**UNITED STATES OF AMERICA**
**BEFORE THE**
**FEDERAL ENERGY REGULATORY COMMISSION**

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| Whitetail Solar 1, LLC | ) | Docket Nos. ER20-714-004 |
| | ) | EL20-23-002 |
| Whitetail Solar 2, LLC | ) | Docket No. ER21-936-001 |
| Whitetail Solar 3, LLC | ) | Docket Nos. ER20-1851-004 |
| | ) | EL21-27-001 |
| Elk Hill Solar 2, LLC | ) | Docket No. ER21-1633-001 |
| | ) | (Consolidated) |

To: The Honorable Matthew Vlissides
Presiding Administrative Law Judge

**INITIAL BRIEF**
**INDEPENDENT MARKET MONITOR FOR PJM**

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Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor ("Market Monitor") for PJM Interconnection, L.L.C. ("PJM"), submits this initial brief. This brief addresses the sole issue set for hearing in this consolidated proceeding: eligibility to collect reactive power compensation under Schedule 2 of the PJM Tariff.[1] The record in this proceeding fails to establish the eligibility of any of the identified generating facilities to receive compensation for reactive supply capability under the applicable criteria in Schedule 2 to the OATT ("Schedule 2"). The record demonstrates that the facilities are not eligible under Schedule 2.

The Market Monitor filed the testimony of Dr. Joseph Bowring explaining that the identified generating facilities do not directly enable PJM to provide Reactive Supply and Voltage Control "for each transaction on the Transmission Provider's transmission facilities." PJM's criteria for defining Monitored Transmission Facilities and PJM's criteria for defining Reportable Transmission Facilities determine which power lines constitute the PJM transmission system and which do not. Dr. Bowring concludes that the resources are ineligible to receive compensation under Schedule 2 when PJM cannot rely on the generating facilities to provide Reactive Supply and Voltage Control Service. The facts relied on by Dr. Bowring are undisputed. Facts in the proceeding that are disputed are not relevant to his testimony.[2]

Commission Trial Staff ("Staff") filed testimony concerning the capability of the identified generating facilities to provide reactive power on PJM's transmission facilities.

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1 *See* Joint Statement of Issues, Docket Nos. ER20-714-004 et al. (April 7, 2022), citing *Whitetail Solar 2, LLC, et al.*, 176 FERC ¶ 63,023 at P 9 (2021); *Whitetail Solar 3, LLC*, et al., 177 FERC ¶ 63,001 at P 8 (2021).

2 On April 5, 2022, the Market Monitor filed a Motion for Summary Disposition under Rule 217. 18 CFR § 385.217 (2021). On April 14, 2022, an order issued deferring consideration of the motion. Under Rule 217, the Commission has discretion to grant summary disposition as a matter of law, to find that the resources in this case are not eligible under Schedule 2, and to avoid the need for further hearing.

Staff's testimony was based on the responses by PJM and FirstEnergy to Staff's extensive discovery questions.

Staff and the Market Monitor agree that the generating facilities cannot provide reactive power on PJM's transmission facilities. None of the identified generating facilities meet the criteria in fact or in law under Schedule 2 for eligibility to receive compensation for reactive supply capability. The rate schedules should be rejected.

## I. BACKGROUND

### A. Reactive Supply Capability.

Reactive Supply and Voltage Control Service is necessary to ensure a Transmission Provider's reliable operation of the grid. Reactive supply capability is the capability of a resource to produce MVAR and provide it to a Transmission Provider when needed so that the Transmission Provider can provide Reactive Supply and Voltage Control Service.[3] Reactive power is local and cannot be transferred over long distances.[4] PJM procures reactive supply capability from generators located on the transmission system that it monitors and operates.

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[3] Commission technical staff have described reactive capability as follows: "The term reactive power capability refers to the ability to operate with leading or lagging reactive power if the unit is online and synchronized to the power grid, just as capacity represents the ability to provide (real) power if the unit is online and synchronized to the power grid." *See* Commission Staff Report, Payment for Reactive Power, AD14-7 (April 22, 2014) at 5 ("Commission Staff 2014 Report").

[4] *See Id.* ("The transmission system needs reactive power to support system voltages to allow for transport of real power across transmission lines. Transmission lines dissipate reactive power more quickly than real power, meaning that reactive power cannot be efficiently transferred long distances on transmission lines. This is why many people say that reactive power 'does not travel well,' and results in geographic limitations on supply of reactive power.").

### B. Reactive Service.

Schedule 2 explicitly states the separate compensation that applies to market sellers that increase reactive output at the direction of PJM:

> In addition to the charges and payments set forth in this Tariff, Schedule 2, Market Sellers providing reactive services at the direction of the Office of the Interconnection shall be credited for such services, and Market Participants shall be charged for such services, as set forth in Tariff, Attachment K-Appendix, section 3.2.3B.

Schedule 2 explains that when PJM calls on a resource to increase reactive power output, the resource is paid directly for the resultant energy market lost opportunity costs under Section 3.2.3B of Schedule 1 to the OA. As Schedule 2 states, these charges and payments are separate from the charges and payments for reactive supply capability set forth in Schedule 2.

### C. Generating Facilities and Location of Interconnection.

The generating facilities in the case are:

- The Whitetail Solar 1 generating facility, interconnected at the Roxbury–Blain 23 kV Line, which is owned and operated by Mid-Atlantic Interstate Transmission, LLC ("MAIT"), a subsidiary of FirstEnergy Corp.

- The Whitetail Solar 2 generating facility, interconnected at the McConnellsburg/Mercersburg-Guilford 34.5 kV Line, which is owned and operated by West Penn Power, LLC ("West Penn"), a subsidiary of FirstEnergy Corp.

- The Whitetail Solar 3 generating facility, interconnected at the McConnellsburg/Mercersburg–Guilford 34.5 kV Line, which is owned and operated by MAIT, a subsidiary of FirstEnergy Corp.

- The Elk Hill Solar 2 generating facility, interconnected at the Mercersburg–Milnor 34.5kV Line, which is owned and operated by West Penn, a subsidiary of FirstEnergy Corp.

Collectively, the Market Monitor refers to the identified generating facilities as the "Generating Facilities" and the power lines to which the Generating Facilities are interconnected are referred to as the "Lines." In this case, none of the Lines are a Reportable

Transmission Facility and none of the Lines are a Monitored Transmission Facility. PJM does not monitor or operate the grid at the locations where the Generating Facilities are interconnected.

## II. ARGUMENT

### A. PJM Relies on Reactive Supply Capability from Resources in Order to Provider Reactive Supply and Voltage Control Service.

The eligibility of a resource to collect rates for reactive supply capability under Schedule 2 to the PJM OATT (Schedule 2) requires that the resource meet three requirements: (i) Be "capable of" being "operated to produce (absorb) reactive power in order to maintain Transmission Provider's transmission facilities within acceptable limits; (ii) Be under the control of the control area operator, PJM; (iii) Enable PJM to "directly" provide Reactive Supply and Voltage Control Service "for each transaction on the Transmission Provider's transmission facilities."[5]

#### 1. Criterion 1: Capability to Provide Reactive Output in Order to Maintain PJM's Transmission Facilities within Acceptable Limits.

Staff and the Market Monitor agree that the Generating Facilities do not satisfy the first criterion. The issue is a factual dispute concerning whether the Generating Facilities can be operated to produce reactive power on the PJM transmission system.

Staff makes the case that the Generating Facilities do not meet this criterion. Staff Witness Brian Fejka testifies that from an engineering standpoint, "… there is no evidence or indication that these facilities are capable of maintaining transmission voltages on PJM's transmission facilities within acceptable limits."[6]

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5 *See* Exhibit No. IMM-0002.

6 Exhibit No. S-0001 at 4:2–5.

### *a. The Record Shows That the Generating Facilities Are Not Capable of Providing Reactive Supply to PJM's Transmission Facilities.*

Staff provides testimony showing that the Generating Facilities are not capable of providing reactive supply capability to PJM's transmission facilities. Staff's testimony draws on PJM's responses provided in discovery explaining PJM's views. Staff also draws on the responses provided by FirstEnergy, who serves, directly or indirectly through its subsidiaries, as the Transmission Provider on the Lines where the Generating Facilities interconnect to the grid. The record developed by Staff shows that neither PJM nor FirstEnergy consider the Generating Facilities capable of providing reactive supply capability to PJM's transmission facilities.

Showing the capability to provide reactive supply requires more than showing incidental MVAR flows on to PJM's transmission facilities. Showing the capability to provide reactive supply is not demonstrated by modelling potential flows based on unduly limiting or counter factual assumptions. Information included in a modelling analysis does not demonstrate capability that can be used by a Transmission Provider to maintain voltages levels within acceptable limits when the Transmission Provider does not know the information in the models or the limits on the system where the Generating Facilities are interconnected. Showing the capability to provide reactive supply requires a showing that PJM can rely on the availability of MVARs so that it can meet its obligation stated in Schedule 2 "to maintain transmission voltages … within acceptable limits."

Staff Witness Fejka explained why the Generating Facilities lack the capability to provide reactive supply:

> As PJM explained in response to Trial Staff discovery: (1) the transmission voltage and distribution voltages are managed independently; (2) the distribution voltage control is independent and is separated by significant impedance from the transmission system; and (3) even though the Facilities have local telemetry, PJM has no direct voltage control over the Facilities and does not have sufficient visibility into the

> distribution system to analyze the distribution-connected resources' var output.[7]

After reviewing the configuration and location of the interconnection for each of the Generating Facilities, Witness Fejka concludes:

> Each diagram and configuration shows that each Facility is not connected with the PJM transmission system, but instead is directly interconnected with the FirstEnergy distribution system. These diagrams also show that there are intervening loads for all the Facilities on the distribution system and that for Whitetail 2 and Whitetail 3 there are also capacitors located between each Facility and the PJM transmission system. These loads and capacitors may consume (or produce) reactive power, which may impact the ability of each Facility to maintain the voltages on the PJM transmission system.[8]

Staff Witness Fejka concludes: "As a result of the lack of a direct connection, these units would not have the ability to maintain transmission voltages within acceptable limits. They would only be able to provide voltage support to the local distribution bus, which may provide indirect impacts to the transmission system."[9]

#### *b. The Companies Failed to Demonstrate Capability through Modelling.*

Staff Witness Fejka stated, "[b]ased on all the information received from PJM, there is no engineering evidence that the Facilities are capable of maintaining transmission voltages on the PJM transmission system within acceptable limits."[10] In response, the

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7 Exhibit No. S-0017 at 6:16–7:2.

8 S-0001 at 23:13–20.

9 *Id*. at 31:5–10, citing Exhibit Nos. S-0005 at 10, and S-0003 at 8.

10 *Id*. at 35:14–16.

companies filed for each Generating Facility testimony including an analysis of power flows on the PJM grid ("Modelling").[11]

Staff Witness Fejka filed testimony showing that the Modelling is flawed and cannot be relied upon to show the capability to provide reactive supply to PJM transmission facilities:

> PJM explained that Mr. Askey's use of the cluster studies in an effort to show that the Whitetail 1 and Whitetail 3 Facilities are capable of measurably impacting voltages on PJM transmission systems 'is beyond its intended design, the voltage impact shown is indirect, and most importantly, the control system is not responding to the monitored transmission voltage.'[12]

Witness Fejka cites PJM's statement that "The model used is designed for transmission system analysis, and does not include enough detail of the voltage control systems on the distribution system to identify other regulating devices and their impact," and "PJM does not have sufficient visibility into the distribution system to analyze the distribution-connected resources' VAR output."[13]

PJM disputes Witness Askey and Witness Ferrell's conclusions that the Modelling shows that the Generating Facilities are capable of measurably impacting voltages on PJM

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11 Witness Charles M. Askey filed rebuttal testimony explaining his use of the PJM AG1 2024 Base Case Peak and Light Load study model in attempt to simulate various system conditions demonstrating that the reactive power capability of the Generating Facilities can measurably impact transmission-level elements in PJM. Exhibit No. EH2-0027, WT1-0029, WT2-0029REV, WT3-0029REV. Witness Christopher Ferrell discusses the results from the modeling undertaken by Witness Askey, concluding that, in his professional opinion, the modeling results clearly demonstrate the Elk Hill 2 Facility can impact and maintain transmission voltages on the PJM system. Exhibit No. EH2-0028, WT1-0027REV, WT2-0030, WT3-0027REV.

12 Exhibit No. S-0017 at 15:4–9, quoting Exhibit No. S-0018 at 1-2.

13 *Id*. at 15:17–20 & 10:7–10, both quoting Exhibit No. S-0018 at 1-2.

transmission systems. PJM emphasizes that "the voltage impact shown is indirect" and "the control system is not responding to the monitored transmission voltage."[14]

Staff Witness Fejka notes that PJM's criticisms are not limited to the Modelling submitted in this case. PJM indicates that "no power flow study will show that [the facilities] are capable of maintaining voltages on the transmission system."[15] PJM cannot rely on indirect voltage impacts to which its control system does not respond when it provides Reactive Supply and Voltage Control Service.

### *c. PJM Does Not Monitor the System Where the Generating Facilities Are Interconnected.*

The companies do not show and do not attempt to show that PJM relied or could rely on the Generating Facilities to maintain transmission voltages within acceptable limits. There is no record evidence to support the assertion that PJM is even monitoring the system where the Generating Facilities are interconnected. If the system is not monitored, PJM cannot rely on the Generating Facilities to provide Reactive Supply and Voltage Control Service.

The record shows the contrary. PJM states that it "does not have any record of measuring or observing a direct reactive power effect on the transmission system from these units."[16] There is no basis to find that the Generating Facilities have the capability to assist PJM in maintaining transmission voltages at acceptable limits when it does not monitor the impacts of the Generating Facilities on the system.

Staff Witness Fejka quotes PJM's statements, explaining that PJM has no way to rely on Generating Facilities to provide Reactive Supply and Voltage Control Service:

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14 *Id*. at 15:7–9, quoting Exhibit No. S-0018 at 1-2.

15 *Id*. at 17:6–7.

16 Exhibit No. S-0001 at 31:23–24, quoting S-0005 at 21–22.

> As PJM stated in response to Trial Staff's discovery, 'generators connected at high electrical distance will not be observable, in the sense that PJM will not be able to reliably verify the MVAR output as it impacts the BES, and will not be practically operable or dependable for BES voltage support since the POI output will largely dissipate before impacting the target BES areas of concern.'[17]

Staff Witness Fejka explains that reactive testing performed on the Generating Facilities is only relevant to the local distribution system to which the Generating Facilities are connected and does not demonstrate performance relative to PJM transmission facilities:

> As discussed above, reactive testing is completed at each of these Facilities at its POI with the distribution system and would only show var injections at the POI of each Facility with the distribution system, and not the PJM transmission system. Even though PJM has meters and telemetry to monitor the output of each Facility so that PJM is aware of what each generator is producing, PJM does not monitor the intervening distribution system between the POI of each Facility and the PJM transmission system. Therefore, even though each Facility was tested according to PJM's procedures and the results are recorded in PJM's eDART system, that by itself does not show or reflect that the vars from the Facility will make it to the PJM transmission system or that the Facilities can maintain the voltages on the PJM transmission system.[18]

Staff Witness Fejka also references the statements of FirstEnergy, the Transmission Provider on the Lines: FirstEnergy "does not rely on any of the Facilities to provide VAR support for the system to which each is interconnected."[19] Staff Witness Fejka explains that

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17 *Id*. at 28:4–9, quoting Exhibit Nos. S-0005 at 22, and S-0003 at 14.

18 *Id*. at 27:10–20.

19 *Id*. at 30:13–14, citing Exhibit No. S-0011 at 4, response to S-FE-1.4.

Whitetail 1 and Elk Hill 2 do not receive voltage schedules from FirstEnergy, and can operate "at unity," meaning zero output of MVARs.[20]

Staff Witness Fejka concludes: "In my technical opinion, designing and testing a facility to meet certain reactive requirements at the POI on a distribution system that is not even monitored or operated by PJM is not evidence supporting the facilities' ability to maintain voltages on PJM's transmission system."[21]

### 2. Criterion 2: Under the Control of the Control Area Operator.

The second criterion is uncontested, for purposes of this motion. Staff Witness Fejka concedes this issue, stating, "the generating facilities at issue in this proceeding are under the control of PJM."[22] PJM's states: "Pursuant to … Operating Agreement, Schedule 1, section 1.7.20(b), PJM *has the legal authority* to dispatch the units of Market Sellers for reactive power. [emphasis added]."[23] The Market Monitor conservatively interprets "under the control" of PJM to require only a determination that PJM has the legal authority under the PJM market rules to dispatch a resource. Under a more precise interpretation, "under the control" could require a determination that PJM is actually directing the output of the resource to produce MVARs. PJM does not actually exercise its authority and control the Generating Facilities in order to use their reactive capability, even sporadically. No record evidence indicates otherwise. PJM's response clarifies there has been no exercise of such

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20 *Id* at 29:7–21.

21 *Id*. at 37:14–17.

22 Exhibit No. S-0001 at 4:2–3.

23 *See* S-0003 at 6 (Responses of PJM Interconnection, L.L.C. to Commission Trial Staff's Second Set of Discovery Requests, Discovery Request No. S-PJM-2.8, Dated November 8, 2021, Docket Nos. ER21-936-001, et al. (October 28, 2021)).

authority.[24] Whatever legal authority PJM has, the Generating Facilities are not actually under the control of PJM.

### 3. Criterion 3: Direct Reliance on Resource to Provide Service.

The third criterion is whether the Generating Facilities enable PJM to "directly" provide Reactive Supply and Voltage Control Service "for each transaction on the Transmission Provider's transmission facilities." PJM provides Reactive Supply and Voltage Control Service, as Schedule 2 indicates, in its role as the "Transmission Provider on its transmission facilities." Application of this criterion requires determination as a matter of law whether PJM relies on the resources' reactive supply capability to provide Reactive Supply and Voltage Control Service.

The PJM transmission system is not coextensive with the PJM region, and PJM does not act as the Transmission Provider for the entire PJM region. There are power lines in the PJM region for which PJM has no responsibility to monitor or operate. The power lines are either not listed in PJM's transmission facilities database or are designated Not Monitored and Not Reportable. A resource interconnected on power lines that fail to meet the criteria defining Monitored Transmission Facilities and the criteria for defining Reportable Transmission Facilities is not interconnected to PJM's transmission facilities. PJM is not the Transmission Provider for such power lines. PJM does not rely on such resources to directly provide Reactive Supply and Voltage Control Service, and they are therefore ineligible for compensation under Schedule 2.

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[24] PJM states in response to the question, "has PJM ever directed the Facility to increase or decrease the Mvar output before coordinating with the relevant transmission/ distribution owner?": "it is unlikely that PJM has ever directed these units to increase or decrease their MVAR output before coordinating with the relevant transmission/distribution owner. PJM intervention is unlikely due to the small size of the units and connection at the distribution level." Exhibit No S0005 at 20 (Responses of PJM Interconnection, L.L.C. to Commission Trial Staff's First Set of Discovery Requests, Discovery Request No. S-PJM-1.16, Dated September 29, 2021, Docket Nos. ER21-936-001, et al. (October 6, 2021)).

PJM does not provide transmission service on the Lines where the Generating Facilities interconnect. PJM does not consider the Lines to be part of the "PJM transmission system."[25] PJM does not issue voltage schedules to the Generating Facilities.[26] This means that that the distribution facility owner and not PJM establishes a unit's operations for reactive output, or in some cases, there is no applicable voltage schedule. If PJM is not involved in establishing the voltage schedule for the Generating Facilities, it follows that PJM is not relying on the Generating Facilities in order to ensure that it has reactive capability.

Schedule 2 provides, "Reactive Supply and Voltage Control from Generation or Other Sources Service is to be provided *directly* by the Transmission Provider" [emphasis added]. PJM cannot rely on resources on an adjacent unmonitored system to directly provide reactive capability because the adjacent unmonitored system is under the control of another entity. PJM cannot attempt to directly dispatch a resource on an adjacent system without knowing the voltage conditions on that system. PJM would have to request assistance and cooperation of the entity responsible for the adjacent unmonitored system.

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[25] PJM states: "PJM does not view [Whitetail 1] as directly interconnected with the PJM transmission system from a modeling perspective. PJM does not have operational control over the distribution line, and any coordination required at the distribution level would need to be done through the Transmission Owner (or Distribution System Operator, as applicable)." S000-3 at 6 (Responses of PJM Interconnection, L.L.C. to Commission Trial Staff's Second Set of Discovery Requests, Discovery Request No. S-PJM-2,8, Dated October 28, 2021, Docket Nos. ER21-936-001, et al. (November 8, 2021)).

[26] Regarding Elk Hill 2, Whitetail 2 or Whitetail 3, PJM states "this unit does not meet the PJM criteria for a voltage schedule to be required. It would be up to the Transmission Owner to further determine if they required a voltage schedule for any reason." S0005 at 1 (Responses of PJM Interconnection, L.L.C. to Commission Trial Staff's First Set of Discovery Requests, Discovery Request No. S-PJM-1.4, Dated September 29, 2021, Docket Nos. ER21-936-001, et al. (October 1, 2021)).

Including a third party in the dispatch decision means PJM is not relying on the resources to directly provide Reactive Supply and Voltage Control Service.

PJM states in response to a Staff discovery request:

> BES voltages that PJM operates to will have significant impact on distribution voltages and operations. However that electrical relationship does not confer PJM with any direct observability of or role to secure distribution voltages, as EDCs have separate systems and methodologies to operate to their target voltages largely independent of PJM.[27]

PJM further states:

> *As a result of the lack of a direct connection*, these units would not have the ability to maintain transmission voltages within acceptable limits. They would only be able to provide voltage support to the local distribution bus, which may provide indirect impacts to the transmission system. [Emphasis added.][28]

Whatever capability the Generating Facilities may have, PJM does not rely on such capability to provide Reactive Supply and Voltage Control Service.

Company Witness Ausmus disputes whether Schedule 2 requires PJM to "rely" on a resource in order for the resource to be eligible to receive compensation.[29] Witness Ausmus' reading of Schedule 2 is illogical and ignores the purpose of Schedule 2. Schedule 2 exists so that PJM can provide a specific ancillary service in support of transmission

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27 S0005 at 21 (Responses of PJM Interconnection, L.L.C. to Commission Trial Staff's First Set of Discovery Requests, Discovery Request No. S-PJM-1.19, Dated September 29, 2021, Docket Nos. ER21-936-001, et al. (October 6, 2021)).

28 S0005 at 10 (Responses of PJM Interconnection, L.L.C. to Commission Trial Staff's First Set of Discovery Requests, Discovery Request No. S-PJM-1.9, Dated September 29, 2021, Docket Nos. ER21-936-001, et al. (October 6, 2021)).

29 *See* Exhibit No. EH2-0025 at 4:20–5:13; Exhibit No. WT1-0001 at 34:20–35:10; Exhibit No. WT2-0027 at 4:20–5:13; Exhibit No. WT3-0001REV at 35:14–36:7.

service to specific customers. Schedule 2 does not exist simply to create a revenue stream for generators.

Witness Ausmus' argument implies that PJM is obligated to pay resources under Schedule 2 that PJM does not rely on to provide Reactive Supply and Voltage Control Service. Witness Ausmus' interpretation ignores the significance of key terms used in Schedule 2, including "Transmission Provider" and "Transmission Service." More fundamentally, Witness Ausmus ignores the purpose of Schedule 2 which is to define PJM's responsibility to provide and bill its customers for Reactive Supply and Voltage Control Service. Under Witness Ausmus' interpretation, PJM would be required to pay for resources supporting the system where PJM is not the Transmission Provider, does not provide Transmission Service and does not provide Reactive Supply and Voltage Control Service.

Witness Ausmus' interpretation is not reasonable, and is not consistent with the purpose or the wording of Schedule 2.

The OATT defines Transmission Provider as follows:

> The "Transmission Provider" shall be the Office of the Interconnection for all purposes, provided that the Transmission Owners will have the responsibility for the following specified activities:
>
> (a) The Office of the Interconnection shall direct the operation and coordinate the maintenance of the Transmission System, except that the Transmission Owners will continue to direct the operation and maintenance of those transmission facilities that are not listed in the PJM Designated Facilities List contained in the PJM Manual on Transmission Operations;
>
> (b) Each Transmission Owner shall physically operate and maintain all of the facilities that it owns; and

> (c) … Transmission Owners shall have the responsibility … to construct, own, and finance the needed facilities or enhancements or modifications to facilities.[30]

Subsection (a) excludes from PJM's role the direction of "those transmission facilities that are not listed in the PJM Designated Facilities List contained in the PJM Manual on Transmission Operations."

The OATT defines the "Transmission System" to "mean the facilities controlled or operated by the Transmission Provider within the PJM Region that are used to provide transmission service under Tariff, Part II and Part III."[31] The record does not show that any of the Lines meet this definition.

The OA and OATT defines "Transmission Facilities" to mean: "facilities that: (i) are within the PJM Region; (ii) meet the definition of transmission facilities pursuant to FERC's Uniform System of Accounts or have been classified as transmission facilities in a ruling by FERC addressing such facilities; and (iii) have been demonstrated to the satisfaction of the Office of the Interconnection to be integrated with the PJM Region transmission system and integrated into the planning and operation of the PJM Region to serve all of the power and transmission customers within the PJM Region."[32] The record does not show that any of the Lines meet this definition.

The Lines where the Generating Facilities interconnect do not meet any of the above definitions. The Lines are not controlled or operated by PJM and are not used to provide transmission service.[33] The Lines are not part of the transmission system, which means that

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30 OATT § 1 (Definitions–T–U–V).

31 OATT § 1 (Definitions–T–U–V).

32 OA § 1 (Definitions S –T), incorporated by reference in OATT § 1 (Definitions–T–U–V).

33 *See* S0005 at 8 (Responses of PJM Interconnection, L.L.C. to Commission Trial Staff's First Set of Discovery Requests, Discovery Request No. S-PJM-1.8, Dated September 29, 2021, Docket Nos. ER21-936-001, et al. (October 6, 2021) ("PJM does

PJM is not the Transmission Provider for the Lines. The Lines do not meet the definition of "Transmission Facilities," and, even if they did, they are not the "Transmission Providers' transmission facilities," the key term used in Schedule 2.

The best place to understand PJM's role regarding the Lines is in the Designated Facilities List contained in the PJM manual on Transmission Operations referenced in the definition of Transmission Provider.[34] PJM Manual 3 (Transmission Operations) sets forth the criteria for determining Monitored Transmission Facilities and the criteria for determining Reportable Transmission Facilities.[35] PJM explains that "Monitored Transmission Facilities are monitored and controlled for limit violations using PJM's Security Analysis programs."[36] PJM explains that transmission facilities are "reportable if a change of its status can affect, or has the potential to affect, a transmission constraint on any Monitored Transmission Facility," or "if it impedes the free-flowing ties within the PJM RTO and/or adjacent areas."[37] The Monitored and Reportable Transmission Facilities are included in the Transmission Facilities List. The Transmission Facilities List is located on the PJM website.

PJM's criteria for defining Monitored Transmission Facilities and the criteria for defining Reportable Transmission Facilities determine which power lines constitute the PJM transmission system and which do not.

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not have operational control over the distribution line, and any coordination required at the distribution level would need to be done through the Transmission Owner (or Distribution System Operator, as applicable).").

34 *See* Exhibit No. IMM-0001 at 7:20–8:2.

35 *See* No. IMM-0004.

36 See id.

37 *See* PJM, PJM Transmission Providers Facilities List On-Line Help (Last Updated: May 4, 2017), which can be accessed at: <*trans-fac-help.ashx (pjm.com)*>.

A resource interconnected on power lines that fail to meet the criteria defining Monitored Transmission Facilities *and* the criteria for defining Reportable Transmission Facilities are not interconnected to PJM's transmission facilities. PJM is not the Transmission Provider for such power lines. PJM does not directly rely on resources to provide Reactive Supply and Voltage Control Service, and they are therefore ineligible for compensation under Schedule 2.[38]

None of the Lines in this case are Monitored or Reportable Transmission Facilities. This means that PJM is not monitoring the status of the Lines and does not operate them. PJM is not providing Transmission Service on the Lines.

PJM also publishes a map of all of its transmission facilities on its website. PJM does not include any of the Lines on its map.[39] PJM's determination not to include the Lines on its map reinforces the conclusion that PJM is not monitoring or operating the Lines, and that the Lines do not come within the meaning of the "Transmission Provider's transmission facilities," the key term used in Schedule 2.

PJM is not directly providing, as required by Schedule 2, Reactive Supply and Voltage Service on the Lines. PJM is not relying on the Generating Facilities to provide Reactive Supply and Voltage Control Service on the Lines. The Generating Facilities do not meet the third criterion for eligibility for compensation under Schedule 2.

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[38] Arguably, a facility that does not meet the criteria defining Reportable Transmission Facilities but does meet the criteria for defining Monitored Transmission Facilities is also not eligible under Schedule 2. If PJM does not operate the Lines, they are not PJM's transmission facilities. There is no evidence that PJM would rely on a resource to provide Reactive Supply and Voltage Control Service if the resource was located on a portion of the grid that PJM was monitoring but not operating. Coordination with the responsible operator would still be needed.

[39] *See* Exhibit No. IMM-0001 at 8:1–2.

### B. PJM's Authority to Dispatch a Generating Unit Does Not Demonstrate Reactive Supply Capability under Schedule 2.

The Generating Facilities have the capability to create reactive power. The issue is whether that capability is for the PJM transmission system or the electric distribution system. Simply showing that a resource may respond to PJM dispatch instructions does not demonstrate PJM's reliance on the unit to provide reactive supply capability under Schedule 2 to the OATT.

PJM has dispatch authority over all generating facilities selling power in PJM. Such dispatch authority does not mean that PJM is relying on the Generating Facilities to provide Reactive Supply and Voltage Control Service. Dispatch authority does not demonstrate that any of the Generating Facilities are actually under the control of PJM. Dispatch authority does not demonstrate that any of the Generating Facilities are eligible for compensation under Schedule 2.

### C. The Terms of Interconnection Service Agreement Do Not Demonstrate Eligibility Under Schedule 2.

The fact that PJM is party to a three party interconnection service agreement (ISA) does not establish that a generation facility is interconnected directly to the PJM transmission system or that PJM relies on the resource to directly provide Reactive Supply and Voltage Control Service.

PJM may enter into three party interconnection service agreements that include the generating facility and the interconnecting transmission and distribution system owner. Such agreements provide generating facilities the ability to sell energy and/or capacity in PJM, regardless of whether the facilities are directly interconnected to the PJM transmission system. There are provisions in such ISA agreements (which generally follow the form included at OATT Attachment O) that establish reactive supply capability obligations for the generating facility owner. When the directly interconnected system is the sole responsibility of the interconnecting transmission owner (including in its role as an electric distribution system owner), and is not monitored or operated by PJM, then any

obligation to provide reactive supply capability is to the interconnecting transmission and distribution system owner and is not to PJM.

Witness Ausmus describes ISA obligations as to or from "West Penn Power and PJM" or "both," or from "PJM or MAIT or both,"[40] but West Penn Power and MAIT are the Interconnection Transmission Owner and the Transmission Provider at the Lines where the Generating Facilities receive interconnection service. West Penn is the Interconnected Transmission Owner for Whitetail Solar 2 and Elk Hill Solar 2 generating facilities. MAIT is the Interconnected Transmission Owner for the Whitetail Solar 1 and Whitetail Solar 3 generating facilities. That PJM and West Penn or MAIT must coordinate their actions to maintain the grid does not mean that they share responsibilities for the local transmission/distribution system that is not part of the PJM transmission system.

On the contrary, PJM defines and lists the facilities that it monitors and it defines and lists the facilities that it operates, and for which it is, therefore, the Transmission Provider.

The Lines are not listed on either list. PJM is not the Transmission Provider. These facts are not contested in this proceeding. The ISAs must be interpreted consistent with current reality. The ISAs do not establish that any of the Generating Facilities are eligible for compensation under Schedule 2.

### D. The Record Shows that the Generating Facilities Are Not Eligible to Receive Compensation Under Schedule 2.

Staff has demonstrated that the Generating Facilities are not capable of providing reactive supply capability to PJM. The Generating Facilities fail the first criterion under Schedule 2. The Market Monitor has demonstrated that resources that do not directly interconnect to the "Transmission Provider's transmission facilities" and instead interconnect on facilities that PJM does not monitor or operate do not contribute to PJM's

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[40] *See* Exhibit No. EH2-0025 at 14:6–19; Exhibit No. WT1-0001 at 7:24–28; Exhibit No. WT2-0027 at 4:7–18; Exhibit No. WT3-0001REV 7:20–24.

provision of Reactive Supply and Voltage Control Service. The Generating Facilities fail the third criterion and are not eligible to file for reactive capability compensation under Schedule 2. Staff's showing on the first criterion bolsters the Market Monitor's position on the third. PJM does not and cannot rely on the Generating Facilities to provide Reactive Supply and Voltage Control Service when it does not monitor the Lines where the Generating Facilities are interconnected. The Generating Facilities should be determined ineligible to receive compensation under Schedule 2 and the proposed rate schedules should be rejected.

## III. PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

### A. Proposed Findings of Fact

The Market Monitor respectfully proposes the following findings of fact:

1. Each Generating Facility lacks the capability to provide reactive output in order to maintain PJM's transmission facilities within acceptable limits, or, where a Generating Facility has the burden of proof, has not demonstrated that such Generating Facility has the capability to provide reactive output in order to maintain PJM's transmission facilities within acceptable limits.

2. Each Generating Facility is not actually under the control of PJM, or has not demonstrated that it is actually under the control of PJM, regardless of whether such Generating Facility is under PJM's legal dispatch authority.

### B. Proposed Conclusions of Law

The Market Monitor respectfully proposes the following conclusions of law:

1. Each Generating Facility is not eligible to file a cost of service rate under Schedule 2 of the PJM OATT or to receive compensation from PJM for reactive supply capability because it lacks, or has failed to demonstrate that it has, the capability to provide reactive output in order to maintain PJM's transmission facilities within acceptable limits.

2, Each Generating Facility is not eligible to file a cost of service rate under Schedule 2 of the PJM OATT or to receive compensation from PJM for reactive supply

capability because it does not, or fails to demonstrate that it can, enable PJM to directly provide Reactive Supply and Voltage Control Service for each transaction on the Transmission Provider's transmission facilities.

## IV. CONCLUSION

The Market Monitor respectfully requests that the Commission afford due consideration to these arguments on brief as the Commission resolves the issues in this proceeding.

Respectfully submitted,


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Dated: May 19, 2022

## 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 19th day of May, 2022.

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