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BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C.	)))	**Docket No. ER18-___-000**

Capacity Repricing or in the Alternative MOPR-Ex Proposal: Tariff Revisions to Address Impacts of State Public Policies on the PJM Capacity Market

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April 9, 2018

Honorable Kimberly D. Bose
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888 First Street, N.E., Room 1A
Washington, D.C. 20426

Re: *PJM Interconnection, L.L.C.*, Docket No. ER18-___-000
Capacity Repricing or in the Alternative MOPR-Ex Proposal:
PJM Tariff Revisions to Address Impacts of State Public Policies
on the PJM Capacity Market.

PJM Interconnection, L.L.C. ("PJM"), pursuant to section 205 of the Federal Power Act ("FPA"), 16 U.S.C. § 824d, hereby submits revisions to the Reliability Pricing Model ("RPM") rules in the PJM Open Access Transmission Tariff ("Tariff") to establish the appropriate federal and regional transmission organization ("RTO") response to address supply-side state subsidies and their impact on the determination of just and reasonable prices in the PJM capacity market.[1]

Last month, addressing similar concerns in ISO New England, Inc., the Commission drew from its prior precedent several "first principles" of capacity markets, explaining that the ultimate goal of such markets "is to produce a level of investor

[1] Capitalized terms not otherwise defined herein have the meaning specified in, as applicable, the Tariff, the Reliability Assurance Agreement among Load-Serving Entities in the PJM Region ("RAA"), and the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C.

confidence that is sufficient to ensure resource adequacy at just and reasonable rates."[2] The Commission strongly affirmed that where "participation of resources receiving out-of-market state revenues undermines those principles," it is the Commission's "duty under the FPA to take actions necessary to assure just and reasonable rates."[3]

As shown in this filing, the PJM capacity market has advanced those "first principles," by, in particular, meeting the Commission's stated goals of "facilitat[ing] robust competition for capacity supply obligations;" "provid[ing] price signals that guide the orderly entry and exit of capacity resources;" and "shift[ing] risk as appropriate from customers to private capital."[4]

PJM's capacity market, the RPM, has facilitated a impressive degree of resource entry and exit in a relatively short time. Since the inception of RPM in 2007, 50,792 megawatts ("MW") of new generation capacity has been added, 39,640 MW of generation capacity has retired or been derated, and 9,485 MW of new Demand Resources and 2,063 MW of new Energy Efficiency Resources were offered over the course of those fourteen Delivery Years.[5] RPM has helped manage "the orderly entry and exit of capacity resources" in the PJM Region during highly consequential (and challenging) changes in environmental regulations and fuel prices over this time period.

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2 *ISO New England, Inc.*, 162 FERC ¶ 61,205, at P 21 (2018) ("CASPR Order").

3 *Id.*

4 *Id.*

5 *2020/2021 RPM Base Residual Auction Results*, PJM Interconnection, L.L.C., 19 (May 23, 2017), http://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2020-2021-base-residual-auction-report.ashx?la=en ("2020/2021 RPM BRA Report").

Fulfilling another of the Commission's enunciated "first principles," RPM has committed capacity in a way that "shift[s] risk . . . from customers to private capital."[6] PJM estimates that a significant majority of new entry over this period came from merchant generation firms, such that approximately 75% of the total generation in PJM is now merchant generation. Under the merchant model, the financial and operational risks associated with this generation are shifted from customers to the investors in those plants. And the owners of this generation depend almost entirely on PJM's various markets to support their investment.

Similarly, RPM has "facilitate[ed] robust competition for capacity supply obligations,"[7] as reflected by: (1) strong new entry despite relatively flat demand, (2) introduction of highly efficient generation resources, (3) wide reliance on innovative financing, (4) an open platform for new resource types, and (5) the undeniable resulting financial pressures on capacity supply providers.

Now, however, as detailed in this filing, the PJM Region is seeing increased "participation of resources receiving out-of-market state revenues," which, in the same way noted by the Commission last month for the ISO New England region, threatens to "undermines those principles" in the PJM Region.[8] Consequently, just as action was required in ISO New England, the "duty under the FPA" that the Commission recognized there also arises in the PJM Region to support those principles, and "take actions necessary to assure just and reasonable rates."[9]

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6 CASPR Order at P 21.

7 *Id.*

8 *Id.*

9 *Id.*

Absent an appropriate federal response, if a state selectively subsidizes certain resources while still depending on the wholesale capacity market to meet its overall resource adequacy needs, that state's actions impact:

- not only capacity resources excluded from the state out-of-market revenue program (that perversely end up funding some or all of the support offered their competitors),
- but also other states that may not embrace the subsidizing state's particular policy preference.

In short, if a material fraction of resources price their capacity offers relying on their selective receipt of subsidies, then:

- other sellers in PJM's interstate market that do not receive subsidies will receive an artificially suppressed, unjust and unreasonable rate;
- competitive entry will face a significant added barrier;
- new subsidies will be encouraged; and
- one state's policy choices could contribute to a 'crowding out' of other competitive resources and resulting policy choices on which other states rely.

As the U.S. Supreme Court recently recognized, states rightly may pursue "various . . . measures . . . to encourage development of new or clean generation" or other vital public policy goals.[10] Thus, the question raised by PJM's filing in this case is not *whether* states have the right to act but instead *how* the wholesale market should *respond* to such actions so that the goal of ensuring just and reasonable rates is not frustrated by an individual state's actions. To be clear, this filing does not seek any action by the Commission in preempting any state from making whatever policy choices it wishes. Rather, consistent with *Hughes* and the District Court's decision in *Village of Old Mill*

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10 *Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288, 1299 (2016).

Creek v. Star,[11] the sole issue is how PJM and the Commission can ensure that the market can address these actions by states in a manner that does not undermine the fundamental purpose of the wholesale market.[12]

This is not a new issue for the Commission. The Commission has recognized the importance of this emerging issue, last year bringing together the three RTOs with competition-based capacity constructs, relevant states, and stakeholders for an in-depth discussion on potential conflicts between state resource policies and wholesale capacity markets.[13] Further, PJM posted a detailed analysis to help initiate a discussion on this issue nearly two years ago, and along with its stakeholders toiled over this issue for a year, developing a range of responsive proposals. While that stakeholder process did not reach a consensus, that extensive process, along with the Commission's Technical Conference, provide a solid foundation for the constructive path forward PJM offers in this section 205 filing.

Specifically, by this filing, PJM:

- Demonstrates the time has come to fill a gap in the PJM Tariff, which currently has no way to address the adverse impacts of certain state subsidies on the PJM capacity market's ability to promote robust supply competition and send appropriate price signals;

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11 2017 U.S. Dist. LEXIS 109368 (N.D. Ill. 2017).

12 2017 U.S. Dist. LEXIS 109368, at *43-44 (N.D. Ill. 2017) ("The market distortion caused by subsidizing nuclear power can be addressed by FERC. . . . So long as FERC can address any problem the ZEC program creates with respect to just and reasonable wholesale rates . . . there is no conflict.").

13 *See State Policies and Wholesale Markets Operated by ISO New England Inc., New York Independent System Operator, Inc., and PJM Interconnection, L.L.C.*, Notice of Technical Conference, Docket No. AD17-11-000 (Mar. 3, 2017) ("Notice of Technical Conference"); Transcript of Technical Conference, *State Policies and Wholesale Markets Operated by ISO New England Inc., New York Independent System Operator, Inc., and PJM Interconnection, L.L.C.*, Docket No. AD17-11-000 (May 1, 2017) ("AD17-11 Tr.").

- Offers a sequenced approach for the Commission to consider two alternate (mutually exclusive) proposals for ensuring PJM's wholesale capacity market can maintain just and reasonable price signals notwithstanding the potentially significant distorting effect of state subsidies. Those alternatives, each containing all necessary tariff revisions, are:
    - Option A: Accommodate state subsidies in a way that avoids impacts on wholesale prices by repricing a subsidized offer after it has cleared at its subsidized level, so that all offers that clear are paid a competitive price ("Capacity Repricing") or,
    - Option B: Mitigate the impacts of state subsidies on wholesale prices by repricing subsidized offers through extension of the Minimum Offer Price Rule ("MOPR-Ex");
- Requests that the Commission accept the "Option A" tariff changes that PJM, consistent with the Commission's tariff filing guidelines,[14] designates as its preferred approach; and
- Requests that if the Commission cannot accept the accommodative Capacity Repricing approach, even subject to suspension and further proceedings, that it then accept the MOPR-Ex mitigation approach which this filing demonstrates is a just and reasonable alternative.

PJM proposes an effective date of January 4, 2019, for the accompanying Tariff revisions, and for that purpose requests waiver of the Commission's 120-day maximum notice rule.[15] However, PJM also asks the Commission to issue an Order on this filing by June 29, 2018. To that end, PJM has assigned an effective date of June 30, 2018, to a

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14 *See* Office of the Secretary, *Implementation Guide for Electronic Filing of Parts 35, 154, 284, 300, and 341 Tariff Filings*, Federal Energy Regulatory Commission, 8 (Nov. 14, 2016), https://www.ferc.gov/docs-filing/etariff/implementation-guide.pdf ("FERC eTariff Implementation Guide") (stating that public utilities may "propose alternate sets of Tariff Records (Option Sets) in a single Tariff Filing, with a request that FERC determine which Option Set to accept (i.e., place into effect). . . . For Tariff Filings with multiple Option Sets, the Tariff Submitter should make Option "A" its primary proposal.").

15 *See* 18 C.F.R. § 35.3(a)(1). Waiver is warranted here, given that PJM proposes that these revisions will have their first application to the May 2019 Base Residual Auction. Given this filing's significance, PJM is filing it well before that auction.

revised tariff record in each Option A and Option B.[16] Based on PJM's showings in this filing, the Commission has substantial evidence on which it could fully accept either of the two alternatives in an order issued by June 29, 2018. However, if the Commission determines, under the sequenced approach outlined above, that it can only accept one of the two alternatives subject to suspension and further proceedings, then PJM further requests that:

- The Commission accept and suspend only one of the two mutually exclusive alternatives, based on its required assessments under FPA section 205 guided by the Commission's policy objectives;[17]
- The Commission not adopt trial-type proceedings, which are not needed or appropriate for a policy/market design question like that presented here;
- The Commission instead identify the subset of issues for which it seeks an additional record and order a paper hearing on those issues;
- In addition to the paper hearing procedures, the Commission provide the option for the parties to use settlement judge procedures to address the identified issues. Based on its extensive work with stakeholders on this topic, PJM anticipates that if the Commission makes the outstanding issues more manageable by accepting one of the two tariff alternatives, a good faith consensual effort could be the most productive means of resolving those outstanding issues; and

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16 Specifically, PJM has assigned an effective date of June 30, 2018, to the Attachment DD title tariff record. No substantive changes are being made to this section.

17 As detailed in section III.B.2 below, this approach is grounded in Commission precedent. *See e.g.*, *Midcontinent Indep. Sys. Operator, Inc.*, 157 FERC ¶ 61,242, at P 22 (2016) ("The [Commission-accepted alternative] approach . . . strikes a fair balance between reducing the burden of demonstrating and verifying facility-specific reference levels, and allowing a market participant to select the default technology-specific avoidable costs that best reflect its actual avoidable costs."); *ISO New England Inc.*, 155 FERC ¶ 61,136, at P 27 (2016) (stating that the Commission-accepted tariff alternative "will lower the monthly amount charged as of the effective date, as compared to the one-year amortization of 'Option A,' and thereby minimize the immediate impact on transmission customers while the issues are being resolved at hearing").

- The Commission issue its final decision on this filing by January 4, 2019, to allow PJM and market participants sufficient time to implement the accepted terms in time for the May 2019 Base Residual Auction ("BRA") for the 2022/2023 Delivery Year—the first auction to which these rules are proposed to apply.

I. SUMMARY

In the CASPR Order, the Commission identified several "first principles of capacity markets," i.e., that capacity markets like those of ISO New England and PJM should:

- facilitate robust competition for capacity supply obligations,
- provide price signals that guide the orderly entry and exit of capacity resources,
- result in the selection of the least-cost set of resources that possess the attributes sought by the markets,
- provide price transparency,
- shift risk as appropriate from customers to private capital, and
- mitigate market power.[18]

The performance of PJM's capacity market plainly show these principles in action. Indeed, as shown below, PJM's capacity market has been notably effective at:

- managing the orderly entry and exit of resources;
- Shifting risk from customers to private capital; and
- Shifting risk from customers to private capital.

In PJM parlance, "Generation Owner" describes entities that own power plants and sell to PJM Settlement, or those who sell to PJM Settlement on behalf of power plant owners, the energy, capacity and ancillary services provided by the power plant. Approximately 75% of the total PJM fleet is merchant generation. The financial and

[18] CASPR Order at P 21.

operational risks associated with this generation are not imposed on consumers.[19] And the owners of this generation depend on revenues from PJM's various markets to support their investment. The rest of the generation in PJM is owned by traditionally regulated, vertically integrated public utilities or public power.[20]

For many years from the inception of PJM's markets in 1997, "Generation Owner" largely (but not exclusively) referred to publicly traded merchants, either independent power producers ("IPPs") or the functionally unbundled merchant affiliates of a publicly traded utility. In the last ten years, a new type of Generation Owner has emerged in large number to compete aggressively with incumbent merchant affiliates and IPPs. These merchants are private concerns, not capitalized in part by public equity markets, but by private equity and through structured and project finance vehicles.

As noted above, through PJM's capacity auctions held from 2010 through 2017, 50,792 MW of new generation capacity has been added, and 39,640 MW of generation

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19 As PJM elaborated in its May 5, 2016 whitepaper, *Resource Investment in Competitive Markets*, PJM Interconnection, L.L.C., 13-14 (May 5, 2016), http://www.pjm.com/~/media/library/reports-notices/special-reports/20160505-resource-investment-in-competitive-markets-paper.ashx ("*Resource Investment Whitepaper*"):

> [A regulated] return should account for the fact that investment risks are largely allocated to ratepayers in regulated environments. This situation stands in marked contrast to merchant investment in PJM where the market provides varying and uncertain revenues and return on the equity investment in a new generating asset. Additionally, the return realized by merchant investors must account for the costs they assume in wearing or managing all risks arising from developing and operating the asset.

20 This discussion focuses on generation not only because it remains the vast majority of PJM Capacity Resources, but also to highlight the change in the generation sector from regulated to merchant. Demand Resources and Energy Efficiency Resources are important elements of the capacity resource mix, but their history as a significant resource coincides with (rather than pre-dating) the development of PJM's competitive markets.

capacity has retired or been derated.[21] Over 32,000 MW of that new generation has been new highly efficient combined cycle gas-fired plants, along with approximately 7,000 MW of gas-fired combustion turbine plants.[22] By PJM's estimation, conservatively 70% of this new entry came from merchants, with the remainder brought in by vertically regulated or public power utilities.[23] Within this class of merchant entry over the last ten years, the overwhelming preponderance has been funded by private equity.

PJM's recent capacity market auctions have seen tens of thousands of megawatts of new combined cycle gas enter in the face of historically low wholesale energy prices, flat to declining load growth,[24] increased transmission investment and reduced congestion

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21 2020/2021 RPM BRA Report at 19.

22 *Id.* at 21 (Table 8), 22 (Figure 4). *See also Resource Investment Whitepaper* at 13-14; AD17-11 at 240:24-25, 241:1-3, 250:21-23, 272: 10-16 ("We have some of our coal plants next to combined cycle plants that we run by gas sometime to 35 cents per million BTU and there is nothing that can compete with that. And those [coal] plants end up, you know, retiring.").

23 As explained in the *Resource Investment Whitepaper* (at 23), "evidence shows that PJM has successfully attracted significant new merchant investment in generating plants," including "[p]ublic information available on financings established to support investment in PJM in the last several years suggest[ing] that banks and other lenders have evolved innovative structures particularly responsive to PJM's capacity and energy market designs;" with the result that "[d]ebt and equity capital is being attracted to these structures, which are successfully closing and leading to new merchant combined-cycle investment." PJM cited "ten leading examples of these merchant structured financings." *Id.* Analyses by the IMM further shows that the overwhelming majority of this investment is merchant in character. *See New Generation in the PJM Capacity Market: MW and Funding Sources for Delivery Years 2007/2008 through 2018/2019*, Monitoring Analytics (May 4, 2016), http://www.monitoringanalytics.com/reports/Reports/2016/New_Generation_in_the_PJM_Capacity_Market_20160504.pdf.

24 *PJM Load Forecast Report*, PJM Resource Adequacy Planning Department, 3 (Jan. 2018), http://www.pjm.com/-/media/library/reports-notices/load-forecast/2018-load-forecast-report.ashx?la=en ("Compared to the 2017 Load Report, the 2018 PJM RTO summer peak forecast shows the following changes for three years of interest: The next delivery year – 2018-1,843 MW (-1.2%); The

rents, and very robust reserve margins, over 23% from capacity commitments in the most recent Base Residual Auction.[25] From the perspective of traditional utility planning, this new entry is not "needed" by an administrative determination of target capacity.[26] Its entry, rather, is explained by risk-bearing market participants' expectations that:

- natural gas prices will remain low;
- the combined cycle technology characterizing most of this new entry will prove more efficient than certain incumbent, older coal, nuclear and natural plants; and
- innovative project financing structures involving the plant developer, equipment manufacturers, construction firms, and access to global pools of equity and debt can be employed to lower the overall cost of capital.[27]

The strategy motivating this investment and entry into the PJM market is a *market expectation* that new entry can outcompete and displace older, less efficient incumbent resources. This kind of investment illustrates precisely how markets unleash competitive forces for the benefit of the consumer. This kind of investment is central to a long history of Commission policy embracing competition in wholesale electricity

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next RPM auction year – 2021 -1,021 MW (-0.7%) The next RTEP study year – 2023 -90 MW (-0.1%)"); *see also* the U.S. Energy Information Administration's recent report that, "[a]s electricity demand growth slowed, new capacity additions also slowed. In recent years, new capacity additions often compete with existing generators." *Demand Trends, Prices, and Policies Drive Recent Electric Generation Capacity Additions*, U.S. Energy Information Administration (Mar. 18, 2016), https://www.eia.gov/todayinenergy/detail.php?id=25432.

25 2020/2021 BRA Report at 1.

26 Because it is not "needed" in traditional utility terms, its impact is described as forcing a "premature" retirement of legacy assets. Here "premature" is measured in terms of the asset's operational life, book life or the duration of its permits, but not its economically useful life.

27 *See, e.g.*, *Resource Investment Whitepaper* at 24-25 (discussing risk-management tools for merchant generation project developers, including "[s]tructured financing models that have evolved to facilitate capital formation specific to PJM's markets.").

markets.[28] This kind of investment is critical to enabling RPM to meet the Commission's "first principle" of relying on price signals to manage the orderly entry and exit of resources.[29] In short, this is precisely the kind of investment and private capital risk-taking that just and reasonable wholesale market rules should enable, if not encourage. As the Commission explained in its CASPR Order, the ultimate goal of capacity markets "is to produce a level of investor confidence that is sufficient to ensure resource adequacy at just and reasonable rates."[30]

The merchant generation business in PJM has been hyper-competitive. Risks that were traditionally borne by customers have been shifted to investors with mixed results for those investors. For example, virtually every major publicly traded IPP (as distinct from utility affiliated merchants), over the last 10-15 years, has restructured its balance sheet through Chapter 11 reorganizations.[31] Merchants have also faced consolidations,

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28 *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, 1991–1996 FERC Stats. & Regs., Regs. Preambles ¶ 31,036, at 31,644 (1996) (stating a "goal of the Energy Policy Act [of 1992] was to promote greater competition in bulk power markets"), *order on reh'g*, Order No. 888-A, 1996–2000 FERC Stats. & Regs., Regs. Preambles ¶ 31,048, *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *reh'g denied*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff'd in part & remanded in part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002); Order No. 888 at 31,673 (The overriding purpose of the Commission's efforts to require open access to the transmission system and encourage development of wholesale power markets, including the organized, regional markets administered by ISOs and RTOs, has been pursuit of Congress's "goals of creating more competitive bulk power markets and lower rates for consumers.").

29 CASPR Order at P 21.

30 *Id.*

31 NRG, Calpine, Reliant, Mirant, GenOn, and Dynegy present high profile examples of IPP Chapter 11 filings. The filing approximately a week ago by First

and/or acquisitions, and at least in the cases of PPL Corporation/Talen Energy Corporation and Calpine Corporation, transformation into privately held organizations.[32] The competitive pressure arising from privately held investment in new combined cycle plants has taken its toll on IPPs and now has many utility-affiliated merchants struggling to maintain their existence.

For the last several years, the publicly traded parents of these merchants have been very clear to their Wall Street investors they are exiting or shrinking their merchant businesses. Some of these legacy assets have been purchased by private equity.[33] But for other legacy assets, despite the billions of dollars of private equity earmarked for investment in the sector, there do not appear to be buyers, at least not at prices acceptable to the utility-affiliated sellers.[34]

Energy Solutions marked the first filing by a merchant affiliated with a PJM transmission owning utility.

32 *See, e.g.*, Iris Dorbian, *Riverstone Closes Take-Private Buyout of Talen Energy*, PE Hub Network (Dec. 6, 2016), https://www.pehub.com/2016/12/3423728/; *Calpine Agrees to be Acquired by Investor Consortium Led by Energy Capital Partners*, Business Wire (Aug. 18, 2017), https://www.businesswire.com/news/home/20170818005196/en/Calpine-Agrees-Acquired-Investor-Consortium-Led-Energy.

33 *See* Peter Maloney, *Challenge for Merchant Generators Is Opportunity for Private Equity*, Utility Dive (Aug. 9, 2017), https://www.utilitydive.com/news/challenge-for-merchant-generators-is-opportunity-for-private-equity/448899/.

34 *See* Linda Harris, *Mon Power, Potomac Edison Back Out of Pleasants Power Deal*, WVNews (Feb 6, 2018), https://www.wvnews.com/news/wvnews/mon-power-potomac-edison-back-out-of-pleasants-power-deal/article_9904dcce-630d-59ef-9910-c5190f60bf15.html; *see also Demand Trends, Prices, and Policies Drive Recent Electric Generation Capacity Additions*, U.S. Energy Information Administration (Mar. 18, 2016), https://www.eia.gov/todayinenergy/detail.php?id=25432 ("With increasing amounts of surplus generation, competitively determined capacity payments in regions that have instituted capacity auctions may be reduced. Operators of some

These assets are receiving a very clear signal from PJM's markets they should either retire,[35] or to the extent they have going-forward value, avail themselves of financial and commercial restructuring under protection of the bankruptcy law if necessary.

Instead, an emerging trend in PJM is for owners of these legacy assets to seek out-of-market support from states to forestall retirement and defeat the design objective of PJM's market, at the expense of their competitors and wholesale consumers.[36] PJM recognizes that a state may have strongly held policy reasons (e.g., social, political or environmental public policy) for providing out-of-market support to specific in-state resources or resource types. But regardless of the state's specific policy motivation, retaining or compelling the entry of resources that the market *does not* regard as economic, suppresses prices for resources the market *does* regard as economic. This in turn suppresses revenues for resources that depend on these prices to support their continued operation or their economic new entry. Eventually, unless these resources too are given a subsidy or (if they are essential to preserving reliability) a Reliability Must Run ("RMR") arrangement, they will be crowded out.[37]

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existing coal and nuclear power plants face growing challenges in covering their fixed costs.").

35 AD17-11 Tr. at 284:13-16 ("[PSEG] are less than a month now from shutting down two of our plants in New Jersey about 1200 megawatts responding to exactly those same price signals."); Linda Harris, *FirstEnergy Will Deactivate Pleasants Power Station if No Buyer Is Found*, WVNews (Feb. 16, 2018), https://www.wvnews.com/news/wvnews/firstenergy-will-deactivate-pleasants-power-station-if-no-buyer-is/article_be513a39-27b5-55dc-b916-eaf1e99364ca.html; *see also* AD17-11 Tr. at 249:13-25.

36 PJM describes these programs in section II.C below.

37 The Commission "has previously found that it is not reasonable for buyer-side mitigation to depend on the intent of the seller because an artificially low offer

Finding the balance between the states' pursuit of their policy goals, and the need to preserve just and reasonable wholesale prices that support the level of investment needed to meet resource adequacy requirements is the point of this filing.

It can be tempting to believe that some "dabbling" to countermand market signals is tolerable. And indeed, as noted by the U.S. Supreme Court in this context, organized electricity markets cannot expect to be "hermetically sealed" from all manner of distortions that might make prices imperfectly competitive.[38] PJM's filing recognizes that organized markets can and must continue to accept a tradeoff between perfect competition and interventions that affect price outcomes for the benefit of some at the expense of others. For this reason, both proposals advanced here respect and accept some degree of non-actionable subsidy. While each proposal draws the lines between actionable and un-actionable subsidy differently in places, both proposals recognize that programs which target large-scale, unit specific resources represent a serious escalation

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price can unreasonably suppress market prices regardless of the seller's intent." *Midwest Indep. Transmission Sys. Operator*, 139 FERC ¶ 61,199, at P 69 (2012); *see also ISO New England, Inc.*, 135 FERC ¶ 61,029, at P 170 (2011) ("The Commission acknowledges the rights of states to pursue policy interests within their jurisdiction. Our concern, however, is where pursuit of these policy interests allows uneconomic entry of OOM capacity into the capacity market that is subject to our jurisdiction, with the effect of suppressing capacity prices in those markets. We note that our primary concern stems not from the state policies themselves, but from the accompanying price constructs that result in offers into the capacity market from these resources that are not reflective of their actual costs. We agree with arguments contending that OOM capacity suppresses prices regardless of intent and that the Commission has exclusive jurisdiction on assessing whether wholesale rates are just and reasonable. In fact, the Commission has previously found that uneconomic entry can produce unjust and unreasonable prices by artificially depressing capacity prices, and therefore, the deterrence of uneconomic entry falls within the Commission's jurisdiction. It is these unjust and unreasonable outcomes in a Commission-jurisdiction market that is the focus of our actions here.").

38 *FERC v. Elec. Power Supply Ass'n*, 136 S. Ct. 760, 776 (2016).

in the status quo and threaten the longstanding balance that has allowed PJM's markets to meet the Commission's "workably competitive" standard for organized wholesale electricity markets.[39]

PJM's RPM rules have to date focused on the danger posed by below-cost, subsidized offers from gas-fired new entry plants on the assumption that below-cost offers from other resources are less likely to be as damaging because other resources have lower avoidable costs, or make up a smaller part of the resource base. As subsidies spread and grow however, those assumptions are no longer sufficient to ensure that RPM will continue to advance the "first principles" of capacity markets enunciated in the CASPR Order. For example, as detailed in this filing, a now-subsidized existing nuclear plant failed to clear the 2017 capacity auction, presumably because its costs of continued operation demanded more revenue than PJM's capacity market could provide. PJM's analysis, supported by the Affidavit of Mr. Adam J. Keech, Executive Director, Market Operations, shows that a subsidized zero-priced offer from that single plant would reduce capacity revenues for sellers of tens of thousands of megawatts of capacity in large portions of the PJM Region. Unsubsidized sellers in that plant's Locational Deliverability Area ("LDA") would see their capacity revenues reduced by an estimated 10%—due solely to the zero-priced offer from a single plant, under a single state subsidy program. As shown in this filing, supported by the Affidavit of Dr. Anthony Giacomoni, Senior Market Strategist, Emerging Markets accompanying this filing, similar state

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39 *See, e.g.*, *PJM Interconnection, L.L.C.*, 110 FERC ¶ 61,053, at P 53 (2005); Order No. 888 at 31,655 (stating that independent system operators "have the potential to provide significant benefits (e.g., to help provide regional efficiencies, to facilitate economically efficient pricing, and, especially in the context of power pools, to remedy undue discrimination and mitigate market power) and will further our goal of achieving a workably competitive market.").

subsidy programs are being proposed, and additional programs are already in place and growing.

The time has come, therefore, to fill this gap in the PJM Tariff, and ensure that the PJM capacity market can continue to support robust supply competition, set price signals to manage resource entry and exit, place risk on those compensated to provide capacity, and promote price transparency. After a lengthy PJM stakeholder process on this challenging issue, two alternatives emerged, but neither could gain the two-thirds affirmative sector vote needed for endorsement. Doing nothing, however, is not an option. As the RTO and public utility with tariff administration responsibilities over the capacity market rules[40] under FPA section 205, PJM is taking the action it has determined is needed to fill the PJM Tariff gap demonstrated in this filing. In executing PJM's responsibility to ensure reliability and robust competitive markets, PJM has assessed the need for these market rule changes, as supported by and set forth in the expert affidavits.

Both filed alternatives work to ensure that artificially low offers from subsidized resources will not suppress capacity market clearing prices. The two approaches differ, however, on the basic question of whether a subsidized resource's artificially low offer can be used to qualify it to receive a capacity commitment (as is the case with the Capacity Repricing proposal) or instead require such resources submit and clear a competitive offer in order to receive a capacity commitment (as is the case with the MOPR-Ex proposal). The PJM Board of Managers concluded that the choice between

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40 PJM recognizes that the MOPR-Ex proposal elicited substantially greater support in the stakeholder process than did PJM's Capacity Repricing proposal. Nonetheless, PJM must fulfill its independent tariff administration responsibilities as an RTO under FPA section 205, and does so here by presenting Capacity Repricing as the preferred "Option A" for the reasons set forth in this filing. *See* section III.C, *infra.*

these two approaches at its essence presents a federal policy question, i.e., should the PJM Region wholesale capacity markets accommodate state policy choices to promote and rely upon particular resources while still taking steps to maintain the integrity of the overall clearing price. If so, then Capacity Repricing provides a reasonable means to achieve that policy preference. Conversely, if the Commission's policy focuses more on mitigating the impact of state subsidies, then MOPR-Ex would ensure the market is protected from the suppressive effects of state-subsidized offers.

PJM has structured this FPA section 205 filing with Option A/Option B tariff revisions (and the proposed sequential consideration) to enable the Commission to decide that basic policy question in an order issued by the requested date of June 29, 2018. Each option includes all tariff revisions needed to implement Capacity Repricing, or MOPR-Ex, respectively, and this filing supports either one as a just and reasonable means to resolve the current omission in the Tariff.

II. COMMISSION ACTION IS NEEDED NOW TO FILL A GAP IN THE RULES FOR THE PJM CAPACITY MARKET, WHICH FACES A GROWING INCIDENCE OF RESOURCES RECEIVING OUT-OF-MARKET STATE REVENUES THAT COULD UNDERMINE THE MARKET'S ABILITY TO FULFILL THE COMMISSION-IDENTIFIED CAPACITY MARKET PRINCIPLES

A. The Commission Has Repeatedly Found It Just and Reasonable to Prevent Below-Cost Offers by Sellers Relying on Out-of-Market Revenue from Suppressing Capacity Prices

The U.S. Supreme Court has explained RPM "serves to identify need for new generation."[41] Specifically, "[a] high [RPM] clearing price . . . encourages new generators to enter the market, increasing supply and thereby lowering the [energy market] clearing price three years' hence" while "a low clearing price discourages new

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41 *Hughes*, 136 S. Ct. at 1293.

entry and encourages retirement of existing high cost generators."[42] Similarly, courts have held that markets like RPM are intended to "ensure both that existing generators are adequately compensated and that prices support new entry when additional capacity is needed."[43]

To achieve these objectives, a central premise of RPM is that sellers are expected to offer their capacity at a price sufficient to cover their costs, to the extent not recouped in other PJM markets. To that end, the Commission has held, "[a] competitive seller of capacity is expected to bid its going-forward costs, i.e., the fixed annual operating expenses that would not be incurred if a unit were not a capacity resource for a year."[44]

Conversely, RPM "will not be able to produce the needed investment to serve load and reliability if a subset of suppliers is allowed to bid noncompetitively."[45] As the Commission has explained, "[m]arkets require appropriate price signals to alert investors when increased entry is needed."[46] Consequently, submitting offers below the seller's costs can "have the unintended effect of depressing the market clearing prices in [RTO] markets, thus adversely affecting other market participants."[47]

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42 *Id.*

43 *Me. Pub. Utils. Comm'n v. FERC*, 520 F.3d 464, 473 (D.C. Cir. 2008), *rev'd in part sub nom. NRG Power Mktg., LLC v. Me. Pub. Utils. Comm'n*, 130 S. Ct. 693 (2010), *remanded*, *Me. Pub. Utils. Comm'n v. FERC*, 625 F.3d 754 (D.C. Cir. 2010); *see also N.Y. Indep. Sys. Operator, Inc.*, 124 FERC ¶ 61,301, at P 63 (2008) (capacity markets are designed to "provid[e] proper market signals for new entry and existing capacity").

44 *PJM Interconnection, L.L.C.*, 122 FERC ¶ 61,264, at P 56 (2008).

45 *PJM Interconnection, L.L.C.*, 128 FERC ¶ 61,157, at P 90 (2009).

46 *N.Y. Indep. Sys. Operator, Inc.*, 122 FERC ¶ 61,211, at P 103 (2008).

47 *Cal. Indep. Sys. Operator Corp.*, 142 FERC ¶ 61,191, at P 28 (2013).

The Commission has been called upon before to address the potential adverse effects on the PJM capacity market from state sponsored resources. Citing "mounting evidence of risk from what was previously only a theoretical weakness in the MOPR rules," the Commission ordered the elimination of a blanket exemption for state-sponsored new entry, finding that below-cost offers should not be allowed to suppress capacity prices below the levels needed to support competitive entry and preserve reliability.[48]

The court of appeals in *NJBPU* upheld the Commission's authority to protect the wholesale price from the adverse effects of subsidized offers, and accepted the Commission's rationale for doing so.[49] The court relied on the Commission's expressed concern that the "prospect of thousands of megawatts of new generation, developed under arrangements that would explicitly subsidize the resources regardless of Auction price, potentially being offered into the [PJM] [m]arket at a zero bid brought into focus the distortive effect . . . that the state exemption could have on market prices for all capacity."[50] The court explained that:

> [I]f the state[] wish[es] to use a new generation resource to satisfy [its] capacity obligations required under the [PJM wholesale capacity market], [then] the resource must clear the [PJM] [a]uction . . . . [and] if the state['s] preferred generation resources fail to clear the auction . . . the states cannot use [those] resources to offset their capacity obligations in [the wholesale market].[51]

The court also observed that if the preferred resource does not clear the wholesale capacity auction and the state nevertheless compels its construction, then the state "'will

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48 *See PJM Interconnection, L.L.C.*, 135 FERC ¶ 61,022, at P 139 (2011).

49 *N.J. Bd. of Pub. Utils. v. FERC*, 744 F.3d 74, 97-98 (3d Cir. 2014) ("*NJBPU*").

50 *Id.* at 100.

51 *Id.* at 97.

appropriately bear the cost of [those] decision[s],' including possibly having to pay twice for capacity."[52]

The Commission reaffirmed these principles in the CASPR Order, explaining the ultimate goal "to produce a level of investor confidence that is sufficient to ensure resource adequacy at just and reasonable rates" and affirming the Commission's "duty under the FPA to take actions necessary to assure just and reasonable rates," in cases where "participation of resources receiving out-of-market state revenues undermines those principles."[53]

B. The Fully Restructured States in the PJM Region Elected to Rely on Competitive Markets as the Means to Select Resources Needed to Serve Loads

Many states in the current PJM Region chose, approximately twenty years ago, to restructure electric service in their states and introduce greater reliance on competition. Rather than relying on an administratively dictated integrated resource plan, such states rely on the PJM-operated interstate wholesale markets to manage resource entry and exit and meet resource adequacy objectives.

Illinois, for example, restructured the electric industry in its state in 1997 to introduce greater reliance on competition.[54] In the restructuring legislation, the Illinois General Assembly expressly considered the anticipated "[i]mproved efficiencies in the use of industry assets and personnel" gained by relying on the market—instead of

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52 *Id.* (quoting *Conn. Dep't of Pub. Util. Control v. FERC*, 569 F.3d 477, 481 (D.C. Cir. 2009)).

53 CASPR Order at P 21.

54 *See* Electric Service Customer Choice and Rate Relief Law of 1997, 220 Ill. Comp. Stat. 5/16-126 (LexisNexis, Lexis Advance through P.A. 100-581 of the 100th Legis. Sess.).

regulators.[55] By "substituting competitive market pricing for regulated pricing of electricity in the wholesale and retail markets" the restructured markets could "send[ ] . . . more efficient price signals to operators and builders of electricity generators and to users of electricity" and could "shift[ ] the focus of risk bearing for the use of existing generating assets and personnel [and constructing new generating assets] from captive users (where much of it has rested in the current system of economic regulation) onto shareholders of unregulated generating companies."[56] The Illinois Commerce Commission ("ICC") advised the legislature at that time that it "supports a swift transition to a competitive electric industry in which prices are decided by market forces, *not by government*."[57] Notably, the legislators who voted to approve restructuring appreciated fully that: "[o]nce industry restructuring has progressed to the stage where distribution companies, generating companies and transmission companies are deemed separate business[es] and the FERC has deemed the wholesale market prices to be just and reasonable, the State will have no more voice in the price that generating companies charge for unbundled electricity than they do over the price that oil refineries charge for gasoline."[58]

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55 Nancy Brockway, Randle Smith, and Charles Stalon, *Principles Applicable to the Electric Industry Reform Legislation*, The Governor's Advisory Committee for Electric Utility Regulatory Reform, 11 (Apr. 28, 1997), https://sites.hks.harvard.edu/hepg/Papers/2011/Old/Brockway_Principles_1997.pdf ("Principles").

56 *Id.*

57 *Analysis of Electric Restructuring with Particular Emphasis on Senate Bill 55*, Illinois Commerce Commission, Executive Summary at ii (Aug. 15, 1997) (emphasis added).

58 Principles at 18; *see also* Request for Rehearing of the Illinois Commerce Commission, Docket No. ER13-535-002, at 11 (May 28, 2013) ("ICC Rehearing Request"). The ICC explains that Illinois is "a retail access state with no ICC

Maryland similarly restructured the electric industry in its state in 1999, introducing greater reliance on competition.[59] The Maryland Public Service Commission ("MdPSC") has explained that "[t]he premise of the 1999 Act was that electric consumers would benefit more from a competitive market for their electricity rather than being captive to a single utility that had a monopoly on their electricity service."[60]

New Jersey likewise restructured its electric industry in 1997,[61] with one of its stated purposes to "[p]lace greater reliance on competitive markets, where such markets exist, to deliver energy services to consumers in greater variety and at lower cost than traditional, bundled public utility service."[62]

Similarly, Ohio adopted its version of competitive electric restructuring with the passage of Senate Bill 3 in 1999.[63] This legislation allowed retail customers of Ohio's investor-owned electric utilities to shop for alternative suppliers of the generation portion of their electricity service.[64]

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jurisdiction over generation facilities in Illinois," ICC Rehearing Request at 11, as distinct from "traditionally regulated states," *id.* at 10, in which "the[] legislature or state commission could direct a state-jurisdictional utility to place [a preferred generation plant] into the state-approved integrated resource plan." *Id.*

59 *See* Electric Customer Choice and Competition Act of 1999, Md. Code Ann., Pub. Util. § 7-501, et seq.

60 *In the Matter of Baltimore Gas and Electric Company's Proposal*, Order No. 81423, at 36 (Md. Pub. Serv. Comm'n May 23, 2007).

61 *See* Electric Discount and Energy Competition Act, N.J. Stat. § 48:3-49 *et seq.* (LexisNexis, Lexis Advance through New Jersey 218th First Ann. Sess., L. 2018, c. 4 and J.R. 2).

62 N.J. Stat. § 48:3-50.

63 1999 Bill Text OH S.B. 3.

64 Ohio Rev. Code Ann. 4928.02 (2012). The law was subsequently amended in 2008 pursuant to SB 221. 2007 Ohio S.B. 221 (enacted 2008).

A former FERC Commissioner has observed that states that embraced the restructuring model "effectively gave-up the type of resource adequacy planning authority that exists in . . . other [regulatory] models," and therefore instead rely on "a separate FERC jurisdictional capacity market construct."[65] However, the recent trend, as exemplified by the PJM Region experience described in this filing, is states that restructured are increasingly "seeking to procure vast amounts of megawatts of capacity around markets that were designed with the merchant generator model in mind."[66] To that observer, state actions "have reached [a] tipping point"[67] and "[w]hile it can be alluring to think one can maintain all the benefits of a restructured market while also selecting your generation winners and losers . . . that is a siren's call best left unanswered."[68]

C. There Is a Growing Trend Among the PJM Region States that Elected to Rely on Competition for Resource Adequacy to Intervene in Resource Selection with Targeted Subsidies

Increasingly, states in the PJM Region that chose to rely on competitive markets to ensure resource adequacy have adopted programs that provide substantial subsidies to resources that sell wholesale services in PJM's markets. As detailed in the attached affidavits of Mr. Keech and Dr. Giacomoni, these programs are explicitly intended to encourage development or retention of select resources with certain attributes favored by state public policy. These programs, which directly or indirectly require payments from

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65 Tony Clark, *Regulation and Markets: Ideas for Solving the Identity Crisis*, Wilkinson, Barker, Knauer, 5 (July 14, 2017), http://www.wbklaw.com/uploads/file/Articles-%20News/2017%20articles%20publications/Market%20Identity%20Crisis%20Final%20(7-14-17).pdf.

66 *Id.* at 13.

67 *Id.*

68 *Id.* at 15.

consumers[69] to those resources that offer the desired attributes, have now progressed to the point that thousands of megawatts of existing PJM Capacity Resources receive these subsidies. That growth is reasonably expected to continue. As Mr. Keech and Dr. Giacomoni also show, the dollar amount of these subsidies is significant; and reduced capacity price offers from resources that receive such subsidies can significantly reduce capacity clearing prices. As made clear in the review of Commission policy and precedent in section II.A above, such offer price reductions due to subsidies for select resources, as opposed to lower price offers based on resource efficiency, unreasonably suppress wholesale prices.

1. Overview of State Programs, Their Scope, and Their Subsidies

Dr. Giacomoni summarizes PJM Region state programs that provide subsidies of concern. He describes,[70] for example:

- Zero-emission credit ("ZEC") payments to a select PJM Region nuclear plant in Illinois;
- Pending New Jersey legislation that would provide similar payments to potentially nuclear plants in that state;
- Off-shore wind procurement programs under existing law in Maryland and New Jersey that appear similar to the programs in New England that

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69 Although state consumers pay these support payments in rates in the first instance, as will be shown later in this filing, these payments can be offset by the suppressive impact they cause to clearing prices. In other words, these state programs can be structured in such a way that competitors in the wholesale market, already disadvantaged in not getting a subsidy, also end up footing some or all of the bill for subsidies enjoyed by others as a result of the lower revenues they receive. *See infra* II.C.3.

70 Attachment F Affidavit of Dr. Anthony Giacomoni on Behalf of PJM Interconnection, L.L.C. ¶¶ 5-17 ("Giacomoni Aff.").

prompted the ISO New England capacity market changes approved in the CASPR Order;[71] and

- Renewable Portfolio Standard ("RPS") programs in various PJM Region states that require Load Serving Entities ("LSEs") to meet a certain percentage of their load with RPS eligible facilities, or buy renewable energy certificates ("RECs") from such facilities.

Dr. Giacomoni also explains that these programs "are expressly designed to promote the development or retention of specific types of resources;" and "[a]vailable evidence indicates that they do indeed contribute to that objective."[72] He shows that some asset owners, specifically the owners of the nuclear plants in Illinois and New Jersey, make this linkage explicit, stating that their continued operation or capital maintenance of the plants is conditioned on securing the ZEC payments. Similarly, he cites an independent study showing that "mandatory RPS policies have been a 'key driver' for renewable energy generation growth; and that the RPS role has been 'seemingly most critical' in the states of the PJM Region."[73]

Dr. Giacomoni shows that the referenced state programs "provide subsidies to thousands of MWs of PJM Capacity Resources, and that number is scheduled to grow

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71 *See* CASPR Order at dissenting op. 3 n.4 (Commissioner Powelson) ("'An Act to Promote Energy Diversity' was signed by the Governor of Massachusetts on August 8, 2016, and requires electric utilities in the state to procure 9.45 terawatt-hours per year from 'clean energy generation' and 1,600 MW of nameplate capacity from offshore wind."); ISO New England, Inc. CASPR Filing at Geissler Testimony at 8 & Table III.1 (stating that the Massachusetts "2016 Energy Diversity Act" calls for utilities to procure "up to 1600 MW" of off-shore wind by 2025-2027).

72 Giacomoni Aff. ¶ 18.

73 *Id.* ¶ 17 n.28 (citing Galen Barbose, *U.S. Renewables Portfolio Standards 2017 Annual Status Report*, Lawrence Berkeley National Laboratory, 12 (July 2017), http://eta-publications.lbl.gov/sites/default/files/2017-annual-rps-summary-report.pdf ("LBL 2017 RPS Status Report")).

significantly under current law."[74] Specifically, the Illinois ZEC program provides subsidies to approximately 1,400 MW of nuclear generation. If the similar New Jersey law is adopted, it would provide payments for up to 3,360 MW at the Salem and Hope Creek nuclear plants. The New Jersey offshore wind program contemplates supporting up to 1,100 MW of wind turbines; the Maryland program contemplates supporting a project of up to 250 MW. Dr. Giacomoni also estimates that satisfying the current RPS obligations in the PJM Region would require nearly 5,000 MW of "'around-the-clock' capacity (located and metered in the PJM Region)," and that is scheduled under current law to grow to over 8,000 MW by 2025.[75]

In the last section of his affidavit, Dr. Giacomoni shows that "[t]he out-of-market financial support provided by the state programs at issue is substantial."[76] To put this in perspective, he "compare[s] the subsidies to prices paid to resources that clear PJM's capacity market," recognizing that "[a] revenue source comparable to the PJM capacity market . . . is a significant revenue source, which could meaningfully affect whether or not a resource is economic."[77] He finds that many of these the subsidy payment rates, when converted to MW-day values, in fact *exceed* capacity clearing prices in PJM's most recent annual auction. The Illinois ZEC prices equate to about $265/MW-day; New Jersey on-shore wind REC prices equate to $250/MW-day; Delaware's estimated on-shore REC prices equate to $253/MW-day, and Solar REC prices in the District of Columbia equate to $4,751/MW-day. While acknowledging that dependence on these

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74 *Id.* ¶ 24.

75 *Id.* ¶ 29.

76 *Id.* ¶ 31.

77 *Id.*

subsidies will vary by resource, Dr. Giacomoni observes that "at these subsidy levels," it is "quite plausible to conclude that . . . many resources do depend on those revenues, in combination with PJM market revenues, to be economic."[78]

2. Simulated Market Impacts of the State Programs

In his affidavit, Mr. Keech shows that "[s]ubsidized, below-cost capacity offers can result in significant and widespread clearing price reductions that are attributable to the subsidies."[79] Working with Base Residual Auction sensitivity analyses that illustrate the effects of adding 3,000 or 6,000 MW of supply in various areas, Mr. Keech finds that "adding comparatively small quantities of subsidized offers disproportionately reduces the clearing prices paid to all resources."[80] Adding less than 2% of zero-priced supply to the area outside MAAC, for example, reduces clearing prices in the RTO by 10%. Adding only 7% of zero-priced supply (i.e., about 2,000 MW) to EMAAC reduces EMAAC clearing prices by about one-third.[81]

Mr. Keech also simulates the clearing-price effects of offering at zero price the capacity from the Quad Cities and Three Mile Island nuclear plants.[82] He shows that "[a]llowing just these two plants to offer into the capacity auction at a subsidized price of zero would reduce the capacity revenues received *by every seller in the unconstrained portion of the RTO* by 2%." While that 2% reduction does not sound very significant, it equates to a reduction of $547,500 for a resource seller with a 1,000 MW resource, for

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78 *Id.*

79 Attachment E Affidavit of Adam J. Keech on Behalf of PJM Interconnection, L.L.C. ¶ 6 ("Keech Aff.").

80 *Id.* ¶ 7; *see also id.* at Attachment 1.

81 *Id.* ¶ 8; *see also id.* at Attachment 1.

82 *Id.* ¶ 10; *see also id.* at Attachment 2.

example.[83] Sellers in the ComEd LDA would see their capacity revenues "cut by nearly 10% due solely to allowing the subsidized offer," resulting in "a reduction in annual capacity market revenues of $6.75 million for that same 1,000 MW UCAP resource."[84]

3. *The Effects of State Subsidies to Sellers that Offer into PJM Markets Are Not Confined to the State; They Significantly and Adversely Affect Wholesale Market Participants*

The wide-ranging price effects of the subsidy in the simulation above, e.g., reducing the clearing price paid to sellers throughout the unconstrained part of the RTO, hint at a critical insight about the respective role and responsibilities of state and federal regulators where these subsidies are concerned. Simply put, a state's subsidies to wholesale market participants impose costs on market participants and customers outside such state's purview that participate in, or depend on, the wholesale markets. In effect, the state is exporting the impact of its subsidy onto other states and potentially 'crowding out' resources that other states (with different policy choices) may value.

The following simple example illustrates these points.[85] It assumes a system with 200 MWs of load and three resources, each with 100 MWs of capacity, seeking to be committed in the PJM auction to serve that load. One resource is a new entry plant that needs $45/MW-day to warrant investing in and building the plant. One is an existing

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83 *Id.* ¶ 10.

84 *Id.* ¶ 11.

85 PJM acknowledges this example is simplified with only a few resources and a small amount of load, and omits some real world details, such as reserve margins. The example also assumes $2 of subsidy will reduce the clearing price by $1. The mathematics of this relationship will almost certainly differ in actual subsidy situations. However, as the simulations shown in Section II.C.2 above illustrate, due to the "leverage" that comes from lowering the clearing price across many thousand megawatts of load in a zone, the cost of a subsidy can be fully underwritten even if $1 of subsidy for a 1,000 MW resource only reduces the clearing price across 20,000 MW zone by $.05.

resource that needs at least $40/MW-day to meet its avoided costs to support committing itself as capacity. And the third is another existing resource, albeit one that is more costly and needs at least $50/MW-day to support committing itself as capacity.

As shown in Figure 1, with no state intervention, the existing resource needing $40/MW-day and the new entry resource needing $45/MW-day clear the market and are committed to meet the 200 MW capacity requirement of the loads. The existing resource that needs $50/MW-day does not clear the auction, and retires. The clearing price is set at $45/MW-day, and load pays $9,000 per day in PJM's market for the 200 MW of capacity.

Figure 1
Without State Intervention
Market Clears at $45

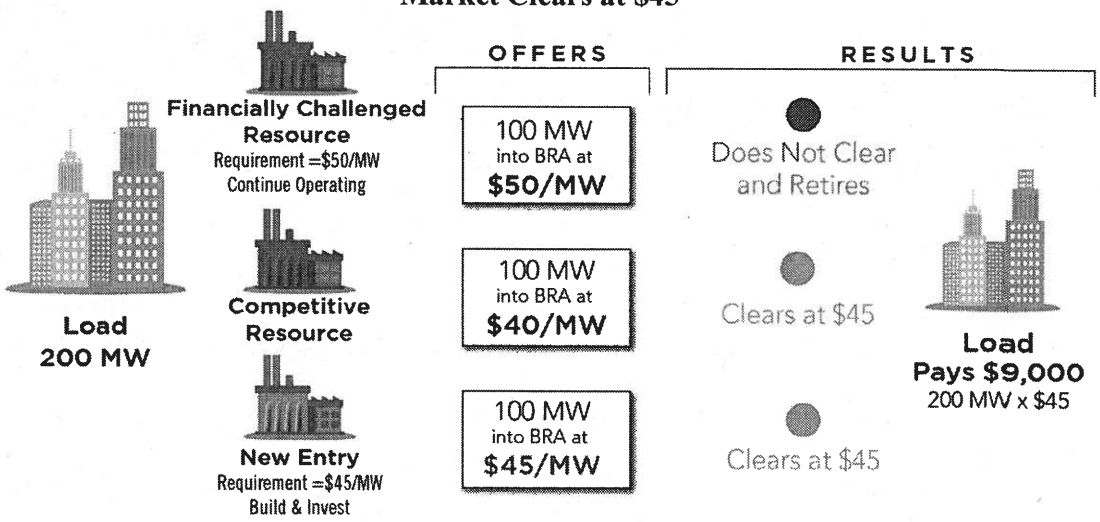
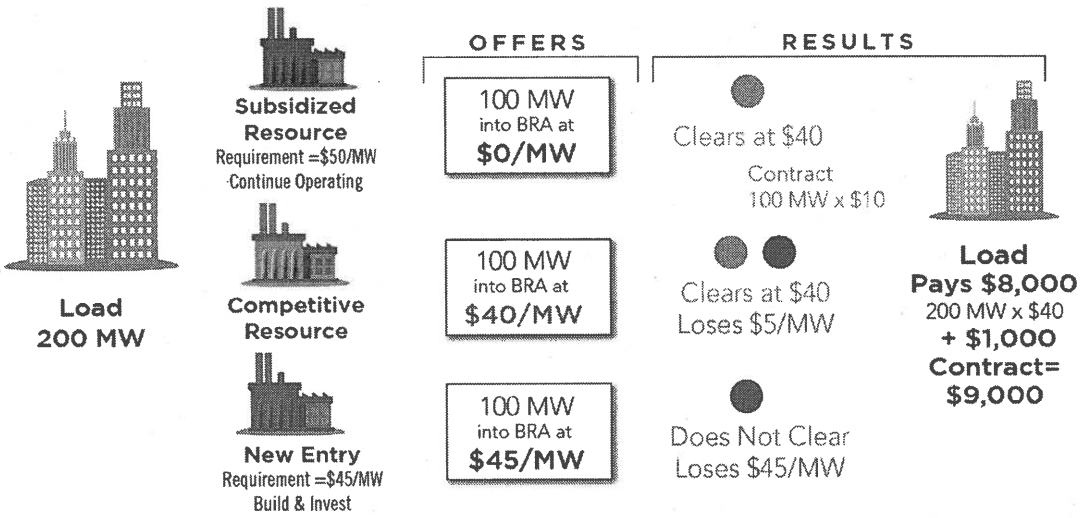


Figure 2 takes the same simple system, but introduces state action, with an arrangement for load to pay the difference between the $50/MW-day the financially challenged existing resource needs from the capacity market, and the clearing price actually received from the capacity market. With the subsidy, the financially challenged existing resource is willing to take whatever price the capacity market pays, so it offers at

zero price. The subsidized resource clears, as does the existing resource that needs $40/MW-day from the capacity market to cover its avoidable costs of providing capacity. The clearing price is $40/MW-day, and the new entry resource that needs $45/MW-day to invest and build does not clear.

Figure 2
With State Intervention (Contract for Differences)
Market Clears at $40



Note that in this example, in-state load pays no more in total in the subsidy scenario than it paid in the non-subsidy scenario. Under the subsidy scenario, load still pays $9,000/day for capacity, but now it consists of $8,000 through the PJM market, and $1,000 out-of-market to the financially challenged resource. Consequently, the state has realized its objective to keep the challenged resource in operation, but the costs of that decision do not fall on the state's loads. Rather, the immediate costs of keeping an uneconomic plant in service fall on the other sellers in the PJM market. In this example, the other existing resource foregoes the $5/MW-day it would have received from being

an infra-marginal resource in a competitive auction. And the new entry plant forgoes the $45/MW-day it would have received by being the marginal resource in a competitive auction.[86]

Longer term, the state load potentially faces a more costly system, because efficient new entry was turned aside as a result of the subsidy. The state otherwise expects to rely on the competitive market to meet its load's long-term reliability needs at an efficient cost. But subsidizing one uneconomic plant is not enough to ensure long-term reliability, because the competitive mechanism (on which the state otherwise depends) has been thwarted. Other potential new entrants that need a market that values their capacity based only on their project's cost efficiencies may be deterred from offering into a market whose results are significantly affected by selective state subsidies.

The real world is more complicated than this simple example, but it serves to illustrate a critical point: the state subsidy program is being underwritten by other participants in the wholesale market. The question of state subsidy programs is not just a matter of respecting a state policy choice within its domain, it also imposes *important and detrimental consequences on the federally regulated wholesale market.* Advancing state policy by offering a subsidy tied to revenues received by a resource in PJM's markets effectively forces other participants in the wholesale market to pay for that objective. Therefore, this is not merely a case of discrimination between one party that enjoys a subsidy and one that does not. It is worse than that, because other wholesale

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86 These impacts on suppliers are relevant under the FPA, which requires rates that balance "the investor and the consumer interests," *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944), and "encourage the orderly development of plentiful supplies of electricity . . . at reasonable prices." *NAACP v. FPC*, 425 U.S. 662, 670 (1976).

market participants, excluded from the subsidy, are also effectively required *to help pay* for the favored party's subsidy. That forced enlistment of other wholesale market actors to help the state achieve its objective necessitates a response *by the federal regulator* of the wholesale market.

4. *A Part Subsidized/Part Competitive Market Cannot Carry Out the Critical Function of Ensuring Reliability*

If the clearing price reductions shown above resulted from real cost reductions or greater efficiencies, load would benefit because its reliability need would be met at lower cost. But the price reductions in the simulation result solely from the impacts of subsidies. As Mr. Keech explains in his affidavit:

> Many sellers submit zero-price offers in PJM's capacity market. But this does not prove that many sellers are irrational. Sellers estimate whether they will recover their resource's costs in PJM's markets. If they anticipate that, for a given Delivery Year, they might not fully recover their resource costs in PJM's energy and ancillary service markets—*and they are not receiving a subsidy*—then they will offer into the capacity market at a price they consider the minimum needed to continue the operation of their resource through that Delivery Year.
>
> * * *
>
> By contrast, a zero-priced offer *that is made possible only because a seller receives an out-of-market subsidy* is not competitive behavior. The seller is relying on a state subsidy available only to select resources to submit an offer in the PJM capacity market that is well below what it needs if one looks only at its resource costs and the revenues available to it from PJM's other markets.[87]

As a result, plants that demonstrably cannot clear based on their costs instead clear solely because of the subsidy and reduce the price paid to all other resources to meet the reliability needs of loads in the relevant area.

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[87] Keech Aff. ¶¶ 14-15.

Loads that see capacity prices reduced from such subsidies are given incorrect price signals and a false promise. Basing clearing prices on costs that are distorted or biased by subsidies makes it harder for all other resources to clear based solely on their resource efficiencies or cost advantages. A market that does not fairly value the costs of meeting reliability needs will not continue to commit the resources needed for adequacy that compete only on their true net costs (allowing for wholesale market revenues), and not on those biased by subsidies. Thus, even if state policy makers choose to maintain their particular subsidy to their preferred resources, investment in needed resources in the region will become less sustainable over time, because otherwise efficient, but unsubsidized, resources are more likely to be priced out by the subsidized clearing price.

The suppressed price loads see also ignores that "subsidies beget subsidies:" basing markets on subsidies, rather than on costs, incents suppliers to seek subsidies of their own.[88] Subsidy-based markets are inherently risky and unstable, because each additional asset owner that seeks, and obtains, a subsidy disrupts the ability of more sellers to clear based on their cost efficiencies. A part-subsidized/part-competitive market is thus a very poor design choice for the critical function of ensuring reliability.

One could argue that subsidies of various types could affect behavior of many market participants. And it is true that markets, especially in the utility sector, include subsidies of varying types. The issue, however, is materiality. It is commonplace to refer

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88 *See Staff Report to the Secretary on Electricity Markets and Reliability*, U.S. Department of Energy, at 14 n.q (Aug. 17, 2017) (noting that "subsidies beget subsidies"); *see also State of the Market Report for PJM*, Monitoring Analytics, LLC, 42 (Mar. 8, 2018) http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2017/2017-som-pjm-volume1.pdf ("Subsidies are contagious.").

to wholesale electricity markets as "workably competitive,"[89] reflecting that many factors remove such markets from a competitive ideal. The record here, however, shows the emergence of multiple specific, substantial state subsidy programs that could have a material price suppression effect in the wholesale capacity market. In every prior case where the Commission has been faced with evidence of such growing threats to competitive wholesale markets, it has taken action.[90]

D. PJM's Tariff Currently Has No Means to Address the Adverse Effects of Any of the Above-Described State Subsidy Programs

PJM's current Minimum Offer Price Rule applies only to new entry by gas-fired combined cycle and combustion turbine generating plants.[91] It does not apply to resources after they have cleared one RPM auction. Nor does it apply to coal-fired, nuclear-powered, or renewable generation resources, or to demand resources.

Consequently, the PJM Tariff currently has no means to address the price-suppressing effects that might result from any of the existing or proposed state subsidy programs described above, despite the facts, as shown above and in the accompanying affidavits, that:

- The programs provide for out-of-market payments to resources that offer into PJM markets;
- There is ample evidence that the payments either are needed to keep the subsidized resources in operation, or at a minimum play a substantial role in keeping the resources in operation;
- The payments are substantial, in many cases exceeding PJM capacity market payments; and

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89 *See supra* n.39.

90 *See supra* section II.A. *See also* CASPR Order at P 1.

91 *See* PJM Tariff, Attachment DD §°5.14(h)(1).

- The number of megawatts of capacity receiving such payments is large and growing.

Accordingly, changes therefore are needed to remedy what is becoming an increasingly glaring omission from the PJM Tariff. By this filing, PJM provides two alternative proposals, each of which would remedy this omission.

E. Now is the Time for Commission Action

As the foregoing review makes clear, Commission action is needed now. The circumstances are similar to those that confronted the Commission in 2011 when it eliminated the blanket MOPR exemption for state-supported new entry: the "prospect of thousands of megawatts of . . . generation, [offered] under arrangements that would explicitly subsidize the resources regardless of Auction price, potentially being offered into the [PJM] [m]arket at a zero bid [brings] into focus the distortive effect . . . that the state [programs] could have on market prices for all capacity."[92] The principle applies equally here; the only difference is that in 2011, the concern was new entry, natural gas projects; today the concern arises from state programs to maintain and support existing resources and (to a lesser degree) induce entry of alternate energy resources. In such circumstances, where "participation of resources receiving out-of-market state revenues undermines [the first] principles" of capacity markets, the Commission has a "duty under the FPA to take actions necessary to assure just and reasonable rates."[93]

Some may argue that no action is needed at this time because capacity commitments in PJM are well above the installed reserve margin, and because the PJM Region continues to see new entry. This argument ignores the current drivers of new

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92 *NJBPU* at 100.

93 CASPR Order at P 21.

entry in PJM (see discussion of private equity models and gas turbine efficiency above, section I); and falsely suggests that there are times during the business cycle when it is appropriate to distort markets.[94]

Moreover, being long on capacity does not justify setting subsidized clearing prices. A properly designed competitive market will address excess or shortage positions over time through the actions of competitive market participants. Excesses are not addressed by departing from competitive design principles (such as by allowing subsidies a significant role in setting clearing prices) until a surplus clears, and then trying to re-institute a competitive market design. The selected design must work in equilibrium, shortage, and surplus conditions. Subsidies will undermine competitive market design at any stage of the business cycle.

F. PJM, with its Stakeholders, Has Been Analyzing and Developing a Response to this Problem for Nearly Two Years

PJM has focused for nearly two years on the challenges increasing state subsidies present for competitive wholesale markets. In June 2016, PJM completed and posted an in-depth Whitepaper exploring whether PJM can continue to rely on the "organized wholesale electricity market to efficiently and reliably manage the entry and exit of supply resources as external forces create tremendous uncertainty and potential industry transformation."[95]

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94 Because electric demand growth in the PJM Region has been relatively flat for a number of years, the driver of new entry is not organic load growth or to add to the supply stack. Rather, as shown above, the investment hypothesis supporting new entry in PJM has been lower gas prices and better technology (i.e., technology that is more efficient and still innovating) to displace older less efficient generation. *See* further discussion in section I, *supra*.

95 *Resource Investment Whitepaper* at i.

The *Resource Investment Whitepaper* concluded that "PJM markets are efficiently and reliably managing entry and exit, even while adapting to changing circumstances."[96] The whitepaper noted that the PJM markets do well at attracting new entry at efficient cost because competition lowers cost and excludes technologies with inappropriately high costs. The Whitepaper also offered strong evidence that markets are providing adequate returns that incentivize new generation investment where needed.[97] The *Resource Investment Whitepaper* found no evidence suggesting that PJM markets do not adequately compensate legacy units such that economically viable generators were being forced into premature retirement.[98] Rather, the *Resource Investment Whitepaper* concluded, the PJM markets are producing prices that appropriately signal the exit of uneconomic legacy resources and the entry of efficient new resources.[99]

Yet the *Resource Investment Whitepaper* also recognized that policymakers face difficult choices between the efficient market outcomes of the PJM markets and other policy objectives that may be thwarted by these outcomes. It further acknowledges the widespread subsidies that influence the PJM market outcomes and that PJM's continuing ability to deploy market forces to efficiently and reliably handle a changing resource mix may be threatened if the promotion of other policy interests are pursued in a way that materially distorts price outcomes in PJM's capacity and energy markets.[100]

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96 *Id.* at i.

97 *Id.* at ii.

98 *Id.*

99 *Id.*

100 *Id.* at ii-iii.

The *Resource Investment Whitepaper* prompted stakeholder reaction, including through several letters sent to PJM to which Andrew L. Ott, PJM Chief Executive Officer, responded.[101] To advance this and related topics, PJM conducted a "Grid 20/20" conference on August 18, 2016, to facilitate discussion about the confluence of market design and public policy goals and to explore with industry experts and regulatory officials various pathways in which market rules can accommodate policy goals without distorting market principles.[102]

The Commission likewise recognized the challenges posed by this emerging issue, convening a technical conference on "an open question of how the competitive wholesale markets, particularly in states or regions that restructured their retail electricity service, can select resources of interest to state policy makers while preserving the benefits of regional markets and economic resource selection."[103] The Commission then invited parties to file comments on "paths forward with respect to the interplay between state policy goals and the wholesale markets," including Path 2 – Accommodation of State Actions and Path 5 – Expanded Minimum Offer Price Rule.[104]

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101 *Letter from Andrew L. Ott to Stakeholders*, PJM Interconnection, L.L.C. (July 8, 2016), http://www.pjm.com/~/media/about-pjm/who-we-are/public-disclosures/20160708-correspondence-from-alo-resource-investment-in-competitive-markets.ashx.

102 *See Grid 20/20: Focus on Public Policy Goals and Market* Efficiency, PJM Interconnection, L.L.C., http://www.pjm.com/committees-and-groups/stakeholder-meetings/symposiums-forums/grid-2020-public-policy-goals-mkt-efficiency.aspx (last visited Apr. 4, 2018).

103 *State Policies and Wholesale Markets Operated by ISO New England Inc., New York Independent System Operator, Inc., and PJM Interconnection, L.L.C.*, Notice of Technical Conference, Docket No. AD17-11-000, at 1 (Mar. 3, 2017).

104 Notice Inviting Post-Technical Conference Comments, Docket No. AD17-11-000, at 1-2 (May 23, 2017). *State Policies and Wholesale Markets Operated by ISO*

To further address these issues, the PJM Markets and Reliability Committee ("MRC") created the Capacity Construct/Public Policy Senior Task Force ("Task Force") "to conduct an assessment of the Reliability Pricing Model (RPM) in an effort to ensure potential state public policy initiatives and RPM objectives are not at odds."[105] Specifically, the Task Force was asked to "identify both the characteristics of a well-functioning capacity construct, as well as potential public policy initiatives states could take regarding resource adequacy, fuel diversity, public, and environmental policies" and to "discuss whether modifications are required to RPM."[106] The Task Force met twenty-two times between March 6, 2017 and November 21, 2017.[107] During this time, the Task Force considered both proposals being filed herein as well as six others. In November 2017, the Task Force voted on the various proposals and the IMM's MOPR-Ex proposal received simple majority support. The Task Force presented the IMM proposal for a "first read" to the MRC[108] at the December 7, 2017 MRC meeting.[109] The MRC again reviewed the IMM proposal and related revised Tariff sheets at its December 21, 2017

New England Inc., New York Independent System Operator, Inc., and PJM Interconnection, L.L.C.

105 *See Capacity Construct/Public Policy Senior Task Force*, PJM Interconnection, L.L.C., http://www.pjm.com/committees-and-groups/task-forces/ccppstf.aspx (last visited Apr. 4, 2018).

106 *Id.*

107 *Id.*

108 *See CCPPSTF Vote Results*, PJM Interconnection, L.L.C., 2 (Nov. 21, 2017), http://www.pjm.com/-/media/committees-groups/task-forces/ccppstf/20171121/20171121-ccppstf-vote-results.ashx.

109 *See* Markets and Reliability Committee, *Agenda*, PJM Interconnection, L.L.C., 3, (Dec. 7, 2017), http://www.pjm.com/-/media/committees-groups/committees/mrc/20171221/20171221-item-01-draft-minutes-mrc-20171207.ashx (Agenda item 11).

meeting. The MRC deferred voting on the proposal until its next meeting on January 25, 2018, to provide stakeholders more time to review the revised Tariff sheets.[110]

At the January 25, 2018 MRC meeting, the IMM provided an update with regard to the MOPR-Ex proposal and associated Tariff revisions.[111] In addition, at the request of stakeholders, PJM management discussed PJM's updated proposal to accommodate state policy choices by addressing Capacity Repricing. The MRC voted on both proposals, neither of which passed. The IMM-proposed MOPR-Ex Tariff revisions failed in a sector-weighted vote with 3.19 in favor.[112] The PJM proposal failed in a sector-weighted vote with 1.07 in favor.[113]

In February 2018, the PJM Board of Managers, in response to "growing pressure threatening competitive outcomes in PJM markets," directed PJM to file both the MOPR-Ex proposal and the Capacity Repricing proposal with the Commission under section 205 of the FPA.[114] As Mr. Ott explained in a letter announcing this decision:

> Each approach represents a distinct, just and reasonable policy alternative to address the consequences of state intervention. Deciding between these policy options requires a balancing of federal and state interests, raising

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110 *See* Markets and Reliability Committee, *Minutes*, PJM Interconnection, L.L.C., 2-3, (Dec. 21, 2017), http://www.pjm.com/-/media/committees-groups/committees/mrc/20180125/20180125-item-01-draft-20171221-mrc-meeting-minutes.ashx (Agenda item 7).

111 Markets and Reliability Committee, *Minutes*, PJM Interconnection, L.L.C., 2 (Jan. 25, 2018), http://www.pjm.com/-/media/committees-groups/committees/mrc/20180222/20180222-item-01-draft-minutes-mrc-20180125.ashx (Agenda item 5).

112 *Id.*

113 *Id.*

114 *Letter from Andrew L. Ott to Members and Stakeholders of PJM*, PJM Interconnection, L.L.C., 1 (Feb. 16, 2018), http://www.pjm.com/~/media/about-pjm/who-we-are/public-disclosures/20180216-letter-from-pjm-president-and-ceo-on-behalf-of-the-board-of-managers-regarding-capacity-market-reforms.ashx.

> questions of federalism and comity that have already presented themselves before the courts, including the U.S. Supreme Court. Accordingly, the Board concluded that this question should fall to the Commission as the federal policymaker not to the PJM Board.[115]

In accordance with this direction, PJM submits this filing.

III. PJM PROPOSES TWO JUST AND REASONABLE APPROACHES—ONE PREFERRED, ONE ALTERNATE—TO ENSURE CONTINUATION OF A COMPETITIVE CAPACITY MARKET IN THE FACE OF THESE STATE SUBSIDY PROGRAMS

As the Commission, States, PJM, stakeholders, and other capacity market administrators have grappled with this issue over the past two years, two alternate paths have emerged for protecting wholesale capacity markets from the price suppressive effects of growing state subsidy programs: accommodate or mitigate. The choice between those two paths is easily defined, but not easily decided. The answer to a single question determines which path to take: Should the state-subsidized resource be given a real opportunity to be committed as capacity in the wholesale market notwithstanding its subsidized offer?

If the answer is *yes* (which is PJM's preference), then the path taken will likely entail two distinct auction steps—one to allow the subsidized resource a chance to be committed at its subsidized price, and one to set the clearing price based on competitive offers. On this path, the subsidized offer will be repriced to a competitive level *after* determining whether the subsidized resource offer clears the market. This path makes it much more likely that the subsidized resource will clear and receive a capacity commitment because it is first permitted to offer (and possibly clear) at a lower, subsidized level, rather than at its higher, competitive offer level. But PJM's Capacity

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115 *Id.*

Repricing Proposal would not permit the subsidized offer to factor into formation of the clearing price and thereby suppress the clearing price. Instead, a second step in the auction process would replace the subsidized offer with a proxy offer designed to reflect what a competitive offer from that resource would have been. This repriced proxy offer, along with all offers from competitive sellers, would establish a clearing price for the auction.

If the answer to the above question is *no*, then the path taken will look something like the current MOPR, but expanded to apply to the additional subsidy programs of concern. On this path, the subsidized offer will be repriced to a competitive level *before* determining whether the offer clears the market. If the offer cannot clear at that price, then the resource is not committed. The resource that the state deems necessary to meet its public policy objectives will not be credited as capacity in the wholesale market, resulting in the relevant LSE having to procure its share of capacity through RPM at the RPM clearing price. If the resource can remain in service without PJM capacity market revenues, then loads bearing the cost of the subsidy will effectively pay twice for the same increment of capacity—once through the PJM capacity market, and once through the subsidy payments.

These two basic alternative paths were highlighted during the robust discussion at the Commission's May 2017 Technical Conference in Docket No. AD17-11 on capacity markets and state public policies. Participants adopted a short-hand reference

"accommodate" for the path that provides the subsidized resource a greater likelihood to clear;[116] and the short-hand "mitigate" for the MOPR-style path.[117]

This choice also was a focus of the proceeding that led to the CASPR Order. ISO New England emphasized that the CASPR proposal provides an opportunity for states, over time, to get credit for their selected renewable resources in the ISO New England capacity market.[118] Most notably, the multiple Commissioner opinions that accompanied the CASPR Order highlight the prime arguments in favor of the alternative paths. Commissioner LaFleur, for example, presents the practical rationale for some manner of

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116 *See, e.g.*, AD17-11 Tr. at 59:3-10 (LaFleur) ("I think we are at accommodate because . . . it would take a genius to back design the market to come up with this much off-shore wind and this much [of each other state-prescribed resource type] so should we be trying for that attribute or . . . should we just be trying to protect the price of everything else and let you run with your market?"); *id.* at 79:18-25 (Fuller, NRG) ("[State actions] are going to happen . . . So we need to accommodate them in the markets, recognize the double payment problem, the double purchase problem, figure out a way to allow those resources to actually have their role in the markets while not undermining the markets for those of us who have invested strictly on the basis of market revenues."); *id.* at 100:19-23 (White, ISO New England) ("We agree that accommodating the current activities of the state[s] is a pressing issue for New England. I think that has been an increasingly prevalent view that I take away from our broader integrating markets and public policy process."); *id.* at 241:21-25 (Ott, PJM) ("[PJM has] tried to address this proactively [and] put forth . . . a couple of different tracks of activity [but] [f]irst and foremost this issue of continuing to fight and have litigation is . . . not a great strategic plan.").

117 *See, e.g.*, Post-Technical Conference Comments of Dynegy Inc., Docket No. AD17-11-000, at 4 (June 22, 2017) ("Path 5's robust buyer-side mitigation mechanisms . . . ."); Post-Conference Comments of the Electric Power Supply Association, Docket No. AD17-11-000, at 5 (June 22, 2017); AD17-11 Tr. at 201:3–9 (Patton, Potomac Economics). Although the Technical Conference also outlined other options based on "achieving" the state's goal or simply keeping the status quo, witnesses at the Technical Conference and in post Technical Conference comments were not able to define how those options would be effectuated in a multi-state RTO when the state policies were potentially in conflict with one another.

118 CASPR Order at P 6.

accommodative approach given "the reality" that an increasing number of states are pursuing programs to support select resource types as part of their "clean energy policies."[119]

By the same token, Commissioner Powelson's dissent highlights the strongest argument for a MOPR-style approach, i.e., while "states are entitled to procure any resources they prefer," no affected state "has signaled a desire to change current responsibilities for resource adequacy," which "remain[s] within the purview of the regional grid operator," and thus "it is the Commission's responsibility to ensure that this objective is accomplished at just and reasonable rates."[120] This divided vote on the CASPR Order highlights that the choice between these two paths is a policy decision.

PJM emphasizes that *either* Capacity Repricing *or* MOPR-Ex would be just and reasonable, because either would prevent state-subsidized capacity offers from suppressing prices in the capacity market. As shown above, PJM has no rules in place today to address subsidies to existing (as opposed to new) resources. Consequently, if, for example, an Illinois ZEC subsidy allows the Quad Cities nuclear plant to be offered into the PJM capacity auction at zero price, nothing in the current rules would prevent the type of price suppression—due solely to the subsidy—shown in the simulation described above.

That price suppression degrades the PJM Region's ability to honor *each* of the "first principles of capacity markets" listed[121] in the CASPR Order:

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119 CASPR Order at concurring op. 2-3 (Commissioner LaFleur).

120 CASPR Order at dissenting op. 2 (Commissioner Powelson).

121 CASPR Order at P 21.

- It undermines robust competition because other sellers cannot compete against a substantial subsidy available only to select capacity sellers;
- It distorts price signals needed to guide orderly entry and exit because the clearing price does not reflect the costs of the committed resources that, in reliance on the subsidy, offered well below their net costs of committing as capacity;
- It does not result in selecting least-cost resources that possess the attributes sought by the market, because those resources may be priced out by subsidized resources that are selected despite their higher costs;
- It undermines price transparency because the actual cost of providing capacity is not being transparently communicated since it is masked by the subsidy;
- It shifts risk *from* private capital *to* customers, because resource owners are insulated from the financial consequences of a resource that cannot, based on its economics, clear in a competitive auction, with customers (and other wholesale market participants as shown in Figure 2 above) bearing the costs of keeping the resource in operation; and
- It does not recognize or address any market power that may be involved in the submission of a below-cost offer.

These concerns are addressed, and the capacity market's ability to honor the "first principles" is restored, by adopting either Capacity Repricing or MOPR- Ex.

As explained in section III.B below, PJM prefers the Capacity Repricing proposal, and has designated it as Option A in this filing. Because the fundamentals of this approach result in respecting and accommodating state policy choices while ensuring the market signals a competitive price, PJM prefers this path and requests that the Commission assess first whether it can accept Option A, even if subject to suspension and further proceedings. However, if the Commission finds that it cannot accept the Capacity Repricing proposal, even subject to suspension and further process, PJM asks that the Commission consider and accept MOPR-Ex (Option B) proposal, which this filing demonstrates is a just and reasonable alternative means of addressing the identified problem. Consistent with how the Commission has previously handled such tariff

alternatives, and with the Commission's eTariff rules,[122] the alternative Tariff records PJM designates as Option A and Option B are mutually exclusive—only one can be accepted.

A. PJM Is Properly Exercising Its FPA Section 205 Rights to Submit Two Just and Reasonable Approaches—One Preferred, One Alternative

The FPA authorizes a public utility with a tariff filed with the Commission to change any rate, charge, classification, service, rule, regulation, or contract in such tariff by filing with the Commission "new schedules stating plainly the . . . changes to be made in the schedule . . . then in force and the time when the . . . changes will go into effect."[123] Under FPA section 205 "the power to initiate rate changes rests with the utility."[124] The Commission has no power "to force public utilities to file particular rates,"[125] or to "deny a utility the right to file changes in the first instance."[126] Rather, the Commission "can . . . review [the filed] changes under section 205 and suspend them for a period of five

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122 FERC's eTariff program allows public utilities and regulated pipelines "to propose alternate sets of Tariff Records (Option Sets) in a single Tariff Filing, with a request that FERC determine which Option Set to accept (i.e., place into effect). . . . For Tariff Filings with multiple Option Sets, the Tariff Submitter should make Option "A" its primary proposal." *See* FERC eTariff Implementation Guide at 8.

123 *See* 16 U.S.C. § 824d(d).

124 *Atl. City Elec. Co. v. FERC*, 295 F.3d 1, 10 (D.C. Cir. 2002).

125 *Id.* (citing *Pub. Serv. Comm'n v. FERC*, 866 F.2d 487, 488-89 (D.C. Cir. 1989); *W. Res., Inc. v. FERC*, 9 F.3d 1568, 1578 (D.C. Cir. 1993); *Consumers Energy Co. v. FERC*, 226 F.3d 777, 780 (6th Cir. 2000); *Louisiana v. FPC*, 503 F.2d 844, 861 (5th Cir. 1974)).

126 *Id.*

months, but it can reject them only if it finds that the changes proposed by the public utility are not 'just and reasonable.'"[127]

Public utilities have from time-to-time exercised their FPA section 205 rights by filing alternative versions of "new schedules stating plainly the . . . changes to be made"[128] that provide the same date by which both alternatives would go into effect, thus making the alternatives mutually exclusive.[129] Interstate gas pipelines have occasionally employed the same technique when filing tariff changes under the comparable provisions of section 4 of the Natural Gas Act ("NGA").[130] The practice is sometimes used as a means of accommodating the outcome of the Commission's decision on a related issue in a pending proceeding.[131] In such instances, the utility (or pipeline) is using its filing rights to propose that the tariff change in the instant case should track whatever the Commission decides in the related case.

In other instances, the filing company asks the Commission to make a substantive choice in the newly initiated proceeding between two (or more) fully stated tariff change alternatives, stating plainly in its filing that the filing company considers either alternative a reasonable change to its tariff. Thus, for example, the Commission has

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127 *Id.* at 9 (quoting 16 U.S.C. § 824d(e)) (citing *City of Campbell v. FERC*, 770 F.2d 1180, 1184-85 (D.C. Cir. 1985); *Papago Tribal Util. Auth. v. FERC*, 723 F.2d 950, 952-53 (D.C. Cir. 1983)).

128 16 U.S.C. § 824d(d).

129 *Id.*

130 15 U.S.C. § 717c.

131 *See, e.g.*, *Pac. Gas & Elec. Co.*, Letter Order, Docket No. ER18-408-000 (Feb. 7, 2018); *Gulf S. Pipeline Co.*, 149 FERC ¶ 61,173 (2014); *Ariz. Pub. Serv. Co.*, Letter Order, Docket No. ER13-2470-001 (Jan. 17, 2014); *Kinetica Energy Express, LLC*, 144 FERC ¶ 61,159 (2013); *S. Cal. Edison Co.*, 141 FERC ¶ 61,268 (2012); *Pac. Gas & Elec. Co.*, Letter Order, Docket Nos. ER13-46-000, -001 (Nov. 30, 2012).

exercised its judgment in FPA section 205 or NGA section 4 cases to choose between: (i) alternative approaches to determining, for market power mitigation purposes, the avoidable cost of a resource offering into a capacity market administered by an RTO;[132] (ii) alternative time periods for amortizing and recovering from ratepayers the costs of a merger transaction;[133] (iii) three entirely different percentage rates (with differing calculation assumptions) for a pipeline's fuel adjustment charge on expansion facilities;[134] and (iv) whether to allocate a share of the costs of new facilities to customers under certain contracts that were shielded by a prior settlement from the costs of certain other facilities.[135]

When confronted with alternative sets of tariff changes, the Commission can exercise its authority under FPA section 205 (or under NGA section 4) to reject one of the alternatives, and accept the other. As permitted by FPA section 205, the Commission can then accept and suspend the selected alternative, subject to refund and the outcome of a Commission "hearing" (which need not be a trial-type hearing) on the proposal.[136] The

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132 *See Midcontinent Indep. Sys. Operator, Inc.*, 157 FERC ¶ 61,242, at P 22 (2016) ("The [Commission-accepted alternative] approach . . . strikes a fair balance between reducing the burden of demonstrating and verifying facility-specific reference levels, and allowing a market participant to select the default technology-specific avoidable costs that best reflect its actual avoidable costs.").

133 *See ISO New England Inc.*, 155 FERC ¶ 61,136, at P 27 (2016) (the Commission-accepted tariff alternative "will lower the monthly amount charged as of the effective date, as compared to the one-year amortization of 'Option A,' and thereby minimize the immediate impact on transmission customers while the issues are being resolved at hearing").

134 *See Trailblazer Pipeline Co.*, 136 FERC ¶ 61,007 (2011).

135 *See El Paso Nat. Gas Co.*, 133 FERC ¶ 61,104 (2010).

136 *See, e.g.*, *ISO New England Inc.*, 155 FERC ¶ 61,136, at P 1 ("[W]e accept Eversource Service's proposed 'Option B' tariff revisions for filing, suspend them for a nominal period, . . . subject to refund, and establish hearing and settlement judge procedures."); *Midcontinent Indep. Sys. Operator, Inc.,* 157 FERC

Commission in the cited cases has exercised its authority by rejecting one alternative (as unjust and unreasonable) while still being able to accept but suspend the other alternative.

In some cases, two parties have FPA section 205 filing rights over the same tariff, and have by contract reserved the right to submit a combined filing with their differing changes to the same tariff provisions.[137] Inasmuch as such private parties cannot, by contract, add to or subtract from the Commission's FPA section 205 authority, the Commission's action in these cases underscores that it can choose between such alternatives within the ambit of its section 205 authority.

Thus, FPA section 205 permits PJM to submit, and the Commission to act upon, two mutually exclusive tariff proposals, as PJM has done here.

In section III.B below, PJM provides a high level overview of the Capacity Repricing and MOPR-Ex proposals, explains PJM's preference for Capacity Repricing, but explains how either approach would be just and reasonable. In section III.C, PJM provides a detailed description and justification of Capacity Repricing. And in section III.D, PJM provides a detailed description and justification of MOPR-Ex.

¶ 61,242, at P 1 ("[W]e accept MISO's proposed Tariff sheets in Tabs C and D of its filing subject to condition, . . . and reject [its] proposed Tariff sheets in Tabs A and B."); *Gulf S. Pipeline Co.*, 149 FERC ¶ 61,173, at P 1; *Trailblazer Pipeline Co.*, 136 FERC ¶ 61,007, at P 1; *El Paso Nat. Gas Co.*, 133 FERC ¶ 61,104, at P 1.

137 *See, e.g.*, *ISO New England Inc.*, 147 FERC ¶ 61,172 (2014); *ISO New England Inc.*, 145 FERC ¶ 61,095 (2013); *ISO New England Inc.*, 143 FERC ¶ 61,065 (2013).

B. While PJM's Proposed Sequencing Enables Orderly Commission Processing of this Filing Under FPA Section 205, Either Capacity Repricing or MOPR-Ex Would Be Just and Reasonable

1. Overview of Capacity Repricing and MOPR-Ex Proposals

As noted above, the key conceptual difference between Capacity Repricing and MOPR-Ex is that MOPR-Ex (similar to the current MOPR) resets a subsidized offer to a competitive price level *before* determining whether the offer clears the auction; whereas Capacity Repricing resets a subsidized offer to a competitive price level *after* the offer clears at its subsidized level in an initial commitment phase of the auction. Of course, this conceptual difference in auction mechanics has important consequences, affecting whether the state favored resource is committed as a PJM Capacity Resource, and whether loads in the state might effectively pay twice for capacity.

a. Capacity Repricing High-Level Summary

The Capacity Repricing proposal has the following features and characteristics:

- It replaces the existing MOPR;
- It applies to offers from both existing resources and new resources that receive a material subsidy and meet the actionable subsidy criteria;
- The first stage of the auction, using subsidized prices, determines resource commitment; the second stage, substituting competitive prices for subsidized prices, determines the clearing price for all resources committed in the first stage;
- The single clearing price, resulting from second stage, will be paid to all capacity resources and charged to all zonal load;
- Given that two-stage structure, a resource offering at a price above the first-stage clearing price will not be committed even if its offer is below the second-stage clearing price;
- Capacity Repricing relies on the higher of the avoidable cost rate ("ACR") or the resource's specific opportunity cost as the measure of a competitive price in most cases;

- Rather than readopt the self-supply exemption that was in place (but rarely used) from 2013 through 2017, offers by the sellers that meet the substance of the former "Self-Supply Entities" definition (as modified) will *not* be subject to repricing;

- It is fuel neutral;

- The state subsidy programs described in section II of this transmittal and in the affidavit of Dr. Giacomoni exemplify the types of subsidies to which Capacity Repricing applies;

- It applies to a subsidized resource *only* if the dollar value of the subsidy each year is at least 1% of the resource's annual revenues from PJM's markets;

- It applies to a generation resource *only* if the resource capacity is 20 MWs or greater; there is no minimum resource capacity value in the limited circumstance where Capacity Repricing applies to Demand Resources;

- It does not apply to a generation resource for which energy production is a byproduct or ancillary to its primary business function, such as combined heat and power and the burning of municipal solid waste; and

- It will *not* apply to any offer in the PJM Region until 5,000 MW of offers subject to repricing have been offered in the PJM Region, unless offers equal to at least 3.5% of the Reliability Requirement in an LDA have been submitted in that LDA, in which case offers will become subject to repricing in that LDA.

b. <u>MOPR-Ex High-Level Summary</u>

The MOPR-Ex proposal has the following features and characteristics:

- It expands and extends the existing MOPR;

- It applies to offers from both existing resources and new resources;

- It uses the greater of ACR or the resource's specific opportunity cost as the exception to the MOPR Floor Price measure of a competitive Offer;

- It readopts the substance of the competitive entry exemption that was in place from 2013 through 2017;

- It readopts a self-supply exemption based on that in place from 2013 through 2017, but adopts a new categorical exemption for public power entities and employs relaxed tests for qualifying for the exemption;

- It excludes (grandfathers) existing renewable resources and offers defined exclusion for future renewable resources;

- While generally fuel neutral, it applies to renewable resources only in certain limited circumstances; and
- It does not apply to Demand Resources.

2. *The Commission May Accept Either Capacity Repricing or MOPR-Ex as Just and Reasonable*

Capacity Repricing is PJM's preferred approach because it accommodates state policy choices while protecting the capacity market from the ill effects of price suppression. To accommodate the state's policy choice to support that resource, Capacity Repricing commits the resource if it can clear at its subsidized level in the initial auction phase. Capacity Repricing then includes that committed resource, at its competitive net costs of providing capacity, in the supply stack used to determine the clearing price. The clearing price thus reflects a competitive clearing price that respects the cost of the resources committed to serve the region. In short, the Capacity Repricing proposal is more in line with the comity that is needed between state actions and the federal regulatory scheme going forward. It recognizes that additional state action is inevitable and does not invoke punitive consequences for states invoking their legislative prerogatives. At the same time the Capacity Repricing approach recognizes the importance to the federal regulatory scheme of a representative clearing price that meets the Commission's stated objectives for capacity markets as enunciated in the CASPR Order. For these reasons, PJM prefers the Capacity Repricing approach and submits it to the Commission as its preferred option with a request that the Commission find it just and reasonable on its own merits under an FPA section 205 analysis notwithstanding the existence of the MOPR-Ex Option B.

PJM views MOPR-Ex as its secondary just and reasonable alternate. It mitigates the harm state policy choices have in suppressing capacity market prices. It does so by

preventing the subsidized offer from being submitted at a price below a competitive offer price in the first place. Instead of the below-cost offer that was enabled by the subsidy, the offer (assuming in the first instance it is below the screening level of Net CONE times B and does not qualify for a categorical exemption), will (through ensuing interactions with PJM and the IMM) likely reset to a competitive level, represented by ACR or opportunity cost. The repriced offer then will clear, or not, based on the estimated net costs of committing the resource as capacity. If the resource clears, then the clearing price will be determined based on a supply stack that includes the offer from that resource. If the resource does not clear at that price, then the clearing price will accurately signal that competitive pricing will not support the particular resource.

By basing clearing prices on the competitive costs of the committed resources, both Capacity Repricing and MOPR-Ex remedy the price signaling and transparency deficiencies from the current Tariff's acceptance and reflection of the subsidized existing resources at their subsidized (below-cost) price.

There is an important difference between the two approaches that gets to the heart of the policy question before the Commission: Capacity Repricing honors the state's legitimate policy choice to promote resources with certain attributes not otherwise valued in the current wholesale market rules; MOPR-Ex does not. *If* the Commission decides as a matter of federal wholesale market policy to respect those state policy choices, then Capacity Repricing should be accepted.

The theoretical ideal market approach to that issue would be to unbundle the currently unvalued attributes and enable resources to compete to provide those attributes, for example, through a carbon emissions objective embedded in the wholesale market

clearing mechanism if the states were so inclined to pursue that objective. That *may* be possible if there were just one attribute uniformly valued by all states across the PJM Region. But that's not the case. And, even if it were, there are a daunting number of practical, legal, and political obstacles that lie between the market's current state and any such theoretical approach that may (or may not) arise in the future.

For present purposes, however, the Commission certainly has the authority and discretion to approve an approach like Capacity Repricing, which both respects the states' decisions to value one or more non-wholesale electricity market attributes (e.g., carbon free emissions, jobs, environmental concerns) while exercising its jurisdictional authority over wholesale markets in determining which resources are selected to provide capacity and that the rates, terms, and conditions of such service are just and reasonable and not unduly discriminatory or preferential.

3. *Additional Differences Between Capacity Repricing and MOPR-Ex Are Important to Note but Do Not Impede a Commission Finding that Either Proposal Is Just and Reasonable*

Capacity Repricing and MOPR-Ex also have other differences resulting from the difference in their basic approach. In PJM's view, these differences are important, but not disqualifying. On balance, either Capacity Repricing or MOPR-Ex is just and reasonable as either would be a substantial improvement over the status quo of ignoring substantial subsidies to only certain resources participating in the wholesale capacity market.

a. MOPR-Ex Will Likely Result in Some Resource Duplication, Capacity Repricing Will Not

MOPR-Ex almost certainly will result in some duplication of resources needed to serve loads.[138] That duplication is limited in today's MOPR, because of its narrow application to only certain gas-fired new entry resources. Consequently, existing resources selected by the state for their environmental attributes (for example) can qualify today as capacity by submitting below-cost, subsidized offers that are not addressed by the current MOPR.

Capacity Repricing avoids that duplication, because it allows state-selected resources to commit as capacity at their subsidized offer price, even though the ultimate clearing price is based on the resource's actual costs. MOPR-Ex, by contrast, has the potential impact of disqualifying state-subsidized resources (especially those which are financially distressed and therefore are resources the states feel they need to subsidize in the first place) from clearing as capacity, and will clear *other* resources to meet capacity needs. In many cases, loss of capacity revenues likely will not induce retirement of the subsidized resource, and loads will be paying for more resources than it needs. As shown in section II.B above, the subsidies at issue are often already higher than currently prevailing capacity clearing prices.

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138 Proponents of MOPR-Ex hope that it will work to dis-incent states from providing subsidies in the first instance. While there is a basis for this hope, valid state interests might still motivate states in promoting uneconomic resources even in the face of the cost consequences imposed by MOPR-Ex. This will lead to a punitive duplication of resources, which should be understood as over-procurement. While MOPR-Ex works to protect capacity market prices from the suppressive effects of artificial over supply, it does not address the suppressive impact of this added supply of energy and ancillary services in those markets.

b. MOPR-Ex's Resource Duplication Presents Concerns for the Energy Market; Capacity Repricing Avoids this Issue

Consequently, MOPR-Ex will procure competitively priced capacity along the demand curve to satisfy PJM's installed reserve margin. At the same time, consistent with the state's intent, the subsidized resources will likely remain in service and continue operating in the PJM Region as well, supported by the subsidy. MOPR-Ex, therefore, while addressing price suppression in the capacity market, could well have the effect of *enabling* price suppression in the wholesale energy and ancillary service markets. The underlying problem, admittedly, is the subsidized resource. But the triggering or enabling event is the commitment as capacity (through MOPR-Ex) of a substitute resource at the margin that would not have cleared otherwise, and thus would have been under pressure to retire. Enabling this resource duplication thus results in greater supply in the energy market than economic conditions would otherwise justify. This, in turn, will tend to suppress prices in the energy market, and make it incrementally harder for otherwise economic resources to compete in those markets.

c. Capacity Repricing Can Result in Resources Not Being Committed Even Though Their Offer Price Is Below the Second-Stage Clearing Price; MOPR-Ex Does Not Raise this Issue

For its part, Capacity Repricing inherently results in resources not being committed as capacity if their offer price is higher than the subsidy-influenced price in the first stage of the auction, even if that resource's offer is below the clearing price determined by the second stage of the auction. This sub-optimal clearing result is inherent in any approach that accommodates the commitment of the subsidized resource as capacity, because such below-cost, subsidized offers will logically raise some risk of displacing resources at the higher-cost end of the supply stack. But this possibility does

not outweigh the inherent advantages of repricing as a workable policy alternative, or prevent it from being found just and reasonable. To the contrary, protestors in the CASPR proceeding similarly argued that under ISO New England's proposal, the substitution auction could induce certain sub-optimal effects in the primary auction.[139] In that case, the Commission was satisfied that this was not likely to be a substantial problem, but urged ISO New England nonetheless to monitor the auctions for such effects.[140]

Some stakeholders have raised a concern that this effect of repricing could distort participants' bidding behavior; for example, encouraging sellers to bid low so as to guarantee they clear in the face of a subsidized low-price offer.[141] To the extent this posits that *un*subsidized sellers would offer *below their own net co*sts, so as to commit to provide PJM capacity for a full Delivery Year *at a loss*, such concerns are speculative, to say the least. It is worth noting, moreover, that in the current PJM capacity market, the high-cost, marginal sellers likely will be less efficient legacy units (with a limited future economic life), as opposed to the new entry units classically assumed to be at the margin.

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139 CASPR Order at P 57.

140 *Id.* at P 72.

141 PJM understands some parties would prefer an approach that would pay the clearing price from stage one to a Capacity Resource with Actionable Subsidy that receives a commitment in stage one, rather than paying that resource the stage two repriced clearing price. Such approach could be seen as striking a balance between the accommodating benefit of Capacity Repricing with the concerns voiced by some that paying subsidized resources the higher stage two clearing price offers no check on resources seeking a subsidy.

In short, concerns over this aspect of Capacity Repricing should not deter the Commission from accepting the repricing proposal, if the Commission prefers an accommodate approach.[142]

C. OPTION A: Capacity Repricing, an Accommodative Approach to State Decisions by Repricing Subsidized Resources *After* They Clear in a Base Residual Auction

As discussed, PJM's preferred approach is Capacity Repricing. Under this approach, PJM proposes to address the impacts of state resource decisions to by instituting a two-stage Base Residual Auction in which clearing resources and assigning capacity commitments is performed in the first stage and determining market clearing prices is performed in stage two. The two-stage approach will allow all Capacity Resources for which the seller receives, directly or indirectly, material support from any state governmental entity connected with that resource's clearing in a Base Residual Auction, which subsidy is determined to be actionable as explained below, to clear the auction based on their submitted (i.e., unmitigated) offers.[143] That is, in the first stage, PJM will not seek to mitigate offer prices that may be suppressed due to out-of-market subsidies as PJM had done in the past through the Minimum Offer Price Rule. In the second stage, PJM will re-run the auction using the same demand curve, and the same supply stack. In that supply stack, PJM will use the same Sell Offers considered in the

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142 If the Commission were instead to accept but suspend the Capacity Repricing proposal, then parties with concerns about, or alternatives to, this aspect of repricing (including even those who suggest the solution is to pay subsidized resources the lower stage 1 price, rather than the higher stage 2 price) would have a forum to press their concerns and preferred solutions.

143 PJM is proposing to define such material support as a "Material Subsidy." *See* proposed PJM Tariff § 1, Definitions L-M-N (Option A). Whether receiving such Material Subsidy results in the resource becoming a Capacity Resource with Actionable Subsidy, and thus being repriced, is discussed in section III.C.3 below.

first stage, but for those cleared resources that qualify as Capacity Resources with Actionable Subsidy (as explained in section III.C.3 below), PJM will reprice their offers to the Actionable Subsidy Reference Price. Each Actionable Subsidy Reference Price will be a competitive offer price that is determined for that resource in accordance with the provisions of the revised market rules.[144] The intersection of the demand curve and the reconstituted supply stack that uses Actionable Subsidy Reference Prices will determine the Capacity Market Clearing Price.

It is important to note that, under Capacity Repricing, PJM is not proposing any changes to the process for how it clears Capacity Resources or the optimization algorithm it employs to clear the Base Residual Auction and assign capacity commitments. Rather, PJM is proposing to add a second stage to the Base Residual Auction process that only determines Capacity Market Clearing Prices.

However, this accommodative approach will not apply until a material amount of Capacity Resources with Actionable Subsidy offer clears a Base Residual Auction across the entire PJM Region or within any modeled LDA, as discussed in section III.C.5 below.[145] In other words, Base Residual Auctions will continue to clear resources and determine clearing prices in the same manner as in the past, until the megawatt quantity of Capacity Resources with Actionable Subsidy reaches a level so as to have a materially suppressive impact on clearing prices. From that point on, the two-stage approach will be used to the extent any Capacity Resources with Actionable Subsidies clear in stage one.

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144 *See infra* section III.C.4.

145 *See* proposed PJM Tariff, Attachment DD § 5.14(a) (Option A).

1. PJM Will Clear Resources First, Then Reprice Capacity Resources with Actionable Subsidies to Determine BRA Clearing Prices

As noted, under this approach, PJM will continue to clear Capacity Resources in Base Residual Auctions using the optimization algorithm that determines the least cost overall clearing results that satisfy the reliability requirements across the PJM Region and in each modeled LDA. In other words, "the auction shall clear at the price-capacity point on the Variable Resource Requirement Curve corresponding to the total Unforced Capacity provided by all Sell Offers located entirely below the Variable Resource Requirement Curve."[146] In this way, PJM will continue to obtain the level of capacity commitments necessary to maintain reliability.

The optimization algorithm will consider the submitted offer price for each Capacity Resource, regardless of whether the resource's seller is receiving out-of-market subsidies for such resource.[147] As a result, in the first stage of a Base Residual Auction, PJM would clear subsidized resources based on submitted sell offers, as shown in Figure 3 below.

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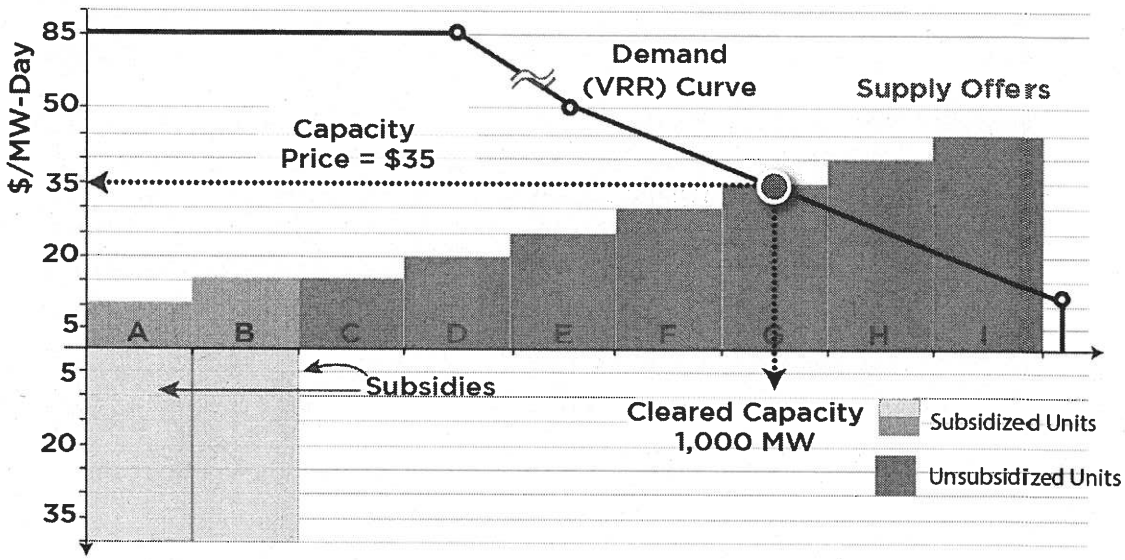
146 PJM Tariff, Attachment DD § 5.12(a).

147 As explained in section III.C.7, PJM is proposing to eliminate the Minimum Offer Price Rule.

Figure 3

First Stage of Auction, Cleared Capacity Determined



In Figure 3, the resources in columns A, B, C, D, E, F, and G cleared in the first stage and received capacity commitments. Columns A and B include subsidized resources, with the shaded portions below the x-axis reflecting the portions of the resource's going-forward costs that are subsidized and not reflected in their respective offer prices. Columns H and I do not clear, as their offers are above the $35/MWh price at which the Variable Resource Requirement curve (i.e., the demand curve) intersects with the supply stack at column G. In other words, all resources would clear based on their submitted offers, and the optimization algorithm would run as usual, clearing all resources until the supply stack intersects with the demand curve.

Once the first stage is complete and the optimization algorithm has cleared sufficient Capacity Resources to meet applicable Reliability Requirements, PJM will then evaluate the Capacity Resources with Actionable Subsidies that cleared. If the first stage cleared 5,000 MWs or more of such resources (in unforced capacity terms) across the

entire PJM Region[148] or an amount equal to or greater than 3.5% of the Reliability Requirement for any modeled LDA,[149] then PJM will conduct the second stage of the proposed auction process and re-run the optimization algorithm to establish what the Capacity Market Clearing Prices would have been had the Capacity Resources with Actionable Subsidies cleared the auction based on competitive offer prices.

For each BRA after these material thresholds are first met, PJM will automatically run stage two and reprice any cleared Capacity Resources with Actionable Subsidies. The new offer price (i.e., the Actionable Subsidy Reference Price) will be a competitive offer price determined based on the facts and circumstances specific to each resource in accordance with the procedures set forth in the proposed market reforms,[150] which are explained in section III.C.4 below. Stated another way, PJM will replace the offers submitted by Capacity Market Sellers of Capacity Resources with Actionable Subsidies with offers reflecting what would be a competitive offer for such resource. While PJM will consider the same resources that comprised the supply stack in the first stage, no new capacity commitments will be made in the second stage. Rather, the second stage only establishes the Capacity Market Clearing Prices, but in all other ways respects the capacity commitments from the first stage.

Figure 4 illustrates how the second stage of the auction would re-run the optimization algorithm using repriced offers from Figure 3.

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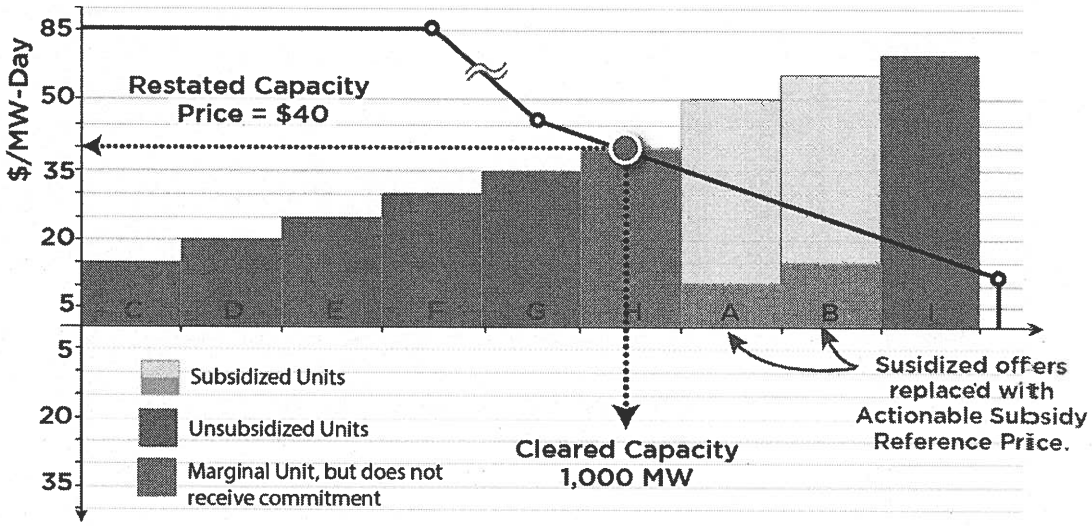
148 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(1)(a) (Option A). The reasoning for such materiality thresholds is explained in section III.C.5 below.

149 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(1)(b) (Option A).

150 *See* proposed PJM Tariff, Attachment DD §§ 5.14(j)(1)(a)-(b) (Option A).

Figure 4

Second Stage of Base Residual Auction, Capacity Price Determined



In Figure 4, columns C, D, E, F, and G represent resources that cleared in the first stage; columns H and I represent resources with offer prices too high to clear in the first stage; and columns A and B represent Capacity Resources with Actionable Subsidies that cleared in the first stage. Recall that columns A and B in Figure 3 represent Capacity Resources that cleared stage one based on their below-cost, subsidized offer prices. In Figure 4, the resources in columns A and B have been "repriced" with competitive offers for such resources and thus have been reshuffled in the supply stack. By shifting columns A and B to the right so as to place them in the supply stack at a point reflective of their new, repriced offers (at the Actionable Subsidy Reference Price), resources with lower offer prices are shifted to the left. Re-running the optimization algorithm with the reshuffled supply stack yields a different clearing price than in Figure 3. Thus, the clearing price, i.e., "the price-capacity point on the Variable Resource Requirement Curve corresponding to the total Unforced Capacity provided by all Sell Offers located

entirely below the Variable Resource Requirement Curve,"[151] is now where column G intersects with the demand curve, i.e., $40.

The $40/MWh clearing price in Figure 4 is necessarily higher than the clearing price that would result from only the first stage in Figure 3 (i.e., $35/MWh), given that the first stage cleared resources based on below-cost, subsidized offers that suppressed the clearing price. As a result, there will be resources that submitted offer prices below the clearing price established in the second stage that will not clear the Base Residual Auction and receive capacity commitment due to the point at which supply meets demand in the first stage. This is a logical outcome when the parameter of allowing all resources to clear based on their submitted offer prices is considered. Indeed, accommodating state resource decisions by allowing the auction to clear resources with below-cost, subsidized offers will unavoidably displace resources at the higher cost end of the supply stack.

Thus, the fact that the Capacity Market Clearing Price may be determined by a resource that did not clear the auction or receive a capacity commitment (see column H in Figure 4 above) does not undermine the validity of the BRA clearing results or the clearing price. Rather, it reflects the policy decision to accommodate state resource decisions and benefit load by allowing load to only pay for capacity once—through the capacity market, rather than paying once through the market and a second time through state payment to resources that did not clear the market.

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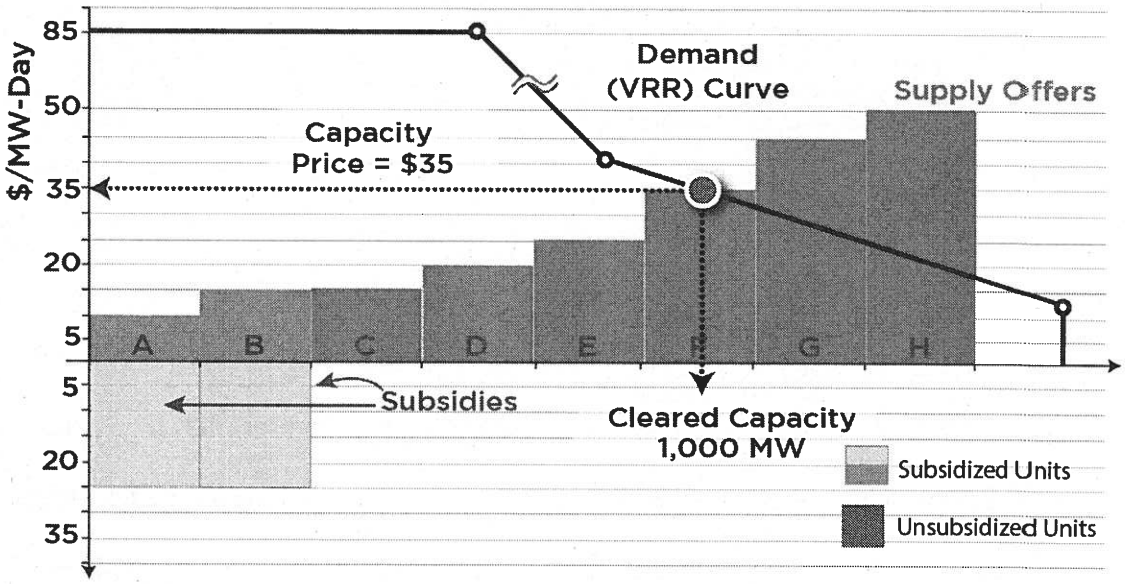
151 PJM Tariff, Attachment DD § 5.12(a).

However, the clearing price may not always be set by resources that do not clear in the first auction stage. Figures 5 and 6 below illustrate an alternative scenario in which a "repriced" resource offer sets the market clearing price.

Figure 5

First Stage of Auction, Cleared Capacity Determined (Alternate)

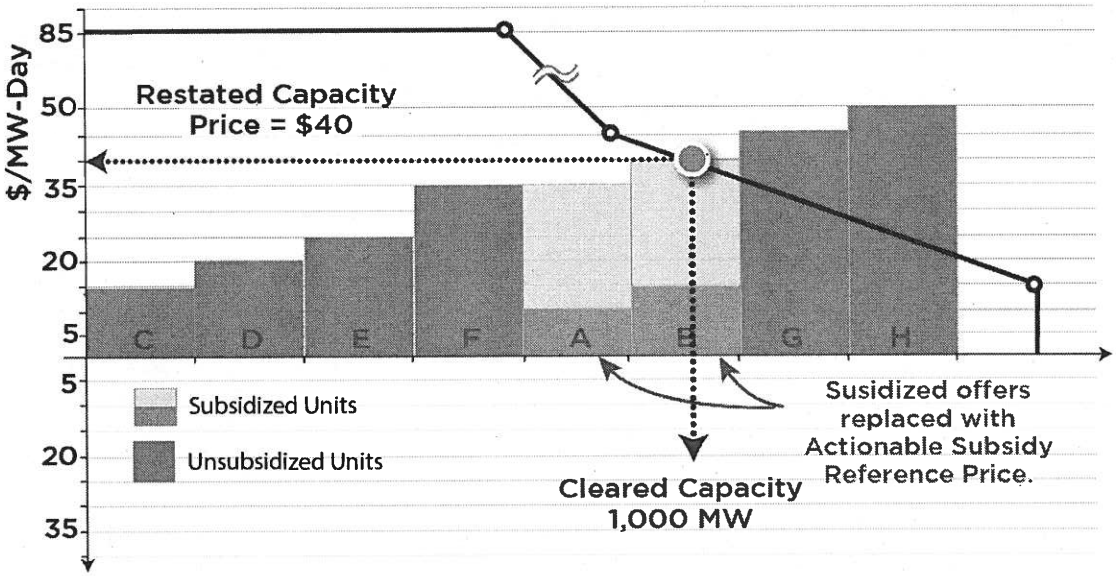


As before, all resources clear based on their submitted offers. Columns A and B represent subsidized resources. As all resources clear based on their submitted offers, columns A through F clear in the first stage of the auction, and columns G and H do not clear and are not assigned capacity commitments.

For the second stage, shown in Figure 6 below, the resources in columns A and B are repriced to their Actionable Subsidy Reference Price, which will be the competitive offer price determined based on the facts and circumstances specific to each resource. Thus, to illustrate this repricing in Figure 6, the shaded portions of columns A and B that are below the x-axis are moved above the x-axis and added to the green portions of the columns. Then, the supply stack is reshuffled relative to the cost of each resource.

Figure 6

Second Stage of Base Residual Auction, Capacity Price Determined (Alternate)



The result is that column B intersects the demand curve and sets the clearing price at $40. Columns G and H, which represent resources that did not clear in the first stage, do not factor into the clearing price. Again, the $40/MWh clearing price in the second stage (Figure 6) is necessarily higher than the clearing price that would result from only the first stage auction in Figure 5, given that the first stage cleared resources based on below-cost, subsidized offers that suppressed the clearing price. That is the point of this exercise—to determine auction clearing prices based only on competitive offers, while accommodating state policy decisions.

While the two scenarios presented in the Figures above are not exhaustive of all the possible outcomes, they illustrate how the auction process would work and how Capacity Resource Clearing Prices would be determined.

2. *Capacity Repricing Will Apply Only to BRAs*

PJM is proposing to apply Capacity Repricing's two-stage auction approach only to Base Residual Auctions, and therefore would not apply repricing in any Incremental Auction. There is no need to apply Capacity Repricing to Incremental Auctions as the concerns giving rise to Capacity Repricing—suppressed price signals—do not apply to Incremental Auctions, as they are not intended to be a mechanism that sends price signals regarding the need for entry and exit from PJM's capacity market. Thus, any suppressive impacts an out-of-market subsidy has on an offer price into an Incremental Auction would have no broader impact on the PJM Region warranting corrective action.

In addition, not employing a two-stage auction approach to Incremental Auctions is reasonable based on the difference in the entities that comprise supply and demand in the two auctions. The buyers in Incremental Auctions are capacity providers seeking to replace their capacity commitments, and they submit buy bids at specific offer prices at which they are willing to purchase replacement capacity. To clear an Incremental Auction based on those buy bids, and then run a second stage and determine a price *different from what the buyer offered* would result in the buyer being required to buy capacity at a price greater than it was willing to pay. This is unreasonable. On the seller side, the vast majority of resources offered are existing resources that failed to clear in the BRA for that Delivery Year. Such resources are not likely to be Capacity Resources with Actionable Subsidies (because, if they were, they could have submitted a subsidized offer that cleared in the BRA).

3. *Capacity Resource with Actionable Subsidy*

a. Qualifications for Being a Capacity Resource with Actionable Subsidy

To identify only those resources receiving a subsidy that warrants action based on design or market impact, PJM is proposing a narrow path for a resource to qualify as a Capacity Resource with Actionable Subsidy. As a rule, Capacity Resources are presumed to *not* be a Capacity Resource with Actionable Subsidy, unless certain criteria are met.

i. *The subsidy received must be material*

The first criterion is that the seller must in some way obtain a subsidy for the Capacity Resource. However, because not every subsidy impacts the seller's offer price to the same degree or even to a degree that materially suppresses the price, PJM is not lumping all subsidies together. Rather, PJM is proposing that only if the seller receives a "Material Subsidy" should the resource require further review to see if action is needed. A Material Subsidy includes:

- material payments, concessions, rebates, or subsidies directly or indirectly from any governmental entity connected to the construction, development, operation, or clearing in any RPM Auction, of the Capacity Resource, or
- other material support or payments obtained in any state-sponsored or state-mandated processes, connected to the construction, development, operation, or clearing in any RPM Auction, of the Capacity Resource.[152]

PJM is including only those subsidies that would have a material impact on the seller's overall revenues from the subsidized resource.

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152 *See* proposed PJM Tariff § 1, Definitions L-M-N (Option A).

Further, to make sure that only those subsidies that are material to the resource's capacity market impact are considered, PJM is also proposing to *exclude* certain types of local, state, and federal subsidies from consideration, such as:

- payments (including payments in lieu of taxes), concessions, rebates, subsidies, or incentives designed to incent, or participation in a program, contract or other arrangement that utilizes criteria designed to incent or promote, general industrial development in an area;
- payments, concessions, rebates, subsidies or incentives designed to incent, or participation in a program, contract or other arrangements from a county or other local governmental authority using eligibility or selection criteria designed to incent, siting facilities in that county or locality rather than another county or locality; or
- federal government production tax credits, investment tax credits, and similar tax advantages or incentives that are available to generators without regard to the geographic location of the generation.[153]

Importantly, these exclusions are the same as those employed in the MOPR for several years prior to the Commission's removal of the Competitive Entry Exemption (without prejudice) in its order on the *NRG* remand. By defining both what types of subsidies to include and what types to exclude, the tariff-prescribed review will require only those resources in any way receiving subsidies with material impact to be considered further to determine if they are Capacity Resources with Actionable Subsidy and subject to repricing. Accordingly, the characteristics that qualify a resource as a Capacity Resources with Actionable Subsidy target only those resources likely to present legitimate price suppression concerns.

PJM's proposed definition of Material Subsidy properly focuses on subsidies that are "connected to the construction, development, operation, or clearing in any RPM

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153 *See* proposed PJM Tariff § 1, Definitions L-M-N (Option A). Any avoided cost payment received by Qualifying Facilities (as defined in Part 292 of the Commission's regulations) would *not* be a Material Subsidy. However, other forms of material support may qualify as a Material Subsidy.

Auction, of the Capacity Resource."[154] This focus naturally targets state subsidies that provide material payments or other support and excludes federal subsidies. As a general matter, federal subsidies have broader application and more expansive scope than state subsidies, which are inherently geographically limited to the state boundaries. A primary issue with state subsidies is their discriminatory impact on the marketplace, by favoring certain resources over others. For example, during the technical conference in Docket No. AD17-11, concerns were raised about state government decisions that target specific resources.[155] PJM is excluding federal subsidies because it strains credibility to believe that the Commission's jurisdiction under the FPA would extend to countermand other acts of Congress, including subsequent legislation addressing tax credits, such as the production tax credit ("PTC") or nuclear plant liability limitations such as the Price-Anderson Nuclear Industries Indemnity Act.[156] Moreover from a policy point of view, these are generic actions with a nationwide scope. Investors and market participants also are more likely to have better understanding of and familiarity with acts of Congress, compared to individual state action focused on a particular unit or project.

PJM's proposed definition of what comprises a Material Subsidy (and of which subsidies do not warrant concern) tracks directly the previously-accepted definition of

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154 Proposed PJM Tariff § 1, Definitions L-M-N (Option A).

155 AD17-11 Tr. at 247:3–6 ("All of the generation in central and southern Illinois will vanish with the latest subsidy given to [Exelon, i.e., ZECs] and capacity clearing at 5 cents for KW month [in MISO], those plants were just put in the uneconomic category.").

156 *See* 42 U.S.C. § 2210.

subsidies for purposes of obtaining a Competitive Entry Exemption from the MOPR.[157] In evaluating the Competitive Entry Exemption, and its criteria, the Commission found it

> reasonable for an RTO to propose tariff provisions to ensure that subsidized entry supported at the state level does not have the effect of disrupting the competitive price signals that PJM's wholesale capacity market protocols are designed to produce and on which PJM's market participants, region-wide, rely to attract sufficient capacity.[158]

While the Commission rejected this exemption on remand from *NRG*, the Commission's reasoning for that rejection was limited to an evaluation of whether the categorical exemptions, standing alone, are just and reasonable, and not unduly discriminatory or preferential, without a unit-specific exception process.[159] Absent that concern, the Commission had otherwise found the details of the Competitive Entry Exemption to be reasonable. Thus, the Commission's subsequent rejection did not reach the merits of the Competitive Entry Exemption and was without prejudice.[160]

ii. *Applicable resource types*

Because Material Subsidies can be granted broadly, PJM is proposing that Capacity Resources with Actionable Subsidies include: Demand Resources and Generation Capacity Resources—both existing and planned, and internal and external, or

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157 PJM Tariff, Attachment DD § 5.14(h)(7)(iii) (language in effect prior to Remand Order).

158 *PJM Interconnection, L.L.C.*, 143 FERC ¶ 61,090, at P 54 (2013) ("May 2013 Order"), *reh'g denied*, 153 FERC ¶ 61,066 (2015) ("October 2015 Order"), *vacated & remanded sub nom. NRG Power Mktg., LLC v. FERC*, 862 F.3d 108 (D.C. Cir. 2017), *reh'g denied*, 2017 U.S. App LEXIS 18218 (D.C. Cir. Sept. 20, 2017) (per curiam).

159 *PJM Interconnection, L.L.C.*, 161 FERC ¶ 61,252, at P 41 (2017) ("Remand Order").

160 *Id.* at P 2 ("[The Commission's] determination is without prejudice to PJM submitting a new, revised FPA section 2015 filing if it determines doing so will cure the deficiencies with the December 2012 filing.").

an uprate of 20 MW or greater to a Generation Capacity Resource.[161] The 20 MW threshold for Generation Capacity Resources (and uprates) is identical to the MOPR application threshold that the Commission previously accepted.[162] PJM is excluding Energy Efficiency Resources from being able to qualify as a Capacity Resource with Actionable Subsidy because such resources are generally the result of a focus on reduced consumption and energy conservation[163] and do not raise price suppression concerns.

iii. *Criteria limiting Capacity Resource with Actionable Subsidy eligibility*

Given that the purpose of these market reforms is to address the price suppressive effects of material state subsidies on BRA clearing prices, PJM is proposing to exclude from the definition of Capacity Resource with Actionable Subsidy the types of resources that are not likely to raise price suppression concerns. To eliminate such resources from consideration, PJM is proposing to exclude from the definition of Capacity Resource with Actionable Subsidy those resources: (1) that obtain a non-material level of Material Subsidies (i.e., less than 1% of the resource's actual or anticipated PJM-market revenues);[164] (2) for which electricity production is not the primary business purpose, but rather is a byproduct of the business processes, or (3) that are owned or controlled by entities with long-standing business models for capacity procurement, which do not raise

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161 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(2)(b) (Option A).

162 May 2013 Order at P 170.

163 For example, Energy Efficiency Resources are often founded on state programs that include rebates and incentives for behind-the-meter resources or programs that incent insulation, energy efficient buildings, etc.

164 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(2)(d) (Option A).

concerns of possible price suppressive intent (e.g., certain vertically integrated, cooperative, and municipal utilities[165]).

Excluding Capacity Resources that receive a non-material level of Actionable Subsidies, i.e., less than 1% of the resource's actual or anticipated total revenues from PJM's energy, capacity, and ancillary services markets,[166] ensures that only a resource receiving a material amount of subsidies is considered to be a Capacity Resource with Actionable Subsidy. Thus, this threshold limits the impact of the Capacity Repricing approach to address only those resources that obtain subsidies to such a degree that the seller's offer price may be affected.

Excluding those generation resources for which energy production is a byproduct of a resource owner's primary economic interest in the facility is reasonable. Such resources would include those fueled entirely by, for example, landfill gas, wood waste, municipal solid waste, black liquor, coal mine gas, or distillate fuel oil. Energy production is a byproduct of these resources' primary economic purpose (e.g., managing waste). As such, the economics of energy production and energy market participation for these resources is much more complicated than for a typical Generation Capacity Resource. Thus, obtaining capacity market revenues is not necessarily critical to such resources, and they do not present the price suppression concerns that these market rules address.

Finally, excluding resources offered by certain vertically integrated, cooperative, and municipal utilities is similar to the Self-Supply Exemption the Commission had

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165 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(2)(c) (Option A).

166 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(2)(d) (Option A).

previously accepted for application of the MOPR,[167] in that such exclusion appropriately balances between protecting against price suppression while avoiding interference with long-standing capacity procurement business models. Indeed, like the MOPR,[168] Capacity Repricing is not intended to upset the use of self-supply to meet a load-serving entity's capacity needs.

PJM proposes to limit this exclusion to two types of Capacity Market Sellers: "Municipal/Cooperative Entit[ies]" and "Vertically Integrated Utilit[ies]."[169] "Municipal/Cooperative Entit[ies]" would be defined as "cooperative and municipal utilities, including public power supply entities comprised of either or both of the same, and joint action agencies."[170] And, "Vertically Integrated Utility" would be defined as "a utility that owns generation, includes such generation in its regulated rates, and earns a regulated return on its investment in such generation."[171] The Self-Supply Exemption the Commission approved in Docket No. ER13-535 explicitly applied to these same types of entities.[172]

As a general matter, these entities are appropriately excluded, because their traditional business models for capacity procurement do not give rise to concerns related

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167 *See* May 2013 Order at PP 107-08; *see also id.* at PP 110-12 (rejecting arguments that proposed self-supply exemption is unreasonable).

168 *See PJM Interconnection, L.L.C.*, 137 FERC ¶ 61,145, at P 242 (2011) ("[T]he MOPR was not intended to change the long-standing business models parties use to support investment in specific capacity procurement projects.").

169 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(2)(c) (Option A).

170 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(2)(c) (Option A).

171 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(2)(c) (Option A).

172 *See* May 2013 Order at PP 66, 107. Similar to the Commission's ultimate handling of the Competitive Entry Exemption on remand in Docket No. ER13-535, the Commission ultimately rejected the Self-Supply Exemption, but not in substance and without prejudice. *See* Remand Order at P 2.

to artificial price suppression. Indeed, the Commission has found that "[a]n uneconomic new entry strategy by a vertically-integrated utility, for example, poses a substantial risk of increasing its net costs,"[173] and, therefore, "these entities are unlikely to depend on costly strategies to address the non-self-supply portion of their portfolio."[174]

The fact that PJM is proposing to extend its approach to addressing price suppression to cover existing resources in addition to new resources obviates the need for the net short and net long thresholds that the Commission previously found appropriate for exempting self-supply sellers from the MOPR.[175] These thresholds sought to prevent a seller from offering uneconomic new entry to lower capacity costs, while simultaneously obtaining an economic benefit.

As explained, the current focus solely on new entry is now misplaced and those thresholds can no longer function as intended. Indeed, a purpose of the net long threshold was to serve to limit a self-supply entity from substantially overbuilding while recognizing that the addition of a large resource that may be efficiently sized to accommodate the LSE's long-term needs may put the LSE in a net long position at the beginning of the resource's life. Application of such a threshold to existing resources would not advance this rationale.

Further, application of net short and net long thresholds are unworkable under a scheme that looks at existing as well as new resources. For example, if a seller is in fact, net long on capacity (i.e., the LSE may have such a relatively large amount of excess

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173 May 2013 Order at P 111.

174 May 2013 Order at P 111.

175 May 2013 Order at P 107 ("We find that PJM's proposed net-short and net-long thresholds, in principle, adequately protect the market from the price effects attributable to uneconomic new self-supply.").

capacity that it may seek to "dump" capacity on the BRA, pushing down capacity prices in the process), it is not possible to determine which resources in the seller's portfolio are the "excess" capacity not needed to meet the needs of its retail demand and thus should be designated for repricing and which resources are needed to meet load and should not be repriced. Any such determination would be inherently subjective and arbitrary.

Instead of struggling with trying to fit the square peg applicable net short/long tests into the round hole of entire generation portfolios, the Commission should turn to the data. As detailed in the Base Residual Auction reports for the seven years that the MOPR Self-Supply Exemption was in effect, as presented in Table 1, the data shows that new entry offers from this class of sellers is only a very small slice of RPM offers.[176]

Table 1; Usage of MOPR Self-Supply Exemption[177]

BRA Auction Year	LDA	Requested Quantity (ICAP MW)	Granted Quantity (ICAP MW)	Cleared Quantity (ICAP MW)	BRA Report Page
2020/2021	RTO	0	0	0	5
2019/2020	RTO	1,827.2	1,827.2	1,779.5	7
2019/2020	MAAC	0	0	0	7
2018/2019	RTO	0	0	0	7
2018/2019	MAAC	0	0	0	7
2017/2018		940.0	940.0	940.0	7
2016/2017		1,432.5	1,432.5	1,432.5	4

Thus, the Self-Supply Exemption has not been a vehicle for self-supply entities to clear new resources and meet their capacity needs. Rather, it appears that most sellers, if and

176 PJM's Base Residual Auction reports are posted on PJM's website. *Capacity Market (RPM)*, PJM Interconnection, L.L.C., http://www.pjm.com/markets-and-operations/rpm.aspx (last visited Apr. 2, 2018) (under "Delivery Years" section, click on specific year, and click "Report" under "Base Residual Auction").

177 The Base Residual Auction reports for the 2016/2017 and 2017/2018 Delivery Years do not specify the LDA in which the Self-Supply Exemption was requested.

when given the choice, opted for a Competitive Entry Exemption over the Self–Supply Exemption. Table 2 below shows the megawatts of new entry the obtained a Competitive Entry Exemption and the subset of such resources that cleared.

Table 2; Usage of MOPR Competitive Entry Exemption[178]

BRA Auction Year	LDA	Requested Quantity (ICAP MW)	Granted Quantity (ICAP MW)	Cleared Quantity (ICAP MW)	BRA Report Page
2020/2021	RTO	12,161.0	12,161.0	2,675.6	5
2019/2020	RTO	5,401.0	5,401.0	1,933.0	7
2019/2020	MAAC	5,764.0	5,764.0	1,870.9	7
2018/2019	RTO	7,177.0	7,177.0	2,311.2	7
2018/2019	MAAC	6,353.5	6,353.5	1,206.8	7
2017/2018		13,089.8	13,089.8	4,230.0	7
2016/2017		11,820.6	11,820.6	3,482.1	4

A comparison of Tables 1 and 2 shows that many more megawatts have offered and cleared under Competitive Entry Exemptions than Self-Supply Exemptions.

Given that PJM's proposed definition of Material Subsidy generally matches the definition of subsidies that disqualify resources from obtaining a MOPR Competitive Entry Exemption, there will likely be significant overlap in the resources that would fail to obtain a Competitive Entry Exemption and would have been mitigated to the MOPR Floor Offer Price and those resources that would be repriced under PJM's proposal. Conversely, resources that would have been able to obtain a Competitive Entry Exemption (because they are not receiving impermissible out of market subsidies) likewise would not be Capacity Resources with Actionable Subsidy and would not be repriced.

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178 The Base Residual Auction reports for the 2016/2017 and 2017/2018 Delivery Years do not specify the LDA in which the Competitive Entry Exemption was requested.

Accordingly, PJM's proposal to not establish bounds on acceptable resource portfolios of "Municipal/Cooperative Entities" and "Vertically Integrated Utilities" relative to their retail load obligations is not a change that would have a measureable impact on the market.

Further, excluding certain Capacity Market Sellers that historically self-supply much of their capacity needs is consistent with other RPM market rules that allow such a seller to "indicate its intent in the Sell Offer that the Capacity Resource be deemed Self-Supply and shall indicate whether it is committing the resource regardless of clearing price or with a price bid."[179] And, "if the LSE indicated that it is committing the resource regardless of clearing price, [PJM] will treat such Capacity Resource as committed in the clearing process of the Reliability Pricing Model Auction for which it was offered for such Delivery Year."[180]

The decision tree shown in Figure 7 below illustrates the flow of criteria a resource would look to once it has received a Material Subsidy to determine if it has a Capacity Resource with Actionable Subsidy.

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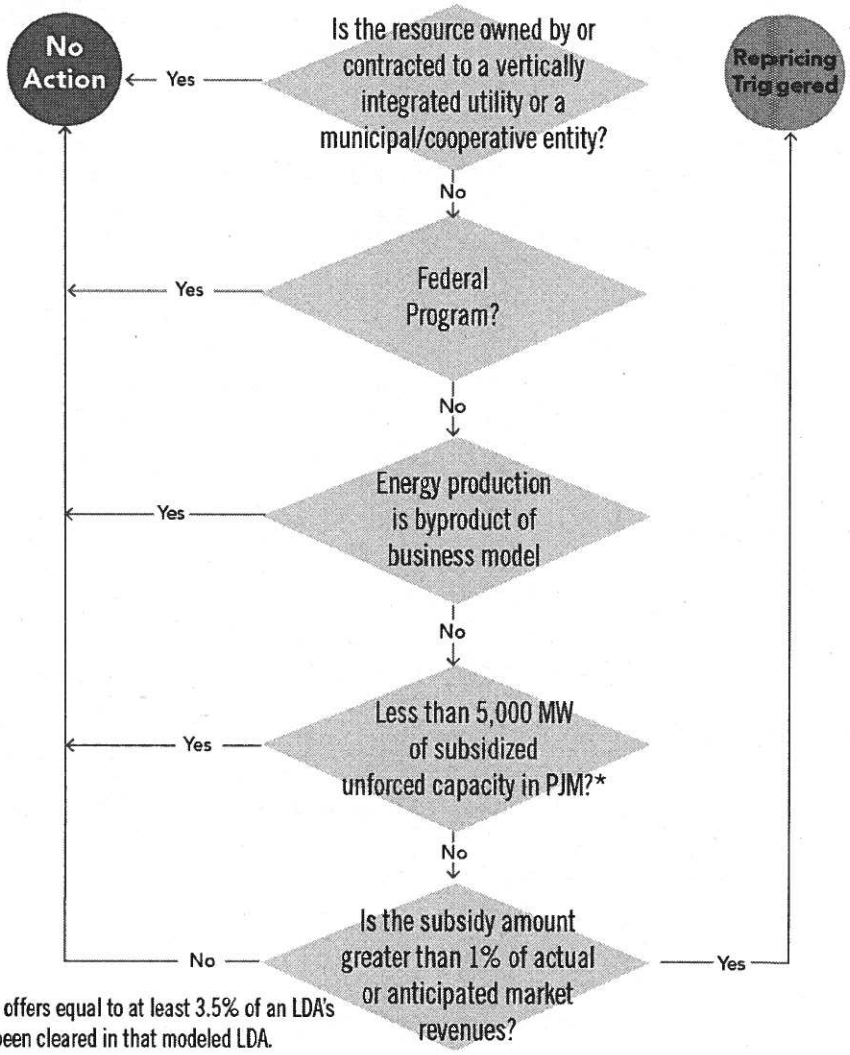
179 PJM Tariff, Attachment DD § 5.2 (emphasis omitted).

180 PJM Tariff, Attachment DD § 5.2 (emphasis omitted). As noted in section III.C.8 *infra*, PJM is changing the reference to the MOPR in this section 5.2 from "Any such Sell Offer shall be subject to the minimum offer price rule set forth in section 5.14(h)" to "Any such Sell Offer shall be subject to the repricing provisions of section 5.14(j)." *See* proposed PJM Tariff, Attachment DD § 5.2 (Option A).

Figure 7; Capacity Resource with Actionable Subsidy Decision Tree



*Repricing would also apply if offers equal to at least 3.5% of an LDA's Reliability Requirement have been cleared in that modeled LDA.

In sum, PJM is proposing a narrow path for resources to become a Capacity Resource with Actionable Subsidy, and in so doing, PJM is ensuring that only those resources that receive subsidies with the most potential to negatively impact auction clearing prices will be repriced.

b. <u>Process for Support and Review of Certification as Capacity Resource with Actionable Subsidy</u>

Because each seller knows best whether any of its Capacity Resources meet the criteria for being a Capacity Resource with Actionable Subsidy, PJM is relying on sellers

to essentially "self-certify" the status of their resources.[181] Specifically, for each Capacity Resource offered into a BRA, an officer of the seller "must certify whether or not such Capacity Resource is a Capacity Resource with Actionable Subsidy in accordance with section 5.14(j)(2), and if not, the officer must certify as to which criteria does not apply to the Capacity Resource."[182]

In addition, each seller will provide PJM and the IMM, regarding each Demand Resource and Generation Capacity Resource (or uprate), "information needed to determine whether such Capacity Resource qualifies as a Capacity Resource with Actionable Subsidy."[183] While the requisite information will be explained in greater detail in the PJM Manuals, generally the seller should provide information regarding any subsidy associated with the resource so as to illuminate whether such subsidy is a Material Subsidy and whether it amounts to more than 1% of the resource's revenues.[184] The seller should provide such information to PJM and the IMM by no later than 120 days before the Base Residual Auction.[185] To ensure that a resource is properly considered a Capacity Resource with Actionable Subsidy, sellers will have an ongoing obligation to promptly provide PJM and the IMM additional information, upon request.

Once a resource is deemed to be a Capacity Resource with Actionable Subsidy, that resource shall continue to be considered a Capacity Resource with Actionable Subsidy "unless and until the Capacity Market Seller provides notification of a change in

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181 *See generally* proposed PJM Tariff, Attachment DD § 5.14(j)(3) (Option A).

182 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(3)(b) (Option A).

183 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(3)(a) (Option A).

184 *Id.*

185 *Id.*

such status or the Office of the Interconnection removes such status pursuant to [a PJM determination of fraud or material misrepresentation], or by Commission order."[186] Sellers will have a continuing obligation to notify PJM and the IMM of any material changes in the qualifications of the resource.[187]

4. Determination of Actionable Subsidy Reference Price

To perform the second stage in the auction and re-run the optimization algorithm to determine the appropriate Capacity Resource Clearing Prices, PJM will substitute competitive offer prices for the prices initially submitted for the Capacity Resources with Actionable Subsidy that cleared in the auction's first stage. The substitute, competitive offer price will be the Actionable Subsidy Reference Price. This price will be determined differently based on whether the resource is an Existing Generation Capacity Resource, a Planned Generation Capacity Resource, or a Demand Resource, and based on the facts and circumstances specific to each Capacity Resource with Actionable Subsidy.

a. Existing Generation Capacity Resources

For existing Generation Capacity Resources, the Actionable Subsidy Reference Price shall be the "higher of": (1) the resource's Avoidable Cost Rate, whether determined on a resource-specific basis or as a default for that resource type; and (2) the resource's opportunity cost of committing as Capacity Performance.[188] Either of these values would represent a competitive offer price for the subsidized resource and thereby allow the second stage of the auction to establish clearing prices based on competitive offers.

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186 *Id.*, Attachment DD § 5.14(j)(3)(c) (Option A).

187 *Id.*

188 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(4)(a) (Option A).

The Avoidable Cost Rate is, by definition, a competitive, cost-based rate for a Capacity Resource, based on inputs appropriate for providing capacity to the PJM Region.[189] PJM is proposing two alternative means for selecting the Avoidable Cost Rate. First, the seller may elect to determine a resource-specific value that would be determined "without consideration of any Material Subsidy . . . [and] in accordance with the procedures and standards of Tariff, Attachment DD, sections 6.4, 6.7, and 6.8."[190] Such value would include "a risk premium for assuming a Capacity Performance obligation and [would be] net of Projected PJM Market Revenues."[191]

Alternatively, if the seller is not willing or able to obtain a resource-specific Avoidable Cost Rate, a default value based on the resource type could be used. Historically, most existing resource types in PJM were offer capped at default Maximum Avoidable Cost Rates as stated in the PJM Tariff or posted on PJM's website.[192] PJM proposes to carry forward this accepted practice and rely on stated maximum Avoidable Cost Rates for existing resources in the event that PJM is unable to determine a suitable Avoidable Cost Rate. The Actionable Resource Reference Price will be the higher of the resource's Avoidable Cost Rate (whether a determined or default value) and the resource's opportunity cost.

However, given that the transition to 100% Capacity Performance Resources required adoption of the current Market Seller Offer Cap, PJM no longer calculates and posts default Avoidable Cost Rates. Accordingly, to ensure that such values are posted

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189 *See* PJM Tariff § 1, Definitions A-B; *id.*, Attachment DD § 6.8(a).

190 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(4)(a)(i)(B)(1) (Option A).

191 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(4)(a)(i)(B)(1) (Option A).

192 *See* PJM Tariff, Attachment DD § 6.7(c)(ii).

for each resource type, including nuclear, solar, and wind resources, PJM is proposing to add a requirement that PJM calculate and post such values. PJM is proposing to continue PJM's prior process of annually adjusting the values, as follows:

> For each Base Residual Auction, [PJM] shall use the values stated in Tariff, Attachment DD, section 6.7(c)(ii) and adjust them based on the actual rate of change in the historical values from the Handy-Whitman Index of Public Utility Construction Costs or a comparable index approved by the Commission ("Handy-Whitman Index") to the extent they are available to update the base values for the Delivery Year, and for future Delivery Years for which the updated Handy-Whitman Index values are not yet available the Office of the Interconnection shall update the base values for the Delivery Year using the most recent ten-calendar-year annual average rate of change. The default Avoidable Cost Rates shall be expressed in dollar values for the applicable Delivery Year.[193]

This provision mirrors the prior requirement for the 2017/2018 Delivery Year and that is still stated in Attachment DD, section 6.7(c)(ii). By keying the annual changes to the publically available Handy-Whitman Index, the value determination is transparent.[194] The starting values for the default Avoidable Cost Rates are the values for the 2016/2017 Delivery Year as stated in the table in Attachment DD, section 6.7(c)(ii).

Because the tariff does not state default Avoidable Cost Rate values for nuclear, wind, and solar resource types, PJM has determined preliminary retirement ACR values for these resource types, as shown in Table 3 below.

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193 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(4)(a)(i)(B) (Option A).

194 *See PJM Interconnection, L.L.C.*, 149 FERC ¶ 61,183, at P 106 (2014) ("PJM's proposed labor construction values closely track publicly-available data and thus have the benefit of being transparent.").

Table 3; Preliminary Default Retirement ACR Values for Nuclear, Wind, and Solar Resource Types

	2022/2023 Delivery Year Retirement ACR UCAP ($/MW-Day)
Nuclear – single	$706
Nuclear – dual	$663
Onshore wind	$503
Solar PV	$185

These values are based on information from a data base of the Environmental Protection Agency ("EPA").[195] The data relied on includes the fixed operating and maintenance expense ("FOM") of existing units. The EPA data base utilizes model plants to represent aggregations of actual individual generating units. Units with similar characteristics are grouped for representation by model plants with a combined capacity and weighted-average characteristics that are representative of all the units comprising the model plant. Except for existing nuclear units, PJM averaged the FOM costs for the model plants in the PJM Region. PJM obtained existing nuclear unit FOM data from Table 4-34 "Characteristics of Existing Nuclear Units" of the EPA Base Case.

Because the EPA's data are presented in 2011 dollars, PJM needed to escalate the value to 2022/2023 dollars, as that is the relevant Delivery Year. To do so, first PJM escalated them from 2011 to 2016 by historical year by year escalation using the HWI-Total Steam Production Plant Index for North Atlantic Region. Then, consistent with PJM's longstanding practice of escalating ACR values for future years, PJM used "the

195 *See Clean Air Markets*, EPA, https://www.epa.gov/sites/production/files/2016-12/epa_base_case_v.5.16_for_2015_ozone_naaqs_transport_noda.zip (open zip file titled "EPA Base Case v.5.16 for 2015 Ozone NAAQS Transport NODA DAT File" then document titled "EPA Base Case v.5.16 for 2015 Ozone NAAQS Transport NODA DAT Replacement File").

most recent ten-calendar-year annual average rate of change in the applicable Handy-Whitman Index."[196] PJM determined 3.4% to be the 10-year average HWI-Total Steam Production Plant Index for North Atlantic Region escalation rate for the 2007-2016 period. Combined these two escalations (for 2011-2016 and for 2016-2022) are equivalent to factor of 1.38. Thus, to arrive at the values stated in the above table, PJM multiplied the 2011 EPA values by 1.38.

While this preliminary analysis is well-supported and results in values that would be just and reasonable for the limited purpose of setting default ACR values, PJM does not view this analysis as the last word. PJM would expect to review and revisit these values as PJM gains more experience with applying the Actionable Subsidy Reference Price to the particular resources in the PJM Region that become subject to Capacity Repricing.

The other value to be considered in determining the Actionable Subsidy Reference Price for an Existing Generation Resource is "the value obtained by incorporating the opportunity cost of Capacity Performance participation in a manner consistent with the derivation of the Market Seller Offer Cap."[197] That is, PJM would take the higher of the Avoidable Cost Rate and the specific resource's opportunity cost, i.e., the value of Performance Bonus Payments earned from performing during emergencies when the resource is not required to perform to meet any capacity commitments.[198] When calculating such an offer price, the seller must "employ[]

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196 *See* PJM Tariff, Attachment DD, section 6.7(c)(ii).

197 Proposed PJM Tariff, Attachment DD § 5.14(j)(4)(a)(i)(A) (Option A).

198 *See PJM Interconnection, L.L.C.*, 151 FERC ¶ 61,208, at PP 335-38 (2015) ("Capacity Performance Order"), *order on reh'g*, 155 FERC ¶ 61,157 (2016)

alternative assumptions" than used in determining the Market Seller Offer Cap for certain inputs "based on the actual market conditions and the actual circumstances of the unit."[199] Specifically, the seller must use actual values for "the availability ratio, the number of Performance Assessment Hours, the Balancing Ratio, and the Capacity Performance bonus payment rate."[200] This competitive price formulation of existing resources generally tracks the formulation of RPM's Market Seller Offer Cap as it includes "the marginal and opportunity costs faced by a[n existing] resource."[201]

Finally, by using the "higher of" of these two values as the Actionable Subsidy Reference Price, PJM's proposal follows the logic underlying the Market Seller Offer Cap.[202] As the Commission explained, the offer cap "reflect[s] the opportunity cost that a resource faces when choosing to become a capacity resource,"[203] where the opportunity cost is "the expected reduction in Performance Bonus Payments and/or increased Non-Performance Charges that a resource would experience by becoming a capacity resource rather than remaining a non-capacity resource."[204] However, because some resources may have an Avoidable Cost Rate higher than the offer cap value, the Commission accepted PJM's proposal "to allow a resource with a higher avoidable cost rate to submit

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("Capacity Performance Rehearing Order"), *appeal denied*, *Advanced Energy Mgmt. All. v. FERC*, 860 F.3d 656 (D.C. Cir. 2017).

199 Proposed PJM Tariff, Attachment DD, section 5.14(j)(4)(b)(i) (Option A).

200 *Id.*

201 Capacity Performance Order at P 335.

202 *See* Capacity Performance Order at PP 334-58; Capacity Performance Rehearing Order at PP 182-96.

203 Capacity Performance Rehearing Order at P 175.

204 Capacity Performance Rehearing Order at P 175. In the Commission's parlance in its order accepting the current Market Seller Offer Cap, such a cap represents a rational offer for a "Low ACR Resource," i.e., a resource.

data supporting a unit-specific offer cap that details all Avoidable Cost Rate components, including a quantifiable risk premium."[205] Thus, the current Market Seller Offer Cap and PJM's Actionable Subsidy Reference Price recognize that the competitive price for Existing Generation Resources may vary depending on the resource's allowable avoidable costs and its risk exposure.

However, in the event that there is no Avoidable Cost Rate obtainable for a resource (i.e., the resource-specific Avoidable Cost Rate cannot be determined and there is no default value for that resource type), then the Actionable Subsidy Reference Price for the resource will be PJM's default Market Seller Offer Cap, which is the Net Cost of New Entry ("CONE") times the Balancing Ratio (i.e., Net CONE*B). No comparison of the offer cap to opportunity cost will be made, because it already includes such costs.

b. Planned Generation Capacity Resources

For Planned Generation Resources, as above, PJM is proposing to use "higher of" the resource's costs, which includes a risk premium for assuming a Capacity Performance obligation and net of Projected PJM Market Revenues, or its opportunity costs to determine a resource's Actionable Subsidy Reference Price. However, because the cost data for determining the Avoidable Cost Rate is not available, PJM is proposing to employ the Commission-approved MOPR unit-specific exception provisions for determining a planned resource's unit-specific costs.[206] Under these provisions, the seller must submit to both PJM and the IMM a request for "a determination of a unit-specific offer price that is consistent with the competitive, cost-based, fixed, net cost of new entry

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205 Capacity Performance Rehearing Order at P 175; *see also* Capacity Performance Order at PP 334-41.

206 *Compare* proposed PJM Tariff, Attachment DD § 5.14(j)(4)(b) (Option A), *with id.*, Attachment DD § 5.14(h)(6) (Option B).

were the resource to rely solely on revenues from PJM-administered markets."[207] Consistent with historic MOPR provisions,[208] a seller must use the following financial modeling assumptions:

> (i) nominal levelization of gross costs, (ii) asset life of 20 years, (iii) no residual value, (iv) all project costs included with no sunk costs excluded, (v) use first year revenues, and (vi) weighted average cost of capital based on the actual cost of capital for the entity proposing to build the Capacity Resource.[209]

The seller must also provide supporting documentation for project costs and "identify and support any sunk costs that the Capacity Market Seller has reflected as a reduction to its proposed Actionable Subsidy Reference Price."[210] The seller shall also provide any additional supporting information reasonably sought PJM or the IMM to evaluate the request.

In the event PJM rejects a seller-proposed, unit-specific, cost-based price, the proposed tariff provides that PJM will inform a seller the reasons for the rejection and PJM "shall calculate and provide to such Capacity Market Seller, a corrected Actionable Subsidy Reference Price based on the data and documentation received, by no later than sixty-five (65) days prior to the commencement of the offer period for the relevant RPM Auction."[211] By contrast, if PJM determines that the seller's proffered reference price is

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207 Proposed PJM Tariff, Attachment DD § 5.14(j)(4)(b)(i)(A) (Option A).

208 *See PJM Interconnection, L.L.C.*, 135 FERC ¶ 61,022, at P 43 (2011); *see also* PJM Tariff, Attachment DD § 5.14(h).

209 Proposed PJM Tariff, Attachment DD § 5.14(j)(4)(b)(i)(B) (Option A).

210 Proposed PJM Tariff, Attachment DD § 5.14(j)(4)(b)(i)(B) (Option A).

211 Proposed PJM Tariff, Attachment DD § 5.14(j)(4)(b)(i)(C) (Option A).

acceptable, PJM shall notify both the IMM and the seller no later than sixty days before the auction.[212]

Once the unit-specific cost-based price is determined, PJM will compare that value to the resource's opportunity cost, which as for existing generation resources, shall be determined using to same method as for the Market Seller Offer Cap, but "based on the actual market conditions and the actual circumstances of the unit."[213] As noted, PJM's proposed approach of taking the higher of the resource's unit costs or opportunity costs is reasonable, as it parallels the approach used to the determine the Market Seller Offer Cap.

As for existing generation resources, in the event that there is no Avoidable Cost Rate obtainable for a resource (i.e., the resource-specific Avoidable Cost Rate cannot be determined and there is no default value for that resource type), then the Actionable Subsidy Reference Price for the resource will be PJM's default Market Seller Offer Cap of Net CONE*B. No comparison of the offer cap to opportunity cost will be made.

c. Demand Resources

For Demand Resources, because the determination of an Avoidable Cost Rate generally is not feasible due to the inherent nature of the resource type, the Actionable Subsidy Reference Price shall be the Market Seller Offer Cap, i.e., Net CONE*B.[214] This is a reasonable option for repricing Demand Resources, as the Commission has already found Net CONE * B to represent a competitive offer price.[215]

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212 Proposed PJM Tariff, Attachment DD § 5.14(j)(4)(b)(i)(C) (Option A).

213 Proposed PJM Tariff, Attachment DD § 5.14(j)(4)(a)(i)(A) (Option A).

214 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(4)(c) (Option A).

215 *See* Capacity Performance Order at P 336.

d. The IMM Will Advise and Provide PJM Input on the Determination of Actionable Subsidy Reference Prices

In addition, to reflect the IMM's role in advising PJM in the determination of Actionable Subsidy Reference Prices, PJM is proposing conforming changes to the description of the IMM's role in the repricing administration process as set forth in Tariff, Attachment M-Appendix, Part II.D. In so doing, PJM is re-proposing the provisions previously accepted in Docket No. ER13-535 for administering the MOPR and modifying them for the repricing rules.[216]

5. Materiality Threshold

As a transition mechanism, PJM is proposing materiality thresholds to trigger permanent implementation of the two-stage capacity auction approach for every BRA that clears any Capacity Resources with Actionable Subsidy. PJM is proposing a region-wide threshold such that PJM will not re-run the auction using repriced sell offers unless at least 5,000 MWs of Capacity Resources with Actionable Subsidy (in Unforced Capacity terms) clears across the entire PJM Region in the first stage. However, because price suppression may occur within a modeled LDA even before it occurs throughout the PJM Region, PJM is also proposing a targeted materiality threshold for modeled LDAs. Specifically, if Capacity Resources with Actionable Subsidy clear in a modeled LDA in an amount equal to or greater than 3.5% of that LDA's reliability requirement, then PJM will re-run the auction, after repricing all Capacity Resources with Actionable Subsidies that cleared in that LDA, to determine the Capacity Resource Clearing Price.

Because the price of a resource in an LDA may have impacts in other areas within PJM, the clearing prices established by any auction re-run will apply throughout the PJM

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216 *See* proposed PJM Tariff, Attachment M-Appendix § II.D (Option A).

Region. In other words, if the LDA threshold is met and the RTO threshold has yet to be met, the clearing prices determined in the second stage will apply to the RTO and any LDA that separates, regardless of whether there are Capacity Resources with Actionable Subsidy in that LDA. Because of the interdependent nature of capacity commitments as between the RTO region and the separately modeled LDAs, PJM is not able to re-run the auction with repricing applied to just a subset of LDAs. To attempt to execute such an auction in only a subset of LDAs would not provide a consistent result across all LDAs and the RTO.

These thresholds not only trigger the special Capacity Repricing rules after a material amount of subsidized resources clear an auction, they also provide a transition mechanism from the current rules' narrow focus on new resources of the current rules to more broadly being concerned about the impact of existing resource subsidization. Currently there is only about 3,079 megawatts of resources that could be considered Capacity Resources with Actionable Subsidy—an amount that is not sufficiently material to require action (i.e., repricing) looking at the 5,000 MW threshold for the RTO.[217] However, given political trends, it appears likely that a material amount of subsidized resources will exist in the near future. Accordingly, the proposed thresholds provide the market time to adjust to these new rules.

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217 *See* Keech Aff. ¶ 19. As Mr. Keech explains, PJM identified 1,674 MW of Capacity Resources with Actionable Subsidies in the ComEd LDA, which "exceeds 3.5% of the reliability requirement for that LDA, and thus would trigger repricing." *Id.*

The Commission has often found such transitions to be a just and reasonable component of market rule reforms.[218] For example, in its recent order approving ISO New England's CASPR proposal, the Commission found "ISO-NE's transition proposal to be a balanced approach for implementing CASPR's alternative means of accommodating state policies, while attenuating any potential adverse impacts on pending investments that could result from an immediate change to the market rules."[219] Likewise, here, PJM's proposal to apply Capacity Repricing only when actionable subsidization reaches a material level properly insulates the market from unnecessary action.

6. Special Procedures Applicable in Cases of Fraud or Misrepresentation Are Appropriate

PJM is proposing safeguard provisions to address the consequences if PJM reasonably believes that a previous determination of whether a resource is a Capacity Resource with Actionable Subsidy was based on fraudulent or material misrepresentations or omissions and, absent such misrepresentations or omissions, the resource's Capacity Resource with Actionable Subsidy status would be different.[220] The

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218 *See, e.g.*, CASPR Order at P 100 ("[I]t is consistent with Commission precedent to permit a transition mechanism to a new regulatory construct." (citing *ISO New England Inc.*, 155 FERC ¶ 61,319, at P 62 (2016) (approving the use of a transition mechanism for implementing zonal demand curves in ISO New England); *ISO New England Inc.*, 147 FERC ¶ 61,172, at P 73 (2013) (approving a transition plan to phase in ISO New England's Pay for Performance provisions to allow parties to "gain experience with the new market design at a reduced risk exposure")); *see also* Capacity Performance Order at P 243; Capacity Performance Rehearing Order at PP 164-73.

219 CASPR Order at P 99.

220 *See generally* proposed PJM Tariff, Attachment DD § 5.14(j)(5) (Option A).

proposed provisions are modeled closely on the provisions the Commission previously accepted in Docket No. ER13-535.[221]

Like those provisions, PJM is proposing that, if PJM suspects the misrepresentation or omission sufficiently in advance of the start of the auction, it can alter the Capacity Resource with Actionable Subsidy determination for that auction,[222] but to exercise this remedy PJM must notify the market seller in writing of the change in status no later than sixty days before the start of the offer period for the auction.[223] If a resource is suspected of being a Capacity Resource with Actionable Subsidy, both PJM and the IMM may request information from the seller to determine an appropriate Actionable Subsidy Reference Price for such resource.[224] If it exercises this remedy, PJM will make any filings with the Commission that PJM deems necessary.

The proposed provisions provide that if PJM fails to provide written notice of suspected fraudulent or material misrepresentation or omission at least thirty days before the start of the relevant Base Residual Auction, then PJM may file with the Commission the suspect certification that contains any fraudulent or material misrepresentation or

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221 *See* May 2013 Order at P 115.

222 In other words, if PJM determines that if a resource (a) *does not* qualify as a Capacity Resource with Actionable Subsidy, but was self-certified as a Capacity Resource with Actionable Subsidy, then such resource will not be repriced in stage two of the auction or (b) *does* qualify as a Capacity Resource with Actionable Subsidy, but was self-certified as not a Capacity Resource with Actionable Subsidy, then such resource will be repriced in stage two of the auction. *See* proposed PJM Tariff, Attachment DD § 5.14(j)(5)(a) (Option A).

223 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(5)(a) (Option A).

224 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(5)(a) (Option A).

omission.[225] PJM will implement any Commission directive with respect to such suspect certification.

In any event, before PJM exercises its authority to timely alter a resource's status or before PJM submits a filing to the Commission concerning such remedy, PJM is to notify the seller and "to the extent practicable," provide the seller an opportunity to explain the alleged misrepresentation or omission.[226] The proposed Tariff adds that the seller may submit a revised certification for that Capacity Resource for subsequent RPM auctions, including RPM Auctions held during the pendency of a FERC proceeding.[227]

Finally, PJM will seek fast-track treatment for any such filing, and reveal neither the name nor any identifying characteristics of the seller or its resource, though the filing shall otherwise be public.[228]

7. Eliminating the Minimum Offer Price Rule

Should the Commission accept PJM's Capacity Repricing rules, which apply to both new and existing resources, PJM's MOPR rules would no longer be needed. Thus, PJM is proposing to eliminate the current MOPR provisions. PJM proposes to make such elimination coincident with the effectiveness of the Capacity Repricing rules.

8. Conforming Tariff Revisions

PJM is also making conforming revisions to Tariff, Attachment DD, sections 5.2 and 5.11 and to the provisions granting the IMM authority to review and advise on MOPR determinations in section II.D of Attachment M-Appendix to reflect the removal

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225 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(5)(b) (Option A).

226 Proposed PJM Tariff, Attachment DD § 5.14(j)(5)(c) (Option A).

227 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(5)(c) (Option A).

228 *See* proposed PJM Tariff, Attachment DD § 5.14(j)(5)(c) (Option A).

of the MOPR and addition of Capacity Repricing.[229] Generally, these conforming revisions merely replace MOPR references with references to the Capacity Repricing rules instead. However, PJM is also proposing a new Attachment M-Appendix, section II.D-1 that allows the IMM to review a seller's certification of whether a resource is a Capacity Resource with Actionable Subsidy for fraud and material misrepresentation or omission.[230] This provision is based on the provision accepted by the Commission in Docket No. ER13-535 that authorized the IMM to conduct a similar review of MOPR exemption and exception requests.[231]

Finally, PJM is proposing to update the Definitions section of its tariff to state that "'Capacity Resource with Actionable Subsidy' or 'Capacity Resources with Actionable Subsidies' shall have the meaning provided in Tariff, Attachment DD, section 5.14(j)" and "Actionable Subsidy Reference Price shall have the meaning provided in Tariff, Attachment DD, section 5.14(j)."[232]

D. Option B: MOPR-Ex, Extension of the Minimum Offer Price Rule to Mitigate Certain Resources *Before* They Clear in an RPM Auction

PJM's alternative approach to addressing the impacts of state resource decisions on PJM's capacity market is MOPR-Ex. Under MOPR-Ex, PJM is proposing to extend the Minimum Offer Price Rule to cover existing resources that may receive material state subsidies. This approach is mitigative in nature, as opposed to Capacity Repricing's

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229 *See* proposed PJM Tariff, Attachment DD §§ 5.2, 5.11 (Option A); *id.*, Attachment M-Appendix §§ II.D, D-1 (Option A).

230 *See* proposed PJM Tariff, Attachment M-Appendix § II.D-1 (Option A).

231 *See* PJM Tariff, Attachment M-Appendix § II.D.3 (language in effect prior to Remand Order).

232 *See* proposed PJM Tariff §§ 1, Definitions A-B, C-D (Option A).

accommodative approach, in that it alters sellers' subsidized offer prices *before* PJM runs the auction and assigns capacity commitments.[233]

The MOPR has been part of the RPM framework from the beginning, but has twice undergone significant revisions. In Docket No. ER11-2875, the Commission accepted PJM's proposal to strengthen the MOPR's protections against buyer-side market power in the face of state subsidies.[234] In Docket No. ER13-535, the Commission accepted PJM's proposal, under FPA section 205, to change the structure of the MOPR to provide two categorical exemptions to the MOPR for certain types of sellers and resources that do not present price suppression concerns.[235] However, the Commission conditioned its acceptance PJM agreeing to retain the Unit-Specific Exception to allow "resources that have lower competitive costs than the default offer floor . . . [to] have the opportunity to demonstrate their competitive entry cost" and offer in at below the MOPR floor offer price."[236] On appeal, the *NRG* court found that FERC exceeded its authority under FPA section 205 by imposing a more than "minor" modifications to PJM's proposal by requiring retention of the unit-specific exception.[237] On remand, the Commission rejected PJM's proposal, in its entirety, on the sole grounds that PJM did not propose, in the first instance, to retain the unit-specific exception alongside the

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233 Consistent with the current MOPR, PJM is proposing that MOPR-Ex would apply in all RPM Auctions, unlike Capacity Repricing, which would apply only to Base Residual Auctions as explained in section III.C.2 above.

234 *PJM Interconnection, L.L.C.*, 135 FERC ¶ 61,022, *order on reh'g*, 137 FERC ¶ 61,145 (2011), *aff'd sub nom. NJBPU.*

235 *See* May 2013 Order at PP 53, 107; October 2015 Order at PP 32, 52.

236 May 2013 Order at P 141.

237 *NRG*, 862 F.3d at 116.

categorical exemptions.[238] However, the Commission stated that such rejection is "without prejudice" to PJM submitting a new proposal that will "cure the deficiencies" i.e., retain the unit-specific exception.[239]

Throughout all these changes, the MOPR has only applied to resources seeking to offer into PJM's capacity market for the first time, i.e., "new entry," and was limited only to certain gas-fired generation resources located in the PJM Region.

Now, faced with the growing practice of state subsidies for existing resources, the MOPR-Ex would alter the scope of the MOPR, as detailed below. First, MOPR-Ex would apply to new *and existing* resources, whereas the MOPR applied only to new resources. Second, whereas MOPR has long applied to new resources regardless of whether any subsidy is received, MOPR-Ex would explicitly target *only* those resources receiving a Material Subsidy and that qualifies as a Capacity Resource with Actionable Subsidy. Third, while historically the MOPR applied to only certain types of gas-fueled generation resources, i.e., combustion turbine, combined cycle, and for the past seven years, integrated gasification combined cycle, PJM is proposing MOPR-Ex would apply to *all* types of Generation Capacity Resources, regardless of fuel, unless the resource is a

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238 Remand Order at P 43 ("[W]e find that PJM's proposed changes are not just and reasonable standing alone, and that while the categorical exemptions will generally allow qualifying market participants to avoid the need of seeking a unit-specific review of their offers[,] . . . some resources . . . may nonetheless have competitive costs that fall below the benchmark price." (second alteration in original) (internal quotation marks omitted) (footnote omitted)).

239 Remand Order at P 2. As directed, PJM submitted a compliance filing removing all the MOPR revisions accepted in Docket No. ER13-535. *See* Compliance Filing Concerning PJM's Minimum Offer Price Rule of PJM Interconnection, L.L.C., Docket No. ER13-535-006 (Jan. 9, 2018). Accordingly, the current-effective MOPR is the same as the one the Commission accepted in Docket No. ER11-2875.

Qualifying Facility.[240] Finally, the proposed MOPR-Ex would extend the geographic reach of the MOPR beyond the boundaries of the PJM Region to external Capacity Resources. Each of these changes is designed to address the targeted state subsidies that can have direct impact on the BRA clearing price.

In addition to the change in scope, MOPR-Ex expands on the MOPR's historic practice of categorically exempting certain resources based on the characteristics of the seller or resource. Thus, consistent with the historic MOPR design, PJM is proposing to retain the Unit-Specific Exception to allow Capacity Resources with Actionable Subsidy, new and existing, to be able to offer below the MOPR Floor Offer Price. Complementing retention of the Unit-Specific Exception for sellers to avoid the MOPR Floor Offer Price, PJM is also proposing to re-establish that categorical exemptions can preclude resources from being subject to the MOPR. The result is the same as under the MOPR provisions initially accepted in Docket No. ER13-535—for any resource that a seller has obtained a categorical exemption that resource will be allowed to submit an unmitigated offer price. PJM is proposing four categorical exemptions from being a Capacity Resource with Actionable Subsidy.

1. MOPR-Ex Would Apply Only to a Capacity Resource with Actionable Subsidy

Just as under the Capacity Repricing approach, PJM is proposing that MOPR-Ex would apply only to Capacity Resources with Actionable Subsidy.[241] However, under

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240 Unlike the MOPR accepted in Docket No. ER13-535, MOPR-Ex will apply to Generation Capacity Resources and uprates to such resources with an Unforce Capacity of less than 20 MW. In other words, there is no resource size threshold that must be met before MOPR will be triggered.

241 As with Capacity Repricing, PJM is proposing as part of MOPR-Ex to update the Definitions section of its Tariff to state that "Capacity Resource with Actionable

MOPR-Ex, sellers of such resources may be able to offer below the MOPR Floor Offer Price by obtaining a unit-specific exception. Thus, PJM is proposing that:

> Any Sell Offer based on a Capacity Resource with Actionable Subsidy submitted in any RPM Auction shall have an offer price no lower than the MOPR Floor Offer Price, unless the Capacity Market Seller has obtained a Unit-Specific Exception with respect to such Capacity Resource with Actionable Subsidy in such auction prior to the submission of such offer in accordance with the provisions of this subsection 5.14(h).[242]

The path for determining a Capacity Resource with Actionable Subsidy generally mirrors that PJM is proposing under Capacity Repricing. Thus, to ensure that only those generation resources that receive a subsidy that warrant action based on design or market impact, PJM is proposing a narrow path for a resource to qualify as a Capacity Resource with Actionable Subsidy. And, resources are presumed not to be a Capacity Resource with Actionable Subsidy, unless the stated criteria are met.

a. <u>The Seller Must Receive a Material Subsidy</u>

To qualify as a Capacity Resource with Actionable Subsidy, the resource's seller must receive a Material Subsidy.[243] Recognizing that not every subsidy impacts the seller's offer to a degree that materially affects its offer price, PJM is proposing a definition for Material Subsidies that includes those impactful, material subsidies and specifically excludes other, non-actionable subsidies.[244] In this vein, PJM is proposing to adopt the same definition for Material Subsidy for MOPR-Ex as the Commission previously accepted for obtaining a Competitive Entry Exemption from the MOPR in

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Subsidy shall have the meaning provided in Tariff, Attachment DD, section 5.14(h)(2)." *See* proposed PJM Tariff § 1, Definitions C-D (Option B).

242 Proposed PJM Tariff, Attachment DD § 5.14(h)(1) (Option B).

243 Proposed PJM Tariff, Attachment DD § 5.14(h)(2)(b) (Option B).

244 Proposed PJM Tariff § 1, Definitions L-M-N (Option B).

Docket No. ER15-535[245] (and as PJM is proposing for Capacity Repricing[246]). Thus, for example, sellers that receive "material payments, concessions, rebates, or subsidies directly or indirectly from any governmental entity connected to the construction, development, operation, or clearing in any RPM Auction, of the Capacity Resource" will be deemed to receive a Material Subsidy.[247]

b. Applicable Resource Types

Since its inception, the MOPR has only applied to certain types of Generation Capacity Resource.[248] However, given that PJM is observing sellers of non-gas-fired generation facilities receiving Material Subsidies (such as nuclear resources under the Illinois ZEC program), PJM is proposing that MOPR-Ex would apply to all Generation Capacity Resources, including planned uprates, regardless of fuel type.[249] But, PJM is proposing one exception. If the resource is a Qualifying Facility, it is excluded from being a Capacity Resource with Actionable Subsidy.[250] This exclusion is consistent with the Commission's prior acceptance to exclude Qualifying Facilities from the MOPR.[251]

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245 *See* May 2013 Order at P 54; PJM Tariff, Attachment DD § 5.14(h)(7)(iii) (language in effect prior to Remand Order).

246 *Compare* proposed PJM Tariff § 1, Definitions L-M-N (Option A), *with id.* § 1, Definitions L-M-N (Option B). For a more detailed description of what constitutes a Material Subsidy, see section III.C.3.a.i above.

247 Proposed PJM Tariff § 1, Definitions L-M-N (Option B).

248 *See* May 2013 Order at P 146; October 2015 Order at PP 66-67.

249 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(2)(a) (Option B).

250 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(2)(c) (Option B).

251 *See* May 2013 Order at P 169; Compliance Filing of PJM Interconnection, L.L.C., Docket No. ER13-535-003, at 12 (June 3, 2013) ("June 2013 Compliance Filing"); *id.* at Attachment B (clean tariff sheets); October 2015 Order at P 108.

c. Categorical Exemptions that Preclude Resources from Qualifying as a Capacity Resource with Actionable Subsidy

Given that the purpose of the MOPR-Ex is to address the price suppressive effects of material state subsidies on RPM Auction clearing prices, PJM is proposing to exclude from the definition of Capacity Resource with Actionable Subsidy the types of resources that are not likely to raise price suppression concerns. PJM proposes to accomplish such exclusion by establishing (or in some cases re-establishing) categorical exemptions to provide an objective, transparent process for sellers of resources that receive a Material Subsidy to demonstrate that Sell Offers for such resources do not raise price suppression concerns based on the characteristics of the seller or the applicable Material Subsidy. Specifically, PJM is re-proposing the Self-Supply and Competitive Entry Exemptions that were initially approved in Docket No. ER13-535 and were in place for seven years of RPM Auctions. In addition, PJM is proposing two new categorical exemptions: the Public Entity Exemption and the RPS Exemption. The details of each of these categorical exemptions are discussed in sections III.D.4 and 5 below.

2. Process for Support and Review of Certification as Capacity Resource with Actionable Subsidy

PJM is proposing generally the same "self-certification" process for sellers to inform PJM whether their resources qualify as a Capacity Resource with Actionable Subsidy as PJM is proposing for Capacity Repricing.[252] This approach recognizes that each seller knows best whether it receives a Material Subsidy in connection with any of its Generation Capacity Resources and whether the seller has obtained a categorical

252 *Compare* proposed PJM Tariff, Attachment DD § 5.14(h)(3)(b) (Option B), *with id.*, Attachment DD § 5.14(j)(3)(b) (Option A).

exemption. Thus, each seller "must certify whether or not such Capacity Resource is a Capacity Resource with Actionable Subsidy in accordance with Tariff, Attachment DD, section 5.14(h)(2), and if not, the officer must certify as to which criteria does not apply to the Capacity Resource."[253]

In support of the certification, the seller must provide PJM and the IMM with "information needed to determine whether such Capacity Resource qualifies as a Capacity Resource with Actionable Subsidy."[254] The proposed MOPR-Ex rules lay out the deadlines and procedures for the provision of such information and allow PJM and the IMM to request additional information.[255]

As with the Capacity Repricing proposal, resources deemed to be a Capacity Resource with Actionable Subsidy shall continue to be considered a Capacity Resource with Actionable Subsidy "unless and until the Capacity Market Seller provides notification of a change in such status or the Office of the Interconnection removes such status pursuant to [a PJM determination of fraud or material misrepresentation], or by Commission order."[256] And, sellers will have a continuing obligation to notify PJM and the IMM of any material changes in the qualifications of the resource.[257]

3. *Revised MOPR Floor Offer Price to Cover Generation Resources of All Fuel Types*

Given that the MOPR-Ex proposal will expand offer price mitigation to generation resources of all fuel types, PJM is proposing that the MOPR Floor Offer Price

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253 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(3)(b) (Option B).

254 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(3)(a) (Option B).

255 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(3)(a) (Option B).

256 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(3)(c) (Option B).

257 *Id.*

will no longer be based on specified Net Asset Class CONE values. Rather, the MOPR Floor Offer Price

> shall be the product of the Net Cost of New Entry (applicable for the Delivery Year and Locational Deliverability Area for which such Capacity Performance Resource is offered) times the average of the Balancing Ratios during the Performance Assessment Hours in the three consecutive calendar years that precede the Base Residual Auction for such Delivery Year.[258]

In other words, the MOPR Floor Offer Price will be the Market Seller Offer Cap for the LDA in which the resource is offered. The Commission has found that an offer at the Market Seller Offer Cap (i.e., Net CONE*B) is "a reasonable estimate of a low-end competitive offer, after accounting for all marginal costs, opportunity costs, and risks associated with assuming a Capacity Performance commitment."[259] Setting the MOPR Floor Offer Price at a level the Commission has already held to represent a competitive offer is reasonable.

4. *As Part of MOPR-Ex, PJM Is Re-proposing the Categorical Exemptions Plus Retention of the Unit-Specific Exception Approach the Commission Found to Be Just and Reasonable in Docket No. ER13-535*

Because the MOPR-Ex proposal was developed prior to the Commission's remand rejection of the MOPR provisions in Docket No. ER13-535, the MOPR-Ex proposal generally builds on the MOPR package that the Commission found to be just and reasonable and that was in place for the past seven years of RPM Auctions.[260] That

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258 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(4) (Option B).

259 *PJM Interconnection, L.L.C.* 155 FERC ¶ 61,157, at P 184 (2016) (citing *PJM Interconnection, L.L.C.*, 151 FERC ¶ 61,208, at P 336 ("The default offer cap that PJM proposes as part of its Revised Offer Cap reflects the amount that a competitive resource with low avoidable costs . . . would accept in the capacity market.")).

260 *See generally* May 2013 Order and October 2015 Order.

MOPR allowed sellers to offer below the MOPR Floor Offer Price by obtaining a Unit-Specific Exception or to avoid offer price mitigation by obtaining one of two categorical exemptions: Self-Supply Exemption and Competitive Entry Exemption.

As discussed, in the MOPR-Ex proposal, PJM is revising the MOPR to include both a Unit-Specific Exception and categorical exemptions. By so proposing, MOPR-Ex addresses the Commission's fundamental issue with the MOPR revisions it rejected, without prejudice, on remand in Docket No. ER13-535. As a result, the Commission's findings that the Self-Supply and Competitive Entry Exemptions, as packaged with the Unit-Specific Exception, are just and reasonable should continue to apply. The Commission found that "[b]oth exemptions are structured to exempt resources of entities that lack the incentive or ability to suppress prices."[261]

a. PJM Is Re-Proposing the Self-Supply and Competitive Entry Exemptions with Minimal Changes

The Self-Supply Exemption, which focuses on the characteristics of the Capacity Market Seller, allowed any new resource offered by such a seller to be exempt from the MOPR. The Commission found "that, as a general matter, providing exemptions for resources properly designated as self-supply when they meet suitable net-short and net-long thresholds is reasonable."[262] The MOPR-Ex proposals minimal changes to the Self-

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261 October 2015 Order at P 36.

262 May 2013 Order at P 108; *see also* October 2015 Order at P 35 ("In traditionally-regulated states, a large majority of load is typically satisfied by generation owned by the load serving entity and recovered through state cost of service rates. Because of this financing model, the competitive entry exemption is not applicable to resources developed through that model. PJM, therefore, appropriately developed the self-supply exemption to determine under this financing model whether an investment in new generation is consistent with a competitive market.").

Supply Exemption and includes the net long and net short thresholds.[263] The proposed MOPR-Ex modifications to the Self-Supply Exemption only serve to expand it to existing resources and to remove the provisions specific to the entities that will now be covered by the new Public Entity Exemption.[264] Accordingly, the Self-Supply Exemption is just and reasonable, as the Commission previously held.

The Competitive Entry Exemption exempted from the MOPR resources for which the seller either receives no out-of-market state subsidy or, if so, was selected for such subsidy through a competitive and non-discriminatory state procurement process.[265] The Commission has found that "PJM's proposed categorical exemption for competitive-entry, subject to conditions, as a just and reasonable modification to PJM's MOPR process. We agree with PJM that this proposed exemption will remove an unnecessary barrier to entry for merchant projects and other projects that are procured on a competitive basis."[266] As the Commission has correctly described:

> A resource can obtain a competitive entry exemption in either of two ways. The first is to show that one hundred percent of the revenues such investment earns must be derived by meeting

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263 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(7) (Option B).

264 *See* proposed PJM Tariff, Attachment DD §§ 5.14(h)(5)(i) (removing language specific to "Public Power Entities"), 5.14(h)(5)(iii) (same), 5.14(h)(5)(vii) (removing definition of "Municipal/Cooperative Entity") (Option B). In addition to those changes to the previously-accepted Self-Supply Exemption required to accommodate the new Public Entity Exemption, PJM is proposing that the officer certification requirement that was in the prior Self-Supply Exemption be moved to the Exemption/Exception Process section to prevent unnecessary duplication in the tariff. Section (c) of the Exemption/Exception Process section provides for a generic officer certification applicable to all the categorical exemptions and the unit-specific exception process. *See* proposed PJM Tariff, Attachment DD § 5.14(h)(11)(c) (Option B).

265 PJM Tariff, Attachment DD § 5.14(h)(6) (language in effect prior to Remand Order)..

266 May 2013 Order at P 53.

> market demand for energy, capacity, and ancillary services; and that no revenues are earned by non-by-passable charges to ratepayers. The second way is to show that any contractual revenues received by the resource are as a result of a nondiscriminatory procurement process that is competitive and open to all resources, including existing resources. Subjecting investment that meets either of these conditions to any buyer-side market power mitigation that could penalize its entry does not enhance competition because in either case, competitive forces are a sufficient protection against uneconomic entry.[267]

In MOPR-Ex, PJM is proposing *no substantive changes* to the Competitive Entry Exemption the Commission accepted in Docket No. ER13-535. PJM is only proposing to remove "Entry" from its name (i.e., "Competitive Exemption") to reflect that the new MOPR rules cover existing resources in addition to new entry,[268] and to move the officer certification requirement to the general Exemption/Exception Process section,[269] in an effort to remove duplication from each of the exemptions and streamline the PJM Tariff.

b. PJM Is Proposing to Retain the Unit-Specific Exception and Update Its Rules to Cover Existing Resources

Because Capacity Resources with Actionable Subsidy may in fact have lower competitive costs, without consideration of the Material Subsidy, than the MOPR Offer

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267 October 2015 Order at P 32.

268 Proposed PJM Tariff, Attachment DD § 5.14(h)(8) (Option B). PJM notes that by focusing the MOPR-Ex on only Capacity Resources with Actionable Subsidies, only resources that are receiving a Material Subsidy would be subject to MOPR-Ex, and that only resources that do *not* receive a Material Subsidy are eligible for a Competitive Exemption. In other words, any resource that would qualify for a Competitive Exemption would not be a Capacity Resource with Actionable Subsidy and would not be subject to MOPR-Ex. Nonetheless, PJM is proposing the Competitive Exemption because it was part of the MOPR-Ex proposal the stakeholders reviewed. But, given the internal inconsistency of the Competitive Exemption in the proposed MOPR-Ex, PJM is informing the Commission and all parties that to address the notice issues which were significant to the Court's holding in *NRG*, PJM is willing to accept a Commission directive to remove the Competitive Exemption from any MOPR-Ex proposal the Commission accepts.

269 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(11)(c) (Option B).

Floor Price, such "resources should have the opportunity to demonstrate their competitive entry costs."[270] Accordingly, PJM is proposing to retain the Unit-Specific Exception. However, the unit-specific exception rules must be updated to reflect the expansion to existing resources so that sellers may know what data they must provide to support such an exception from the MOPR-Ex. To this end, PJM is proposing to make clear that the existing unit-specific process applies to "new entry" and is adding a new provision for existing resources.[271]

Under MOPR-Ex, sellers of existing resources "shall submit a Sell Offer equal to the higher of the Avoidable Cost Rate, as defined in 6.8(a), net of Projected PJM Market Revenues, and the value obtained by incorporating the opportunity cost of Capacity Performance participation in a manner consistent with the derivation of the Market Seller Offer Cap."[272] When determining the opportunity cost value, the seller must "employ[] alternative assumptions for the availability ratio (A), the number of Performance Assessment Hours (H), the Balancing Ratio (B), and the Capacity Performance bonus payment rate (CPBR) based on the actual market conditions and the actual circumstances of the unit."[273] This is identical to the competitive price determination PJM is proposing for its Capacity Repricing approach.[274] As explained above, either the Avoidable Cost Rate or the opportunity cost value would be a competitive offer price for the resource and

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270 May 2013 Order at P 141.

271 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(6)(c) (Option B).

272 Proposed PJM Tariff, Attachment DD § 5.14(h)(6)(c) (Option B).

273 Proposed PJM Tariff, Attachment DD § 5.14(h)(6)(c) (Option B).

274 *Compare* proposed PJM Tariff, Attachment DD § 5.14(j)(4)(a) (Option A), *with id.*, Attachment DD § 5.14(h)(6)(c) (Option B).

selecting the "higher of" of these two values comports with the logic underlying the Market Seller Offer Cap.[275]

PJM is also re-prosing minor wording and structural changes to the unit-specific exception rules that the Commission accepted on compliance in Docket No. ER13-535.[276] Plus, instead of cross-referencing Net Asset Class CONE estimates (which PJM is proposing to replace, see section III.D.3 above), PJM is proposing to list the financial modelling assumptions that a seller must provide to support a Unit-Specific Exception.[277]

5. Two New Categorical Exemptions

a. Public Entity Exemption

The Public Entity Exemption applies to two types of entities that were previously covered by the Self-Supply Exemption: Public Power Entity[278] and Electric Cooperative.[279] Like all other MOPR exemptions, this exemption allows resources from qualifying sellers to offer into RPM Auctions at any price selected by the seller, including a price of zero.

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275 *See* Capacity Performance Order at PP 334-58; Capacity Performance Rehearing Order at PP 182-96.

276 June 2013 Compliance Filing at 3-5; *id.* at Attachment B (clean tariff sheets); October 2015 Order at P 107.

277 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(6)(b) (Option B).

278 A Public Power Entity is "any agency, authority, or instrumentality of a state or of a political subdivision of a state, or any corporation wholly owned by any one or more of the foregoing, that is engaged in the generation, transmission, and/or distribution of electric energy." RAA, Article 1.

279 An Electric Cooperative is "an entity owned in cooperative form by its customers that is engaged in the generation, transmission, and/or distribution of electric energy." RAA, Article 1.

The Public Entity Exemption applies much of the same qualifying criteria as the Self-Supply Exemption, in particular: a net long threshold,[280] and cost and revenue requirements.[281] A net long threshold addresses the concern that an LSE may have such a relatively large amount of excess capacity that it may seek to "dump" capacity on the RPM auction, pushing down capacity prices in the process. The net long requirement under the Public Entity Exemption is proposed to be 600 MW.[282] That is, to qualify for the exemption, a Public Power Entity or an Electric Cooperative must not own or have under its control more than 600 MW of unforced capacity in excess of its Estimated Capacity Obligation for the PJM Region. This 600 MW value is consistent with the net long threshold test the Commission initially accepted in Docket No. ER13-535.[283] There, for entities with a capacity obligation "Greater than or equal to 500 and less than 5,000," the entities maximum net long position is "15% of LSE's Estimated Capacity Obligation."[284] Given that most Public Power Entities and Electric Cooperatives have capacity obligations of less than 5,000 MW, selecting a value that is equal to 15% of 4,000 (i.e., 600 MW) is reasonable.

Unlike the Self-Supply Exemption, to qualify for a Public Entity Exemption, sellers do not have to meet a stated net short threshold. Rather, to qualify for this exemption, a Public Power Entity or an Electric Cooperative must have "long-term

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280 *Compare* proposed PJM Tariff, Attachment DD § 5.14(h)(5)(d), *with id.*, Attachment DD § 5.14(h)(9)(b) (Option B).

281 *Compare* proposed PJM Tariff, Attachment DD § 5.14(h)(5)(a), *with id.*, Attachment DD § 5.14(h)(9)(c) (Option B).

282 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(9)(b) (Option B).

283 June 2013 Compliance Filing at Attachment B (proposed PJM Tariff, Attachment DD § 5.14(h)(6)(iv)).

284 *Id.*

resource plans" for the capacity under its control that is "consistent with its business model and such resource plans are intended to be balanced with its load obligations."[285] In other words, over the entity's long-term planning horizon, the entity must plan on having under its control a quantity of capacity resources that is "planned to be less than or equal to" its retail load capacity obligations.[286]

Finally, to reflect that application of the net long test to a portfolio of existing resources, the proposed Public Entity Exemption includes the following provision:

> Any excess supply, starting with the Capacity Resource(s) most recently added to the portfolio, will be subject to the Minimum Offer Price Rule unless the Capacity Resource qualifies for a Unit-Specific Exception under Tariff, Attachment DD, section 5.14(h)(6), where excess supply is the MW amount of Owned and Contracted Capacity in excess of the sum of LSE Total Estimated Capacity Obligation and 600 MW. The Minimum Offer Price Rule or Unit-Specific Exception shall apply to the last unit(s) added to Owned and Contracted Capacity.[287]

This provision reasonably provides that the MOPR will apply to the resources that took the seller beyond the net long threshold and to any resources that the seller acquired (whether bought or constructed) after the seller had crossed that threshold.[288]

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285 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(9)(a) (Option B).

286 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(9)(a) (Option B).

287 Proposed PJM Tariff, Attachment DD § 5.14(h)(9)(c) (Option B).

288 The Capacity Repricing proposal does not include a net-long requirement for Municipal/Cooperative Entities while the MOPR-Ex does include one. Both are just and reasonable approaches given the goals of each proposal. That is Capacity Repricing's goal is to ensure a Capacity Resource with Actionable Subsidy is allowed to obtain a commitment and then it is repriced to a competitive price (the Actionable Subsidy Reference Price), whereas the goal of MOPR-Ex is to prevent uncompetitive offers from clearing the market at all. Thus either approach can be found just and reasonable.

b. RPS Exemption

The other new categorical exemption from the MOPR is for resources that receive out-of-market support as part of a state-sponsored renewable portfolio standard. The RPS Exemption represents one discrete aspect of an overall just and reasonable approach to addressing the issue of the impact of increasing state subsidization of units on the RPM clearing price. The RPS Exemption, as presented in this proposal, ensures that MOPR-Ex targets the mitigation action to the most recent state actions and targets those state actions which are clearly focused on affecting the competitive position of specific units in the market.

Capacity Market Sellers may qualify resources for the RPS Exemption under one of two scenarios. Both scenarios are broadly stated and accommodate most state RPS programs. First, resources that were "procured in a program in compliance with a state mandated renewable portfolio standard prior to December 31, 2018, or based on a request for proposals (RFP) issued under such program prior to December 31, 2018" will qualify for the exemption.[289] This criterion ensures that any seller expectations leading to its RPS procurement will not be upset. This is a reasonable transition as such commitments were likely made based on RPM's longstanding practice of applying the MOPR to only gas-fired generation resources and not to renewable resources and sellers had no knowledge or expectation of any contemplated expansion of MOPR to other resource types.

Under the second path, resources that do not meet that criterion may qualify for the RPS Exemption if the resource "complies with the requirements of a state-mandated

[289] Proposed PJM Tariff, Attachment DD § 5.14(h)(10)(a) (Option B).

renewable portfolio standard or voluntary renewable portfolio standard"[290] and the terms of such program terms are "competitive and non-discriminatory."[291] If a resource is procured as part of an RPS program through an auction, that auction "must be competitive and non-discriminatory, meaning "(1) winner(s) of auction based on lowest offer prices, (2) payments to winners based on auction clearing price, and (3) at least three non-affiliated sellers participate."[292] On the other hand, if the resource is not procured through an auction (i.e., like renewable energy credits), the terms of procurement must "(1) [be] consistent with fair market value and standard industry practice and (2) provide that the price paid for renewable energy credits is determined by the contract terms between the buyer and the seller."[293]

The criteria proposed under this second path allows sales of unbundled RECs to be exempt from the MOPR-Ex. In other words, if a resource owner sells RECs based on that resource to an LSE participating a state-sponsored RPS program, then that resource can obtain an RPS Exemption and would not be subject to the MOPR-Ex. This is true whether the RECs from the resource are sold bilaterally (at fair market value) or through an auction process, so long as RPS Exemption's stated criteria for such a sale and for the state-sponsored RPS program are met.

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290 Proposed PJM Tariff, Attachment DD § 5.14(h)(10)(b)(i) (Option B).

291 Proposed PJM Tariff, Attachment DD § 5.14(h)(10)(b)(ii) (Option B). PJM is proposing seven criteria that a state program must meet to be considered "competitive and non-discriminatory," including that the "program terms do not use any locational requirement, e.g. offshore wind, other than restricting imports from other states." *Id.*

292 Proposed PJM Tariff, Attachment DD § 5.14(h)(10)(b)(iv) (Option B).

293 Proposed PJM Tariff, Attachment DD § 5.14(h)(10)(b)(iii) (Option B).

i. *Notice under Federal Power Act section 205 that PJM is willing to accept a MOPR-Ex proposal that does not include an RPS Exemption*

Given that this RPS Exemption allows resources receiving out-of-market subsidies to escape mitigation in deference to public policies favoring renewable generation resources, not because such resources do not suppress prices, some parties may assert that this rule discriminates in favor of resources versus other types of subsidized generation resources. Whether or not this form of discrimination is undue, in light of the CASPR Order, is a decision for this Commission. PJM offers the option of either (i) applying the standards set forth in Capacity Repricing to govern the treatment of renewables, or (ii) identifying this question for further stakeholder consideration in subsequent processes. PJM believes that this affirmative notice satisfies FPA section 205's notice requirements, as explained by the *NRG* court.

6. *PJM Is Re-Proposing Other Categorical Exemption-Related MOPR Revisions Accepted in Docket No. ER13-535*

The proposed MOPR-Ex rules re-propose the provision accepted in Docket No. ER13-535[294] that makes explicit that when a resource obtains any exemption, the market seller may offer the resource at a price below the MOPR floor price, "including, without limitation, an offer price of zero or other indication of intent to clear regardless of price."[295] This provision simply states the common understanding of the effect of an exemption from the MOPR Floor Offer Price. PJM is also updating the provision to reference the tariff sections for such exemptions instead of listing them by name.[296]

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294 June 2013 Compliance Filing at Attachment B (proposed PJM Tariff, Attachment DD § 5.14(h)(5)).

295 Proposed PJM Tariff, Attachment DD § 5.14(h)(5) (Option B).

296 Proposed PJM Tariff, Attachment DD § 5.14(h)(5) (Option B).

To implement the categorical exemptions and unit-specific exception, PJM is re-proposing the "Exemption/Exception Process" section the Commission accepted in the Docket No. ER13-535 proceeding.[297] This section provides the deadlines for the various steps in the exemption and exception processes that are designed to produce a final PJM decision on the request sufficiently in advance of the relevant auction to allow the seller an opportunity to pursue any relief it deems appropriate.[298] PJM is proposing one change to the Exemption/Exception Process provisions—to add a generic seller certification provision here, rather than including ones specific to each exemption and the unit-specific exception.[299] This change removes duplication in the already very long MOPR rules while maintaining the requirement that a seller must certify that its resource meets the requirement of the exemption/exception requested.

MOPR-Ex also carries forward from Docket No. ER13-535[300] the safeguard provisions to address the consequences if PJM reasonably believes that a previously granted request for a categorical exemption contains or is based on fraudulent or material misrepresentations or omissions and, absent such misrepresentations or omissions, would not have been eligible for the exemption.[301]

To properly implement MOPR-Ex, PJM is also making conforming changes to Tariff, Attachment M-Appendix, section II.D to re-propose the procedures and deadlines

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297 MOPR Tariff Filing of PJM Interconnection, L.L.C., Docket No. ER13-535-000, at 21 (Dec. 7, 2012); June 2013 Compliance Filing at Attachment A (proposed PJM Tariff, Attachment DD § 5.14(h)(9)) that inserted "exceptions" into the provision); October 2015 Order at P 107.

298 Proposed PJM Tariff, Attachment DD § 5.14(h)(11) (Option B).

299 Proposed PJM Tariff, Attachment DD § 5.14(h)(11)(c) (Option B).

300 *See* May 2013 Order at P 115.

301 *See* proposed PJM Tariff, Attachment DD § 5.14(h)(12) (Option B).

for the IMM's review of exemption and exception requests that the Commission accepted in Docket No. ER13-535.[302]

Finally, PJM is re-proposing RPM Auction posting requirements that enhance transparency in application of the MOPR and notify market participants of the aggregate megawatt quantity of resources granted for each categorical exemptions[303] as well as the aggregate megawatt quantity that cleared a BRA for each exemption.[304] In addition, PJM is re-proposing that PJM will provide notice to market participants prior to the BRA when it has made a generic determination that a particular state procurement process is "Competitive and Non-Discriminatory."

IV. EFFECTIVE DATE AND REQUEST FOR WAIVER

As stated above, PJM proposes an effective date of January 4, 2019, for the accompanying Tariff revisions, and for that purpose requests waiver of the Commission's 120-day maximum notice rule.[305] However, PJM also asks the Commission to issue an Order on this filing by June 29, 2018. To that end, PJM has assigned an effective date of June 30, 2018, to one revised tariff record in both Option A and Option B.[306] Based on PJM's showings in this filing, the Commission has substantial evidence on which it could fully accept either of the two alternatives in an order issued by June 29, 2018.

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302 *See* proposed PJM Tariff, Attachment M-Appendix § II.D (Option B).

303 *See* proposed PJM Tariff, Attachment DD § 5.11(b) (Option B).

304 *See* proposed PJM Tariff, Attachment DD § 5.11(f) (Option B).

305 *See* 18 C.F.R. § 35.3(a)(1). Waiver is warranted here, given that PJM proposes that these revisions will have their first application to the May 2019 Base Residual Auction. Given this filing's significance, PJM is filing it well before that auction.

306 Specifically, PJM has assigned an effective date of June 30, 2018, to the Attachment DD title tariff record. No substantive changes are being made to this section.

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V. CORRESPONDENCE

The following individuals are designated for inclusion on the official service list in this proceeding and for receipt of any communications regarding this filing:

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VI. DOCUMENTS ENCLOSED

This filing consists of the following:

1. This transmittal letter;
2. Option A: Revisions to the PJM Tariff in redlined as Attachment A in electronic tariff filing format as required by Order No. 714;
3. Option A: Revisions to the PJM Tariff in non-redlined format Attachment B in electronic tariff filing format as required by Order No. 714;
4. Option B: Revisions to the PJM Tariff in redlined as Attachment C in electronic tariff filing format as required by Order No. 714;
5. Option B: Revisions to the PJM Tariff in non-redlined format Attachment D in electronic tariff filing format as required by Order No. 714;
6. Affidavit of Adam J. Keech on Behalf of PJM, as Attachment E; and
7. Affidavit of Dr. Anthony Giacomoni on Behalf of PJM, as Attachment F.

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VII. SERVICE

PJM has served a copy of this filing on all PJM members and on all state utility regulatory commissions in the PJM Region by posting this filing electronically. In accordance with the Commission's regulations,[307] PJM will post a copy of this filing to the FERC filings section of its internet site, located at the following link: http://www.pjm.com/documents/ferc-manuals/ferc-filings.aspx with a specific link to the newly-filed document, and will send an e-mail on the same date as this filing to all PJM members and all state utility regulatory commissions in the PJM Region[308] alerting them that this filing has been made by PJM and is available by following such link. PJM also serves the parties listed on the Commission's official service list for this docket. If the document is not immediately available by using the referenced link, the document will be available through the referenced link within 24 hours of the filing. Also, a copy of this filing will be available on the FERC's eLibrary website located at the following link: http://www.ferc.gov/docs-filing/elibrary.asp in accordance with the Commission's regulations and Order No. 714.

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307 *See* 18 C.F.R. §§ 35.2(e) and 385.2010(f)(3).

308 PJM already maintains, updates and regularly uses e-mail lists for all PJM members and affected state commissions.

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VIII. CONCLUSION

Accordingly, PJM requests that the Commission accept either the enclosed Tariff revisions under Option A or Option B, and reject the unaccepted Tariff revisions, as moot.

Respectfully submitted,

/s/ *Paul M. Flynn*

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