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Natural gas still rising in PJM power supply mix

ANALYSIS Coal-to-gas switching continued in the PJM Interconnection in August, as lower natural gas prices and higher coal prices caused gas-fired generation to set PJM Interconnection electricity prices more often than last August, recently released data show.

The average spot price for natural gas in August at the Texas Eastern M-3 hub was down about 30% to about $2.36/MMBtu, compared with $3.341/MMBtu in August 2013, Platts data show. In contrast, the equivalent price for Central Appalachian coal this August was up about 2.7% to about $2.756/MMBtu, compared with $2.683/MMBtu in August 2013.

As a result, PJM's gas-fired power was on the margin about 46% this August, compared with about 33% in August 2013, while PJM's coal-fired power was on the margin about 52% this August,

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PJM's new capacity product draws criticism

ANALYSIS Generators and demand response resources could be looking at significantly higher prices in the PJM Interconnection's next capacity auction, scheduled for May 2015, if PJM's new capacity performance product is put in place, but that may be a big "if."

The cold weather last winter raised alarms at PJM and the grid operator responded with a proposal for a new capacity performance product with stricter reliability requirements, such as firm fuel supplies or dual-fuel capability to guard against the generation outages PJM suffered in January during the Polar Vortex. The extreme weather resulted in outages at units with 40,200 MW of capacity, for a forced outage rate of 22%, far above PJM's historical average of 7%, PJM said after the event.

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New transmission, generation to affect NY prices

MARKETS Two projects, one transmission and one generation, being developed in New York will reduce grid congestion and could lower wholesale power costs in in the southeastern and western portions of the state.

Such an outcome is supported by state officials, but it could have negative implications for merchant generators, analysts at UBS Securities said Monday. While the new Lower Hudson Valley Zone and grid constraints have pushed up capacity prices in the New York Independent System Operator lately, with the generation and transmission additions in the works "we continue to see downside to NY capacity prices overall in our forecast," said Julien Dumoulin-Smith, executive director of equity research for utilities and merchant generators at UBS.

The higher prices around New York City could benefit NRG

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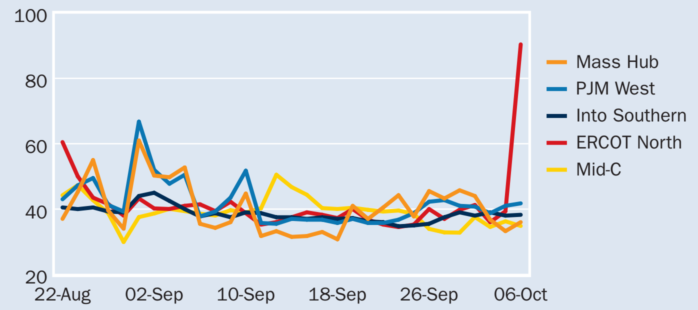
Price trends at key trading points ($/MWh)



Source: Platts

Low and high average day-ahead LMP for Oct 7 ($/MWh)

	On-peak low	On-peak high	Off-peak low	Off-peak high
ISONE	38.60	40.23	23.14	23.53
NYISO	9.70	49.73	9.63	26.09
PJM	37.13	50.98	23.38	30.56
MISO	28.57	49.78	21.38	29.79
ERCOT	87.42	155.60	28.51	29.08
SPP	37.89	50.01	18.49	27.66
CAISO	52.56	54.56	39.32	39.84

Note: Lows and highs for each ISO are for various hubs and zones. A full listing of average LMPs are availible for the hubs and zones inside this issue.

Day-ahead bilateral indexes and spark spreads for Oct 7

	Index	Marginal heat rate	Spark spreads @7k	@8k	@10k	@12k	@15k
Northeast							
Mass Hub	36.00	12255	15.44	12.50	6.63	0.75	-8.06
N.Y. Zone-A	42.25	16844	24.69	22.18	17.17	12.15	4.63
PJM/MISO							
PJM West	41.75	18139	25.64	23.34	18.73	14.13	7.23
Indiana Hub	39.50	10286	12.62	8.78	1.10	-6.58	-18.10
Southeast & Central							
Southern, Into	38.25	9974	11.41	7.57	-0.10	-7.77	-19.28
ERCOT, North	90.40	23837	63.85	60.06	52.48	44.89	33.51
West							
Mid-C	34.83	9628	9.51	5.89	-1.35	-8.58	-19.43
SP15	53.25	13447	25.53	21.57	13.65	5.73	-6.15

Note: All indexes are on-peak. Spark spreads are reported in ($) and Marginal heat rates in (Btu/kWh). A full listing of bilateral indexes and marginal heat rates are inside this issue.

Inside this Issue

Gordon Pickering, director of Navigant Consulting's North American oil and gas practice, said new environmental rules are likely to play a larger role in coal-to-gas switching in the longer term, as economics have been driving the switch primarily so far.

Switching is likely to peak in 2015 to 2016, but "will continue to some degree for years after that," Pickering said. Navigant projects that gas-fired electricity will supply 26% of US power in 2015, 39% in 2025 and 43% in 2030, he said. In contrast, Navigant expects coal's share to fall from 42% in 2015 to 26% in 2025 and 22% in 2030.

With the PJM footprint's historic links to coal production and burgeoning natural gas production, it will likely be "a real battleground" for the power market, he said.

Eric Smith, associate director of the Tulane Energy Institute in New Orleans, said pipeline capacity will continue to be a factor in coal-to-gas switching.

"Continued resistance to pipeline rights of way maintains congestion pricing issues, which suppress the price of Marcellus gas, resulting in cheap power for those lucky enough to be able to receive gas, but forces the unlucky ones to continue to use much higher priced oil, which has its own delivery problems to the Northeast," Smith said in an email.

PJM's electricity price numbers are consistent with slack summer demand, which the relatively mild summer temperatures would support. PJM does not report total electricity usage on a monthly basis, but the number of cooling degree days in August at Pittsburgh, which lies near the center of PJM's footprint, was 8.6% less than August 2013 and 16% less than normal, National Weather Service data show.

Nuclear units' share of all PJM electricity was 35.4% this August, compared with 35% in August 2013. Wind's share was 0.8% this August, compared with 0.7% in August 2013. Hydroelectric generators' share was 0.6% this August, compared with 0.7% in August 2013. Other sources' share was 1.1% this August, compared with 0.9% in August 2013.

Nuclear power set no prices this August, the same as in August 2013. Wind power set prices 0.8% of the time this August, compared with 2.2% in August 2013. Other sources, which includes oil and hydro, set prices 1.1% of this August, compared with 2.2% in August 2013.

— Mark Watson

New capacity product draws criticism ...from page 1

Analysts at Tudor Pickering Holt estimate that, excluding the impact of penalties, the new capacity product could add $55/MW-day to $110/MW-day to existing capacity prices.

The clearing price for PJM's most recent capacity auction, which set prices three years in the future, is $120/MW-day for the 2017-18 delivery year. For the upcoming 2015-16 delivery year, the clearing price is $136/MW-day.

PJM estimates that the capacity performance product could constitute 85% of the capacity market. That would appear to be good news for generators, but most of the comments generators filed with PJM find fault with the proposal.

Topaz Power Management called the proposed product "unnecessarily complex and unlikely to resolve the root cause of the January cold weather events."

On the other side of the equation, stakeholders representing load resources were also sharply critical of the new product.

In fact, PJM has encountered so much opposition through its stakeholder process that it is unlikely the proposal in its current form will survive. A source close to PJM said the grid operator is revamping its proposal and could "move in a different direction."

Two of the major concerns raised by stakeholders center around the penalties for non-performance and whether there would be a must-offer obligation attached to the capacity performance product.

Under PJM's August 20 proposal, capacity resources that are called upon and fail to deliver would be subject to a penalty equal to the megawatts not delivered multiplied by the locational marginal price for that period. The circumstances under which a capacity resource might be called upon to deliver are likely to be at a time of high demand, when prices are high, so penalties could quickly add up. PJM has proposed a cap on the penalties, but set the cap at 2.5 times the delivery year resource clearing price, meaning that penalties could add up to 250% of a capacity resource's yearly capacity revenues.

For many generators, the risk of wiping out their capacity revenues could be the difference between profit and loss. In its comments, Competitive Power Ventures, citing PJM's own example in which a 600-MW plant could be hit with penalties in excess of $100 million, said those charges "could easily place a supplier into financial jeopardy."

So while the proposed penalty would certainly create a strong incentive to perform, as several observers noted, it would also create a "perverse incentive" for economic withholding, which is where the must-offer issue comes in.

Incumbent generators already must offer into the capacity auction, but in its proposal, PJM said it is "an open question" whether there should be must-offer obligation for the capacity performance product. If the capacity performance product carries a must-offer obligation, it would greatly increase the risks for generators bidding into the capacity auction.

But if it is not must-offer, a generator would have an incentive to hedge the potential risk of non-performance by holding back some of the capacity from an eligible capacity performance resource.

As an alternative to PJM's proposal, Calpine and CPV suggested building in a capability that would allow an overperforming asset to offset underperforming assets. That would allow a generator to spread performance risks across its asset portfolio.

It also means smaller generators would have to bear the risk across a smaller base, which could lead to market concentration issues, as some load stakeholders pointed out in their comments to PJM.

And, as other stakeholders have pointed out, PJM's new capacity product could present challenges for developers of new power plants and could even push them toward bankruptcy.

There are nine new gas-fired, combined-cycle plants planned in PJM. To be eligible as a capacity performance product, they would have to either take on the additional cost of securing firm gas supplies or the cost of adding dual-fuel capability, typically done by adding a fuel oil-fired unit.

At the least, banks could be hesitant to finance a new project given the uncertainties introduced by the new capacity product. In that scenario, PJM's reforms would be "counterproductive" as Tudor Pickering Holt said.

In its comments, Monitoring Analytics, PJM independent market monitor, said "creating multiple products is the first step toward micromanaging the mix of capacity resources and attempting to substitute the judgment of the planner for market choices."

At this point, it appears the uncertainty and controversy that PJM's proposal has attracted makes it very likely the RTO will come out with a revised proposal.

In an interview, Joe Bowring, president of Monitoring Analytics, said PJM could present a new version of its plan as soon as Tuesday.

— Peter Maloney

New transmission, generation in NY

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Energy in the near term, but "we flag the potential for further transmission development" to reduce constraints in the Lower Hudson Valley zone in the future, including Transmission Developers' Champlain Hudson Power Express project, UBS said.

The revival of the Danskammer power plant, set to be available this winter, "will likely keep prices suppressed for quite some time," UBS added.

In a letter to NYISO, Andrew Davis, vice president of Danskammer Energy, said all of the units at the 530-MW plant should be online by the end of the year. The coal-, gas- and oil-fired plant has been out of service since it was damaged by Superstorm Sandy in 2012 and sold for scrap. Last year, the new owner, Helios Power Capital, asked for a reconsideration of the plant's retirement and the Public Service Commission approved a plan to revive the facility. Since then, the plant has has been sold to Mercuria Energy America.

The PSC, which challenged the Federal Energy Regulatory Commission approval of the new capacity zone, took up the issue on an emergency basis because it said approving the plant's revival would address the consequences of creating the Lower Hudson Valley zone and mitigate higher capacity prices in the region.

"It's a small plant, but it would have a big effect on prices," Paul Patterson, an analyst with Glenrock Associates said Friday in an interview.

Other generators and environmental groups contested bringing Danskammer back into service. The PSC mitigated some of the opposition to reviving the plant by limiting generation with coal to 900 hours/year and by approving the addition of gas-fired capacity that would eventually eliminate burning coal altogether.

In the northwest part of the state, Niagara Mohawk, a subsidiary of National Grid, intends to begin construction in early January on a critical transmission upgrade in a constrained area in western New York, the utility told the PSC late last week.

The $48 million project includes a new substation in Cattaraugus County, New York, two new 345-kV transmission loops that will connect the substation with National Grid's portion of a 200-mile, 345-kV line from Homer City, Pennsylvania, to Elma, New York. Four new 115-kV transmission lines will extend from the new substation to existing National Grid lines.

The project is one of the most critical of several planned by National Grid to address current and long-term energy needs in the region, the company said.

"The project will allow National Grid to upgrade and rebuild other facilities in the region and meet the new North American Electric Reliability Corp. bulk power requirements and provide the economic benefit of reducing dependence on generation" within the region and the need to use out-of-market contracts for power supplies, National Grid said. Reduced dependency on generation within the region removes grid constraints and is expected to result in more economic dispatch, the company said.

The expected shutdown of the Dunkirk plant made the situation worse, but even repowering Dunkirk does not solve the problem in the region, National Grid said. There is a cost to dispatching Dunkirk and once National Grid's substation and transmission lines are built, the cost will be eliminated, it told the PSC.

— Mary Powers

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