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PJM’s new capacity market rules

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Sponsors of power plants in 14 eastern US states may reap a combined $4 billion in increased revenues over the next three years, under rules that the US Federal Regulatory Commission (FERC) approved this month.

But the new rules – designed to improve reliability – will penalise underperforming plants, potentially causing losses for older plants and weakening some existing financings. The prospect of higher penalties may encourage power plant owners to increase liquidity facilities, such as working capital, noted Swami Venkataraman, senior credit officer at Moody’s Investors Service in New York.

The PJM Interconnection - the US’ largest regional transmission organisation - proposed the new rules after the extreme cold of January 2014 caused widespread outages. The memory of power outages, along with the expectation that older oil- and coal-fired plants will retire, prompted PJM to make changes to its capacity market rules.

Penalties and rewards

PJM’s new rules require heavier penalties for power plants that fail to provide energy during emergency hours, or periods of system-wide capacity shortages.

The market’s prior rules penalised generators that failed to provide energy when needed, but that performance was assessed over 500 peak hours annually. The new rules calculate penalties based on a few emergency hours, or during system-wide capacity shortages, leaving power plants with shorter periods to demonstrate reliability.

The expectation of penalties will likely raise overall capacity prices in PJM, which hosts an annual capacity auction. In bids to the auction, owners of power plants will have to factor in higher costs – to cover the potential penalties and to pay for features that ensure performance, including long-term gas supply contracts.

The new rules also limit permissible excuses for under-performance. Power plants had often been able to avoid penalties if they cited *force majeure, or* outages caused by events beyond management control. The new rules narrow the events to which generators can invoke *force majeure*.

But the new rules also reward power plants that exceed expectations during emergency hours. PJM plans to use amassed penalties as bonuses for well-performing plants. Effectively, PJM is looking to filter out inefficient plants as it attempts to boost market reliability.

Coal and oil retirements, new gas generation

PJM has long been worried about the market’s ability to attract new projects, especially since the retirements of older coal- and oil-fired generators became inevitable, said John Lilyestrom, a partner at Hogan Lovells in Washington, DC, who focuses on electric utility regulation.

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As of 1 June 2014, PJM had an installed capacity of 190,521MW. PJM expects over 26,000MW of coal and oil-fired generation to retire between 2008 and 2019.

Gas-fired generation will replace most of the retiring capacity, a shift that the new rules acknowledge. Those rules attempt to incentivise gas-fired plants to enter long-term transportation and gas contracts, and thus rely less on spot markets for natural gas, Lilyestrom noted. Under prior rules, gas-fired plants could not always recover the costs of fuel contracts because PJM's capacity payment structure did not adequately compensate those costs.

Some market participants, however, say that the PJM's previous rules had provided sufficient motivation for new gas-fired build. "Economics in PJM, given the attractive price of natural gas and coal-fired projects slated for retirement, have historically been a compelling driver for new development," said Brian Burchfield, director at advisory Whitehall & Company in New York. "The proposed capacity performance regime will likely not significantly alter this perspective of gas-fired project developers, despite the proposed penalties."

The weakest links

While the new rules may increase revenues for well-performing plants, they add credit risk to older power plants and single-asset financings, according to an April 2015 Moody's report.

Older coal- and oil-fired plants are more likely to underperform during emergency hours because of aging equipment, and are thus more likely to face penalty charges. Single-asset financings – or even multiple-asset financings in PJM – pose risk because the potential for penalty is concentrated instead of being dispersed among assets in different power markets.

Furthermore, power plants that rely mostly on capacity payments, including peakers, are susceptible to this higher risk. Unlike most combined-cycle gas-fired plants or nuclear power plants that receive both capacity and energy payments, most peakers depend almost solely on capacity payments. Capacity payments are linked to availability, whereas energy payments are made for actual power generated.

Elwood Energy, Tenaska's TPF II Power, Energy Capital Partners' Red Oak Power, ArcLight's Chief Power Finance and Longview Power plants and portfolios could be among those affected, Moody's notes.

Two carrots, one partial stick?

PJM's new rules found many opponents including FERC Chairman Norman Bay. Opponents contend that PJM's proposal will increase costs for customers while not sufficiently enhancing power reliability.

According to PJM's October 2014 cost-benefit analysis, the rules are expected to cost $1.4-4 billion over three years. A bulk of that cost will most likely fall on customers, in the form of higher electricity costs.

In his dissent, Bay argued that the new structure proposes ample incentives for generators, but not enough penalties – or "two carrots and a partial stick."

Bay suggests that the rules may allow underperforming generators to still receive capacity payments. The new rules, he notes, calculates penalty fees based on 30 hours of performance assessment hours (or emergency situations, in which generators need to demonstrate performance). That dilutes the penalty fee, Bay contends, because PJM had a three-year average of 14 performance assessment hours from 2011 to 2014. In that time frame, only delivery year 2013-2014 reached 30 hours of power emergency.

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