

**BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Calpine Corporation, Dynegy Inc.,)	
Eastern Generation, LLC, Homer City)	Docket No. EL16-49-000
Generation, L.P., NRG Power Marketing)	
LLC, GenOn Energy Management, LLC)	
Carroll County Energy LLC,)	
C.P. Crane LLC, Essential Power, LLC)	
Essential Power OPP, LLC, Essential)	
Power Rock Springs, LLC, Lakewood)	
Cogeneration, L.P., GDF SUEZ Energy)	
Marketing NA, Inc., Oregon Clean)	
Energy, LLC, and Panda Power)	
Generation Infrastructure Fund, LLC)	
v.)	
PJM Interconnection, L.L.C.)	
)	ER18-1314-000, -001
PJM Interconnection, L.L.C.)	
)	EL18-178-000
PJM Interconnection, L.L.C.)	(Consolidated)

**REPLY COMMENTS OF THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

The Pennsylvania Public Utility Commission (PAPUC) herein files these Reply Comments in response to the Initial Submission of PJM Interconnection, L.L.C., (PJM) filed on October 2, 2018, regarding capacity market rule changes to PJM’s Open Access Transmission Tariff (Tariff) to address supply-side state actions and their impact on PJM’s capacity market. This paper hearing proceeding was established by the Federal Energy Regulatory Commission (FERC or Commission) Order dated June 29, 2018.¹

¹ *Calpine Corp. v. PJM Interconnection, L.L.C.*, 163 FERC ¶ 61,236 (2018) (June 29 Order).

I. BACKGROUND

On April 9, 2018, PJM proposed two alternative revisions to its capacity market: capacity repricing and MOPR-Ex, both filed pursuant to Section 205 of the Federal Power Act (FPA), 16 U.S.C. § 824d.² The capacity repricing option proposed a two-stage process for committing and repricing capacity at PJM's Base Residual Auction (BRA). In the first stage, all resources, including those receiving out-of-market state payments, would be eligible to receive capacity commitment. In the second stage, the resources receiving out-of-market state payments would clear first, regardless of offer price, thus, displacing a certain amount of competitive resources and resulting in the same demand curve but a new supply stack. The clearing price for all resources would be administratively set to the level of the last marginal unit in the first stage, resulting in a separation of quantity and price and an increase of the market clearing price.³ The MOPR-Ex option proposed to expand PJM's Minimum Offer Price Rule (MOPR) to new and existing resources receiving state out-of-market payments.⁴

On June 29, 2018, FERC rejected both tariff revisions proposed by PJM, granted in part and denied in part a complaint filed by Calpine Corporation (Calpine) regarding PJM's capacity market, and instituted an FPA Section 206 proceeding, 16 U.S.C. § 824e(c), to determine the just and reasonable replacement rate.⁵ The Commission

² *PJM Interconnection, L.L.C.*, Capacity Repricing or in the Alternative MOPR-Ex Proposal: Tariff Revisions to Address Impacts of State Public Policies on the PJM Capacity Market, Docket No. ER18-1314 (April 9, 2018).

³ See June 29 Order at PP 35-66.

⁴ Established in 2006, PJM's MOPR seeks to limit the ability of certain resources to suppress market clearing prices by offering supply at less than a competitive level. See June 29 Order at PP 9-14.

⁵ June 29 Order at PP 149, 157-175.

directed PJM to consider a replacement rate that consists of an expanded MOPR and a resource-specific Fixed Resource Requirement (FRR).⁶ As FERC explained, PJM’s current MOPR “requires that all new, nonexempted natural gas-fired resources offer at or above that floor, equal to the Net Cost of New Entry (Net CONE) for the applicable asset class (by generator type and location).”⁷ Additionally, a seller may seek a unit-specific review of its sell offer to justify an offer price below the default offer floor. By contrast, the new expanded MOPR that FERC envisioned, would apply to all, new and existing, resources that receive out-of-market support, regardless of resource type, with few, if any, exceptions.⁸

The Commission acknowledged that this expanded MOPR may result in States paying twice for the States’ capacity market obligation—once through the out-of-market subsidies and then, again, through their respective share for the capacity market—but insisted that this is a legally-justifiable result upheld by the courts.⁹ Nonetheless, the Commission preliminarily found that PJM should consider a replacement rate that allows States to avoid such double payment by removing, on a resource-specific basis, resources that receive out-of-market revenues from PJM’s capacity market, along with a commensurate amount of load, for a certain period of time.¹⁰ This second option was called resource-specific FRR.

⁶ June 29 Order at PP 158-160.

⁷ *Id.* at P 9.

⁸ *Id.* at P 158.

⁹ *Id.* at P 159.

¹⁰ *Id.* at P 160.

The Commission set a refund effective date and scheduled a paper hearing, inviting parties to submit an initial round of testimony, evidence, and/or argument, followed by reply testimony, evidence, and/or argument.

A. The PJM Compliance Filing

On October 2, 2018, PJM filed its Initial Submission¹¹ containing an expanded MOPR and a Resource Carve-Out (RCO) construct.¹² According to PJM, these two options represent “a defensible FPA-compliant path to accept and limit the trade-off that comes from recognizing subsidized, and hence uneconomic, resources as PJM capacity.”¹³ Nonetheless, PJM proposed an optional third approach, to be combined with the expanded MOPR and RCO construct, named Extended Resource Carve-Out (Extended RCO), that alleges to restore prices to “the theoretically correct competitive level.”¹⁴

PJM’s proposed expanded MOPR would apply across all fuel and technology types and to existing and new resources, including Demand Response, that are considered “material” and receive actionable subsidies.¹⁵ A resource is material if it has unforced capacity value¹⁶ of over 20 MWs. However, resources existing not primarily to produce

¹¹ *Initial Submission of PJM Interconnection, L.L.C.*, Docket No. EL16-49-000, *et al.* (October 2, 2018) (PJM Initial Submission).

¹² The Resource Carve-Out construct is the term coined by PJM for FERC’s proposed resource-specific FRR option. The new term seeks to avoid confusion with PJM’s existing FRR option available to vertically-integrated utilities participating in the PJM capacity market.

¹³ PJM Initial Submission at 8.

¹⁴ *Id.*

¹⁵ *Id.* at 8.

¹⁶ Unforced capacity represents the megawatt quantity of energy that the resource can reliably contribute during peak hours. *Id.* at 17.

electricity and whose electricity production function is ancillary to their main function, such as waste-to-energy or combined heat and power facilities, even if greater than 20 MWs, will not be considered material.¹⁷

PJM proposes to define “material subsidy” as any subsidy except:

- generic economic development subsidies not specific to the electricity sector, production of electricity or the investment in electric generation; or
- state or federal resource-specific subsidy that is 1% or less of the expected PJM revenues the resource expects to receive; or
- renewable energy credit programs (RECs), where the market seller sells the REC to a purchaser that is not required by a state program to purchase the REC, and the purchaser does not receive any state financial inducement or credit for the purchase of the REC; or
- federal subsidy programs enacted into law prior to March 21, 2016, unless such federal legislation specifically exempts the application of MOPR to the program being authorized pursuant to federal legislation; or
- a resource owned by a vertically-integrated utility subject to traditional bundled rate regulation or a resource owned by a public power entity, provided certain net long/net short tests are met for new resources.¹⁸

A resource must be receiving or “entitled to” receive a material subsidy in order to trigger the application of MOPR.¹⁹ Mitigation will also be triggered if a material resource has received a material subsidy in the past and has not cleared the capacity auction since receipt of such material subsidy.²⁰ Furthermore, a resource entitled to a material subsidy may choose not to accept the subsidy to avoid the application of MOPR.

¹⁷ PJM Initial Submission at 12.

¹⁸ *Id.*

¹⁹ *Id.* at 25.

²⁰ *Id.* at 26.

Sellers will need to affirmatively inform PJM of this choice no less than thirty days before the commencement of the BRA.²¹

PJM has proposed that each capacity seller self-certify in good faith, not later than 150 days before the auction, whether it is receiving an actionable subsidy.²² PJM has also proposed a verification process that allows PJM and the Independent Market Monitor (IMM) to request information and verify the seller's self-certification.

1. Expanded MOPR Application

PJM proposes to apply a new MOPR Floor Offer Price to capacity resources with actionable subsidies. The MOPR Floor Offer Price will be established using either default cost and expected revenue values for each resource type, or, at the seller's election, the resource's actual costs and expected revenues.²³ Thus, capacity resources subject to MOPR will not be allowed to submit offers that fall below the MOPR Floor Offer Price for that resource. The MOPR Floor Offer Price will depend on whether: (1) the resource is a generation capacity or demand resource; (2) the resource has previously cleared the auction; and (3) the resource is returning to the market after electing the RCO Option.²⁴

a. MOPR Floor Offer Price For Resources That Have Never Cleared the BRA

Generation capacity resources with actionable subsidies that have never cleared the auction may offer no lower than their CONE net of the resources' estimated energy

²¹ PJM Initial Submission at 27.

²² *Id.* at 34-35.

²³ *Id.* at 36.

²⁴ *Id.* at 37.

and ancillary services (E&AS) markets revenues. The CONE will be based on the resources' construction and going forward costs, using either default values or resource-specific determinations.²⁵

Planned demand resources will have MOPR Floor Offer Prices that are the historical averages of all demand resources in the last three BRAs for the Locational Deliverability Areas (LDA) in which the demand resources are located.²⁶

b. MOPR Floor Offer Price For Resources That Have Cleared The BRA

Generation capacity resources with actionable subsidies that have cleared the auction in the past will be allowed to offer no lower than their Avoidable Cost Rates (ACR) net of E&AS market revenues, where the ACRs reflect the resources' going-forward costs but not their construction and development costs.²⁷ Here, too, resources will be able to choose between resource-type default ACRs or resource-specific cost rates.

For existing demand resources, PJM proposes that the MOPR Floor Offer Price be zero, reflecting the fact that there are no meaningful avoidable costs for such existing resources.²⁸

²⁵ PJM Initial Submission at 38-39.

²⁶ *Id.* at 42.

²⁷ *Id.* at 43-44.

²⁸ *Id.* at 47.

c. MOPR Floor Offer Price For Resources Reentering The BRA From The RCO

Resources leaving the RCO may return to the auction as long as they are no longer entitled to a material subsidy. Their MOPR Floor Offer Prices will reflect their going-forward costs at the time of the RCO election and the project investments that occurred while the resources were out of the auction.²⁹ Not all project investment costs will be counted. Instead, PJM will calculate the resources' project investment costs by multiplying them by annual recovery factors based on the ages of the resources.³⁰

2. Resource Carve Out Application

Consistent with FERC's June 29 Order, PJM has also proposed an RCO option that allows subsidized resources to obtain a capacity commitment without clearing the capacity market.³¹ Under this option, the supply resource will be identified first, followed by the associated load to be carved out. The eligible resources for the RCO option are those annual resources subject to MOPR on the basis of having a state subsidy.³² A resource will be allowed to elect the RCO option by acknowledging that it agrees to forego all market revenues from PJM's capacity market and affirming that it meets all eligibility requirements.³³ A seller electing the RCO option must notify PJM no later than 45 days before the auction so that the associated load in the specific zone is

²⁹ PJM Initial Submission at 48.

³⁰ *Id.* at 49.

³¹ *Id.* at 50.

³² *Id.* at 52-53. Resources receiving federal subsidies are not eligible for the RCO option due to the difficulty of identifying a specific load to be associated with them. Similarly, seasonal resources that are not commercially aggregated with matching seasonal resources will not be eligible for the RCO option because of the challenges of associating load to them.

³³ *Id.* at 53-54.

carved out and all market participants have advance notice.³⁴ Once elected, the RCO option will be valid for the duration of the state subsidy unless the subsidy is renewed, at which point another RCO election will be allowed.³⁵

Carved out resources through the RCO will be subject to the energy market must-offer requirement and Capacity Performance non-performance penalties.³⁶ Because the carved-out resources will be associated with a carved-out load and will obtain a commitment in any event, PJM proposes to deem their offers as if they were priced at \$0 and count the associated resources toward the region-wide reliability requirement. Stated otherwise, the RCO resources would be added to the supply stack at \$0/MW-Day in order to determine the total quantity of MWs receiving a capacity obligation. Given that the carved-out resource will not be paid by the PJM market for its capacity, PJM proposes a default rule to allocate the capacity value of that resource as a pro-rata credit across all load in the state unless instructed otherwise by the affected state.³⁷

3. Extended RCO Option

As an alternative to its basic RCO option, PJM has proposed a two-stage clearing process of the BRA, similar, although not identical, to the one previously rejected in FERC's June 29 Order. The extended RCO option adds a second stage to the basic RCO option described above. In stage two, PJM will remove from the supply stack all resources that elected the RCO option but not the associated load. Then, PJM will re-run

³⁴ PJM Initial Submission at 54.

³⁵ *Id.* at 56.

³⁶ *Id.* at 57.

³⁷ *Id.* at 58-59.

the offers to determine the new intersection of supply and demand curve based on submitted, competitive offers only.³⁸ In this way, the clearing price will be determined by the competitive offers submitted by sellers that have not elected the RCO option. The difference between PJM's previously rejected proposal in FERC's June 29 Order and the current extended RCO option is that, here, the non-RCO resources that submit infra-marginal offers but do not clear will be paid the difference between their offers and the clearing price.³⁹ Thus, those resources that would have cleared the BRA, had the state-sponsored RCO resources not taken up their commitment, would be entitled to an opportunity cost payment, also referred to by PJM as "infra-marginal rent." Importantly, PJM will assign the opportunity cost payment for the uncommitted infra-marginal units to the sellers of the uneconomic resources, i.e., the subsidized resources that elected the RCO option and "crowded out" the infra-marginal sellers.⁴⁰ In doing so, PJM invokes cost causation principles by arguing that a state-subsidized uneconomic resource that displaces an otherwise economic resource should bear the lost opportunity cost of the displaced resource.

II. SUMMARY OF PAPUC COMMENTS

At the outset, the PAPUC would like to reiterate that our role is to work in a manner that ensures the best interests of Pennsylvania ratepayers. The comments herein are reflective of our intent to perform this duty based on the current construct of the

³⁸ PJM Initial Submission at 66-67.

³⁹ *Id.* at 71.

⁴⁰ *Id.* at 74-75.

wholesale market and in reflection of the proposals set forth by PJM. We note that the Pennsylvania General Assembly and the Governor of Pennsylvania may, like many States, be reviewing the current status of Pennsylvania's generation and are the appropriate entities to determine the need, or lack thereof, for any subsidization mechanisms. The PAPUC's comments included herein reflect our duty to protect ratepayer interests based on the current market and the affects that any proposed changes made by PJM may have on the Commonwealth ratepayers. As such, while we have in previous comments expressed the position that the status quo is the correct course of action, a position we continue to maintain, we provide for the Commission's consideration the following comments on PJM's proposals to amend that status quo.

PJM has failed to demonstrate that its Expanded MOPR and Extended RCO are likely to result in just and reasonable rates. Rather than ensuring efficient capacity market pricing to sustain competitive market entry and exit, PJM's capacity reforms may well sustain above-market prices and expose constrained markets to oligopolistic pricing as a result of market power.⁴¹

However, to the extent the Commission believes that prices and market entry have been suppressed, thus threatening reliability, the PAPUC offers suggestions to enhance competitive market outcomes. Like the State of Ohio, Pennsylvania relies on competition to sustain just and reasonable rates for its citizens. For States like ours that have built vibrant retail markets that rely on competitive market forces, PJM's capacity market

⁴¹ See *Initial Brief of the People of the State of Illinois* at 5-9, 13, Docket No. EL16-49-000, *et al.* (October 2, 2018), *Affidavit of Robert McCullough* ¶¶ 11-27, 54-55.

reforms should be entirely focused on sustaining rates that mitigate, not further distort the effects of State preferences for attributes not embedded in PJM markets. Unfortunately, PJM's proposed reforms fail to achieve this imperative.

III. COMMENTS

A. PJM's Proposed Expanded MOPR Is Not Just And Reasonable.

The PAPUC is concerned that PJM's expansion of the MOPR to existing units is likely to result in potentially excessive capacity prices, excess capacity procurement, and suppression of energy prices.⁴² The purpose of administrative market mitigation measures, like MOPRs, is to ensure that capacity market prices are consistent with purely competitive market outcomes. However, PJM's proposed application of the MOPR is likely to create an unreasonably high barrier for new resources to clear the market, thus resulting in PJM procuring redundant capacity from existing resources, or potentially causing constrained areas to clear in the BRA at excessively high costs to consumers. As an example, applying a MOPR to an existing wind unit that has *not* cleared in a previous BRA would result in a MOPR price of \$2,489/MW-Day ICAP.⁴³ To the extent the MOPR inhibited the clearing of this existing unit in the BRA, capacity in the local market would be over-procured, which would, in turn, depress energy prices due to over-procurement of overall generation resources. Alternatively, if the unit did clear, the BRA prices could increase from a five-year average PJM regional BRA zonal price of

⁴² Excess procurement of capacity resources leads of suppression of energy prices.

⁴³ PJM Initial Submission at 41, Table 1.

\$147/MW-Day⁴⁴ UCAP to a default minimum offer price of \$2,489/MW-Day ICAP⁴⁵—clearly not a competitive market outcome. Even if a unit specific minimum offer price was sought by the unit owner, it is not clear from the vagueness of PJM’s tariff, and the magnitude of PJM’s estimated default MOPR prices, that a competitive price would ever be obtained from such a tariff provision. The New Jersey Board of Public Utilities also identified this same concern with regard to the imposition of above market capacity prices resulting from state preferences for coal or nuclear units, relative true marginal technologies, such as Combined Cycle Natural Gas (CCNG) plants and CTs, under a MOPR construct.⁴⁶

Moreover, applying PJM’s inflated MOPR values to an existing resource whose costs reflect the attribute preferences of an adjacent State within a constrained PJM region, such as EMAAC, could result in Pennsylvania ratepayers paying for the higher costs associated with another State’s choices. Thus, any MOPR mechanism that can result in an adjustment to capacity prices above competitive market outcomes is a concern to Pennsylvania.

1. If The Commission Believes An Expanded MOPR Is To Be Implemented, The PAPUC Recommends Adoption Of Several Important Provisions And Protections Proposed By PJM.

The PAPUC supports the 20MW exemption for the reasons articulated by PJM. The PAPUC also supports continuation of a resource-specific MOPR Floor Offer Price,

⁴⁴ See <https://www.pjm.com/markets-and-operations/rpm.aspx>. Simple average of each PJM BRA zonal clearing price over the last five BRAs, excluding RTO.

⁴⁵ PJM Initial Submission at 41, Table 1.

⁴⁶ *Initial Argument of the New Jersey Board of Public Utilities* at 27, Docket No. EL16-49-000, *et al.* (October 2, 2018).

with the caveat that all resource-specific MOPR Floor Offer Price applications reflect actual conditions – not select PJM-imposed financial modeling assumptions that are inconsistent with a given unit’s parameters or market value, including expected asset life or residual value parameters that can be supported by the resource holder.⁴⁷

A Resource-Specific MOPR Floor Offer Price option is one of the key components of ensuring that actual unit costs are reflected in MOPR-imposed bid prices. Historically, it is clear that estimated default MOPR prices of cleared new PJM resources are a *very poor* proxy for the actual cost of new entry. For example, during the last five BRAs, 15.9 GWs of new combined-cycle natural-gas fired generation (CCNG) plants cleared the BRA auctions, based on the average BRA zonal price of \$147/MW-Day and an average RTO price of \$120/MW-Day.⁴⁸ During this same time period, the average MOPR price under the new unit MOPR tariff provisions for CCNG plants was \$229/MW-Day.⁴⁹ Thus, BRA prices were only 64% of the derived CCNG default MOPR price. Relative to the estimated new entry default MOPR floor offer prices for a CCNG of \$438 \$/ICAP⁵⁰, BRA prices over the last five years were only 34% of the CCNG default MOPR floor price – for a resource type which was arguably the marginal technology, given the 15.9 GWs of new entry. While this simple analysis does not perfectly model actual zonal MOPR and BRA prices for each cleared CCNG unit, the

⁴⁷ See PJM Initial Submission at 42.

⁴⁸ See <https://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2021-2022/2021-2022-base-residual-auction-report.ashx?la=en>, at 22; <https://www.pjm.com/markets-and-operations/rpm.aspx>. BRA results for the five most recent BRAs, pricing points MAAC through PL.

⁴⁹ See <https://www.pjm.com/markets-and-operations/rpm.aspx>, Final Minimum Offer Price Rule Floor Offer Prices, Combined Cycle, Average of Cone Areas 1-4 for the five most recent BRAs.

⁵⁰ PJM Initial Submission at 41, Table 1.

order of magnitude of price differentials provides strong evidence that basing market prices on derived costs of default MOPR prices, rather than actual competitive costs, is prone to substantial error – error that is biased towards above market costs to be imposed on customers.

2. If The Commission Believes An Expanded MOPR Is To Be Implemented, The PAPUC Recommends Rejection Of Several Important Provisions Proposed By PJM.

First, the PAPUC objects to the imposition of the MOPR on Demand Response (DR). The reasons for this opposition are many-fold. Initially, we note that Pennsylvania has a long-established DR program that was not designed to suppress prices. In fact, our DR program was specifically designed to facilitate only economic DR measures and must pass a Total Resource Cost (TRC) Test which ensures that all DR programs are cost effective. Price suppression impacts are not part of Pennsylvania's TRC Test. Secondly, Pennsylvania's DR programs provide distributed benefits to Pennsylvania customers in the form of avoided transmission and distribution costs, which PJM's MOPR calculations do not recognize. Lastly, PJM's filing is deficient in that it does not describe how the 20MW unit exemption would apply to DR. The PAPUC recommends that the 20MW exemption only apply on an individual customer basis if DR is to be subject to a MOPR. In approving any barriers to existing State DR programs, the Commission should ensure that it does not frustrate the States' already expended resources and lawful implementation of their programs.

However, to the extent the Commission determines it is appropriate to impose a MOPR price on a unit receiving nonmarket revenues, the PAPUC recommends adoption

of the Market Monitor’s view, as expressed in the Net ACR principles embodied in the Sustainable Market Rule proposal relating to minimum offer prices. As the IMM has explained, competitive offers in the capacity market for resources with nonmarket revenues are defined to be greater than or equal to the net going forward costs (ACR). As such, competitive offers of renewables, based on the net avoidable costs of current technologies, are likely to clear in the capacity market. More specifically, the IMM stated:

Prior attempts to distinguish between the definition of competitive offers of new entrants and the competitive offers of existing resources were a mistake, as is PJM’s continued application of that approach in its repricing proposal. A competitive offer is a competitive offer, regardless of whether the resource is new or existing. The prior approach of defining a high competitive offer for a new entrant, equal to the net cost of entry for the resource, and then eliminating any requirement in year two, illustrates the fallacy. Resource owners enter and remain in the market with the expectation that they will recover their costs and earn a return on and of capital. That is true of new entrants and existing resources. A competitive offer in the capacity market is the marginal cost of capacity, or net ACR, regardless of whether the resource is planned or existing. The energy market appropriately does not recognize a difference in the definition of marginal cost between the offers of new, or planned, units and the offers of existing units. Neither should the capacity market.”⁵¹

Lastly, to the extent PJM implements any energy price reforms resulting in an actual or estimated increase in E&AS revenues, any default MOPR prices should be updated to reflect these energy price reform changes. Specifically, if an historical E&AS

⁵¹ *Brief of the Independent Market Monitor for PJM*, at 16-17 Docket No. EL16-49-000, *et al.* (October 2, 2018) (IMM Brief).

offset is continued under the current quadrennial review process, those historical E&AS revenues should be updated to reflect the energy price formation changes.

B. PJM’s Extended RCO Proposal Does Not Achieve The Proper Objective Of Ensuring A Competitive Market Outcome.

PJM’s proposal to remove all RCO generation from the supply curve, while retaining the entire demand curve is prone to severe price disruptions.⁵² PJM’s plan to compensate the “crowded out” resources with the inframarginal payments may not be sufficient to keep the resources in the market or incent new market entry. As such, the uncleared unit will likely exit the market, and a new unit will not enter the market, thus resulting in no reliability benefits to the system, and only imposing costs on the RCO generation units. As these RCO units are removed from the supply stack, the modified capacity supply stack will become increasingly deficient under PJM’s proposal – further increasing the inframarginal payments, with no corresponding increase in reliability.

There simply is no market value proposition in this approach and only higher payments to existing cleared resources. PJM’s Extended RCO option should be rejected outright.

Evidence to the magnitude of the price impacts of PJM’s proposed Extended RCO was further quantified by the IMM. In one scenario, the units at risk of retirement totaling 23,741.1 MW were designated as resource specific FRR capacity under the PJM method.⁵³ The second stage RTO clearing price was \$234.67 per MW-day, an increase of 67.6 percent with respect to the actual RTO clearing price in the 2021/2022 BRA. The

⁵² Taken to its extreme, if 50% of the resources opted for the RCO, then incremental bids for 50% of the entire demand requirement of the zone would need to bid into the auction, at a minimum, with the notion of knowing they would not clear but only receive an infra-marginal payment.

⁵³ IMM Brief at 24.

price increases in the other LDAs were also significant, ranging from 20.0 percent to 213.6 percent.⁵⁴ Thus, the IMM estimates that the load obligation, including subsidies and lost opportunity payments, would be \$17.7 billion, *an increase of 90.8 percent compared to the actual results of the 2021/2022 BRA*. In the second scenario under the PJM repricing approach, units at high risk of retirement (11,777.2 MW) were designated as resource specific FRR capacity. The RTO clearing price would increase 29.0 percent over the actual RTO clearing price in the 2021/2022 BRA, and total capacity costs would increase 17.4 percent compared to the actual results of the 2021/2022 BRA.⁵⁵

As it stands now, PJM markets have sustained healthy and adequate revenues with a high degree of reliability and continuously growing capacity reserves. In PJM's last BRA, a reserve margin of 21.5% was achieved, or 5.7% higher than the target reserve margin of 15.8%. Excluding existing FRR resources, the reserve margin was an even higher 22%.⁵⁶ To the extent any capacity price suppression existed, reserve margins would be expected to decline. That has not occurred.

Clear signs of price suppression should result in declining reserve margins. Therefore, the proposed trigger for any potential repricing under an Extended MOPR, or any form of repricing method, if the Commission determined one was necessary, should be contingent on a point where reserve margins approach the Installed Reserve Margin (IRM). However, as reserve margins approach the IRM, the downward sloping demand

⁵⁴ IMM Brief at 24-25.

⁵⁵ *Id.* at 25.

⁵⁶ See <https://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2021-2022/2021-2022-base-residual-auction-report.ashx?la=en> at 1.

curve will naturally cause capacity prices to rise – thus restoring market prices to higher levels, and encouraging new market entry. Thus, PJM capacity markets already have a naturally built-in repricing algorithm – the demand curve. This built-in repricing algorithm was described extensively in terms of static analysis verses dynamic equilibrium principles. The PAPUC believes these basic principles of dynamic equilibrium should be closely examined by the Commission before further complicating the Reliability Pricing Model (RPM) construct.⁵⁷

C. The PAPUC Supports A Transition Mechanism For Implementing PJM’s Proposed RCO.

PJM’s RCO may provide a longer-term mechanism to enable state electricity customers to support their State choices without paying for capacity twice. Nevertheless, several barriers resulting from this proposal may render participation very difficult in the short or medium term. The PAPUC recommends exploration of other more flexible alternatives.

First, we note that PJM’s proposal contains no transitional mechanism. Participating States may require additional time to conduct stakeholder processes to determine the level of replacement capacity prices, how capacity prices will be recovered and from whom, pass necessary legislation and regulations, and create implementation plans.

⁵⁷ See *Affidavit of James F. Wilson in Support of the Comments of the FRR-RS Supporters* ¶¶ 38-47, Docket No. EL16-49-000, *et al.* (October 2, 2018).

Secondly, once an eligible resource owner elects the RCO option, such resource will remain carved out of the capacity market until it is no longer a Capacity Resource with Actionable Subsidy. At that point, the resource will be permitted to participate in PJM's capacity market, subject to the MOPR rules described above. It is not clear why a resource that believes its unit can clear in an auction, even if a higher MOPR price is imposed on the resource, would not be permitted to compete to serve the load before the resource's subsidy expires. PJM should not interfere with a resource that seeks to participate in the BRA, subject to any approved MOPR provision.

Thirdly, the Commission should investigate and consider portions of other stakeholder resource specific FRR proposals. In particular, the very comprehensive Clean Energy and Consumer Advocate FRR-RS proposal offers more flexible and accommodative methods for State-preferred resources. Specifically, the FRR-RS proposal offers more flexibility in how States, electric distribution companies (EDCs) and load serving entities (LSEs) can match generation with commensurate load. Such matching can encourage more active bilateral markets, and thus embrace a more market-based accommodative approach. Their proposal also provides a reasonable framework for addressing necessary transition periods for States where more time is necessary and aligns the notice requirements prior to a resource specific FRR election.⁵⁸ To that end, the PAPUC also urges the Commission to consider exploration of alternative proposals, including the competitive carve-out auction approach proposed by the Maryland Public

⁵⁸ See *Comments of Clean Energy and Consumer Advocates* at 15-16, 30, Docket No. EL16-49-000, *et al.* (October 2, 2018).

Service Commission.⁵⁹ Furthermore, for those States interested in pricing certain generation attributes, the RCO construct may be a necessary transitional mechanism until a more market-based approach to such attributes is implemented in PJM markets.⁶⁰

Finally, the PAPUC supports transparency for any auctions or bilateral contracting and urges that any MOPR requirement be coupled with the right of state public utility commissions, state attorneys general, and state consumer advocates to receive the bidding data, subject to confidentiality provisions, in any auction or bilateral contract pricing in which resources subject to the new proposed rules participate to enable regulatory visibility to the potential exercise of market power.

IV. CONCLUSION

For all the foregoing reasons, the PAPUC respectfully requests that its Reply Comments be considered by FERC in this proceeding. We urge the Commission to adopt our recommendations and direct PJM to implement them.

Respectfully submitted,

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Dated: November 6, 2018

⁵⁹ See, generally, *Initial Comments of the Maryland Public Service Commission*, Docket No. EL16-49-000, *et al.* (October 2, 2018).

⁶⁰ The PAPUC encourages PJM to continue work to accommodate carbon markets so as to be prepared if and when State governments authorize the incorporation of carbon into PJM energy markets.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that I am on this date serving a copy of the foregoing document upon each person designated on the official service list compiled by the Federal Energy Regulatory Commission in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure.

Dated at Harrisburg, PA this 6th day of November 2018.

Respectfully submitted,

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