UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

CPV Maryland LLC	)	Docket No. EL24-138-000

COMMENTS OF THE INDEPENDENT MARKET MONITOR FOR PJM IN OPPOSITION TO OFFER OF SETTLEMENT

Pursuant to Rule 602(f) of the Commission's Rules and Regulations,[1] Monitoring Analytics, LLC, acting in its capacity as the Independent Market Monitor ("Market Monitor") for PJM Interconnection, L.L.C.[2] ("PJM"), submits this reply in opposition to the offer of settlement ("Offer") filed in this proceeding on November 10, 2025, by CPV Maryland LLC ("CPV Maryland").

By order issued September 30, 2024, CPV Maryland's currently effective annual revenue requirement (ARR) was set for investigation.[3] CPV Maryland proposes to resolve the investigation on a black box basis and retain its current ARR for reactive capability of $2,200,000, or $ 3,004.23 per MW-year, or $8.23 per MW-day for the 732.3 MW facility, on an ICAP basis. The current ARR was approved based on a settlement of CPV's filing on December 2, 2016.[4] Since that time, Order No. 904 was issued and, in addition to the other benchmarks, there is a record of multiple settlements at or below the $2,199 per MW-day that is included in the capacity market demand curve to account for reactive revenues. There is no record in this case that supports continuing to pay the proposed ARR.

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1 18 CFR § 385.602(f) (2024).

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

3 *See CPV Maryland, LLC*, 188 FERC ¶ 61,223.

4 *See CPV Maryland, LLC*, Reactive Rate Filing, Docket No. ER17-481-000; *CPV Maryland, LLC*, Delegated Letter Order, Docket No. ER17-481-000 (January 3, 2018).

The $2,200,000 should not be accepted because it is excessive. The proposed ARR for the CPV Maryland facility is significantly higher (40 percent) than the average rate paid for reactive power in PJM. The average revenue requirement for reactive capability in PJM was $2,088 per MW-year in 2024. No supporting rationale or justification has been provided for why customers should pay 1.4 times the average PJM price of reactive for reactive from CPV Maryland, meaning that CPV is requesting a 40 percent premium over the average price of reactive in 2024. In addition, CPV is requesting a 40 percent premium over the $2,199 per MW-day offset used in the VRR curve. Finally, CPV is requesting a premium of 40 percent or more over the cost of reactive included in all recent reactive settlements. There is no reasonable basis for the proposed disparity in cost for the same service. Reactive is a homogeneous product which should have the same price for all sellers. This result has not been explained or supported by CPV Maryland in their filing or their black box Offer. This disparity is inconsistent with competitive markets.

The actual excess is larger than calculated based on the installed capacity of the resource. All PJM capacity resources can sell only a derated level of MW in the PJM capacity auction. On an equivalent capacity basis using the class average 74.0 percent ELCC derating factor for combined cycle gas-fired facilities to be used in the PJM Base Residual Auction for the 2027/2028 Delivery Year, the Offer proposed ARR is $4,059.77 per MW-year, $11.12 per MW-day.

The actual excess could be larger than calculated based on the class average derating factor of the resource. To the extent that the actual unit specific ELCC for the CPV Maryland facility is below the class average, the proposed cost of reactive per MW of capacity would increase and the degree of excess would increase. The opposite would be true if the actual ELCC were greater than the class average. The actual ELCC derating factor based on the actual CIR value is essential to an accurate evaluation of the actual cost per MW-day of the Stony Creek proposal. The facts about the actual ELCC derating factor and the actual CIR value are confidential but can be established at hearing.

In Order No. 904, the Commission determined to eliminate all charges under Schedule 2 for the provision of reactive power within the standard power factor range.[5] Reactive charges under Schedule 2 will terminate May 31, 2026. For all the reasons set forth in Order No. 904, there is no justification for a reactive revenue requirement at all, least of all a revenue requirement exceeding the level based on the $2,199 per MW-year incorporated in the capacity demand curve. The excessive revenue requirement proposed in the Offer exceeds the level based on the $2,199 per MW-year in the capacity market, exceeds the average revenue requirement for reactive capability in PJM of $2,088 per MW-year in 2024, and should not be approved.

The Commission may approve a contested offer of settlement only based on its merits.[6] A contested settlement may be approved on its merits under one of the four approaches set forth in *Trailblazer Pipeline Company*.[7] None of the approaches under *Trailblazer Pipeline Company* can be relied on for approval of the Offer. The Offer does not resolve the issues raised in the order setting this matter for hearing.[8] There is no record in this proceeding supporting the revenue requirement as just and reasonable, including as a "package." The Market Monitor represents the public interest in efficient and competitive markets. The

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5 *Compensation for Reactive Power Within the Standard Power Factor Range*, Order No. 904, 189 FERC ¶ 61,034 (2024) ("Order No. 904"); *reh'g denied*, 189 FERC ¶ 62,127 (2024); *appeal pending*, Vistra Corp. et al. v. FERC, Case No. 25-60055 (5th Cir.).

6 18 CFR § 385.602(h)(1) ("If the Commission determines that any offer of settlement is contested in whole or in part, by any party, the Commission may decide the merits of the contested settlement issues, if the record contains substantial evidence upon which to base a reasoned decision or the Commission determines there is no genuine issue of material fact.").

7 The four approaches for approving a settlement under *Trailblazer Pipeline Company* include: (i) addressing the contentions of the contesting party on the merits when there is any adequate record; (ii) approving a contested settlement as a package on the ground that the overall result of the settlement is just and reasonable; (iii) determining that the contesting party's interest is sufficiently attenuated such that the settlement can be analyzed under the fair and reasonable standard applicable to uncontested settlements when the settlement benefits the directly affected settling parties; or (iv) preserving the settlement for the consenting parties while allowing contesting parties to obtain a litigated result on the merits. *See Trailblazer Pipeline Company*, 85 FERC ¶ 61,345 (1998).

8 *See* 188 FERC ¶ 61,223 at P 14.

settlement cannot be analyzed under the fair and reasonable standard applicable to uncontested settlements because the public interest in efficient and competitive markets is a central issue in this proceeding. There is no possibility of severing the issues in the manner contemplated under the *Trailblazer Pipeline Company* approaches.

Although the Commission encourages settlements, that policy is not a license to resolve cases at all costs.[9] An offer of settlement, as in this case, that is unfair, unreasonable, or against the public interest must be rejected.[10] Instead, this case should proceed to hearing so that the record can be developed and issues of material fact and law can be resolved on the merits.

Article 15 of the Offer's proposed settlement provides: "This Offer of Settlement establishes no principles and no precedent with respect to any issue in these proceedings." If the Offer is approved, it will unavoidably establish a benchmark rate level for facilities like the CPV Maryland facility. The public interest is better served by resolution of the issues raised in this proceeding on the basis of a full evidentiary record and reasoned analysis.

In the attached affidavit of Dr. Joseph E. Bowring ("Affidavit"), included pursuant to Rule 602(f)(4), Dr. Bowring explains why the requested revenue requirements are excessive and unsupported.[11]

The issues raised in this proceeding have significant cost implications. Failing to resolve these issues means that customers must make payments to the facilities and similar facilities at levels exceeding the competitive and reasonable level for the facilities. Resolution of these issues should not be deferred.

In the Affidavit, Dr. Bowring explains why the level of the annual revenue requirement is excessive. The issue of an appropriate rate level under Schedule 2 needs resolution on the merits in this case and for future cases. The Market Monitor opposes the

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9 *See, e.g.*, *Arkla Energy Resources*, 49 FERC ¶ 61,051, 61,217 (1989); *Transwestern Pipeline Co.*, 9 FERC ¶ 61,075, at 61,166 (1979).

10 496 F.3d at 701.

11 18 CFR § 385.602(f)(4).

Offer. The Offer should be rejected. Further, settlement discussions in the proceeding should be terminated, and the issues raised in this proceeding should be decided on the merits.

Respectfully submitted,

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Dated: November 14, 2025

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 14th day of November, 2025.

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Attachment
Exhibit No. IMM-0001

Bowring Affidavit

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

CPV Maryland LLC	)	Docket No. EL24-138-000

AFFIDAVIT OF JOSEPH E. BOWRING ON BEHALF OF THE INDEPENDENT MARKET MONITOR FOR PJM

Q 1. PLEASE STATE YOUR NAME AND POSITION.

A. My name is Joseph E. Bowring. I am the Market Monitor for PJM. I am the President of Monitoring Analytics, LLC. My business address is 2621 Van Buren Avenue, Suite 160, Eagleville, Pennsylvania. Monitoring Analytics serves as the Independent Market Monitor (IMM) for PJM, also known as the Market Monitoring Unit (Market Monitor). Since March 8, 1999, I have been responsible for all the market monitoring activities of PJM, first as the head of the internal PJM Market Monitoring Unit and, since August 1, 2008, as President of Monitoring Analytics. The market monitoring activities of PJM are defined in the PJM Market Monitoring Plan, Attachment M and Attachment M-Appendix to PJM Open Access Transmission Tariff (OATT).[1]

Q 2. WHAT IS THE PURPOSE OF YOUR AFFIDAVIT?

A. The purpose of my affidavit is to explain the Market Monitor's opposition to the offer of settlement ("Offer") of the annual revenue requirement ("ARR") filed in this proceeding by CPV Maryland LLC ("CPV Maryland"), which owns and operates a 732.3 MW combined cycle gas-fired electric generating facility located in Waldorf, Maryland, which commenced commercial operations in February, 2017 ("CPV Maryland Facility").

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[1] *See PJM Interconnection, L.L.C.*, 86 FERC ¶ 61,247 (1999); 18 CFR § 35.34(k)(6).

Q 3. HAVE YOU PROVIDED TESTIMONY ON COMPENSATION FOR REACTIVE POWER IN OTHER PROCEEDINGS BEFORE THE FERC?

A. Yes. I provided testimony in the *Panda Stonewall* reactive supply capability case (Docket No. ER21-1821-002); the *Whitetail Solar 3, et al.* reactive supply capability case (Docket No. ER20-1851-004 et al.); *Mechanicsville Solar, LLC*, reactive supply capability case (Docket No. ER21-2091-000); the *Holloman Lessee, LLC* reactive supply capability case (Docket No. ER20-2576-001); and the *Fern Solar LLC* reactive supply capability case (ER20-2186-003, et al.). I provided an affidavit in support of opposition to an offer of settlement in the *Meyersdale Storage, LLC*, reactive supply capability case (ER21-864-000); the *Bluestone Farm Solar, LLC*, reactive supply capability case (ER21-1696-000); the *Altavista Solar, LLC*, reactive supply capability case (ER21-1937); the *Pleinmont Solar 1, LLC et al.*, reactive supply capability case (ER21-2819 et al.); the *Camp Grove Wind Farm*, reactive supply capability case (ER21-2919); the *Crescent Ridge LLC*, reactive supply capability case (ER22-387); *PSEG Energy Trade & Resources LLC*, reactive supply capability case (ER22-351); *Grand Ridge Energy LLC* reactive supply capability case (ER19-2925); the *Panda Hummel Station LLC* reactive supply capability case (ER19-391-005); and *South Field Energy LLC* reactive capability case (ER21-2819-003); the *Eagle Creek Reusens Hydro, LLC, et al.* reactive capability case (ER21-2832 et al.); the *Pinnacle Wind, LLC* reactive capability case (ER22-507-000); the *Parkway Generation Keys Energy Center LLC, et al.*, reactive capability case (ER22-279-000, et al.); the *Hawtree Farm Creek Solar, L.P.*, reactive capability case (ER22-1076-001); the *Holloman Lessee, LLC*, reactive capability case (ER20-2576-001); the *Albemarle Beach Solar, LLC*, reactive capability case (ER21-2364-001); the *Wildwood Lessee, LLC*, reactive capability case (ER22-763-000); the *Covanta Delaware Valley, L.P., et al.*, reactive capability case (ER22-965-004); the *Jackson Generation, LLC* reactive capability case (ER22-1089-000, et al.); the *Black Rock Wind Force, LLC* reactive capability case (ER22-944-000); the *Blooming Grove Wind Energy Center LLC* reactive capability case (ER22-2148-000, et al.); *Indeck Niles, LLC* reactive capability case (ER22-907-000, et al.); the *Seneca Generation, LLC, et al.*, reactive capability case (ER14-1400-002, et al.); the *Red Oak Power, LLC*, reactive capability case (ER22-2946-001); the *Bellflower Solar 2, LLC*, reactive capability case (ER23-628-002); the *Headwaters Wind Farm II, LLC*, reactive capability case (ER23-1211-000); the *Skipjack Solar Center, LLC*, reactive capability case (ER22-2048-000); and the *Big Plain Solar, LLC*, reactive capability case (EL23-78-000); the *Guernsey Power Station LLC*, reactive capability case (ER23-1760-000); the *Stony Creek Wind Farm, LLC*, reactive capability case

(EL23-98-000, et al.); the *Newark Energy Center, LLC*, reactive capability case (ER24-1927-000, et al.); and the *Invenergy Nelson Expansion LLC*, reactive capability case (ER24-2166-000).

Q 4. HAVE YOU PARTICIPATED IN OTHER FERC PROCEEDINGS RELATED TO REACTIVE POWER?

A. Yes, I was invited to participate in a Commission technical conference and provided comments to the Commission in a proceeding convened to "discuss compensation for Reactive Supply and Voltage Control (Reactive Supply) within the Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs)."[2] Specifically, the proceeding explored "types of costs incurred by generators for providing Reactive Supply capability and service; whether those costs are being recovered solely as compensation for Reactive Supply or whether recovery is also through compensation for other services; and different methods by which generators receive compensation for Reactive Supply (e.g., Commission-approved revenue requirements, market-wide rates, etc.)."[3]

On February 22 and March 23, 2022, the Market Monitor filed comments and reply comments responding to the Commission's Notice of Inquiry in Docket No. AD22-2. The Notice of Inquiry included questions (at P 28 (question no. 5.d)) specifically addressing the over recovery issue. The Notice of Inquiry also included questions (at PP 20–28 (question no. 5) addressing the appropriateness of continuing to use the *AEP* Method in reactive capability proceedings. On October 17, 2024, Order No. 904 issued. Order 904 eliminated separate payments for reactive power effective June 1, 2026.[4]

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[2] *Reactive Supply Compensation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Docket No. AD16-17-000. I participated in a workshop convened June 20, 2016. The Market Monitor filed comments on July 29, 2016, and reply comments on September 20, 2016.

[3] *Id*. at 1.

[4] *See Compensation for Reactive Power within the Standard Power Factor Range*, Order No. 904, 189 FERC ¶ 61,034 at P 90 (2024) ("Order No. 904") ("[B]ecause real and reactive power are provided as joint products with joint costs produced from the same equipment, any allocation of joint fixed costs between real and reactive power could be viewed as inherently arbitrary"); *reh'g denied*, 189 FERC ¶ 62,127 (2024), *appeal pending*.

The Market Monitor includes analysis and recommendations related to reactive power in the State of the Market Reports for PJM.[5]

I.

Q 5. WHY SHOULD THE PROPOSED ANNUAL REVENUE REQUIREMENT FOR THE CPV MARYLAND FACILITY BE REJECTED?

A. The Offer proposes, on a black box basis, an ARR of $2,200,000.00 per year, or $3,004.23 per MW-year, or $8.23 per MW-day. The proposed Offer ARR is excessive.

The proposed Offer ARR of $3,004.23 per MW-year exceeds the $2,199 per MW-year level of the EAS offset included in the PJM capacity market demand curve by $805.23 per MW-year, or 36.6 percent. The ARR should be capped at the energy and ancillary services (EAS) offset for the current delivery year, $2,199 per MW-year, or $6.02 per MW-day.[6] The proposed black box ARR would require customers to pay $589,672.30 more per year than if the $2,199 per MW-year value were used.

The proposed ARR is also significantly higher than the average rate paid for reactive power in PJM, $2,088 per MW-year in 2024.[7]

The actual excess of the ARR over the average rate paid for reactive power is larger than calculated based on the installed capacity of the resource. PJM capacity resources can sell only a derated level of MW in the PJM capacity auction. On an equivalent capacity basis using the class average 74.0 percent ELCC derating factor for combined cycle gas-fired facilities to be used in the PJM Base Residual Auction

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5 *See*, *e.g.*, *2024 Annual State of the Market Report for PJM*, Vol 2 (March 13, 2025), Section 10 (Ancillary Services Markets), which can be accessed at: <*https://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2024/2024-som-pjm-vol2.pdf*> ("2024 SOM").

6 The energy and ancillary services offset for reactive revenues included in the PJM capacity demand curve (VRR curve) (EAS Offset) is set forth in Section 5.10(v-1)(A) of Attachment DD to the OATT. Current capacity prices through the 2025/2026 Delivery Year were set using an EAS Offset of $2,199 per MW-year. As of May 31, 2026, payments and charges under Schedule 2 will terminate. The EAS Offset for reactive revenues was calculated by the Market Monitor and was based solely on Schedule 2 revenues.

7 *See* 2024 SOM at 603, Table 10-65.

for the 2027/2028 Delivery Year, the Offer proposed ARR is $4,059.77 per MW-year, $11.12 per MW-day. The derated capacity for the CPV Maryland facility is 541.9 MW.

To the extent that the actual unit specific ELCC for the CPV Maryland facility is below the class average, the proposed cost of reactive per MW of capacity would increase and the degree of excess would increase. The opposite would be true if the actual ELCC were greater than the class average. The actual ELCC derating factor based on the actual CIR value is essential to an accurate evaluation of the actual cost per MW-day of the CPV Maryland proposal. The facts about the actual ELCC derating factor and the actual CIR value are confidential but can be established at hearing.

The proposed ARRs are excessive, have not been demonstrated to have a rational basis, have not been demonstrated to be just and reasonable, and should be rejected.[8] The revenue requirement for reactive capability included in the PJM Capacity Market for the current delivery year is $2,199 per MW-year. The average revenue requirement for reactive capability in PJM was $2,088 per MW-year in 2024.

There is no reasonable basis for the proposed disparity in cost for the same service. No justification has been provided for why customers should pay 1.4 times the average PJM price of reactive for reactive from CPV Maryland, or 40 percent more for the same product. Reactive is a homogeneous product which should have the same price for all sellers. This result has not been explained or supported by CPV Maryland in the black box Offer. This disparity is inconsistent with competitive markets.

II.

Q 6. HOW DO PJM MARKET RULES PROVIDE THE OPPORTUNITY TO RECOVER REACTIVE CAPABILITY COSTS?

A. The PJM market rules that account for recovery of reactive revenues are built into the capacity market auction parameters, specifically, the demand curve in the capacity market, the VRR curve. The PJM market rules explicitly account for recovery of reactive revenues of $2,199 per MW-year through inclusion of the EAS

[8] *See American Electric Power Service Corp.*, 80 FERC ¶ 63,006 (1997), *aff'd*, 88 FERC ¶ 61,141 (1999); *see also* Order No. 904.

offset in the Net CONE parameter of the capacity market demand (VRR) curve.[9] The Net CONE parameter directly affects clearing prices by affecting both the maximum capacity price and the location of the downward sloping part of the VRR curve.

Q 7. HOW DOES THE REACTIVE EAS OFFSET PER MW-YEAR NUMBER AFFECT THE DEMAND CURVE FOR CAPACITY?

A. Elimination of the reactive EAS offset of $2,199 per MW-year effective June 1, 2026, means that the prices on the capacity market demand curve (VRR curve) for each MW level are higher and the clearing prices for capacity that result from the interaction of the supply curve and the VRR curve, are higher. The result is the recovery of additional reactive capacity revenues in the price of capacity for all resources. This has already occurred in the capacity market Base Residual Auction for the 2026/2027 Delivery Year, run on July 25, 2025.

Q 8. WHY IS THE DEMAND CURVE RELEVANT?

A. If there were no nonmarket recovery of reactive revenue, there would be no reactive revenue offset to Net CONE and the demand curve would result in higher capacity market prices, all else held constant. If there were no nonmarket recovery of reactive revenue, the shape and location of the demand curve would give unit owners the opportunity to recover all reactive capability costs in the capacity market.

This is how the capacity market works for all the other costs of a generating plant other than short run marginal costs.

Payments based on cost of service approaches result in distortionary impacts on PJM markets. Elimination of the reactive revenue requirement and the recognition that capital costs are not distinguishable by function will increase prices in the capacity market. The VRR curve will shift to the right, the maximum VRR price will increase and offer caps in the capacity market will increase. The simplest way to address this distortion is to recognize that all capacity costs are recoverable in the PJM markets.

The best approach, which has been adopted and will become effective in PJM on June 1, 2026, eliminates cost of service rates for reactive capability and allows for

[9] *See* OATT Attachment DD § 5.10(a)(v)(A).

recovery of capacity costs through existing markets, including removal of any offset for reactive revenue in offers and in the capacity market demand (VRR) curve.[10]

The Commission approved this approach in Order No. 904, dated December 19, 2024. The Commission approved PJM's compliance filing on August 4, 2025, and payments for reactive capability will terminate effective May 31, 2026.[11]

III.

Q 9. SHOULD THE *AEP* METHOD BE USED TO CALCULATE THE RATE FOR THE FACILITIES?

A. No. To the extent the black box ARR of $2,200,000 could be deemed to reflect a calculation in 2016 using the *AEP* Method,[12] such compensation is not just and reasonable, and is not consistent with the Commission's policy set forth in Order No. 904. The current process does not actually compensate resources based on their costs of investment in reactive power capability. The *AEP* Method assigns costs between real and reactive power based on a unit's power factor. This is effectively an allocation based on a subjective judgment rather than actual investment. As the Commission determined in Order No. 904, there are few if any identifiable costs incurred by generators in order to provide reactive power.[13] Separately compensating resources based on a judgment based allocation of total capital costs was never and is not now appropriate in the PJM markets. Generating units are fully integrated power plants that produce both the real and reactive power required for grid operation.

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10 *See PJM Interconnection, L.L.C.*, 192 FERC ¶ 61,113; *PJM Interconnection, L.L.C.*, 190 FERC ¶ 61,088 at P 97 (2025) ("PJM's proposal removes reactive service revenues from the calculation of the net EAS Offset and the net EAS revenue estimate component of default New Entry MOPR floor offer prices, consistent with the Commission's finding in Order No. 904 that 'transmission rates are unjust and unreasonable to the extent they include charges associated with the provision of reactive power within the standard power factor range.'").

11 *See id*.

12 *See CPV Maryland, LLC*, Schedule 2 Filing, Docket No. ER17-481-000 (December 2, 2016) at 4–7.

13 *See* Order No. 904 at P 90.

The *AEP* Method originated with a regulated utility assigning costs between two sources of regulated revenue requirement. The practice persists in PJM only because it provides a significant, guaranteed stream of riskless revenue. Generation owners have an incentive to maximize such guaranteed revenue streams.

There is no logical reason to have a separate fixed payment for any part of the capacity costs of generating units in PJM. If separate cost of service rates for reactive continue, they need to be correctly integrated in the PJM market design.

The best and straightforward solution is to remove cost of service rates for reactive supply capability and to remove the offset. Investment in generation can and should be compensated entirely through markets. Removing cost of service rules would avoid the significant waste of resources incurred to develop unneeded cost of service rates.

The result would be to pay generators market based rates for both real and reactive capacity.

The *AEP* Method never accurately reflected the investment costs of providing reactive power, nor was it intended to do so. The *AEP* Method is a cost of service allocation approach designed to assign the regulated revenue requirement for generating units to a regulated generation function and a regulated transmission function. The *AEP* Method was designed to split that cost recovery for generating units in a reasonable way, based on a judgment about what is reasonable. The *AEP* Method was never about actually identifying specific capital costs associated solely with the provision of reactive power. Cost of service approaches apply allocation factors to accounting line items based on assumptions. The assumptions are that X percent of a type of equipment at a generating plant is associated with reactive power while (1-X) percent is associated with real power. The false precision of the *AEP* Method is entirely based on arbitrary assumptions. Even proponents of the *AEP* Method do not assert that the goal is to recover only the costs associated with a specific portion of a power plant required for the production of reactive power, or, in most cases, that such identification is even possible. That is not what the *AEP* Method was intended to do or is intended to do. The *AEP* Method does not define costs that are uniquely associated with the production of reactive power.

The *AEP* Method is based on the incorrect premise that the capacity costs of an integrated power plant are separable. The capacity costs of an integrated power plant are not separable.

The fundamental flaw in the *AEP* Method approach is the assumption that the costs of providing reactive power are a function of the power factor. The power factor is the ratio of real power (expressed as megawatts or MW) to the total output (apparent power) of a generator (expressed as megavolt-amperes or MVA). The remaining output is reactive power (expressed as megavolt amperes reactive or MVAR). The allocator typically used by proponents of the *AEP* Method to assign costs to reactive power generation is $(1 - (\text{PowerFactor})^2)$. The power factor has superficial attraction as an appropriate allocator. The power factor is the core determinant of the reactive allocation factor in the *AEP* Method. Small changes in the power factor have large impacts on the costs allocated to reactive power. For a power factor of .95, the allocator is 9.75 percent while for a power factor of .90, the allocator is 19.00 percent, and for a power factor of .70, the allocator is 51.00 percent. For a resource claiming a power factor of .70, does that mean that more than half of the generator's costs were incurred in order to provide reactive power? Does this mean that 51 percent of the costs of the generator, exciter, and electrical equipment should be recovered through a cost of service rate? The answer to both questions is no. But resources have filed for guaranteed reactive revenue requirements on that basis.

The power factor has taken on somewhat mythical significance in the discussion of reactive power. There are frequently long discussions of power factors in reactive cases. The ratio of real to reactive power can vary significantly. The typical actual operating power factor of generators in PJM is determined by their voltage schedule and is usually between .97 and .99. The resultant *AEP* Method power factor allocator consistent with this actual reactive output of PJM generators and the actual tariff defined reactive output to generators is 5.91 to 1.99 percent. The nameplate power factor of thermal generating units is typically .85. But the nameplate power factor stamped on the generator at the factory is not based on actual operation on an actual grid. The nameplate power factor is meaningless for the actual operation of the power plant. The nameplate power factor does not mean that 27.75 percent of the power plant capital costs are associated with reactive power, although many resources have made that request because that is the power factor allocator based on the nameplate rating.

The power factor is not an appropriate allocator and does not reflect the actual capital costs associated with producing reactive power. The power factor has taken on a disproportionate significance in reactive rate cases because it is the single most important allocator in the *AEP* Method. That significance illustrates the fundamental flaws in the *AEP* Method.

The power factor does not measure reactive capability. The power factor does not determine a plant's reactive capability. The power factor does not identify costs associated with reactive capability or provide a reasonable basis for allocating those costs to reactive or real power production.

Q 10. DOES THIS CONCLUDE YOUR AFFIDAVIT?

A. Yes.

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CPV Maryland LLC	)	Docket No. EL24-138-000

DECLARATION

JOSEPH E. BOWRING states that I prepared the affidavit to which this declaration is attached with the assistance of the staff of Monitoring Analytics, LLC, and that the statements contained therein are true and correct to the best of my knowledge and belief. Monitoring Analytics, LLC, is acting in its capacity as the Independent Market Monitor for PJM.

Pursuant to Rule 2005(b)(3) (18 CFR § 385.2005(b)(3), citing 28 U.S.C. § 1746), I further state under penalty of perjury that the foregoing is true and correct.

Executed on November 14, 2025.

Joseph E. Bowring