



Changes to the PJM market design as significant as this should be subject to the Section 206 standards rather than PJM's requested 205 standard. PJM's proposal does not meet either standard, but consideration under Section 206 provides the Commission the ability to modify the filing in the significant ways that are required.

The July 30<sup>th</sup> Filing should be rejected. The Commission should initiate a Section 206 investigation and thereby establish an orderly process to produce a balanced and effective rule for PJM.

## **I. PROTEST**

### **A. Summary**

PJM's proposal would effectively eliminate the MOPR while creating a confusing and inefficient administrative process that effectively makes it impossible to prove market power as PJM has defined it.

PJM's proposal consists of two primary elements: a proposed approach to MOPR and a proposed definition of buyer side market power. All of PJM's arguments about why Legacy MOPR and 2019 MOPR should be eliminated can and do equally support the complete elimination of MOPR.<sup>3</sup> PJM does not attempt to create a more focused version of MOPR, but simply proposes to effectively eliminate MOPR. PJM creates a convoluted and impossible to enforce definition of market power while making the task of evaluating offers for buyer side market power almost impossible. The markets would work better and more efficiently if the MOPR were eliminated without pretense than with PJM's effective elimination of MOPR plus the addition of a new, incorrect and entirely unnecessary definition of buyer side market power.

PJM appears to believe that simply identifying buyer side market power is an unacceptable pejorative and therefore proposes to exempt the only two identified sources of

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<sup>3</sup> July 30<sup>th</sup> Filing, *passim*.

structural buyer side market power from application of the MOPR. While PJM suggests that MOPR would remain, PJM does not point to a single example of an actual case that would fail their proposed MOPR tests. In addition, and consistent with the overall theme, PJM creates an unenforceable definition of market power, complete with a complex set of barriers to gathering information and impossible deadlines for the Market Monitor.

The Market Monitor proposes an alternative, efficient and workable definition of MOPR that is fully consistent with state authority while protecting the wholesale energy markets.

## **B. Standards for Review**

PJM claims (at 21–22) that its proposal “is just and reasonable” and “[t]hat is all that need be shown.” The July 30<sup>th</sup> Filing cites to precedent (at 22 n.67) that only requires PJM to show that its proposal meets the minimum threshold to be just and reasonable but not that it is the best among alternatives. The July 30<sup>th</sup> Filing fails even a deferential test. PJM fails to support the proposed repeal of the core provisions of the current MOPR.

PJM has not demonstrated that its MOPR Proposal is just and reasonable. The July 30<sup>th</sup> Filing should be rejected.

PJM should not be permitted to use a Section 205 filing to obtain unwarranted deference from the Commission for its proposal in this proceeding. PJM should not be allowed to sidestep Commission efforts to establish an effective and balanced policy for the MOPR. The Commission has an ongoing rulemaking that specifically includes consideration of PJM MOPR reform.<sup>4</sup> The July 30<sup>th</sup> Filing ignores important questions about how best to proceed with PJM MOPR reform.<sup>5</sup> The rulemaking process provides a better

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<sup>4</sup> See *Modernizing Electricity Market Design, Notice of Technical Conference on Resource Adequacy in the Evolving Electric Sector*, Supplemental Notice Of Technical Conference On Resource Adequacy In The Evolving Electricity Sector, Docket No. AD21-10-000 (March 16, 2021), *passim*.

<sup>5</sup> See, e.g., *id.* at 6 (“If the Commission were to direct revisions to the currently effective MOPR and replace it with a MOPR designed to address only buyer-side market power (herein referred to as a

opportunity to establish just and reasonable rules for the PJM Capacity Market, including, specifically, the MOPR.

The Commission has insufficient authority in Section 205 proceedings to require modifications and additions. The course consistent with the public interest is to reject the July 30<sup>th</sup> Filing. The Commission should initiate an investigation under Sections 206 or 309.<sup>6</sup> Starting an investigation will allow the Commission to establish the best rule for PJM.

### **C. MOPR**

PJM's approach to MOPR reform means that MOPR is eliminated for state subsidized resources, the primary focus of MOPR to date. PJM proposes to simply accept all state subsidies (as long as they leave out one key phrase) as legitimate state actions to define the nature of generation under the FPA.<sup>7</sup>

PJM's only proposed condition to the complete elimination of MOPR is that states are not allowed to condition subsidies on a resource clearing in a capacity auction or on a resource offering in a capacity auction at a specific price. PJM does not explain why such a condition is objectionable or why such a condition would result in different market outcomes.

The proposed condition is not reasonable given that PJM is otherwise eliminating all MOPR rules affecting state resource decisions. If a state enters into a long term contract for an uneconomic resource, it is rational, for all the reasons cited by PJM, to want the resource to clear in the capacity auction. It is also rational for the state to count the capacity market

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Targeted MOPR), could such an outcome be just and reasonable? Would it be sustainable to remove the MOPR completely without making additional changes to other PJM market rules?"

<sup>6</sup> 16 U.S.C. §§ 824e, 824h.

<sup>7</sup> The Federal Power Act assigns to the Commission exclusive jurisdiction over the sale of energy at wholesale in interstate commerce. 16 U.S.C. § 824(a); *Miss. Power & Light Co. v. Miss.*, 487 U.S. 354, 371 (1988). The Act reserves jurisdiction to the states over facilities used for the generation of electric energy. 16 U.S.C. § 824(b)(1).

revenues as part of the total compensation to the resource and reduce the contract payments by the capacity market revenues. That is not only rational, it is the expected behavior of states that subsidize resources. All of PJM's arguments about the detrimental effects of the MOPR, because it will result in ignoring actual resources, also apply to PJM's proposal regarding conditioned state support. It is implicit in PJM's discussion of state subsidized resources that subsidized resources will clear in the capacity market and that capacity market revenues will offset the direct cost of the subsidies to the state.

PJM's proposed condition is meaningless in practice. States can achieve exactly the same outcome with slightly more careful wording.

Another reason to exclude the proposed definition of Conditioned State Support is that PJM's definition does not actually match the courts' definition of a preempted state program. The Conditioned State Support test is based on whether the benefit received under a state program is conditioned "on the resource clearing the market or offering at a specific price."<sup>8</sup> In *Hughes* the requirement to clear was explicit in the rejected state subsidy. In the 2nd and 7th Circuit cases, the requirement to clear was not found to be explicit or to exist in the ZECs provisions.<sup>9</sup> Reading the cases together, the courts have concluded that only state programs that explicitly require clearing are preempted. As a result, some state programs that may not be preempted would still fail PJM's proposed Conditioned State Support test. A state program that includes a requirement to offer at a specific price fails the

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<sup>8</sup> July 30<sup>th</sup> Filing at 3, Attachment B proposed OATT § 1 (Definitions—C–D) (““Conditioned State Support” shall mean any financial benefit required or incentivized by a state, or political subdivision of a state acting in its sovereign capacity, that is provided outside of PJM Markets and in exchange for the sale of a FERC-jurisdictional product conditioned on clearing in any RPM Auction, where “conditioned on clearing in any RPM Auction” refers to specific directives as to the level of the offer that must be entered for the relevant Generation Capacity Resource in the RPM Auction or directives that the Generation Capacity Resource is required to clear in any RPM Auction. Conditioned State Support shall not include any Legacy Policy.”).

<sup>9</sup> See *Hughes v. Talen Energy Mktg.*, 136 S. Ct. 1288, 1295 (2016); *Coalition for Competitive Elec. v. Zibelman*, 906 F.3d 41 (2<sup>nd</sup> Cir. 2018); *Elec. Power Supply Ass'n v. Star*, 904 F.3d 518 (7<sup>th</sup> Cir. 2018).

Conditioned State Support test. Courts have not held that state programs are preempted because they include a requirement to offer at a specific price.

To the extent that PJM's definition of Conditioned State Support is the same as the Court's definition of preempted state action, it protects federal policies only from state policies that are already preempted.<sup>10</sup> State programs that are preempted are unlawful and should be invalidated. States know the law and can be expected to avoid explicit requirements that result in preemption. If PJM's definition of Conditioned State Support differs from the Court's definition of preempted state action, it should be rejected for that reason.

PJM's approach to MOPR is also based on the core assertion that self supply entities also have the unlimited right to subsidize resources and that the resultant subsidized resources are part of the economic fundamentals of the market.<sup>11</sup> While the treatment of self supply has been inconsistent across the historical variations in MOPR details, PJM's proposal also eliminates that element of MOPR. Self supply subsidies are not evidence of bad intent or evidence of an explicit goal of reducing market prices. Self supply entities are guaranteed full recovery of all the costs associated with building and operating capacity resources through cost of service ratemaking. Those nonmarket revenues are subsidies which affect the offer behavior of self supply entities. PJM's approach would simply ignore these basic facts rather than creating a rule that protects the market while also protecting the ability of self supply resources to meet their competitive objectives without interference.

It is a fact that both states and self supply entities have legitimate reasons for providing subsidies. It is a fact that both states and self supply entities have structural

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<sup>10</sup> PJM explains that its definition of Conditioned State Support is designed to reflect the holding in *Hughes*. See July 30th MOPR Proposal, citing *Hughes* at 1296 & 1299.

<sup>11</sup> OATT § 1 (Definitions—R-S). PJM proposes a definition of Self-Supply Seller. Self-Supply Sellers cannot exercise buyer side market power, by definition, in PJM's proposed approach. References to self supply entities in this filing are equivalent to Self-Supply Sellers.

market power. That is neither bad nor good but just a fact about their position in the PJM markets. Both types of entities clearly have the ability to reduce the market price below the competitive level. Nonetheless, states have generally not done that and self supply entities always passed the prior long/short test.<sup>12</sup> Creating a clear rule is not equivalent to accusing any entity of bad intent. Even if market power were exercised by a state or self supply entity, that would not require bad intent. A well designed rule should be designed to protect the market against the exercise of market power, with or without intent and with or without a demonstration that an entity actually benefitted. That is essential for a competitive market with appropriate incentives for entry and exit.

PJM's proposed MOPR will not apply to demand resources or energy efficiency resources. The Commission previously rejected PJM's proposal to exclude energy efficiency resource from MOPR.<sup>13</sup> <sup>14</sup> Demand resources and energy efficiency resources participate as capacity resources and should be subject to the same rules that apply to generators and other capacity resources. PJM provides as justification for this exclusion that historically the MOPR did apply to these resources prior to the current MOPR, and also that these resource tend to be "small scale and low cost."<sup>15</sup> Neither is correct. In the 2022/2023 BRA, demand resources and energy efficiency resources accounted for 9.4 percent of the cleared UCAP.<sup>16</sup> Ownership of demand resources for the current delivery year, 2021/2022, is highly concentrated with an HHI of 2584 and the four largest companies own 89.0 percent of all

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<sup>12</sup> See OATT § 5.14(h)(6)(iii), as effective Dec. 8, 2014.

<sup>13</sup> 169 FERC ¶ 61,239 at P 54.

<sup>14</sup> PJM had proposed that the MOPR apply to demand resources but not to energy efficiency resources.

<sup>15</sup> July 30<sup>th</sup> Filing at 26.

<sup>16</sup> PJM Interconnection, L.L.C., "2022/2023 RPM Base Residual Auction Results," (June 2, 2021) at 2, <<https://pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2022-2023/2022-2023-base-residual-auction-report.ashx>>.

committed demand response UCAP MW.<sup>17</sup> Demand resources have extremely high strike prices that can affect energy market prices.<sup>18</sup> Demand resources and energy efficiency resources are a significant source of capacity in the PJM Capacity Market and should not be excluded from the MOPR.

#### **D. Buyer Side Market Power**

PJM's approach to buyer side market power is convoluted, unnecessarily complicated and unenforceable. Given that PJM proposes to eliminate the only two sources of buyer side market power from consideration, there is no reason to have this definition in the tariff at all. If approved, this would be the only definition of market power in the PJM tariff. The implications for the definition of supplier side market power are significant and should be unacceptable. A definition of supplier side market power incorporating even parts of PJM's proposed definition of buyer side market power would undo 20 years of evolution and refinement of the definition of market power actually applied in PJM markets.

PJM includes this statement about buyer side market power without any evident irony (at 26):

Taking advantage of the fact that Capacity Market Sellers know best whether their Generation Capacity Resources is entitled to receive Conditioned State Support or whether the Capacity Market Seller plans to use the resource to exercise Buyer-Side Market Power, PJM is proposing that sellers 'self-certify' whether their resources should be subject to the MOPR. [footnote omitted]

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<sup>17</sup> Monitoring Analytics, L.L.C., "Quarterly State of the Market Report for PJM: January through June," (August 12, 2021) at 335 <[http://www.monitoringanalytics.com/reports/PJM\\_State\\_of\\_the\\_Market/2021/2021q2-som-pjm-sec6.pdf](http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2021/2021q2-som-pjm-sec6.pdf)>.

<sup>18</sup> *Id.* at 345. Almost all, 97.3 percent of nominated MW, of the demand response registrations in the emergency and pre emergency full option have a minimum dispatch price above \$1,000 per MWh.

PJM's operational definitions of buyer side market power and the exercise of buyer side market power are spread across various locations in the draft tariff.

The definitions section of the draft tariff defines buyer side market power as "the ability of Capacity Market Sellers with a Load Interest to suppress RPM Auction clearing prices for the overall benefit of their (and/or affiliates) portfolio of generation and load."

The actual exercise of buyer side market power is defined as: "anti-competitive behavior of a Capacity Market Seller with a Load Interest ... to uneconomically lower RPM Auction Sell Offer(s) in order to suppress RPM Auction clearing prices for the overall benefit of the Capacity Market Seller's ... portfolio of generation and load ..." <sup>19</sup>

PJM defines a load interest (at 99) as: "responsibility for serving load within the PJM Region ..."

There are several issues with this definition of market power, including limiting the relevant sellers to those with a load interest and requiring a benefit to the seller's overall portfolio. There is no reason to exclude generation owners with no load because such owners can have the ability and incentive to reduce prices and their activities can reduce prices without intent or incentive to do so. It is impossible to evaluate whether a potential action benefits an entire portfolio because there is a lack of knowledge about all aspects of a market seller's portfolio, including financial positions taken either bilaterally or on platforms to which PJM and the Market Monitor do not have access. There is no reason to include this benefit or profitability test because it assumes that market power is only market power when the exerciser benefits rather than when the rest of the market is hurt. Participants make mistakes. Participants cannot perfectly predict the results of the market. Some profits resulting from exercises of market power may not be realized solely in the defined delivery year or solely in the capacity market or solely in PJM markets. But market

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<sup>19</sup> See July 30<sup>th</sup> Filing, propose OATT § 1 (Definitions).

power is still market power and market power is still inconsistent with efficient, competitive markets.

PJM does not define either the term anti-competitive or the term suppress. In the absence of a definition, enforcement is subjective. PJM's corresponding operational proposals for determining whether market power exists and is exercised are vague and subjective and not fact based.

In the unexpected event that a market seller does not disavow the intent to exercise market power, PJM establishes a lengthy gauntlet that the Market Monitor must run in order to obtain data relevant to proving market power. (Most of the same rules apply to PJM.)

In addition to being inconsistent with PJM's established process for identifying supplier side market power, the requirement of intent in determining market power is not consistent with economic theory. The existence of market power is structural and its consequences (removing pressure to reduce costs, increasing the profit maximizing price above competitive levels, and creating incentives for market preemption) exist regardless of intent and regardless of whether any particular strategy is ultimately profitable.

Furthermore, the requirement of intent is not consistent with Commission policy. An asserted lack of intent to raise or lower prices is not part of the Commission's review of market based rates applications or merger filings, and it is not a condition for the application of market power mitigation in any market. The purpose of the MOPR is not to prevent market manipulation, which does require intent under Commission policy. The purpose is to prevent buyer side market power from undermining market efficiency and competitiveness. A definition of buyer side market power that requires intent does not meet that standard.

### **1. Proposed Market Power Review Process**

The detailed tariff language that defines how PJM's MOPR Proposal would work includes a series of steps. None of the steps or definitions are written in a way designed to

clearly or correctly define market power or to permit the Market Monitor to pursue an investigation.<sup>20</sup>

The basic steps in the tariff include: the self certification process; the definition of Conditioned State Support and a long but only partial list of exclusions that can be expanded by PJM; the detailed rules limiting Market Monitor investigations; the definition of the existence of buyer side market power; the definition of exercising buyer side market power including a long list of exceptions; the definition of MOPR offer floors for new entrants; the definition of exercising buyer side market power for existing resources; and a unit specific exception process for calculating MOPR offer floors.

The definition of market power excludes all state actions. PJM proposes to create a rule under which states cannot have or exercise market power, by definition, with only one exception.

Proposed section 5.14(h-2)(1) sets out the definition of self certification that the seller does not intend to exercise market power. There are no requirements to provide any support, explanation or documentation of the assertions in the certifications.

Conditioned State Support is the only defined basis for a finding of buyer side market power for state actions. Conditioned State Support means that any defined incentives must include "specific directives as to the level of the offer" or "directives that the Generation Capacity Resource is required to clear in any RPM Auction." There are also additional exclusions including all existing policies (legacy policies) and certain types of programs and situations defined in proposed section 5.14(h-2)(2)(A)(ii).<sup>21</sup>

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<sup>20</sup> PJM's existing MOPR is in Attachment DD § 5.14(h-1) and PJM's proposed new MOPR is in Section 5.14(h-2).

<sup>21</sup> For example, government programs that provide incentives through renewable energy credits (RECs) or zero energy credits (ZECs) are excluded. State retail service auctions and PURPA obligations are excluded as well. Also excluded are undefined "policies or programs that provide incentives related to fuel supplies."

Proposed section 5.14(h-2)(2)(A)(i) requires that if PJM believes a state program is Conditioned State Support or a market seller identifies a program as Conditioned State Support, PJM must make a Section 205 filing to ask that the Commission decide whether the programs are Conditioned State Support.<sup>22</sup> There is no role specified for the Market Monitor should the Market Monitor separately identify a program that should be Conditioned State Support. This creates substantial and unnecessary work for the Commission. These determinations should be the result of review and agreement between PJM and the Market Monitor and a decision by PJM. If the Market Monitor or the market participant disagrees with PJM's decision, either should be authorized to ask the Commission for resolution.

Proposed section 5.14(h-2)(2)(B) addresses buyer side market power. If PJM and/or the Market Monitor "reasonably suspects" a violation of the rules, the proposed tariff identifies a set of defined steps that must be taken and criteria that must be met. The review must be "fact-specific" and identify the ability and incentive to exercise market power. The seller's rights to respond are specified. PJM and/or the Market Monitor must notify the subject of the bases for inquiry and initiation of review at least 135 days in advance. If the auction were to be held on May 15, 2022, the deadline would be December 31, 2021. Most RPM exception deadlines are 120 days prior to the auction. There is no basis for assuming the Market Monitor or PJM would have adequate information to act by the defined deadline. The deadline is more likely to prevent investigations of market power than to facilitate them. If information becomes available later, the defined deadlines would prohibit investigation.

In addition to the fact that the standards for identifying buyer side market power are wrong, the proposed rules for conducting a review of a buyer side market power certification will make it effectively impossible to pursue and complete a timely

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<sup>22</sup> July 30<sup>th</sup> Filing at 43-44.

investigation. In order to initiate a review PJM and the Market Monitor must “confer with the Capacity Market Seller in advance of any such requests.” The review is proposed to be a “fact-specific review,” yet it would rely on a projection of capacity market outcomes using assumptions about supply conditions and sell offer prices.

Last but not least, PJM includes a long but not exhaustive list of reasons that would preclude even an inquiry into market power, let alone a finding of market power (§ 5.14(h-2)(2)(B)(ii)). The section ends with the broad, subjective, undefined, unenforceable and incomprehensible condition for exemption from the market power rules: “In addition, to the extent a Generation Capacity Resource may receive compensation in support of characteristics aligned with well demonstrated customer preferences, such compensation shall not, in and of itself, be a basis for the determination of Buyer-Side Market Power.”<sup>23</sup>

## **2. PJM’s Proposed Tests for Market Power**

PJM’s actual approach to implementing its market power tests as defined in the proposed tariff makes clear the unenforceability of the PJM approach.

In the unlikely event that any market participant is potentially subject to the MOPR rules, PJM’s proposed test for the existence of market power (§ 5.14(h-2)(2)(B)(i)(a)) requires ex ante modeling based on a series of estimates, expectations, subjective judgments and results from prior auctions. If that modeling shows a material impact from the single participant, the existence of market power is demonstrated. This approach cannot be reasonably characterized as fact based. Material is not defined. Modeling assumptions based on judgments can and will significantly affect the outcome of this proposed test. It is excessively complicated with no corresponding benefit.

If market power exists under that test, PJM proposes an additional test to determine if the market participant has an incentive to exercise market power (§ 5.14(h-2)(2)(B)(i)(b)).

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<sup>23</sup> July 30<sup>th</sup> Filing, Attachment B, proposed OATT Attachment DD § 5.14(h-2)(2)(B)(ii).

This proposed test also requires ex ante modeling based on a series of estimates and subjective judgments and results from prior auctions in order to calculate what PJM defines to be net benefits. The seller is allowed to include subsidies, for example RECs and ZECs, in the revenues that define whether a resource is economic. The proposed tariff requires only that a resource offer be justified, “economically or otherwise” without benefit of suppressed prices that result from the seller’s actions. That is a meaningless and unenforceable standard. PJM’s proposed incentive test ignores the price suppression impacts on other suppliers and the longer term effects of noncompetitive outcomes. PJM does not explain why an imperfect screen run based on estimated data well prior to the actual market clearing and that is likely to differ from the actual market results, is an adequate substitute for actual market power mitigation rules and an adequate protection against market power.

PJM does not address the fact that their proposed process, including extensive ex ante review, is likely to reveal substantial market sensitive information to the market participant undergoing the inquiry. This is a very significant matter, given that expected market clearing prices and the impacts of various offers on those prices are highly confidential and market sensitive.

### **3. PJM’s Approach to MOPR Offer Floors**

PJM’s filing only incompletely addresses a key issue that had been fully clarified in a prior version of MOPR. PJM failed to clarify that the same base financial parameters must be used for all technologies and proposed resources, without exceptions. As has been recognized by both the Commission and PJM at various times, use of the same base financial parameters for all resources is essential to avoid gaming.<sup>24</sup>

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<sup>24</sup> The Commission recognized this as the appropriate policy in its December 2019 Order at P 153: “We also agree with PJM that default MOPR values should maintain the same basic financial assumptions, such as the 20-year asset life, across resource types. The Commission has previously determined that standardized inputs are a simplifying tool appropriate for determining default offer price floors, [footnote deleted] and we reaffirm that it is reasonable to maintain these basic financial assumptions for default offer price floors in the capacity market to ensure resource offers

It is essential that all resource types use the same base financial parameters. No new combined cycle should be assumed to have a longer financial life than another combined cycle. No new solar resource should be assumed to have a longer financial life than another solar resource. Solar or wind resources should not be assumed to have a longer financial life than a combined cycle. In order to maintain a fair comparison across projects they must be compared using the same basic financial parameters. Project value can be easily manipulated by using a longer unit life for example. But there is no reason to permit one project to use a 35 year financial life while another project uses a 20 year life. The result is simply to arbitrarily make one project look better than another. All projects should use the same base financial assumptions used for the reference CONE unit defined in the prior quadrennial review.<sup>25</sup> That is currently a 20 year life. Use of a longer financial life in the MOPR floor prices than for the reference CONE unit creates a mismatch in the capacity market.

The relevant base financial parameters that should be fixed for all resource types are: nominal levelization; asset life of 20 years; no residual value; all project costs included with no sunk costs; use of first year net revenues; weighted average cost of capital based on actual cost of capital for the entity building the resource.<sup>26</sup> The tariff provides one potential caveat. A seller that wants to use a different asset life (but no greater than 35 years) has to provide supporting evidence. But the defined supporting evidence is vague and is not linked to the financial life of the asset. The financial life/modeled asset life should be defined to be based on the duration of the financing.

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are evaluated on a comparable basis. Therefore, we find 20 years to be an appropriately conservative estimate.”

<sup>25</sup> *See id.*

<sup>26</sup> *See* OATT Attachment DD § 5.14(h-1)(2)B.

In the unit specific MOPR floor process, resource owners persistently request offer floors significantly below net CONE. The actual behavior of most new entrants is generally consistent with offers at net ACR and not net CONE, both for subsidized and nonsubsidized resources.

#### **E. Cramton Affidavit**

Professor Peter Cramton provided an affidavit for PJM. The affidavit supports the Market Monitor's basic conclusions about the impacts and design of an effective MOPR. The Market Monitor's MOPR meets Cramton's definition of a narrow MOPR with all the attendant benefits. Professor Cramton makes some general statements about energy and capacity markets and MOPR policy that are not always supported by analysis. Professor Cramton does report on the results of his ongoing modeling efforts.<sup>27</sup> The results indicate (Cramton at 56) that "The differences between the broad MOPR and narrow MOPR cases are modest." The basic conclusions of the modeling appear to be that energy, reserve and capacity prices are about the same between the two MOPR options (Cramton at 56, 59 and 74). The most significant report result is (at 60): "By contrast, the broad MOPR results in a higher reserve margin—about two percentage points higher in most years." It is not entirely clear what the conclusion means, given the caveats in the affidavit about how ELCC is applied (at 49) and how capacity is defined (at 60) and given PJM's longstanding over procurement well in excess of the identified two percentage points. Cramton concludes (at 74): "Thus, the advantage of narrow MOPR is reduced consumer cost. Narrow MOPR avoids carrying additional resources that do not contribute to reliability." If that were the primary objective, PJM could achieve that objective and more without the complex MOPR

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<sup>27</sup> Cramton at 53: "As with any simulation of this complexity, I have made many assumptions. See Cramton et al. (2021) for details. Calibration of the model is imperfect. Miscalibration is especially apt to impact absolute results, such as price levels. It is less prone to affect relative results, such as comparison between scenarios. Thus, the reader should focus primarily on the differences between the broad and narrow MOPR scenarios."

filing by simply reducing its forecast to a more realistic level and directly eliminating MOPR.

The conclusion that there is not much difference between the broad and narrow MOPR approaches, as modeled, and the way in which Professor Cramton models the narrow MOPR strongly implies (Cramton at 50) that the findings for a no MOPR case would be the same as for a narrow MOPR case. Professor Cramton explains that “renewable resources and storage resources are already economic or near economic” and therefore the evolution of the energy mix between the broad and narrow MOPR in the simulation is not much different (Cramton et al., 2021 at 68).<sup>28</sup> The Cramton model results also strongly imply that the Market Monitor’s narrow MOPR approach would have similar or identical results to the no MOPR case and the modeled PJM narrow MOPR case. The Market Monitor’s approach is simple, does not eliminate the MOPR and uses a correct definition of market power, yet would likely have the same outcome as the PJM model with all its identified issues.

#### **F. Market Monitor’s Proposed Approach to MOPR**

The Market Monitor’s proposed approach to MOPR design is a simple and manageable approach to creating a narrow MOPR that recognizes state authority and does not prevent state preferred resources from clearing while minimizing the impacts on PJM markets. The Market Monitor’s approach meets PJM’s stated goals, including those stated by Professor Cramton for a narrow MOPR, in a simple and more effective way than PJM’s proposal.<sup>29</sup>

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<sup>28</sup> See Peter C., Emmanuele B., David M., and Pacharasut S., “Electricity Markets in Transition A multi-decade micro-model of entry and exit in advanced wholesale markets,” (July 2021) <<https://www.cramton.umd.edu/papers2020-2024/cramton-electricity-markets-in-transition.pdf>>.

<sup>29</sup> The July 30<sup>th</sup> Filing includes as Attachment C, an Affidavit of Peter Cramton on behalf of PJM Interconnection, L.L.C. (“Cramton Affidavit”).

The Market Monitor's approach creates a more focused MOPR rather than eliminating MOPR. The Market Monitor's approach applies a consistent definition of market power to the buyer side and the seller side.

### **1. MOPR**

As an alternative to eliminating the MOPR, the Market Monitor provides a narrow, workable MOPR. The Market Monitor's proposed modifications to the MOPR rules would retain the fundamentals of the current capacity market design and result in a de minimis impact on competitive market outcomes while recognizing defined state authority. The Market Monitor's proposed modifications to the MOPR rules would retain a clear MOPR rule while recognizing state authority over the generation facilities in each state. The Market Monitor's proposed modifications would permit exemptions from MOPR for state programs designed to support specific emerging technologies that would not otherwise be competitive. All other technologies are competitive and are expected to clear in capacity auctions, even with the application of MOPR and appropriate MOPR floor prices. The Market Monitor's proposed modifications would not impede or interfere with authorized state policies, regardless of the targeted technology. The Market Monitor's proposed modifications recognize that the definition of a competitive offer, the MOPR floor, is net ACR and not net CONE. Even when the MOPR rules are applied, the MOPR floors are defined to be competitive offers and expected to clear when consistent with market fundamentals. A competitive offer is a competitive offer. The correctly defined MOPR offer floor is the same as the correctly defined market seller offer cap ("MSOC").

All resource types would be subject to review for potential application of the MOPR. There is no reason to exempt any resource type. There is no reason to focus on any resource type.

The combination of a clear rule and appropriate MOPR floor prices means that subsidies are identified but that renewable resources will generally clear in the capacity market without the need for exemptions.

The Market Monitor's MOPR proposal does include exemptions when other regulatory rules limit the impact of buyer side market power.

The Market Monitor proposes an exemption related to self supply entities that exempts investor owned utilities or public power entities that are subject to direct regulation and review of generation investments by state commissions.

The Market Monitor does not include a net short test for self supply entities because entities should be able to purchase cost effective capacity from the market without limit. The Market Monitor includes a net long test for self supply entities: Subject to consistency with entities' long term resource plans, net long position not to exceed 15 percent. Only incremental capacity subject to the resultant MOPR floor price. This test is very close to the net long test that the Market Monitor applied under the 2013-2017 MOPR and which no self supply entity failed.

The Market Monitor proposes an exemption for competitive resources. Offers for resources that can demonstrate they do not and will not accept nonmarket revenues and depend entirely on private investors are exempt from MOPR. The Market Monitor applied this test under the 2013-2017 MOPR and the exemption was successful in exempting a large number of competitive resources that are subject to the current MOPR.

The Market Monitor also proposes a new exemption. State subsidies to uneconomic, emerging technologies are exempt. Uneconomic means that an offer at the resource's net ACR, based on market revenues, would not clear in the capacity market. Uneconomic means that units are not expected to cover their full costs over their reasonable financial life from market revenues. Emerging technologies means technologies that have not been previously successfully commercialized in PJM or cleared in the PJM Capacity Market based on private investment and market revenues. Offshore wind is an example of such a technology. Carbon capture and sequestration is an example of such a technology. There are no predetermined limits on the definition of emerging technology.

Other subsidized resources will clear in the capacity market when offered competitively, subject to the correctly defined MOPR floor. It is not undue discrimination to

distinguish between subsidies for uneconomic, emerging technologies and subsidies for mature technologies.

## **2. Definition of Subsidies**

Subsidy means an out of market payment required by a state or self supply entity designed to cover all or part of the costs of a capacity resource or to pay for any attribute of a capacity resource participating in the PJM Capacity Market.

For example, REC payments are subsidies and ZEC payments are subsidies. Receiving payments from customers under a cost of service tariff is a subsidy, whether the company is investor owned or publicly owned. Participation in state mandated auctions to meet load are not subsidies. Participation in RGGI is not a subsidy. A bilateral contract between two independent market entities is not a subsidy.

## **3. Market Power**

Market power is the ability to increase/decrease the market price above/below the competitive level. Supplier side market power is the ability to increase the market price above the competitive level. Buyer side market power is the ability to decrease the market price below the competitive level. No additional criteria are included. No additional criteria are relevant. Intent is not relevant. Profitability is not relevant. The competitive market price is the price that results from the interaction of demand and a supply curve consisting of competitive offers.

## **4. Definition of a Competitive Offer**

A rational new entrant into the PJM markets, including the capacity market, will invest if they expect to recover all their costs, including fixed costs, over the life of the asset. That is true for a subsidized resource and for a nonsubsidized resource. If some of the fixed costs are covered by a subsidy, the level of market revenues required to recover all costs is reduced. Subsidies clearly affect the decision to enter the PJM markets. Subsidies increase profits compared to nonsubsidized entry and provide an incentive for entry greater than the incentive based solely on market revenues. A subsidized new entrant wants to enter the

market because they expect to cover all their costs over the life of the asset based on a combination of subsidies and market revenues.

The new entrant investment decision is based on expected net revenue over the life of the asset. The investment decision is not made based on a requirement or a guarantee or an expectation that fixed costs are covered in year one or year two. It would be rational to enter if a resource expected that it would not cover its fixed cost in year one or year two, but would cover or even more than cover its fixed costs over the balance of the resource life. A rational new entrant expects that it will receive more than its marginal costs of energy in the energy market and more than its marginal costs of capacity in the capacity market, over the life of the asset. But that does not make it rational to offer at more than marginal costs. An offer in the capacity market at marginal cost is a competitive offer and a profit maximizing offer. A rational new entrant may expect to cover a share of its fixed costs in year one, based on making a competitive offer at its marginal cost of capacity, net ACR, and its expectation of market clearing prices.

PJM and the Commission recognize that subsidies affect the entry decision and want to reverse the impact of the subsidy on the entry decision. But in order to have a stronger effect on subsidized entry, both created an incorrect and artificial definition of a competitive offer in year one that includes fixed costs. The only way to remove the impact of subsidies from a competitive offer in the capacity market is to remove the direct effects of nonmarket revenues. Any subsidy that affects operating revenues can be addressed in the definition of a competitive offer by excluding subsidized revenues, whether RECs or ZECs or other. The intent is reasonable, but the implementation is not. The only way to completely prevent a subsidy from affecting entry decisions is to ban resources with subsidies from entering the capacity market. It is clear that PJM and the Commission do not have that authority under the *Hughes* decision as narrowed by the decisions in the 2<sup>nd</sup> and 7<sup>th</sup> Circuit Courts of

Appeals.<sup>30</sup> The appropriate MOPR offer floor is the competitive offer, the marginal cost of the resource, equal to net ACR, accounting for all avoidable costs and excluding subsidies in the form of operating revenues.

This approach recognizes the reality that it is not possible to fully insulate the PJM markets from the impact of subsidies, even if that were the appropriate policy goal. The entry decisions of subsidized resources are unavoidably affected by expectations of future subsidies and the MOPR rules cannot change that. Use of net ACR appropriately removes the impact of subsidized revenues from the offers while also recognizing that competitive offers are based on marginal costs.

It is for all those reasons that PJM asserts, without empirical or theoretical foundation, that a competitive offer for a new capacity resource is its net cost of new entry (“CONE”) rather than net ACR. PJM cannot and does not point to any evidence that actual competitive new entrants ever actually offer at net CONE or that actual new entrants offer at levels greater than net ACR. PJM does not explain why the marginal cost of a resource is logically different in year one than in year two. It is the experience of the Market Monitor that competitive new entrants generally want to offer and, when permitted, do offer both new and existing resources at net avoidable cost (“ACR”). It is also for those reasons, primarily the expectation of profitability based on subsidies, that subsidized units have a strong incentive to clear in the capacity market and want to make the lowest possible offer. That is the basis for subsidized units claiming unrealistically long asset lives, sunk costs, low costs of capital and lower avoidable costs. The unit specific MOPR review process, in which both PJM and the Market Monitor are engaged, has experienced those pressures and PJM has accepted a variety of reasons to accept offers below actual unit specific net CONE. The tensions in the MOPR floor review process are a direct result of the underlying realities

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<sup>30</sup> See 136 S. Ct. 1288 (2016); 906 F.3d 41 (2nd Cir. 2018); 904 F.3d 518 (7<sup>th</sup> Cir. 2018).

of subsidies, the associated incentives, and the incorrect definition of a competitive offer in the capacity market.

The Commission addressed the issue of the competitive offer for new resources versus existing resources in the December 2019 MOPR Order and the April 2020 Order on Rehearing.<sup>31</sup> PJM's arguments and the corresponding Commission arguments misunderstand the definition of a competitive offer and explicitly treat the definition of the offer floor for a new resource subject to MOPR as an appropriate barrier to entry.

The Commission asserts in its April 2020 Order (at PP 158–159) that net ACR ignores fixed costs. That is correct. A competitive offer in the capacity market is the marginal cost of capacity, which does not include fixed costs. The same is true of a competitive offer from an existing resource. There is no difference between a competitive offer from a resource in year one and the same resource in year two. PJM's proposed distinction between a competitive offer in year one and year two is arbitrary. PJM agrees that, if a unit clears in year one, a competitive offer in year two is net ACR. The unit in year two has all the same fixed and variable cost as the unit in year one. PJM asserts (at 49–50) that the full fixed cost of the unit in year one is avoidable and therefore appropriately included in the offer and therefore somehow analogous to an avoidable cost offer.<sup>32</sup> But that is an incorrect understanding of avoidable costs, and inconsistent both with the definition of avoidable costs in the PJM tariff and the economic definition. It is also an incorrect understanding of how investment decisions are made. Avoidable costs are the marginal cost of being a capacity resource, and correctly defined as the annual costs needed in order to operate a unit. Those avoidable costs are the same in year one and year two. Neither include fixed costs. The fixed costs of

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<sup>31</sup> See *Calpine Corp. v. PJM Interconnection, L.L.C.*, 169 FERC ¶ 61,239 (December 19, 2019) (“December 2019 Order”), *order on reh’g*, 171 FERC ¶ 61,035 (April 16, 2020) (“April 2020 Order”).

<sup>32</sup> July 30<sup>th</sup> Filing at 49-50.

the unit are the same in year one and year two.<sup>33</sup> PJM assumes (at 49-50), incorrectly, that the entry decision for a new resource is determined by whether the resource clears in the capacity market based on an offer level including its fixed costs. PJM provides no factual support for that assertion.

Fixed costs are nominal levelized and recovered in equal amounts over the life of the unit (typically 20 years). That is true for all units, whether new entrant or existing. PJM actually proposes that the MOPR floor include only these annual nominal levelized fixed costs. The Commission was incorrect in asserting that new entrant units face costs not faced by existing units.<sup>34</sup> But using net CONE makes sense if the purpose of the MOPR is to act as an uneconomic and inefficient barrier to entry to subsidized resources.<sup>35</sup> That should not be the purpose of the MOPR. Use of net ACR, excluding subsidized revenues, is economic and efficient. If the goal of MOPR were to prevent subsidized resources from participating in PJM markets, the only way to effectively prevent subsidized resources from entering the PJM Capacity Market would be to explicitly ban them from entering. It is correct that subsidies cover some of the fixed and avoidable costs of subsidized resources. It is therefore

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<sup>33</sup> December 2019 Order at P 139: New resources should be less likely to clear than many existing resources because they face additional avoidable costs that existing resources do not face, including construction and permitting costs.

<sup>34</sup> April 2020 Order at P 159: The December 2019 Order acknowledged that using net CONE as the default offer price floor for new resources may create a barrier to entry for some resources, but found that to be just and reasonable. [fn omitted] All other things being equal, new resources should be less likely to clear than many existing resources because they face additional costs that existing resources do not face, including construction and permitting costs. [fn omitted] Therefore using Net CONE as the default offer price floor for new resources will ensure that the expanded MOPR achieves its goal and prevents uneconomic new entry from clearing the capacity market as a result of State Subsidies.

<sup>35</sup> December 2019 Order at P 140. We also find it would not be appropriate to use Net ACR as the default offer price floor for new resources. Net ACR does not account for the cost of constructing a new resource. Using net ACR as the MOPR value for new resources would not serve the purpose of the MOPR, because it does not reflect new resources' actual costs of entering the market and therefore would not prevent uneconomic State Subsidized Resources from entering the market.

correct that subsidies result in entry that would not occur without the subsidies. But that fact does not change the definition of a competitive offer, whether from an existing or new resource, competitive or subsidized. PJM does not appear to assert that a competitive offer for a new unsubsidized resource is net CONE. There is no reason to believe that a competitive offer for a new subsidized resource is different from the competitive offer of an unsubsidized resource as long as the subsidized operating revenues are not included in calculating the net result.

In its December 2019 Order, the Commission misunderstood the definition of a competitive offer in the capacity market and the interactions between competitive offers and clearing prices.<sup>36</sup> Recognizing that net CONE is neither theoretically nor factually the definition of a competitive offer for new entry is not a collateral attack on the capacity market design. The goal of MOPR is not to increase capacity market prices to net CONE. In fact, the Commission's statement is not consistent with the fact that actual competitive offers for new and existing capacity have generally been at net ACR and not net CONE; with the fact that capacity market prices have generally been well below net CONE; and with the related fact that the capacity market has worked well and the combination of energy and capacity markets has resulted in the addition of substantial amounts of new capacity and more than adequate total capacity for reliability.

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<sup>36</sup> See April 2020 Order at P 157 (April 16, 2020) ("To the extent that parties contend that it is incorrect for the Commission to rely on net CONE as a proxy for competitive offers from new resources rather than to argue that the current value set for Net CONE is incorrect, then that argument represents a collateral attack upon a legion of prior Commission orders holding that the purpose of capacity markets is to attract and retain sufficient capacity to maintain reliability requirements, and to do so, prices need to average out over time to the cost of new entry.").

## II. CONCLUSION

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

Respectfully submitted,



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Dated: August 20, 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 20<sup>th</sup> day of August, 2021.

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