

UNDERSTANDING FERC'S 'MINIMUM OFFER PRICE RULE' ORDER

A Primer on FERC's December 2019 Order Impacting
PJM's Capacity Market

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INTRODUCTION

On December 19, 2019, the Federal Energy Regulatory Commission (FERC) ordered PJM Interconnection, L.L.C. (PJM) to make significant changes to the design of its capacity market. These changes are intended to address alleged “price suppression” in that market caused by the participation of capacity resources that are supported by state policies like renewable portfolio standards (RPS) and zero emission credit (ZEC) policies.

As explained in more detail below, FERC’s ruling will require primarily newly developed advanced energy resources like wind, solar, energy storage, demand response, and energy efficiency to offer capacity into the market at high, predetermined prices if they receive or are eligible to receive revenues from a state

policy program. Forcing these resources to bid at prices that may not reflect their actual economics creates the risk that they will be arbitrarily forced out of PJM’s capacity auction and locked out of the ability to receive capacity market revenues. This result also forces consumers to buy duplicative capacity through the capacity market, raising their costs, preserving existing traditional technologies like natural gas and coal, and undermining the goals of state clean energy policies. More broadly, this FERC ruling undermines state policies explicitly intending to promote advanced energy development by potentially depriving these resources of capacity market revenues and boosting such revenues for existing coal and natural gas power plants not subject to the MOPR.

BACKGROUND

Since 2006, PJM has operated a centralized market construct that aims to procure sufficient capacity resources to meet the region’s reliability requirements. Each year, PJM operates a capacity auction to obtain enough capacity to meet the region’s projected energy demand, plus a reserve margin, for a one-year delivery period three years in the future. (In other words, a PJM capacity auction held in May 2020 would procure capacity for the June 2023 to June 2024 delivery year.) In this auction, capacity resources submit price-based offers to supply capacity, and the market “clears” or closes when enough capacity is

offered to meet the reserve margin. The price of the last offer accepted in the auction sets the “clearing price” that is paid to all selected capacity resources. This gives capacity resources an incentive to offer at as low a price as possible to ensure they are under the auction clearing price.

In general, PJM’s capacity market has historically allowed resources flexibility in how they construct a capacity offer price, including allowing resources to submit low or zero price offers. However, since its inception, PJM’s capacity market has included a “Minimum Offer



Price Rule” (MOPR). MOPR was originally a narrow rule intended to ensure that capacity sellers who are “net buyers” of capacity in the market (such as load-serving utilities) cannot exercise buyer-side market power by developing capacity and offering it into the market at an artificially low price that suppresses overall market prices and lowers their total capacity costs. Later, PJM expanded the MOPR to new natural gas-fired generators developed pursuant to state programs, in response to efforts by Maryland and New Jersey to attract new gas plants to their states.

For the past several years, existing traditional generators in PJM (generally existing natural-gas and coal) have claimed that capacity market prices were being suppressed by the participation of resources that receive revenues under state policy programs. They asserted that these resources are able to offer at artificially low prices in the PJM capacity market because they are guaranteed revenues by state policies, and that these low offers suppress overall market prices.

After Illinois and other states enacted ZEC policies to compensate existing nuclear power plants for their emissions-free attributes, generators filed a complaint at FERC seeking expansion of the MOPR to apply it to more capacity resources receiving revenues under state policy programs. Later, PJM filed with FERC proposed market rule changes that attempted to allow capacity resources developed under state programs to participate in the capacity market while also addressing alleged price suppression.

In June 2018, FERC rejected PJM’s proposed market rule changes, granted the generators complaint, and found that the PJM capacity market design is unjust and unreasonable due to the price suppressive impact of the participation of state-supported capacity resources. FERC preliminarily directed PJM to expand the MOPR to all resources with “few or no exceptions.” To address the potential that an expanded MOPR would exclude capacity resources developed under state programs from the capacity market, FERC also preliminarily directed PJM to develop a mechanism (the Fixed Resource Requirement Alternative, or FRR-A) to remove those resources, and a corresponding amount of load, from the capacity market.

Before finalizing these directives, FERC sought comment on the scope of the MOPR expansion, the calculation of MOPR offer floors, and the FRR-A, among other issues. Numerous parties filed comments, and PJM responded with a proposal for how it would implement FERC’s directives. AEE submitted comments urging FERC to abandon the expansion of MOPR, or at a minimum exclude renewable electricity credits (RECs) from the application of the MOPR, given the lack of evidence that RECs meaningfully influence capacity offer prices. AEE also urged the Commission to exclude demand response and energy efficiency resources from the application of the MOPR, given their widely varying cost structures and the fact that they are generally not developed with a principal purpose of generating electricity.



SUMMARY OF FERC'S DECEMBER 19 ORDER EXPANDING THE MOPR

The December 19 Order **requires PJM to expand the application of the MOPR to all new and existing capacity resources that receive or are eligible to receive "State Subsidies,"** unless an exemption applies. FERC reasons that this expansion of the MOPR beyond natural gas-fired generators is required because, as a general matter, all resources receiving out-of-market support are "capable of" suppressing capacity market prices.

Definition of "State Subsidies"

FERC defines the State Subsidies that will trigger application of the expanded MOPR as follows:

"A direct or indirect payment, concession, rebate, subsidy, non-bypassable consumer charge, or other financial benefit that is (1) 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 (2) 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 (3) will support the construction,

development, or operation of a new or existing capacity resource, or (4) could have the effect of allowing a resource to clear in any PJM capacity auction."

While FERC does not list out specific state policies included within the reach of the MOPR, this expansive definition appears to sweep in nearly all state policy tools developed to date to encourage deployment of advanced energy technologies, including RPS/REC markets, clean energy standards, procurement mandates and targets (including those included in a utility Integrated Resource Plan), and other tools that direct investment toward these technologies.

FERC explicitly excludes federal subsidies (e.g., tax credits) and generic industrial development and local siting support (e.g., local economic development incentives) from the expanded MOPR. With respect to federal subsidies, FERC asserts that it lacks authority to "nullify the effect of federal legislation" by applying the MOPR to capacity resources receiving these subsidies. Concerning generic industrial development and local siting support, FERC finds that such support "is available to all businesses and is not nearly directed at or tethered to the new entry or continued operation of generating capacity" in PJM.



Resources Subject to the Expanded MOPR

FERC's order states that all resource and technology types can "impact the competitiveness of the capacity market and the resource adequacy it was designed to address" and thus must be subject to the MOPR. In addition, FERC rejects arguments that seasonal resources or capacity resources whose primary purpose is not electricity production should be exempt from the MOPR. FERC also rejects PJM's proposal to exclude energy efficiency resources, and explicitly states that demand response, energy storage, and "emerging technology" should all be subject to MOPR.

Self-Supplied Capacity Resources: FERC's ruling expands the MOPR for the first time to capacity resources owned by vertically integrated utilities and included in state-regulated rate base (e.g., Dominion Virginia-owned plants), and by municipal utilities and rural electric cooperatives (unless the self-supply exemption described below applies).

Voluntary Transactions: The December 19 Order addresses voluntary transactions – i.e., purchases conducted outside of a state policy mandate or program – in two ways. First, FERC states that "voluntary, arm's length bilateral transactions" will not be subject to the MOPR "at this time." Second, however, FERC states that "voluntary REC arrangements, meaning those not associated with a state-mandated or state-sponsored procurement process," will be subject to the MOPR, because "it is not possible, at this time" to distinguish between

voluntary RECs and state-funded or state-mandated RECs.

No Materiality Thresholds: FERC rejected PJM's proposal to adopt two "materiality thresholds," which would have limited the reach of the expanded MOPR by excluding (1) capacity resources with an unforced capacity rating of 20 MW or smaller, and (2) capacity resources that receive a subsidy that amounts to 1% or less of their actual or anticipated total revenues from energy, capacity, and ancillary services markets.

Exemptions

Existing Resources (except nuclear): In the December 19 Order, **FERC exempts most existing capacity resources from the MOPR.** Specifically, FERC's order exempts existing (1) renewable resources receiving revenues from state-mandated or state-sponsored RPS programs; (2) capacity resources "self-supplied" by vertically integrated public utilities, public power entities, and single customer entities; and (3) demand response, energy efficiency, and energy storage resources. In practice, among existing resources, this provision subjects only existing nuclear power plants receiving ZECs or similar state-mandated revenues to the MOPR.

Qualification Criteria for Existing Renewables, Energy Storage, and Self-Supply: To qualify for the existing resource exemption, a renewable, energy storage, or self-supplied capacity resource must fulfill at least one of these criteria:

"(1) have successfully cleared an annual or incremental capacity auction prior to



this order; (2) have an executed interconnection construction service agreement on or before the date of this order; or (3) have an unexecuted interconnection construction service agreement filed by PJM for the resource with the Commission on or before the date of this order.”

Qualification Criteria for Existing Demand Response and Energy Efficiency: To qualify for the existing resource exemption, a demand response or energy efficiency resource must fulfill at least one of these criteria:

“(1) have successfully cleared an annual or incremental capacity auction prior to this order; (2) have completed registration on or before the date of this order; or (3) have a measurement and verification plan approved by PJM for the resource on or before the date of this order.”

Competitive Exemption: The December 19 Order directs PJM to allow new and existing resources (other than new gas-fired resources) to avoid the MOPR by certifying that they will forego any State Subsidies (e.g., that you will not accept REC revenues or other state-directed funding). FERC also directs PJM to include provisions that prevent capacity resources claiming the competitive exemption from later accepting State Subsidies; doing so would result in the capacity resource losing all of its capacity revenue and being excluded from the capacity market going forward.

Unit-Specific Exemption: The December 19 Order requires PJM to retain the unit-specific exemption process, which allows any resource

to justify a capacity market offer price lower than the MOPR offer floor that would otherwise apply. This unit-specific offer must be based on a capacity resource’s expected costs and revenues and will be subject to approval by the Independent Market Monitor.

Calculation of Offer Floors

The December 19 Order directs PJM to establish individual offer floor prices for all types of capacity resource, including resources whose primary function is not energy production (e.g., landfill gas, wood waste, etc.). For new (or “planned”) resources, the order requires PJM to calculate the offer floor at 100% of the net Cost of New Entry (CONE) (i.e., the typical cost to construct the resource type net of its energy and ancillary services market revenues). For existing resources (effectively limited to nuclear), the order requires PJM to calculate the offer floor at the net avoidable cost rate (net ACR), i.e., the going-forward costs for the resource type net of estimated energy and ancillary services market revenues.

Among several key rulings on the calculation of the offer floor, FERC rejected requests to use net ACR for new resources (which would generally result in a lower offer floor), finding that it would not appropriately capture construction costs. FERC also rules that a zone-specific energy revenue offset should be used, rather than PJM’s proposal to use the lowest zonal value for each resource type in the previous three years. This may have the effect of increasing the offset, and lowering the offer floor, for some resources. FERC also requires PJM to provide calculations and workpapers supporting its offer floors on compliance.



HOW FERC'S RULING WILL BE APPLIED TO ADVANCED ENERGY TECHNOLOGIES

While the December 19 Order contains a number of rulings that are open to interpretation by PJM and stakeholders as they develop tariff provisions on compliance, the following is AEE's initial summary of how FERC's rulings are likely to be applied to particular advanced energy technologies.

Wind and Solar:

With most existing wind and solar falling within the existing resources exemption, the expanded MOPR will primarily be applied to new wind and solar resources that receive, or are eligible to receive, State Subsidies. These resources will be required to offer at a floor price equal to Net CONE. While PJM must develop and file a precise floor price in compliance with the December 19 Order, PJM's earlier filings with FERC identified offer floors of **\$2,489/MW-day for onshore wind, \$4,327/MW-day for offshore wind, and \$387/MW-day for solar**. With recent capacity market clearing prices ranging from approximately \$80/MW-day to \$220/MW-day, these estimates suggest a significant risk that new wind and solar capacity will not clear in the market.

Demand Response:

Like wind and solar, with most existing demand response resources falling within the existing

resources exemption, the expanded MOPR will primarily be applied to new demand response resources that receive, or are eligible to receive, State Subsidies. For purposes of application of the expanded MOPR, the December 19 Order distinguishes between generation-backed demand response (e.g., demand response supported by behind the meter generation) and non-generation-backed demand response.

For generation-backed demand response, FERC appears to require PJM to develop offer floors equal to 100% of the Net CONE for the type of behind-the-meter generation used by the particular demand response resource. For non-generation-backed demand response, FERC accepted PJM's proposal to determine the offer floor price based on the average of the last three years of demand response offers in the capacity market. FERC also states that "the average should include non-generation-backed demand resources," leaving it somewhat unclear as to whether that average should include only non-generation-backed resources or all resources.

Energy Efficiency:

Similarly, the expanded MOPR will primarily be applied to new energy efficiency resources that receive, or are eligible to receive, State Subsidies. FERC notes that "it is difficult to



describe energy efficiency in terms of Net CONE or Net ACR,” and directs that on compliance, PJM instead “establish objective measurement and verification requirements for new energy efficiency offers and to limit such offers to the verifiable level of savings.” This directive addresses only the amount of capacity new energy efficiency resources may offer and leaves significant uncertainty regarding the offer floor price that will be applied.

Energy Storage:

The expanded MOPR will primarily apply to new energy storage projects seeking to provide capacity (called “capacity storage resources”) that receive, or are eligible to receive, State Subsidies. FERC provides no additional guidance on how the offer floor price for capacity storage resources should be calculated.

Other Technologies:

The December 19 Order requires PJM to develop and file offer floors for “new technologies as they emerge.”

APPLICATION OF MOPR TO VOLUNTARY CORPORATE PURCHASES OF ADVANCED ENERGY

AEE, the Advanced Energy Buyers Group, and others asked FERC to make clear that all voluntary corporate purchases of advanced energy are excluded from the MOPR. FERC did not grant this request. Rather, as noted above, the December 19 Order excludes “voluntary, arm’s length bilateral transactions” from the MOPR “at this time,” but includes “voluntary REC arrangements, meaning those not associated with a state-mandated or state-sponsored procurement process.”

These rulings leave several questions about how MOPR may impact voluntary purchases outside of state-mandated or state-sponsored procurements, given the variety of contracting structures used to facilitate such transactions. Read together, the rulings suggest that the direct purchase of advanced energy, where the buyer holds and retires any RECs or similar revenue-generating instruments created by the project (rather than selling them in a secondary market), is the structure that is most assured of avoiding application of the MOPR. In addition,



the affirmative inclusion of voluntary RECs puts voluntary corporate purchases of RECs in secondary markets at risk of being subject to MOPR offer floors.

The impact of FERC's rulings on other types of contracting structures will require further

consideration. On compliance, PJM will likely be asked to develop tariff provisions or guidelines that bring greater clarity to corporate buyers.

ALTERNATIVES TO CAPACITY MARKET PARTICIPATION

In the December 19 Order, FERC declined to require PJM to develop FRR-A or a similar mechanism to allow states to remove MOPR'd resources, along with a commensurate amount of load, from the capacity market. As a result, the only near-term option for states to avoid application of the MOPR to resources procured under their state-mandated or state-sponsored processes (short of leaving PJM entirely) is to pursue the "Full" Fixed Resource Requirement (FRR) mechanism in PJM's existing tariff. FRR allows a utility to remove its entire load from the

capacity market, and to instead bring plans to PJM demonstrating that it holds enough capacity to satisfy its share of the region's resource adequacy requirements. In other words, under FRR PJM's centralized capacity market no longer purchases capacity to meet that utility's resource adequacy requirements; instead, the utility holds or contracts for capacity to meet its share of resource adequacy requirements. A utility choosing FRR must remain in that status for five years. For a variety of reasons, FRR has been seldom used to date.

NEXT STEPS

Rehearing/Clarification:

Parties have 30 days from the date of the order to seek rehearing and/or clarification of the December 19 Order. Because the 30th day falls on a federal holiday, requests for rehearing/clarification will be due January 21, 2020. Seeking rehearing is a prerequisite for

seeking judicial review. Any petitions for judicial review will be due 60 days after FERC issues an order on rehearing, likely pushing potential court challenges far into the future. (Though likely to be found procedurally premature, the Illinois Attorney General has already sought judicial review in the 7th Circuit.) AEE, individually and with other clean energy trade groups, plans to seek rehearing and



clarification of the order and prepare for potential judicial review.

Compliance:

FERC provided PJM with 90 days to develop and file tariff provisions to implement the directives of the December 19 Order. PJM's Markets Implementation Committee (MIC) has scheduled an initial discussion of the requirements of the order for January 8, 2020. At that meeting, PJM staff has invited stakeholders to describe the impact of the order on their organization and present "perspectives on the interpretation of particular compliance directives, including the definition of a state subsidy, development of the . . . floor prices for new and existing resources and the implementation of the . . . exemptions."

Auction Timing:

The Base Residual Auction (or BRA, the primary capacity auction) for the 2022-2023 Delivery Year, which normally would have been held in May 2019, had been indefinitely postponed pending resolution of this proceeding. In the December 19 Order, FERC directs PJM to "provide an updated timetable for when it proposes to conduct the 2019 BRA, as well as the 2020 BRA, as necessary."

Potential State Responses:

We are likely to learn more about how states plan to respond to FERC's order, apart from seeking rehearing and eventual judicial review, as stakeholder discussions play out in PJM. States with significant state policies supporting existing nuclear power plants, including Illinois,

New Jersey, and Ohio, as well as states with existing and emerging clean energy goals, like Maryland and Virginia, are the most likely to move aggressively to contest FERC's order and potentially seek alternatives to avoid its impacts.

For many states, utilizing the FRR mechanism to remove their utilities from PJM's capacity market and avoid the consequences of the MOPR may require legislation to give authority to their PUCs, state energy authorities, or even utilities to take such action. Illinois is one state that has already begun to pursue this option through legislation currently under development. If several states/utilities move to utilize FRR and remove themselves from the capacity market, the market could become less robust and competitive, harming resources that remain. In addition, it will be important to ensure that state FRR plans do not leave out advanced energy technologies that have traditionally provided capacity PJM, including demand response and energy efficiency.

Potential Implications for Other ISOs/RTOs:

ISO New England (ISO-NE) and New York ISO (NYISO) both use a mandatory centralized capacity market structures similar to PJM. As a result, the December 19 Order sets a precedent that could be repeated in those markets.

In New York, the Public Service Commission (PSC) recently initiated an investigation to consider whether the NYISO capacity market is compatible with the state's aggressive new clean energy goals. Comments submitted by AEE and others pointed out that the



compatibility of the market with those goals is largely dependent on how extensive a MOPR (called Buyer-Side Mitigation or BSM in NYISO) is in place. This decision is likely to signal to the Public Service Commission that FERC will require an extensive MOPR with few or no exceptions, which could lead the state to reassert authority over resource adequacy or otherwise push to fundamentally reform NYISO's capacity market.

With respect to ISO New England, however, FERC recently approved a revision to its

capacity market design (called Competitive Auctions with Sponsored Policy Resources, or CASPR) that seeks to address the same price suppression allegations that FERC addresses here. FERC is unlikely to revisit that decision on its own motion. However, the first auction held under the CASPR design last year resulted in significant questions as to whether it will achieve its objectives of balancing state policy goals with the wholesale market. The precedent established in the December 19 Order could dissuade efforts to seek changes to CASPR at FERC, at least in the near term.

CONCLUSION

The December 19 Order escalates the ongoing clash between state climate and clean energy policies and FERC-regulated wholesale markets. Unless reversed on rehearing or appeal, FERC's rulings in the order risk excluding advanced energy resources encouraged by state policies from the PJM wholesale markets, increasing consumer costs and undermining the state's valid exercise of their authority to determine the generation mix used to serve retail customers. FERC's decision to broadly apply MOPR to effectively nullify the impact of state clean energy policies amplifies the need for new wholesale market constructs that better balance valid state energy policy goals with the need to ensure just and reasonable wholesale rates under the Federal Power Act.

