
PJM's Capacity Market Problem

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Data Sources Used in This Publication
PJM
Monitoring Analytics

FERC Decides to Delay

A Federal Energy Regulatory Commission decision to delay PJM's August capacity auction injected uncertainty into the ISO market this month. While not entirely a surprise, the delay clouds the governing rules of the country's largest forward capacity market. Both market and political factors driving changes to the region's generation capacity lie behind PJM's current predicament. This piece looks at how these factors have complicated FERC's decision-making and muddied PJM's capacity market rules.

Renewable Portfolio Standards

Several states within and bordering PJM have set Renewable Portfolio Standards ([Current State of Renewable Portfolio Standards](#)) that vary significantly in target percentage and implementation year (Exhibit 1). Since RPS standards are set by individual states, the definitions of what is considered a renewable source of fuel and the implementation requirements around new construction differ as well. These myriad state sponsored incentives to expand renewable generation must all be considered in PJM's market capacity plans.

Exhibit 1 Renewable Portfolio Standards

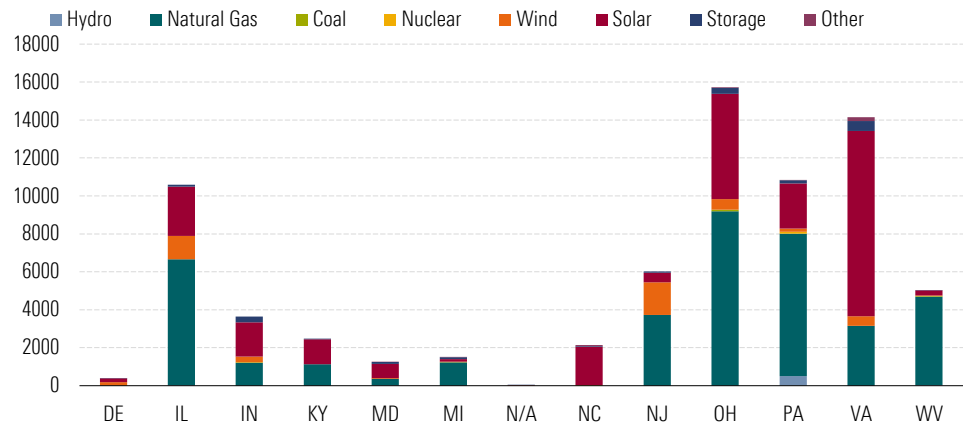
| State | Target | Date |
|----------------|--------|------|
| New Jersey | 50% | 2030 |
| Maryland | 50% | 2030 |
| Delaware | 25% | 2026 |
| Washington, DC | 100% | 2032 |
| Pennsylvania | 18% | 2021 |
| Illinois | 25% | 2026 |
| Ohio | 8.5% | 2026 |
| North Carolina | 12.5% | 2021 |
| Michigan | 15% | 2021 |
| Virginia | 15% | 2025 |
| Indiana | 10% | 2025 |

Source: PJM

Looking at generation interconnection requests within PJM by state shows two choices dominating the queue. A combination of natural gas generators (53% of requests) and renewable options (43%) form the clear majority (Exhibit 2). While natural gas still dominates, renewables are growing. This trend should

continue and increase in coming years. The 2018 PJM annual capacity auction for 2021-22 assets highlighted this reality as demand response, energy efficiency, and renewables saw considerable growth year over year.

Exhibit 2 Generation Interconnection Requests by Fuel (MW)



Source: PJM

Subsidies to the Traditional Stack

As the renewables continue to take greater portions of the generation stack, several states have initiated legislation to protect traditional fuels ([The Accelerating Battle of Nuclear Subsidies](#)). Ohio just added its name to that list by bailing out its nuclear fleet with subsidies. To date, four states have subsidized nuclear generation (Illinois, New Jersey, New York, and Ohio), and three of those actively operate in PJM's territory. The Ohio legislation bails out not only nuclear, but also coal-fired generation while cutting renewable energy and energy efficiency programs in the state.

For more than a year, FirstEnergy highlighted the need for state support to continue operating two nuclear generators in Ohio and stressed that otherwise a low power price environment would force them to retire. What began as a state proposal to help nuclear and to a limited degree renewable sources eventually morphed into one designed to bail out FirstEnergy's two nukes as well as Ohio Valley Electric Corps' two coal-fired power plants. As a result of state bailout, FirstEnergy announced they would also continue operating the W. H. Sammis Power Plant, which was originally scheduled to retire in 2022. On top of bailing out these traditional plants in the stack, the Ohio legislation reduces support for renewable and energy efficiency programs and reduces Ohio's RPS standard from 12.5% to 8.5%.

Natural Gas

PJM's natural gas generators now find themselves caught in an odd position between subsidized legacy coal and nukes and renewables buoyed by RPS regulation. Access to cheap Marcellus gas led to a huge expansion in natural gas power plants over the past few years. The past few capacity auctions could best be described as natural gas against the burgeoning renewable sector. However, state subsidies for

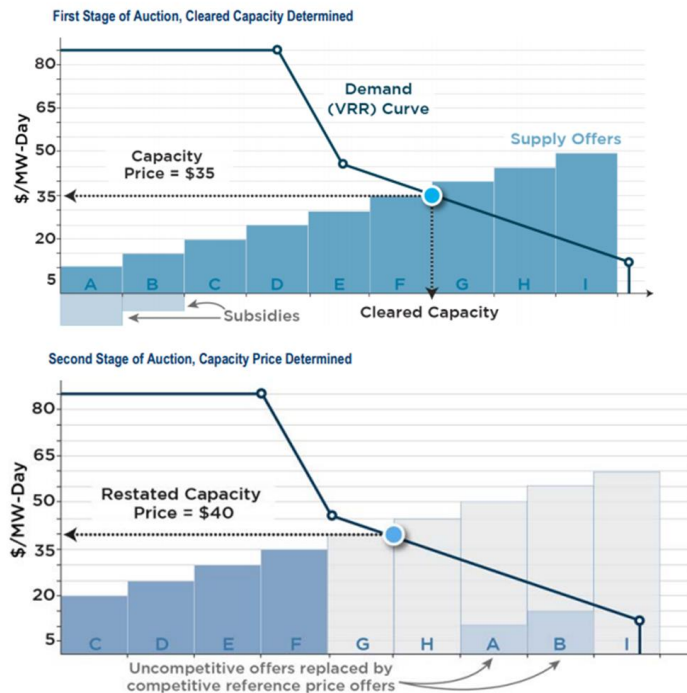
nuclear and now coal-fired generation have introduced another angle to the theater. So, while natural gas generators spent most of the past decade displacing coal units, the introduction of targeted subsidies has pumped a little life back into what was expected to be the imminent demise of coal and nuclear. Proponents of natural gas have highlighted the uncompetitive nature of these subsidies, as well as, questioning whether they are required to ensure system reliability.

PJM's Problem

Last year, in the interest of accommodating state subsidies, PJM proposed changes to the rules it uses to conduct capacity auctions with the Minimum Offer Price Rule and a two-part capacity auction. Failure to reach an agreement at FERC led to the first delay in conducting the auction from March to August. At the end of July, FERC issued a ruling preventing PJM from conducting the August auction until the commission could come up with a viable solution for the market.

PJM's latest Capacity Market Repricing proposal would extend the MOPR to both new and existing resources by setting up a two-step auction, whereas the current MOPR only applies to new resources. In PJM's view, a two-step auction helps factor in out-of-market state subsidies while preserving pricing integrity (Exhibit 3). The first step in PJM's MOPR proposal allows capacity sellers to offer in units in return for a capacity commitment. The second step involves removing those resources with subsidies from price-setting or essentially restating the auction capacity price.

In PJM's view, this solution would allow subsidized generators to participate and commit their capacity without skewing the prices offered to unsubsidized resources. PJM has stressed the two-step auction as the optimal solution in the current environment, and we tend to agree with this assessment. While the existence of state subsidies to bail out uneconomic units is inherently uncompetitive, the grid operator has little control over state decisions, and the rule proposal seems reasonable.

Exhibit 3 PJM's Two-Step Proposal

Source: PJM.

Following the two-step repricing proposal's rejection by FERC, PJM is in a precarious situation. The ISO must balance the impact of state-provided subsidies for aging generators and the role renewables play in supplying electricity to the grid, while ensuring market transparency and pricing competitiveness. Yet the introduction of nonmarket factors has rendered PJM's capacity market less competitive, and several stakeholders have questioned the pricing integrity of market rules. For example, in its first-quarter 2019 "State of the Market" report, PJM's independent market monitor judged the capacity market structure uncompetitive and identified serious problems with the market design. While PJM has continued to propose new rules, FERC has failed to provide the transparency and certainty necessary for market participants to plan and participate in the capacity auction, putting the nation's largest grid operator in a holding pattern.

Skeleton Commission

FERC is expected to see a shift in its makeup in September when Commissioner Cheryl LaFleur departs, leaving only three commissioners with a 2-1 Republican majority. The commission has a long history of reaching consensus and maintaining some level of independence, but with the high number of projects, reforms, and rules that require approval, FERC's decision-making will inevitably slow down. Regardless, if PJM is going to conduct a capacity auction this year a FERC decision is required in September, but it has not yet indicated or clarified any timeline for its guidance. The way the commission addresses state subsidies for nuclear and coal will test its independence and ability to reach consensus.

Conclusion

FERC's recent action to delay PJM's Capacity Auction highlights several challenges facing the ISO. Actions by states within PJM's footprint to both expand renewables and preserve uneconomic nuclear and coal-fired plants in various ways create a less competitive market. Providing pricing integrity for market participants in an environment where states are offering any number of subsidies may be a near impossible challenge. The recent FERC action to indefinitely delay the capacity auction has managed to unite natural gas and renewable generators against further delaying the auction. FERC's failure to provide clear guidance for PJM over the past year has injected just as much uncertainty for market participants as the introduction of state subsidies. The commission must make a decision if PJM is to conduct a capacity auction this year and end the current impasse.

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