

BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION  
  
SURREBUTTAL TESTIMONY OF

**Gregory M. Vaudreuil**

ON BEHALF OF THE  
RETAIL ENERGY SUPPLY ASSOCIATION  
AND NRG ENERGY, INC.

Docket No. R-2021-3023618

UGI Utilities, Inc. – Electric Division  
2021 Base Rate Proceeding

TOPIC:  
Energy Storage

June 10, 2021

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1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND TITLE.**

3 A. My name is Gregory M. Vaudreuil. I am the CEO of Mosaic Power.

4 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

5 A. Yes. On May 3, 2021, I submitted direct testimony on behalf of the Retail Energy Supply  
6 Association (“RESA”)<sup>1</sup> and NRG Energy, Inc.<sup>2</sup> marked as RESA/NRG Statement No. 1.  
7 The direct testimony was accompanied by one exhibit, marked as Exhibit GV-1.

8 **Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?**

9 A. The purpose of my surrebuttal testimony is to respond to the rebuttal testimony of UGI  
10 witnesses Sorber and Taylor, UGI Electric Statement Nos. 3-R and 6-R. In broad terms,  
11 my surrebuttal testimony addresses issues regarding UGI Electric’s proposed battery  
12 storage project and responds to the rebuttal testimony of UGI Electric witnesses Sorber and  
13 Taylor. If I do not address each and every issue or argument in the testimony of a witness,  
14 it does not imply agreement with those issues or arguments.

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<sup>1</sup> The comments expressed in this filing represent the position of the Retail Energy Supply Association (“RESA”) as an organization but may not represent the views of any particular member of the Association. Founded in 1990, RESA is a broad and diverse group of retail energy suppliers dedicated to promoting efficient, sustainable and customer-oriented competitive retail energy markets. RESA members operate throughout the United States delivering value-added electricity and natural gas service at retail to residential, commercial and industrial energy customers. More information on RESA can be found at [www.resausa.org](http://www.resausa.org).

<sup>2</sup> NRG’s license retail supply companies include: Reliant Energy Northeast LLC d/b/a NRG Home/NRG Business A-2010-2192350; Green Mountain Energy Company A-2011-2229050; Energy Plus Holdings LLC A-2009-2139745; XOOM Energy New Jersey, LLC A-2012-2283821; Stream Energy New Jersey, LLC A-2010-2181867; Direct Energy Services, LLC A-110164; Direct Energy Business, LLC A-110025; Direct Energy Business Marketing, LLC A-2013-2368464; and Gateway Energy Services Corporation A-2009-2137275.

1 **II. RESPONSE TO REBUTTAL TESTIMONY OF UGI ELECTRIC WITNESS ERIC**  
2 **W. SORBER**

3 **Q. DO YOU AGREE WITH MR. SORBER’S CHARACTERIZATION OF YOUR**  
4 **POSITION THAT BATTERIES CAN ONLY BE CLASSIFIED AS GENERATION?**

5 A. No, I do not. Mr. Sorber states that “I&E witness Cline, OCA witness Mierzwa, and  
6 RESA/NRG witness Vaudreuil would like to qualify batteries in a singular manner, as a  
7 generation asset, and then use that qualification as a rationale to prohibit EDC ownership.”  
8 (UGI Electric Statement No. 3-R at 22). Nowhere in my direct testimony do I qualify  
9 battery storage in a singular manner. As the Federal Energy Regulatory Commission  
10 (“FERC”) has made clear, a battery storage asset can be classified in more than one  
11 category, distribution, production, and transmission.<sup>3</sup>

12 **Q. DO YOU BELIEVE THAT THE COMPANY’S BATTERY STORAGE ASSET**  
13 **WILL BE PROVIDING A DISTRIBUTION FUNCTION?**

14 A. No. In its simplest form, the Company’s battery storage asset will store generation supply  
15 in order to produce onto both UGI Electric’s distribution grid and the wholesale market  
16 when called upon to do so. As I am informed by counsel, an EDC such as UGI Electric is  
17 prohibited from recovering from its distribution customers costs associated with an asset  
18 performing a generation function pursuant to the Electricity Generation Customer Choice  
19 and Competition Act, 66 Pa. C.S. § 2801, *et seq.* (“Competition Act”).

20 **Q. DO YOU AGREE WITH UGI WITNESS SORBER THAT THE BATTERY**  
21 **STORAGE PROJECT SHOULD NOT BE TREATED ANY DIFFERENTLY THAN**  
22 **OTHER DISTRIBUTION ASSETS, SUCH AS CAPACITORS, THAT STORE AND**  
23 **RELEASE CAPACITY?**

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<sup>3</sup> *Third-Party Provisions of Ancillary Service; Accounting and Financial reporting for New Electric Storage Technologies (“FERC Order 784”), 144 FERC ¶ 61,056, para. 136 (July 18, 2013).*

1 A. No, I do not agree. As stated in RESA/NRG's response to UGI Electric's discovery request  
2 No. I-13, the Company's battery storage proposal will not be performing the same function  
3 as that performed by a capacitor on a distribution system. (RESA/NRG Exhibit GV-1SR,  
4 RESA/NRG's response to UGI Electric Set I, No. 13). The Company's proposed battery  
5 storage project will perform a function similar to that of a household generator when the  
6 power goes out. A household generator stores energy in the form of fuel and then generates  
7 electricity when called upon during an outage. A capacitor, on the other hand, momentarily  
8 maintains the voltage level on the distribution circuit to counteract inductive loads. Based  
9 on my knowledge, capacitors are not used to supply 100% of customers' load during an  
10 outage event. Additionally, the Company did not propose the use of a capacitor to restore  
11 the load to the 67 customers during an outage.

12 **Q. UGI ELECTRIC WITNESS SORBER EXPLAINS THAT THE PRIMARY**  
13 **PURPOSE OF THE BATTERY STORAGE PROJECT IS TO IMPROVE**  
14 **RELIABILITY AND RESILIENCY. (UGI ELECTRIC STATEMENT NO. 3-R AT**  
15 **14-15). DO YOU HAVE ANY COMMENTS?**

16  
17 A. Yes. Throughout his rebuttal testimony, Mr. Sorber states that the primary purpose of the  
18 battery is to provide resiliency and reliability to its customers. However, as indicated in  
19 UGI Electric Exhibit EWS 5R, the battery storage system will devote 94% of its annual  
20 hours of operation to participating in the FR Market. This seems to contradict the assertion  
21 that the primary purpose or use of the battery storage asset is for reliability and resiliency  
22 because the battery will be used for a purpose other than reliability and resiliency during  
23 the majority of its operating hours.

1 **Q. DO ANY INTERVENORS SUPPORT THE POSITION THAT THE BATTERY**  
2 **STORAGE PROJECT IS MORE APPROPRIATELY CONSIDERED A**  
3 **GENERATION ASSET?**

4 A. Yes. Both the Bureau of Investigation and Enforcement (“I&E”) and the Pennsylvania  
5 Office of Consumer Advocate (“OCA”) question the ability of UGI Electric to recover the  
6 costs associated with the project in the Company’s distribution rates. For example, I&E  
7 witness Cline believes that “the battery storage project is more appropriately considered a  
8 generation asset . . . due to the ability for UGI Electric to profit from the battery storage’s  
9 ability to store and release power to either UGI Electric’s own customers or to the PJM  
10 Market D.” (I&E Statement No. 3 at 9).

11 **Q. DO YOU AGREE WITH UGI ELECTRIC WITNESS SORBER’S**  
12 **CHARACTERIZATION OF YOUR TESTIMONY REGARDING WHETHER**  
13 **REVENUES FROM THE BATTERY’S PARTICIPATION IN THE FR MARKET**  
14 **CAN PROPERLY BE USED TO OFFSET THE COST TO RATEPAYERS?**

15 A. No. In his rebuttal testimony, Mr. Sorber states that “[a]ccording to Mr. Vaudreuil, ‘the  
16 use of revenues acquired from a generation asset’ should not be ‘used to offset the costs  
17 paid by distribution customers.’” (UGI Electric Statement No. 3-R at 26). However, this  
18 statement is taken out of context because immediately after this sentence I explain that  
19 revenues from the battery performing a generation function while participating in the FR  
20 Market cannot *properly* be allocated to UGI Electric’s distribution customers.  
21 (RESA/NRG Statement No. 1 at 11). This is based on my view of the underlying purpose  
22 for unbundling a utility’s generation and distribution services, which is the effect of the  
23 Competition Act. Recovering the costs associated with battery storage performing a  
24 generation function and then using it to offset costs paid by all ratepayers for a distribution  
25 asset is inconsistent with the policy and purpose of the Competition Act. Additionally, the  
26 revenues the Company receives from participation in the FR Market will directly offset the

1 revenues UGI Electric recovers from its distribution ratepayers. This has the effect of  
2 stifling competition because the Company is not subject to market risk like competitive  
3 providers. UGI Electric will be guaranteed the recovery of its battery storage investment  
4 plus a return even if the revenues from participation in the FR Market are less than  
5 projected.

6 **Q. UGI ELECTRIC WITNESS SORBER PROVIDES VARIOUS ALTERNATIVES**  
7 **THE COMPANY EVALUATED PRIOR TO SELECTING THE BATTERY**  
8 **STORAGE PROPOSAL. DO YOU HAVE ANY COMMENTS ON THESE**  
9 **ALTERNATIVES?**

10 A. Yes. The Company did not evaluate the alternative of third-party ownership and operation  
11 of the battery storage system through a competitive RFP process in making its  
12 determination that the proposal was the most cost-effective solution to enhancing the  
13 reliability and resiliency to the 67 customers. Moreover, in a discovery response, UGI  
14 explicitly stated that it has not considered third-party ownership of the battery storage  
15 system. (RESA/NRG Exhibit GV-2SR, UGI Electric’s response to OCA Set VII, No. 5).  
16 As I stated in my direct testimony, third-party ownership of the battery storage system,  
17 accomplished through a competitive RFP, would drive innovation and lower the costs.

18 **III. RESPONSE TO REBUTTAL TESTIMONY OF UGI ELECTRIC WITNESS**  
19 **JOHN TAYLOR**

20 **Q. DO YOU HAVE ANY COMMENTS REGARDING FERC ORDER 845 CITED IN**  
21 **UGI ELECTRIC WITNESS TAYLOR’S REBUTTAL TESTIMONY?**

22 A. Yes. UGI Electric witness Taylor cites to FERC Order 845 to point out that the Federal  
23 Energy Regulatory Commission (“FERC”) has “recognized that its reformed definition of  
24 ‘generating facility . . . would not affect whether electric storage resources operate as  
25 transmission assets.’” (UGI Electric Statement No. 6-R at 45). I do not dispute the ability  
26 of a battery storage to “function as a generating facility, a transmission asset, or both”, as

1 FERC clarifies in Order 845.<sup>4</sup> However, in support of its determination, FERC cites to  
2 *Western Grid Development, LLC*<sup>5</sup> in explaining that it has previously found that a battery  
3 storage asset can perform a transmission function. The proposed battery storage project in  
4 *Western Grid Development, LLC*, solved reliability concerns by providing voltage support  
5 and addressing thermal overload situations.<sup>6</sup> FERC determined that by providing voltage  
6 support and addressing thermal overload situations, the battery storage asset shared  
7 similarities with capacitors, and therefore provides a transmission function.<sup>7</sup>

8 **Q. IS THE COMPANY’S BATTERY STORAGE PROPOSAL SIMILAR TO THE**  
9 **BATTERY STORAGE PROJECT AT ISSUE IN *WESTERN GRID***  
10 ***DEVELOPMENT, LLC*?**

11 A. No. The Company proposes to operate the battery storage resource for the purpose of  
12 supplying the 67 customers with electricity during a power outage event, and also provide  
13 ancillary service in the wholesale market via participation in PJM’s FR Market. In a recent  
14 decision, FERC declined to categorize a battery storage resource as transmission because  
15 the purpose of the battery was to supply load during an outage, similar to UGI Electric’s  
16 battery storage proposal.<sup>8</sup> FERC “found that because the [battery storage] Project would  
17 only discharge energy to serve retail load while configured in an islanding mode, it would

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<sup>4</sup> *Reform of Generator Interconnection Procedures and Agreements*, Order No. 845, Docket No. RM17-8-000, 163 FERC ¶ 61,043, para. 278 (Apr. 19, 2018) (citing *Western Grid Dev., LLC*, 130 FERC ¶ 61,056, *reh’g denied*, 133 FERC ¶ 61,029 (2010); *Utilization of Electric Storage Resources for Multiple Services When Receiving Cost-Based Rate Recovery*, 158 FERC ¶ 61,051 (2017)).

<sup>5</sup> 130 FERC ¶ 61,056, *reh’g denied*, 133 FERC ¶ 61,029 (2010).

<sup>6</sup> 133 FERC ¶ 61,029 at para. 2.

<sup>7</sup> *Id.* at para. 18.

<sup>8</sup> *Am. Elec. Power Serv. Corp.*, 173 FERC ¶ 61,264, *reh’g denied*, 175 FERC ¶ 61,094, para. 4 (2021).



1 serve a function more analogous to a backup generator serving a subset of retail  
2 customers.”<sup>9</sup>

3 **Q. UGI ELECTRIC WITNESS TAYLOR CLAIMS THAT YOU “CONSIDER[] ANY**  
4 **BATTERY STORAGE SYSTEM TO BE A GENERATION ASSET SIMPLY DUE**  
5 **TO THE SYSTEM’S ABILITY TO STORE AND RELEASE ELECTRIC**  
6 **ENERGY.” (UGI ELECTRIC STATEMENT NO. 6-4 AT 52). DO YOU AGREE**  
7 **WITH THIS CHARACTERIZATION?**

8 A. No. As UGI Electric witness Taylor indicated earlier in his rebuttal testimony, “whether  
9 such facilities are properly classified as generation, transmission or distribution facilities  
10 should be determined on a case-by-case basis with consideration of the location and  
11 specific use of those facilities.” (UGI Electric Statement No. 6-R at 51). Therefore, in this  
12 case, the battery storage facility is located at the end of the feeder to Wapwallopen, PA.  
13 When an outage occurs, the battery storage facility will produce electricity for the 67  
14 customers. In those instances, UGI Electric’s battery storage facility and distribution  
15 network form a system similar to a “micro-grid”, in which the battery is the functional  
16 equivalent of a generation facility. Accordingly, the “specific use” of the battery storage  
17 facility, when performing its “primary purpose” of supplying 67 UGI Electric customers’  
18 load during an outage, is similar in function to that of a generator.

19 **Q. IS IT YOUR OPINION THAT AN “EDC COULD NEVER CLASSIFY A UTILITY-**  
20 **OWNED BATTERY STORAGE SYSTEM AS A DISTRIBUTION ASSET AND**  
21 **RECOVER ITS ASSOCIATED COSTS IN DISTRIBUTION RATES”?** (UGI  
22 **ELECTRIC STATEMENT NO. 6-R AT 52)**

23 No. An EDC could potentially classify a utility-owned battery storage system as a  
24 distribution asset and recover its associated costs in distribution rates, but only in instances  
25 where the battery storage resource is performing a distribution function. I am not aware of

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<sup>9</sup> 175 FERC ¶ 61,094 at para. 7.

1 any Pennsylvania Public Utility Commission (“Commission”) guidance on the  
2 classification of a battery storage asset. I am also advised by counsel that the Commission  
3 is currently considering similar issues in a policy proceeding at *Policy Proceeding –*  
4 *Utilization of Storage Resources as Electric Distribution Assets*, Docket No. M-2020-  
5 3022877. Therefore, I believe the Company’s request that the Commission decide whether  
6 its battery storage proposal performs a generation or distribution function is premature  
7 because the intent of the policy proceeding is to guide the Commission’s future decisions  
8 on the utilization of electric storage within the electric distribution system.<sup>10</sup>

9 **Q. DO YOU AGREE WITH UGI ELECTRIC WITNESS TAYLOR’S ARGUMENT**  
10 **THAT PARTICIPATION IN THE PJM FREQUENCY REGULATION MARKET**  
11 **DOES NOT RESULT IN THE BATTERY STORAGE ASSET PROVIDING A**  
12 **GENERATION FUNCTION? (UGI ELECTRIC STATEMENT NO. 6-R AT 53)**

13 A. No. UGI Electric witness Taylor argues that the PJM FR Market is fundamentally different  
14 from markets for energy or capacity because the FR Market “encourages the investment in  
15 assets to help ensure stable and reliable utility distribution systems.” (UGI Electric  
16 Statement No. 6-R at 53). However, encouraging investments in assets that ensure stability  
17 and reliability in the distribution system is unrelated to the function that a battery storage  
18 asset is performing when participating in the FR Market. In fact, PJM’s FR Market is  
19 tightly linked to PJM’s energy and capacity markets because PJM may, in its discretion,  
20 dispatch a generation resource to provide one service or the other.

21 As I explained in my direct testimony, the PJM FR Market is a competitive  
22 wholesale service that is designed to correct for short-term changes in electricity use by  
23 matching generation and demand while providing market-based compensation to resources

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<sup>10</sup> See *Policy Proceeding – Utilization of Storage Resources as Electric Distribution Assets*, Docket No. M-2020-3022877, Secretarial Letter at 2 (Dec. 3, 2020).

1 that can adjust output or consumption in response to an automated signal. The FR Market  
2 operates similar to that of PJM's energy market in that market participants submit their  
3 offer for a fixed quantity of capability the day before the operating day and if selected are  
4 committed to rapidly adjust the net megawatts on the automated control signal of the  
5 generation dispatcher hourly throughout the operating day. PJM operates an hourly auction  
6 for the service, which sets the hourly price and determines which units will provide the  
7 service based on the lowest price offers and historical performance. At its core, the FR  
8 Market is a generation-related competitive service.

9 **IV. CONCLUSION**

10 **Q. DOES THAT COMPLETE YOUR SURREBUTTAL TESTIMONY?**

11 **A. Yes.**

## **Exhibit GV-1SR**

**Response of the Retail Energy Supply Association (“RESA”) and  
NRG Energy, Inc. (“NRG”) to the Interrogatories, Requests for Production of  
Documents and Requests for Admission of UGI Utilities, Inc. –  
Electric Division (“UGI”), Set I in Docket Nos. R-2021-3023618, *et al.***

**Request: UGI I-13.** Reference RESA and NRG Statement No. 1, pp. 8-9. Does Mr. Vaudreuil agree that certain distribution facilities, such as capacitors, are able to store and release electric energy? If so, please explain in detail whether Mr. Vaudreuil considers those facilities to be “generation resources” and provide all Documents relied upon by Mr. Vaudreuil in reaching that conclusion.

**Response:** The Company’s battery storage project proposal does not consider installing a capacitor to enhance the reliability of its service to the 67 customers in Wapwallopen, PA. As a result, Mr. Vaudreuil’s testimony explains why the Company’s battery storage project, as proposed, should be considered a generation resource.

Capacitors are a good example of a storage asset that is providing a distribution benefit with only incidental generation-related benefits, if any at all. Capacitors maintain the voltage level on a circuit. However, capacitors are not used to supply electricity to customers during an outage.

**Response provided by:** Gregory Vaudreuil  
CEO, Mosaic Power, LLC

**Dated:** May 17, 2021

**Exhibit GV-2SR**

UGI Utilities, Inc. - Electric Division  
Docket No. R-2021-3023618  
UGI Electric 2021 Base Rate Case  
Responses to OCA Set VII (1-14)  
Delivered on April 12, 2021

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OCA-VII-5

Request:

Has UGI-E considered the possibility of third party ownership over the battery and entering into an agreement with the third party to provide the aforementioned services? If yes, please provide the Company's evaluation of such an agreement. If no, why not?

Response:

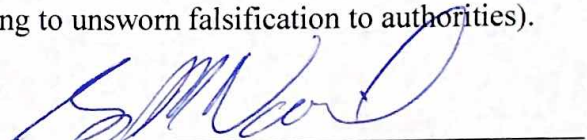
As the Company considers the battery system to be a distribution asset, similar to other distribution facilities, such as substations, reclosers, capacitors, and other key elements of distribution system design, construction, operation and control, the Company has not considered third party ownership. Also, given that this is new technology from a resiliency implementation standpoint and the Company's first reliability project involving battery technology, and the importance of understanding numerous control and dispatch operating protocols for this asset class within the distribution system, ownership and control of the facility are critical in order for the Company to develop a better understanding of the use and cost-effectiveness of this technology for future system needs.

Prepared by or under the supervision of: Eric W. Sorber

**VERIFICATION**

I, Gregory Vaudreuil, hereby state that: (1) I am the CEO of Mosaic Power, LLC; (2) that I am authorized to submit this testimony on behalf of the Retail Energy Supply Association and NRG Energy, Inc.; (3) the facts set forth in this testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and (4) 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: June 10, 2021

  
\_\_\_\_\_  
Gregory Vaudreuil, CEO  
Mosaic Power, LLC