

News : PJM and its stakeholders address natural gas, power market misalignment

By Jared Anderson

Published on - Tue, 14 Mar 2023 17:15:51 EST

- Most recent example was over the Christmas holiday
- The power market should reflect **gas** prices

PJM Interconnection is working with stakeholders to address misalignments between power and natural **gas** markets as grid operators become increasingly dependent on **gas**-fired generation to balance the grid while **gas** pipelines are increasingly constrained, making it difficult to address variations in load and intermittent generation.

The most recent example of power and **gas** market misalignment occurred during the [2022 Christmas holiday weekend](#) when a brief cold snap rapidly increased power and **gas** demand causing price spikes for both commodities.

PJM requested Dec. 23 that the public in its region conserve **electricity** as demand was expected to increase with the onset of frigid weather. Temperatures across the **PJM** footprint plummeted to an average of 4.6 degrees Fahrenheit Dec. 23-24, according to CustomWeather data.

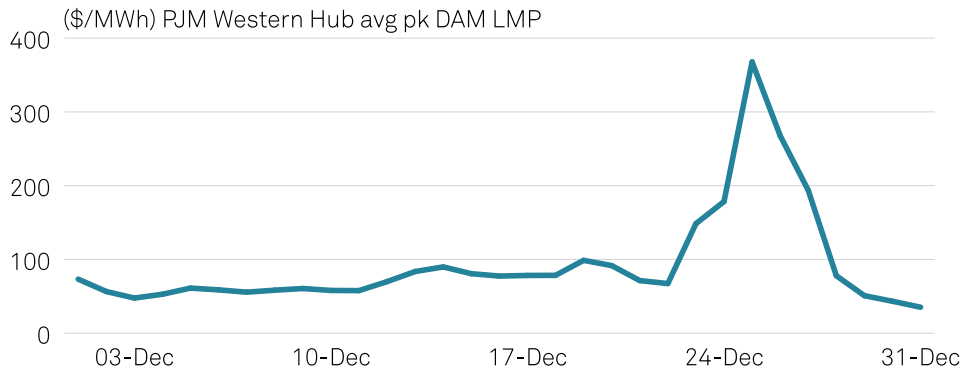
Higher demand around the holiday significantly pushed up **power prices**. The daily average on-peak real-time **power price** at the **PJM West Hub** was \$1,111.90/MWh Dec. 23 and \$646.12/MWh Dec. 24. Zonal **power prices** reached as high as around \$4,300/MWh Dec. 24, **PJM** said.

The average real-time on-peak **power price** at the hub Dec. 1-22 was \$67.37/MWh for comparison.

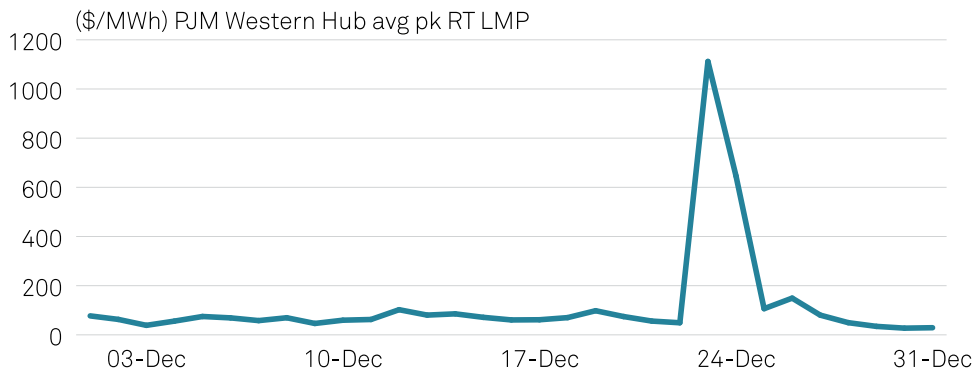
"Looking at peak demand and peak pricing periods highlights the power and **gas** market misalignment," Jim Davis, regulatory and market policy strategic advisor at **Dominion Energy**, said during a March 14 **PJM Electric Gas** Coordination Senior Task Force meeting that was held in person and remotely.

PJM December 2022 winter storm power pricing

PJM West Hub on-peak day-ahead power prices



PJM West Hub on-peak real-time power prices



Source: PJM

One example of this market misalignment is the structure of the multi-day weekend **gas** market versus day-ahead **electric** market pricing, according to **Dominion**'s presentation.

Dominion suggested there could be a need for increased communication between **gas** pipelines and power grid operators. Additionally, natural **gas** pipeline operational measures like flow rules, nomination deadlines, and Operational Flow Orders needed to balance the pipeline system should be reflected in power grid operator contingency planning and reserve margin calculations, the investor-owned utility's presentation said.

Price signals

On the evening of Dec. 23, generation outages reached 34.5 GW, and on the morning of Dec. 24 they reached 46 GW, or 23.2% of PJM’s total capacity, the grid operator has said.

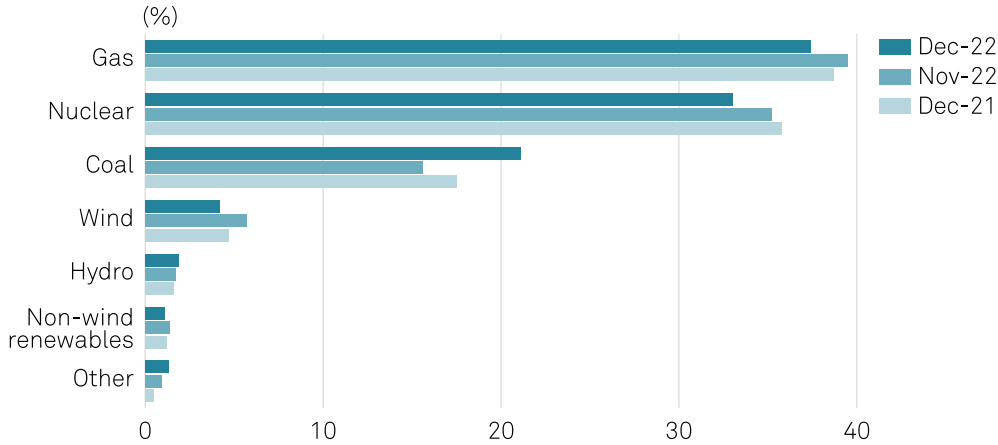
Roughly 22,600 MW, or 72%, of the gas-fired generation outages were from generators that were not committed by PJM in the day-ahead power market, Dominion’s presentation said.

“Based on the data, we suspect gas-fired generators were available, but the power market did not provide signals to buy gas needed to run through the weekend,” Davis said.

Gas prices around that time were trading just under \$60/Dt, which may not have been indicative in day-ahead power pricing, one stakeholder said.

Generators buying gas for power generation had to commit to four days of “pretty expensive” gas and they had a one-day price signal from PJM, another stakeholder said, adding that during these multi-day events, the gas market dictates that multiple days of gas need to be purchased and the power market is providing only a one-day commitment.

PJM power generation fuel mix comparison



Source: PJM

A PJM stakeholder confirmed that there is a gas trading structure that goes on beyond PJM’s day-ahead power market.

In terms of potential solutions, Davis suggested that maybe gas pipeline constraints could be factored into day-ahead power pricing.

Joe Bowring, president of Monitoring Analytics, PJM’s independent market monitor, said there are two problems: a lack of transparency when markets get tight and communication is most needed, and the lack of a day-ahead gas market over the weekend as exists with power.

Another stakeholder responded that every weekend and every gas market is different. When these extreme weather events occur, intraday opportunities to buy gas tend to dry up, the stakeholder said.

“Ideally, the power market would reflect gas market prices and we need to think about ways to make that happen so people are not buying gas at prices dramatically higher than the power price,” Bowring said.

For internal use only. Not for reproduction or further distribution. Platts’ standard terms and conditions apply to all use of this article/excerpt. Read Platts’ Terms & Conditions at <https://pmc.platts.com/Public/TermsConditions.aspx>.

© 2022 by S&P Global Inc. All rights reserved.

Please contact us to learn more about Platts products and services at +1-800-PLATTS-8 / 1-800-752-8878 (Toll-free in U.S. and Canada) or by email at support@platts.com