

Market Rules Assessment Comparison of RTC & RTD - PJM

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Background – Purpose of Initiative

- ◆ In the 2007 State of the Market report, Dr. Patton indicates, “Prices between New York and adjacent markets have not been well-arbitraged.” The report also recommended the NYISO, “*evaluate potential improvements in its real-time commitment model (“RTC”) and the real-time dispatch model (“RTD”) to improve their consistency.*”
- ◆ Market Participants have indicated an interest in the efficiency of RTC’s forecast and scheduling at the external interfaces.
- ◆ Previous presentations have focused on differences between NE pricing and NY pricing.

PJM Drill Down

- ◆ Analysis was done for hours where NY and PJM's RT prices of the border were significantly different. The top 10 hours of positive spread divergence (NY prices where higher) and top 10 hours of negative spread divergence (PJM prices where higher), were analyzed.
- ◆ In 85% of these hour the cause of this divergence can be attributed to random and/or unforecastable events.
 - *4 of the 10 hours with negative spreads and 5 of the 10 hours with positive spreads, were linked to post RTC transaction cuts by control areas other than NY.*
 - *The remaining hours are spread rather evenly across Thunder Storm Alerts, Load forecast differences, and PJM's RT price spiked (causes not transparent to NYISO).*

PJM Top 10 Negative Spreads

Negative Price Spread – Uneconomic NYISO Imports								
Date	Hour	PJM	Total		Price Difference	Real-Time Prices		Notes
		Actual* Imports	Actual* Imports	RTC* Imports		New York	PJM	
9-12-07	HB2	992	1,839	1,842	-289.81	-266.85	22.96	System trip causes loss of load.
5-26-08	HB5	1,779	2,912	2,113	-276.96	-263.58	13.38	PJM cuts imports from NY at 4:40
9-30-07	HB5	1,892	2,512	2,133	-224.93	-194.72	30.21	Exports to NE cut at 4:35 by NE
5-31-08	HB18	1,401	2,966	2,966	-221.15	-7.12	214.03	TSA causes negative price in one interval;
9-26-07	HB15	-133	2,380	2,380	-220.56	103.10	323.66	PJM real-time prices higher than when bids were submitted. RTC prices were lower than contemporaneous PJM prices.
2-11-08	HB00	313	2,858	2,858	-218.19	-166.78	51.41	One negative price interval at top of hour from load forecast issues.
1-25-08	HB18	541	2,503	2,453	-207.33	108.37	315.70	PJM real-time prices much higher than when bids were submitted
9-16-07	HB2	2,031	2,940	2,530	-199.18	-182.09	17.09	Exports to NE cut at 1:40 by NE
9-18-07	HB0	2,000	3,242	2,745	-186.87	-161.06	25.81	Exports to HQ cut by HQ at 23:50
10-21-07	HB6	941	2,451	2,451	-175.65	-147.95	27.20	Load forecast issues

* Imports into NYISO are positive.

PJM Top 10 Positive Spreads

Positive Price Spread								
		PJM	Total					
Date	Hour	Actual Imports	Actual Imports	RTC Imports	Price Difference	New York	PJM	Notes
8-8-07	HB 12	-1,677	260	261	382.76	559.69	176.93	Cuts of transactions throughout hours by both PJM and NY.
	HB 13	-1,805	511	840	782.74	943.22	160.48	
	HB 14	-1,805	673	2,710	391.98	650.37	258.39	
	HB 15	-1,693	682	2,337	458.37	855.11	396.74	
	HB 20	-1,259	1,473	1,473	332.23	480.10	147.87	
10-8-07	HB 19	-649	1,506	1,272	950.34	1,137.64	187.3	Apparent load forecast issues
5-27-08	HB 16	1,301	2,596	2,571	542.46	623.50	81.04	TSA
	HB 17	1,476	2,414	2,414	734.36	849.70	115.34	
8-3-07	HB 15	-210	1,954	2,100	495.19	611.00	115.81	TSA
	HB 16	-521	1,813	1,812	603.61	775.93	172.32	

Where to Go

- ◆ Further identify causes of deviation in order to outline potential solutions to these causes.
- ◆ Multiple projects are currently underway to address the causes of differences outlined in this presentation.
 - *Load forecasting improvements to RTC (Software Ready in 4thQ 2009)*
 - *Scheduling and Pricing Phase 3 - Addressing top of the hour price volatility caused by ramp constraints. (4thQ 2009 Design Commitment)*
 - *Enhanced Scheduling with PJM. (4thQ 2009 Design Commitment)*
 - *Enhanced Scheduling with ISONE (2nd Q 2009 Implementation/Approval of Procedure)*
- ◆ Feedback on methods to further reduce divergences is welcome.



The New York Independent System Operator (NYISO) is a not-for-profit corporation that began operations in 1999. The NYISO operates New York's bulk electricity grid, administers the state's wholesale electricity markets, and provides comprehensive reliability planning for the state's bulk electricity system.

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