UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

	)	
Meyersdale Storage, LLC	)	Docket No. ER21-864-000
	)	

PROTEST OF THE INDEPENDENT MARKET MONITOR FOR PJM

Pursuant to Rule 211 of the Commission's Rules and Regulations,[1] Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor for PJM[2] ("Market Monitor"), submits this protest of the rate schedule submitted under Schedule 2 to the PJM OATT by Meyersdale Storage, LLC ("Meyersdale") on January 11, 2021. Meyersdale has not supported its proposed revenue requirement. Meyersdale does not support its anomalous and extraordinary 0.70 power factor. The revenue requirement should not be accepted. The filing raises issues of first impression concerning the ability of a battery to provide reactive capability to PJM under Schedule 2 to the OATT. The filing should be found deficient and/or the issues it raises should be set for hearing.

I. PROTEST

Meyersdale files what may be the first reactive capability rate schedule for a battery (an 18 MW lithium-ion battery) filed under Schedule 2 of the OATT.

Meyersdale (at 1–2) applies the *AEP* method to calculate and request a revenue requirement for reactive capability of $837,437. Meyersdale concedes (at 2 n.6): "that its revenue requirement may appear relatively high when compared to an 18 MW

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[1]   18 CFR § 385.211 (2020).

[2]   Capitalized terms used herein and not otherwise defined have the meaning used in the PJM Open Access Transmission Tariff ("OATT").

cogeneration facility." The question recognized by Meyersdale but not answered is whether an 18 MW battery operating in the regulation market can really provide more reactive than a comparably sized combined cycle generating unit, and whether it can provide reactive at all. The cost per MW of installed capacity and the cost per MW of asserted reactive capability are extremely high, multiples of the cost of other sources of reactive.

A related question is why PJM market participants should be willing to pay, or are required to pay, such high rates for reactive from a battery when PJM has more than enough reactive power from other sources.

The power factor represents the percentage of the total power output (MVA) that is put into active power (MW). The remainder is put into reactive power (MVAr). In the AEP method the power factor is used to determine how much of the generator, inverter, and step up transformers are dedicated to active power and how much to reactive power. The lower the power factor, the higher the share of the resource providing reactive power and the higher the revenue requirement paid for reactive power.

A power factor of .90 means that 81 percent of these costs are dedicated to active power and 19 percent to reactive power. A power factor of .70 means that 49 percent of the generator's output is for active power and 51 percent is for reactive power.

Meyersdale asserts a power factor of 0.70 to determine the level of its revenue requirement request.[3] In other words, Meyersdale is asserting that 51 percent of the investment in the battery is required in order to provide reactive. PJM requires that generators entering into service after 2015 be able to sustain a power factor or .90 lagging to .95 leading throughout their operating range. For inverter based resources this requirement is .95 lagging to .95 leading. Meyersdale is able to achieve an asserted 0.70 power factor only by operating at a real power output substantially below their 18 MW rating. Further, because it is a battery, Meyersdale cannot sustain its rated output for a significant period of

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[3]   *See* Meyersdale at 10 (referencing Polich Testimony at 22:7–23:18).

time. Test results submitted by Meyersdale show the ability to sustain a power factor of .85 for only a brief period of time at a real power output close to its stated capability. In PJM, a unit must establish its power factor value "across the full range of continuous rated power output" and "under normal operating conditions."[4] The test results submitted by Meyersdale, which show an asserted 0.83 power factor, do not show a power factor of 0.70 throughout its full operational range.

Meyersdale witnesses Baur and Polich assert that 0.70 represents a "conservative" value.[5] Both suggest a value at or near 0.00 could be justified based on the battery's operational capability and/or its obligations to PJM.[6] The asserted basis for using an anomalous and extraordinary power factor is not supported. It appears that 0.70 is simply asserted.

The power factor is dramatically lower than the power factor that PJM has determined it needs from all generators connected to the PJM Transmission System. PJM requires that generators demonstrate a power factor or 0.90–0.95 in order to obtain generator interconnection service.[7] The power factor proposed by Meyersdale is excessive, significantly exceeds what PJM has determined it needs and should be rejected.

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[4]   *See, e.g.,* OATT § 4.7.1.1.1 ("For all new Generating Facilities to be interconnected pursuant to the Tariff, other than wind powered and other non-synchronous generation facilities, the Generation Interconnection Customer shall design its Customer Facility to maintain a composite power delivery at continuous rated power output at a power factor of at least 0.95 leading to 0.90 lagging. For all new wind powered and other non-synchronous generation facilities the Generation Interconnection Customer shall design its Customer Facility with the ability to maintain a composite power delivery at a power factor of at least 0.95 leading to 0.95 lagging across the full range of continuous rated power output.")

[5]   Meyersdale, Exhibit No. MEY-001 (Prepared Direct Testimony of Sean Baur, Engineering Manager, Glidepath Power Solutions) at 12:5–13:2; Meyersdale, Exhibit No. MEY-006 (Prepared Direct Testimony of Richard A. Polich, PE, Managing Director, GDS Associates On Behalf of Meyersdale Storage, LLC) at 23:10–18.

[6]   *Id*.

[7]   *See* Meyersdale at 6 n.15, citing Attachment 1, Meyersdale ISA § 4.7.1.1.

Meyersdale does not explain why PJM market participants should pay it for a power factor that, if correct, which is questionable, would be dramatically better than required by PJM. Meyersdale, contrary to the AEP method, does not show why any part of its investment is required to provide reactive power or that it spent anything on reactive capability.

Meyersdale has not established that it can provide reactive capability consistent with Schedule 2 of the OATT. Unlike generators, Meyersdale cannot provide sustained output of MVArs. Meyersdale has not established that the use of the *AEP* method is appropriately applied to an energy storage facility.

In addition, Meyersdale does not include sufficient information to evaluate whether it interconnects to the PJM Transmission System and is eligible to receive compensation for reactive capability under Schedule 2 to the OATT. Meyersdale should be required to establish its eligibility to receive compensation under Schedule 2 to the OATT before there is any further discussion of paying the facility for reactive.

All of the issues identified in this filing should be examined at hearing.

The Market Monitor has also raised broader issues about the compensation of reactive capability through cost of service rates under Schedule 2 to the OATT rather than through the capacity market.[8] This case further illustrates why Schedule 2 to the OATT should be eliminated and generators should recover all of the costs through PJM's competitive markets. There is no reason not to rely exclusively on regulation through competition to ensure just and reasonable rates for reactive. The current hybrid approach for covering the cost of generating units is not consistent with an efficient and competitive PJM market.

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[8]   *See* Comments of the Independent Market Monitor for PJM, Docket No. AD16-17-000 (July 29, 2016).

If Schedule 2 is not eliminated, compensation for reactive capability should be consistent with the rest of the PJM market design. This case illustrates why units should not be compensated based on a power factor less than 0.90, the level which PJM requires. Allowing generators to determine the power factor, at whatever point of interconnection on the PJM Transmission System they choose, or even off system, will lead to overpayment for reactive. Compensation for reactive capability will have no logical relationship to PJM's need for reactive. The approach advocated in the Panda Stonewall case by Market Monitor, including limiting the power factor to the 0.90 level that PJM requires, should be applied until Schedule 2 of the OATT can be eliminated from the PJM market design.[9]

II. CONCLUSION

The Market Monitor respectfully requests that the Commission afford due consideration to this protest as the Commission resolves the issues raised in this proceeding.

Respectfully submitted,

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9   *See, e.g.*, Brief on Exceptions of the Independent Market Monitor for PJM, Docket No. ER17-1821-000, -002 (June 12, 2019).

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Dated: February 2, 2021

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Eagleville, Pennsylvania,
this 2nd day of February, 2021.

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