



CLIENT ALERT

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ENERGY & SUSTAINABILITY

WHAT TO EXPECT WHEN YOU'RE EXPECTING THE EXPANDED PJM MINIMUM OFFER PRICE RULE

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On December 19, 2019, the Federal Energy Regulatory Commission (FERC) disrupted the holiday season for many in the U.S. energy sector by issuing an order requiring PJM Interconnection (PJM) to amend its Minimum Offer Price Rule (MOPR) to expand restrictions on the participation of all state-subsidized resources in the PJM capacity market. With PJM's March 18, 2020 filing in compliance with that order now on the books at FERC, the real implications of that MOPR order are becoming more clear.¹

The MOPR was originally established in 2007, setting a floor price for resources bidding into PJM's capacity market to prevent them from deliberately underbidding to artificially suppress capacity prices, but has historically been applied only to new natural gas generation. FERC's expansion of the MOPR to apply to all resources receiving state subsidies means that a whole new set of market participants may be subject to minimum price floors in bidding into PJM's capacity auctions, including new resources in vertically integrated states, energy efficiency and demand response resources supported by state or utility programs, and of course solar, wind, nuclear, hydro, biomass, and other "carbon-free" resources subsidized at the state or local level.

There are a range of views on whether FERC's order constitutes a needed return to market principles, an attempt to undermine states' authority over generation resources in the United States' federalized system of government, or simply yet another new set of rules to adapt to in today's ever-evolving energy landscape. But whatever your position on the merits, the "expanded MOPR" will be here soon, with PJM's March 18 compliance tariff filing now subject to review and approval by FERC. That means a big question going forward will be: how is this going to work, both for capacity market participants and those who want to procure clean energy? Below are some initial observations.

Who's in and who's out: FERC directed PJM to apply default minimum price floors under the MOPR to almost any "state-subsidized" resources bidding into the capacity auction, and PJM accordingly seeks to apply a broad definition of state subsidy encompassing any:

direct or indirect payment, concession, rebate, subsidy, non-bypassable consumer charge, or other financial benefit that is as a result of any action, mandated process, or sponsored process of a state government, a political subdivision or agency of a state, or an electric cooperative formed pursuant to state law, and that (1) is derived from or connected to the procurement of (a) electricity or electric generation capacity sold at wholesale in interstate commerce, or (b) an attribute of the generation process for electricity or electric generation capacity sold at wholesale in interstate commerce; or (2) will support the construction, development, or operation of a new or existing Capacity Resource; or (3) could have the effect of allowing the unit to clear in any PJM capacity auction.

¹<https://pjm.com/directory/etariff/FercDockets/4443/20200318-er18-1314-003.pdf>.

²The proposed state subsidy definition also excludes benefits resulting from projects under PJM's Regional Transmission Expansion Plan, and revenues from a Self-Supply Entity's arm's length contract with a resource where the contract is less than one year or the result of a competitive process that was not fuel-specific or purposefully used to support uneconomic capacity resources.

PJM's compliance tariff does adopt the main exceptions to this definition that were sanctioned by FERC's order: (1) local industrial development or siting incentives, where those are not specific to a particular type of resource; and (2) revenues or other benefits under federally mandated regulatory programs such as the Public Utility Regulatory Policies Act (PURPA) or the Clean Air Act's Cross-State Air Pollution Rule.

Additionally, PJM offers up-front clarification that certain other state and local programs will not constitute triggering subsidies. PJM's tariff explicitly exempts three major types of potential "state subsidies":

- The Regional Greenhouse Gas Initiative (RGGI) or any other regional program that may indirectly benefit certain resources by imposing a charge on their competitors (in the case of RGGI, a cap on CO₂ emissions that results in compliance costs for fossil-powered resources to the benefit of carbon-free generation);
- Any state-directed default service procurement plan competitively procured without regard to resource fuel type; and
- Any capacity revenues that a resource receives through participating in a load-serving entity's Fixed Resource Requirement (FRR) Alternative plan, consistent with FERC's assertion in its December 19 order that the FRR option under PJM's existing tariff should remain for load-serving entities to formulate their own resource adequacy plans for capacity procurement outside the PJM capacity market.²

Finally, consistent with FERC's order, PJM's filing establishes a "competitive exemption" for resources that forgo a state subsidy in favor of entering into voluntary, arm's-length bilateral transactions. Although the details remain to be finalized, PJM represents that it will update its existing Generation Attribute Tracking System (GATS) for tracking environmental attributes to ensure that renewable energy credits (RECs) from resources electing the competitive exemption can be used only for voluntary obligations, not for compliance with state renewable portfolio standards.

For new resources, this limited set of clarifications provides more certainty with respect to a mechanism for private, voluntary REC transactions as well as some major state programs such as RGGI, PURPA Qualifying Facility rates, and of course the FRR option that some states within PJM are considering now. That certainty may encourage a transition to a voluntary transaction paradigm wherever that is viable. Meanwhile, state and local activity may trend toward the channels excluded from the definition of "state subsidy" where such approaches are feasible and fit with the state's or locality's energy policy goals, especially preferences for clean energy.

In the meantime, PJM has left a number of open-ended questions as to what constitutes a "state subsidy" outside these limited bright lines. For example, for jurisdictions with community choice aggregation, will revenues or other support from aggregation entities be considered action by a "political subdivision" of a state or "an electric cooperative formed pursuant to state law," or simply the equivalent of a voluntary market choice by the participating retail electricity customers? Will resource procurements that are not explicitly fuel-specific be considered a subsidy if they inherently favor the economics of non-fossil fuel resources, such as a long-term 15- or 20-year procurement where a renewable resource may be able to win out

with a low fixed price? What are the limits on governmental incentives for local energy development before they will no longer be considered exempt generic industrial development or siting support? Is offering a renewable resource through a utility's voluntary "green tariff" enough to constitute an actionable subsidy?

Market watchers may know more in the next few months since PJM's compliance filing states that it intends to work with the Independent Market Monitor to prepare a guidance document with a non-exhaustive list of "state subsidy" programs to provide additional information on where the MOPR lines will be drawn. But while that document will provide some answers, they will not necessarily be final ones, and PJM also declined to include in its tariff filing any defined process for a resource to get an up-front determination of its status under the MOPR or to challenge PJM's determination if it disagrees. Overall, this will undoubtedly be the first step in a longer journey toward resolving the remaining uncertainties regarding the new state and local policy regime shaped by the expanded MOPR.

For existing resources, these definitional questions will be of much less importance. In recognition of the fact that significant investments had been made in state-subsidized resources well before anyone contemplated such major changes to the MOPR, FERC categorically exempted existing self-supply resources (i.e., existing resources in vertically integrated jurisdictions); existing renewable resources participating in state renewable portfolio standard programs; existing demand response and energy efficiency resources; and existing energy storage resources. PJM plans to prepare specific lists of all of the existing resources that qualify for these categorical exemptions, so that the resource owners may either confirm the determination or seek further remedies if they disagree.³ Thus, existing resources should generally have certainty prior to the next capacity auction as to whether they will escape triggering the MOPR.

The MOPR Math: Ultimately, the impacts of the MOPR may depend less on who it applies to than on the math of what minimum floor price it sets for a given resource. If that price floor is too high, it may fall above the ultimate "clearing price" in a given auction – which means that resource will not clear and will not receive any capacity revenues for the relevant PJM delivery year. As a reference point, here are the historical clearing prices in PJM's Base Residual Auction (BRA), the main capacity auction held three years in advance of a capacity delivery year, across the Regional Transmission Organization (RTO), over the last five years – noting that these exclude constrained areas of PJM subject to local capacity shortages where prices are therefore higher⁴:

Delivery Year	BRA RTO Clearing Price
2017/2018	\$120.00
2018/2019	\$164.77
2019/2020	\$100.00
2020/2021	\$76.53
2021/2022	\$140.00

³The question of which resources are "existing" does become more complicated for demand-side resources involving aggregated customer sites. PJM proposes that for demand response, commercial/industrial resources will be tracked based on customer locations that have participated as demand response in prior capacity auctions while residential demand response will be considered "existing" based on an amount of previously cleared MW alone without regard to specific customer identity. Similarly, for energy efficiency the "existing" determination will track the amount of MW previously cleared or measured in the PJM post-installation verification process.

⁴This caveat is important because some areas of PJM, such as COMED and EMAAC, have historically been "constrained" across multiple years, resulting in higher localized clearing prices.

PJM's compliance filing provides initial default prices for the various types of new and existing resources that may be subject to the MOPR (although those will be adjusted through PJM's ongoing quadrennial review process and as other relevant variables change). Fortunately for some of these resources, it looks like the relevant "MOPR math" may well work out in their favor.

For new generation resources, PJM's proposed tariff includes gross "Cost of New Entry" (CONE) prices that will be netted against projected energy and ancillary services revenues for the resource to produce a "net CONE" price to serve as the applicable minimum offer price floor. For generation resources, those range from \$271 for tracking solar resources up to \$2,000 for nuclear resources. PJM's filing also offers illustrative net CONE values for each of those resources using its chosen methodology for calculating energy and ancillary services revenues:

Planned Resource Type	Illustrative Default MOPR Floor Offer Prices		
	Gross CONE (Cost of New Entry) \$/MW-day (Nameplate)	Estimated Average Zonal E&AS Revenue Offset \$/MW-day (Nameplate)	Illustrative MOPR Floor Offer Prices net of E&AS Revenues \$/ICAP MW-day
Nuclear	\$2,000	\$517	\$1,483
Coal	\$1,068	\$43	\$1,025
Combined Cycle	\$320	\$168	\$152
Combustion Turbine	\$294	\$48	\$246
Solar PV (Tracking)	\$290	\$185	\$175
Solar PV (Fixed)	\$271	\$117	\$367
Onshore Wind	\$420	\$240	\$1,023
Offshore Wind	\$1,155	\$337	\$3,146
Battery Energy Storage	\$532	\$116	\$1,040
Demand Response (Generation-backed)	\$254	\$0	\$254

Although these net prices are still generally above the historic PJM BRA clearing prices, two further considerations could affect outcomes for specific resources – especially those such as tracking solar PV that may be within striking distance.

First, PJM's filing preserves its "unit-specific" exemption from the MOPR, now retitled the "resource-specific" exemption, which allows any resource subject to the MOPR to avoid application of the default floor price and instead have a minimum bid price set based on a review of its actual costs, projected asset life, and other information supported by sufficient justifications. Especially to the extent PJM's default CONE calculations involve outdated or simply

incorrect assumptions, this avenue may allow resources to show that they can bid at a cost-based price low enough for them to clear in the capacity auction, regardless of any state subsidy. For example, a longer asset life than assumed by PJM could result in more favorable energy and ancillary services revenue calculations to offset the gross CONE.

Second, as noted above, some areas of PJM have transmission constraints that result in localized capacity clearing prices higher than the overall RTO clearing price. Those constrained areas have had clearing prices reaching above \$200 in recent years.⁵ Accordingly, some resources located in constrained areas may be able to clear even at the default net CONE price.

For demand-side resources – load-backed demand response and energy efficiency – the main thing to know about PJM's proposed methodology for setting cost-based net CONE floors is that it produces very different results. PJM's initial proposed offer floors for those resources reach \$66.81 at the highest, making them likely to clear a BRA even under the expanded MOPR.

Once a resource subject to the MOPR manages to clear an auction and become an "existing resource" subject to a minimum price floor based on a net Avoidable Cost Rate (ACR), MOPR may become a non-issue – except for nuclear. For all resources other than nuclear, PJM's gross ACR values are \$80 or below, and the illustrative net ACRs based on those values range from \$0 to \$37. Single-unit nuclear resources are the outlier, with an illustrative net ACR of \$210, and thus may face more difficulty even if any such nuclear unit overcomes the hurdles to clearing an auction as a new resource.

Next steps: PJM has requested that FERC set a public comment period of at least 35 days on its compliance tariff filing, i.e., no sooner than April 22, 2020. FERC's review of the filing, although almost certain to be handled quickly to allow for resumption of capacity auctions as soon as possible, will likely not conclude until late spring or early summer at best. In the meantime, PJM will be continuing its stakeholder engagement to develop guidance on some remaining areas of ambiguity as discussed above.

PJM is targeting completion of the outstanding 2022/2023 BRA approximately 6 ½ months after FERC's acceptance of its compliance filing, or at the latest by March 31, 2020, if a state requests the additional time to explore implementation of an FRR Alternative plan. After the 2022/2023 BRA, PJM plans to hold successive BRAs every six months thereafter through the 2025/2026 BRA, in order to get back on track to its three-year forward auction schedule. Accordingly, within the next 18 months, the picture may be a lot clearer as PJM makes its way toward "the new normal" under the expanded MOPR.

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⁵PJM, 2021/2022 RPM Base Residual Auction Results, <https://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2021-2022/2021-2022-base-residual-auction-report.ashx>; PJM, 2020/2021 RPM Base Residual Auction Results, <https://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2020-2021-base-residual-auction-report.ashx>.