Needs for and Alternatives To (NFAT)

MMF Undertaking #147

Whitfield Russell Associates to provide a copy of the April 17, 2014, article from Megawatt Daily

Response:

Please see attached.

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Thursday, April 17, 2014

Opinions vary on Indiana Hub's trading drop

ANALYSIS

Once one of the nation's most liquid electricity trading hubs, Indiana Hub has had its same-day trading on the IntercontinentalExchange fall by almost half this winter, and industry observers have different opinions on why it has happened.

A Platts analysis of ICE trade data shows that on-peak balance-of-day MW volume for Indiana Hub for December 2013 through March was about 48% less than for the comparable period of December 2012 through March 2013.

Adjacent markets have seen no such decrease in trading. The AEP-Dayton Hub's on-peak balance-of-day MW volume jumped by about 40%, while the Northern Illinois Hub's volume more than doubled.

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Minnesota Power eyeing 500-kV power line

TRANSMISSION

Minnesota Power is seeking key permits from state and federal regulators for a 500-kV transmission project that would link Minnesota and Manitoba, Canada, the utility said Wednesday.

Minnesota Power filed a route permit application with the Minnesota Public Utilities Commission and applied for a presidential permit from the US Department of Energy to allow imports and exports of power at the US-Canadian border.

In October, Minnesota Power, an Allete subsidiary, filed a certificate of need application with the PUC for the project.

The Great Northern transmission project would allow

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Winter's price, generation impact seen in Wisconsin

GENERATION

The frigid winter and its upward push on power prices in the Midcontinent Independent System Operator region drove power costs significantly higher for Wisconsin Public Service, according to a new report from the utility.

Meanwhile, rising natural gas prices caused We Energies, which operates in Wisconsin and Michigan's Upper Peninsula, to increase its 2014 estimate for coal-fired generation as a percentage of its overall generation capacity, at the expense of gas-fired generation.

That revision comes on the heels of American Electric Power's recent confirmation that coal's anticipated share of its nearly

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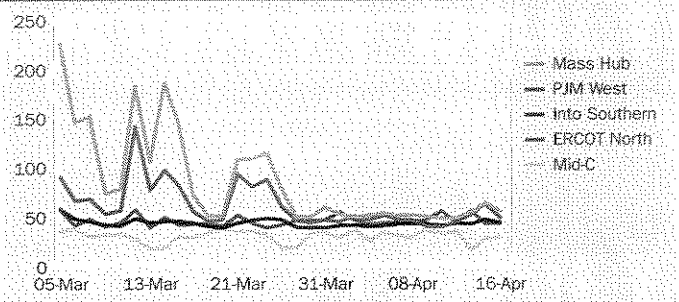
Holiday notice

Megawatt Daily will not publish Friday, April 18, because of the Good Friday holiday. Assessments of daily electricity markets based on trading Thursday, April 17, will be published in the April 21 issue. Flow dates for power traded Thursday vary among markets, and will be specified in published tables.

Price trends at key trading points ($/MWh)



Source: Platts

Low and high average day-ahead LMP for Apr 17 ($/MWh)

	On-peak low	On-peak high	Off-peak low	Off-peak high
ISONE	51.59	62.14	41.66	43.32
NYISO	42.64	67.93	37.44	46.80
PJM	32.71	53.00	29.13	44.42
MISO	40.16	51.39	18.89	46.82
ERCOT	40.61	53.29	26.33	29.20
SPP	46.69	48.90	23.44	28.97
CAISO	42.88	57.96	37.82	43.59

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

Day-ahead bilateral indexes and spark spreads for Apr 17

	Index	Marginal heat rate	Spark spreads @7k	@8k	@10k	@12k	@15k
Northeast							
Mass Hub	53.50	9776	15.19	9.72	-1.23	-12.17	-28.59
N.Y. Zone-A	43.00	9563	11.52	7.03	-1.97	-10.96	-24.45
PJM/MISO							
PJM West	47.00	10784	16.49	12.13	3.42	-5.30	-18.38
Indiana Hub	41.75	8969	9.17	4.51	-4.80	-14.11	-28.08
Southeast & Central							
Southern, Into	42.25	9235	10.23	5.65	-3.50	-12.65	-26.38
ERCOT, North	41.31	9190	9.85	5.35	-3.64	-12.63	-26.12
West							
Mid-C	25.89	5782	-5.45	-9.93	-18.89	-27.84	-41.27
SP15	50.25	10760	17.56	12.89	3.55	-5.79	-19.80

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

trades follow, Carson said.

"We've seen it before, that when prices would spike, trading would go way down," Carson said.

However, that would explain an overall decline in balance-of-day trading, but not why the drop was so pronounced at the Indiana Hub.

A Houston-based trader who asked to remain unidentified because he was not authorized to speak to the media offered a couple of ideas on why that happened. One theory is that wind generation is taking up a growing share of MISO's total supply, and "a lot of speculators don't like having to forecst that much wind." Instead, they may prefer to work in markets such as PJM, where wind makes up a much smaller share of total generation, the trader said.

However, Risquant's Carson discounted that idea, because MISO already tends to be a less volatile market than others, while wind is simply going to push prices into a lower, narrower band.

Another theory offered by the Houston trader is that as a number of banks have shut down or sold their power trading desks, and some may have been more concentrated in MISO, and as the Indiana Hub is MISO's most liquid hub, it would take the brunt of the decrease.

Technical difficulties at the Federal Energy Regulatory Commission have delayed its quarterly release of power trading data on which Megawatt Daily's Power Sales Analysis is based. That analysis breaks out physical power trading by company, independent system operator and hub.

In the most recent analysis, which covers the second quarter of 2013, three of the top 15 traders are banks that have sold or shut down their power trading desks: Barclays Bank, J.P. Morgan and Deutsche Bank.

"That could be a factor," Inertia Power's Kaiser said regarding that theory. He has noticed people who previously worked with banks "and these were big players – that now are looking for jobs with hedge funds or starting one," Kaiser said.

— *Mark Watson*

Minnesota Power eyeing 500-kV power line

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Manitoba Hydro to export at least 750 MW into the US starting in 2020. Minnesota Power, which would have majority ownership of the project, would use the transmission line to receive 250 MW from Manitoba Hydro through a power purchase agreement already approved by the PUC.

Some of Manitoba Hydro's exports are expected to come from two planned hydroelectric facilities: the 695-MW Keeyask and 1,485-MW Conawapa projects. Manitoba Hydro is seeking permission to build the Keeyask project.

Besides the PPA with Minnesota Power, Manitoba Hydro has a contract to sell 125 MW to Northern States Power-Minnesota from 2020 to 2025. In February, Manitoba Hydro inked a 108-MW deal with Wisconsin Public Service spanning 2016 to 2021. The utilitues already have a 100-MW deal in place that runs from 2022 through 2026. Manitoba Hydro also agreed to sell WPS 308 MW for power from the Conawapa dam starting in 2027.

Minnesota Power and Manitoba Hydro are finalizing an agreement under which Minnesota Power would buy additional energy and expand its energy storage opportunities by exporting excess energy to Manitoba Hydro and receiving it back when needed.

The transmission project would extend about 220 miles from the Canadian border to the Blackberry substation in Itasca County, Minnesota. Manitoba Hydro has sought permission to build related transmission from the Canadian border to the Dorsey substation in Manitoba.

Minnesota Power expects to start building the project in 2016 and bring it into service in 2019.

The utility expects the US part of the project to cost $500 million to $650 million, depending on the final route. Manitoba Hydro expects its portion of the project to cost about C$350 million (US$318 million).

The utility proposed two main routes for the project through northern Minnesota.

However, a group of Minnesota utilities is urging the PUC to consider an alternative to the Great Northern transmission project. Great River Energy, Missouri River Energy Services, NSP-Minnesota and Otter Tail Power want the PUC to more closely study an alternate project that would run to Manitoba along Minnesota's western border.

— *Ethan Howland*

Winter's price, generation impact in Wis.

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38,000 MW of generation capacity is expected to rise to 51%, from the earlier 46%, by 2020. Again, coal's gain is expected to translate into a loss for gas-fired generation.

John Guntlisbergen, manager of electric fuel cost recovery for Integrys Energy Group, the parent company of WPS, told the Wisconsin Public Service Commission the extremely cold winter "has resulted in a record drawdown of stored natural gas and prompted marked increases in natural gas prices" since last November.

Moreover, reduced coal deliveries stemming from weather-related effects on railroads, limited coal-fired generation throughout the upper Midwest, he said. As a result, "there has been a greater reliance on higher-cost generating units selling into the MISO market, which ultimately has increased the MISO market price for power, both on an actual and forecasted basis for 2014," he added.

For WPS, the difference is sizeable. The utility recently completed a forecast using actual MISO market prices and purchases and sales for January through March of this year, as well as forecasted MISO locational marginal prices and expected MISO purchase and sales for April through December of 2014.

Applying these updated prices to the forecasted MISO market purchases would result in an increase of $31.2 million compared with WPS' power price forecast of last September, according to Guntlisbergen.

Based on forecasts from March 14, "both natural gas prices and power market prices are forecasted to be significantly higher," he added.