of a cycle. Of these examples, lithium-ion batteries are currently the most practical for utility application based on overall size, cost, control and benefits.

[3] Moreover, when traditional distribution system investments (e.g., wires, poles, reclosers, etc.) are damaged in a storm, the restoration time is subject to dispatching crews to investigate, repair, and replace the damaged equipment. Such response times can be longer during storm interruptions. A battery can be installed close to customer load and called upon quickly to reduce the impact of any outage event.

levels of resiliency and reliability (especially in small footprints on the distribution system) that cannot be obtained solely through traditional investments.

As specifically related to utility deployment, battery storage can be deployed in numerous applications, such as:

- Providing increases in reliability and resiliency (such as siting storage along segments of radial distribution lines which are single feeds to load centers)
- Providing high energy densities, allowing for storage of large quantities of electrical power in and near small urban footprints
- Allowing for better control of electric power produced by weather dependent renewable generation resources, such as solar and wind, and distributed energy resources (such as storing generated power during low load periods and dispatching during high load periods to manage and balance system impacts)
- Performing circuit load control, including overall peak shaving of demand (such as intermittent load peaks)
- Performing grid power quality conditioning (such as addressing power factor correction)

Each of the above have applications in direct response to the Commission's core concerns, which were identified in its question, whether it be poor performing circuits, substation support or other component/operational issues of the distribution system. UGI Electric, like many Pennsylvania electric distribution companies ("EDCs"), has portions of its service territory that are served by long radial lines, where there is limited or no potential for a secondary source of supply through traditional means. On these distribution circuits, a line failure will leave

customers without power until a crew can arrive to make repairs, sometimes taking hours or days. This scenario is just one example of a common industry issue where an ESA could produce significant reliability benefits at a more effective cost and faster implementation times than traditional solutions.

UGI Electric believes battery storage applications overall are appropriate for Commission consideration on an ongoing basis given the maturity of the technology and the vast benefits associated with deploying it in support of system reliability, resiliency, efficiency and safety; all in direct support to customer quality of service. Application deployment of battery storage by EDCs will further the overall first-hand experiences with grid integration and allow EDCs to develop specific and detailed design, deployment, operating and dispatch protocols and procedures, along with requisite safety-focused elements. Given the speed at which distribution system evolutions are occurring (smart grid, automated switching and sectionalizing, distributed energy resource ("DER") deployment, etc.), UGI Electric believes it imperative to undertake steps that facilitate first-hand operational expertise regarding storage assets.

B. 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?

As noted above, battery storage assets have both an electrical input and an electrical output. They hold energy that can be time-shifted in deployment directly to the grid. Therefore, battery storage assets themselves are not like generators where the energy input and the energy output forms differ (e.g., gas-to-electric or solar-to-electric generation). Also, whereas generation resources are designed to be continual by their nature, storage assets do not involve a continual energy producing process, and are not capable of that function.

Also, Pennsylvania EDCs currently procure generation supply for their customers through default service plans. A battery could potentially be used to integrate within an EDC's existing default service model. For example, an EDC could install a battery on its distribution system and then procure electricity flowing into the battery on the wholesale market through its DSP plan. The energy stored in the battery located on the distribution system can then be used on an as-needed basis for reliability or cost avoidance basis (for purposes of peak shaving and obtaining intra-day pricing reductions).

While the Electricity Generation Customer Choice and Competition Act ("Competition Act") generally removes the regulation of generation assets as a public utility function,[4] it is important to note the ESAs are not generators and they can be used as distribution assets. Of note, UGI would highlight that battery storage must first "charge" by accepting electricity which has already been generated – that generation being the focus of the provisions of the Competition Act – thus a reasonable interpretation is that these storage devices are not a prohibited generation asset and may be deployed by EDCs. Accordingly, battery storage assets are appropriately permitted for recovery through distribution base rates.

C. 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?

UGI Electric is pursuing a battery storage deployment as part of its resource planning given the suitability for reliability and resiliency support (see R-2021-3023618). The Company believes it is prudent for utilities to own ESAs, specifically batteries, and to utilize them for

[4] Specifically, the Competition Act provides that "[t]he generation of electricity will no longer be regulated as a public utility function except as otherwise provided for in this chapter." 66 Pa.C.S § 2802 (14).

system planning. Commensurate cost recovery through distribution rates based on the benefits they provide to distribution customers (described above) and the factors that distinguish them from generation assets, is appropriate. It is also important to recognize that applications for storage will continue to evolve as these technologies improve in performance and cost. For that reason, the Commission should maintain an open consideration of these assets as distribution resources.

III. CONCLUSION

The Company appreciates the opportunity to provide reply comments on the Secretarial Letter and asks that the Commission favorably consider its comments to this inquiry.

Respectfully submitted,

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Date: February 18, 2021