



Coordination between the natural gas and electricity industries is increasingly critical, as the interdependence of the two energy sources continues to grow and extreme weather events become more common.

Natural gas has been the dominant fuel for generators in the PJM region since 2015 when it surpassed coal. Meanwhile, electricity generation is the largest consumer of natural gas in the U.S.

Polar Vortex Highlights Need for Coordination

PJM's focus on gas-electric coordination sharpened following the 2013/2014 Polar Vortex, during which the footprint experienced a stretch of extreme cold that resulted in certain gas-fired generators being unable to operate due to lack of fuel.

In 2014, PJM established a memorandum of understanding and confidentiality agreements with nine of the major pipelines that serve the system, allowing for the sharing of non-public operational information. PJM also created its Gas-Electric Coordination Team, which has been working to increase industry collaboration to improve operational awareness and preparedness in the event of gas supply disruptions.

This PJM team is focused on all facets of the natural gas supply chain, assessing any operational risk to the gas generation fleet within the PJM footprint. That supply chain begins with the producer, moves to interstate pipelines and local distribution companies, and ends with delivery to the generator, where it is turned into energy.

The team's coordination efforts have expanded to include collaborative efforts with interstate pipeline companies and local distribution companies' personnel conducting fuel-security studies, tabletop exercises and operational drills.

These relationships will become increasingly important moving forward as more intermittent generating resources come online, deepening the reliance on natural gas generation to help maintain grid reliability.

Aligning Industry Markets To Make Gas Procurement More Transparent

One of the issues PJM addressed early on was the misalignment of industry days. The gas day runs from 10 a.m. to 10 a.m. (Eastern), while the electric day goes from midnight to midnight (Eastern).

Generators must straddle two consecutive gas operating days to cover one electric operating day, thus complicating gas procurement for generation. To help mitigate this operational challenge, and at the direction of the Federal Energy Regulatory Commission, PJM in 2016 changed the timing of its Day-Ahead Market to better align with the natural gas pipelines' nomination timelines.

In 2021, PJM created the Electric Gas Coordination Senior Task Force to further investigate market and operational rules and evaluate proposals to mitigate impacts of misalignment between the electricity and natural gas markets.

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Key Facts

- The interdependence of the natural gas and electricity industries continues to grow, making coordination critical for reliability.
- Natural gas is the dominant fuel for generators in the PJM region, and electricity generation is the largest consumer of natural gas in the U.S.
- PJM's coordination efforts ramped up following the 2014 Polar Vortex, which revealed generator fuel supply risks.
- PJM created its Gas-Electric Coordination Team in 2014 to increase industry collaboration.
- The Electric Gas Coordination Senior Task Force was formed in 2021 to collaborate with stakeholders on ways to further improve performance and reliability.

