

Broader Regional Market Metrics (CTS)

**New York Independent
System Operator**

April 2016

April 2016 Broader Regional Markets Highlights (CTS)

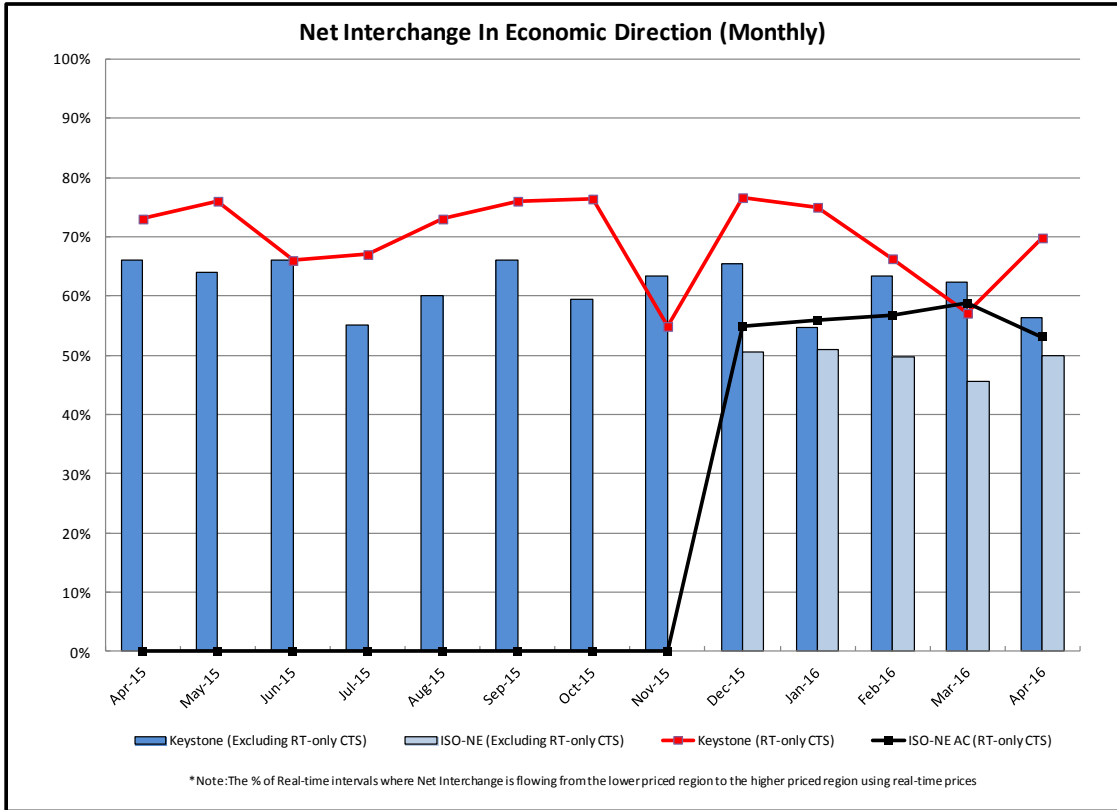
- PJM
 - At PJM Keystone, there was an average of 237 MWs¹ per hour of CTS offers, and an average of 24 MWs per hour of CTS schedules. The volume of CTS offers was consistent with March’s volume, however the average scheduled MWs per hour was 50% higher on average compared to March.
 - Interchange at PJM Keystone associated with CTS transactions scheduled only in real-time flowed in the economic direction in 69.8% of the real-time intervals, as compared to all other interchange at the interface which flowed in the economic direction in 56.4% of the real-time intervals.
 - There was \$0.09M in production cost savings associated with real-time transaction scheduling with PJM (\$0.09M forecasted savings at time schedules were set). Year-to-date, the NY production cost savings is \$.18M (\$.85M forecasted savings).

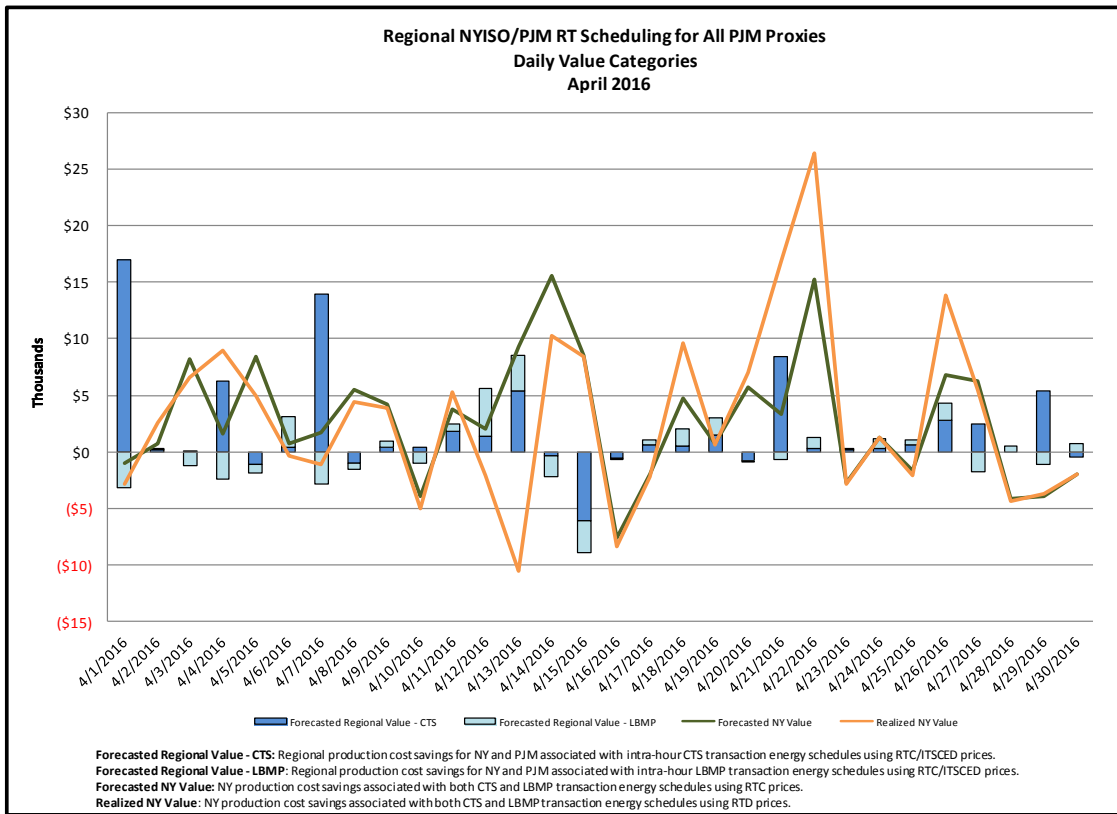
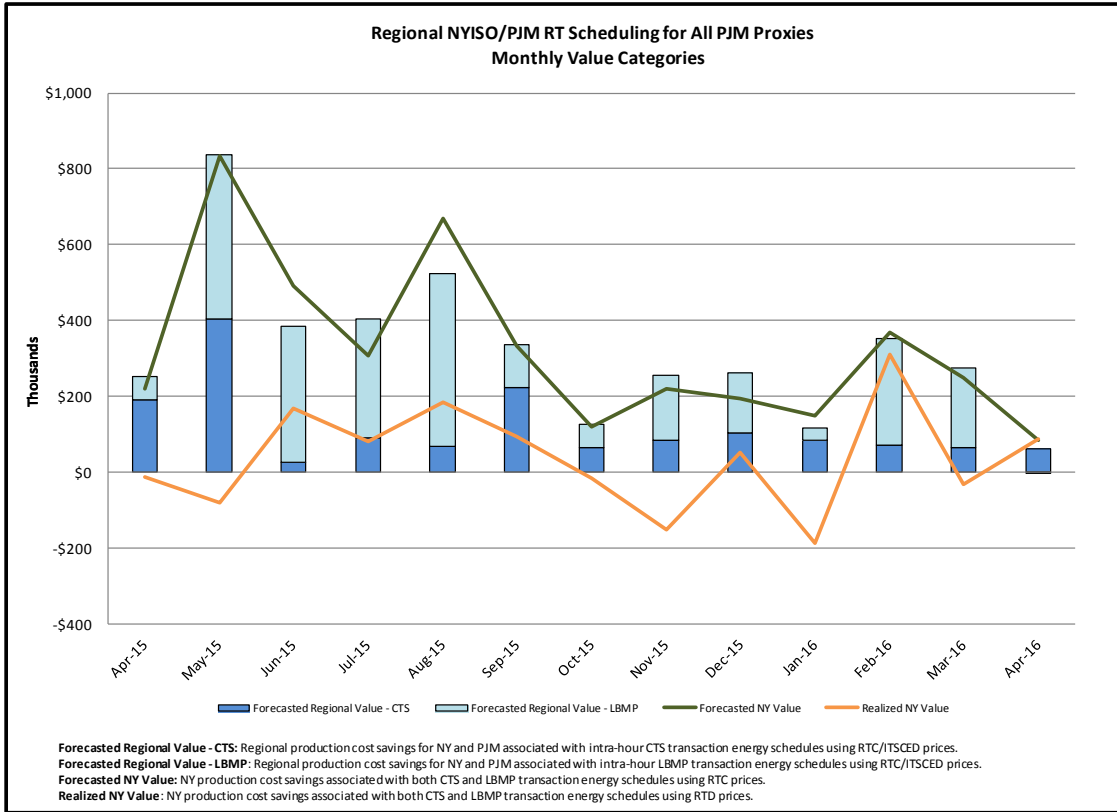
- ISO-NE
 - At NE Sandy Pond, there was an average of 2067 MWs¹ per hour of CTS offers, and an average of 1021 MWs per hour of CTS schedules. Both are slight increases from March.
 - Interchange at NE Sandy Pond associated with CTS transactions scheduled only in real-time flowed in the economic direction in 53.1% of the real-time intervals, as compared to all other interchange which flowed in the economic direction in 49.9% of the real-time intervals.
 - There was a \$0.14M production cost increase associated with real-time transaction scheduling with NE (\$0.07M forecasted increase at the time schedules were set). Year-to-date, there is a NY production cost increase of \$.8M (\$.4M forecasted increase).

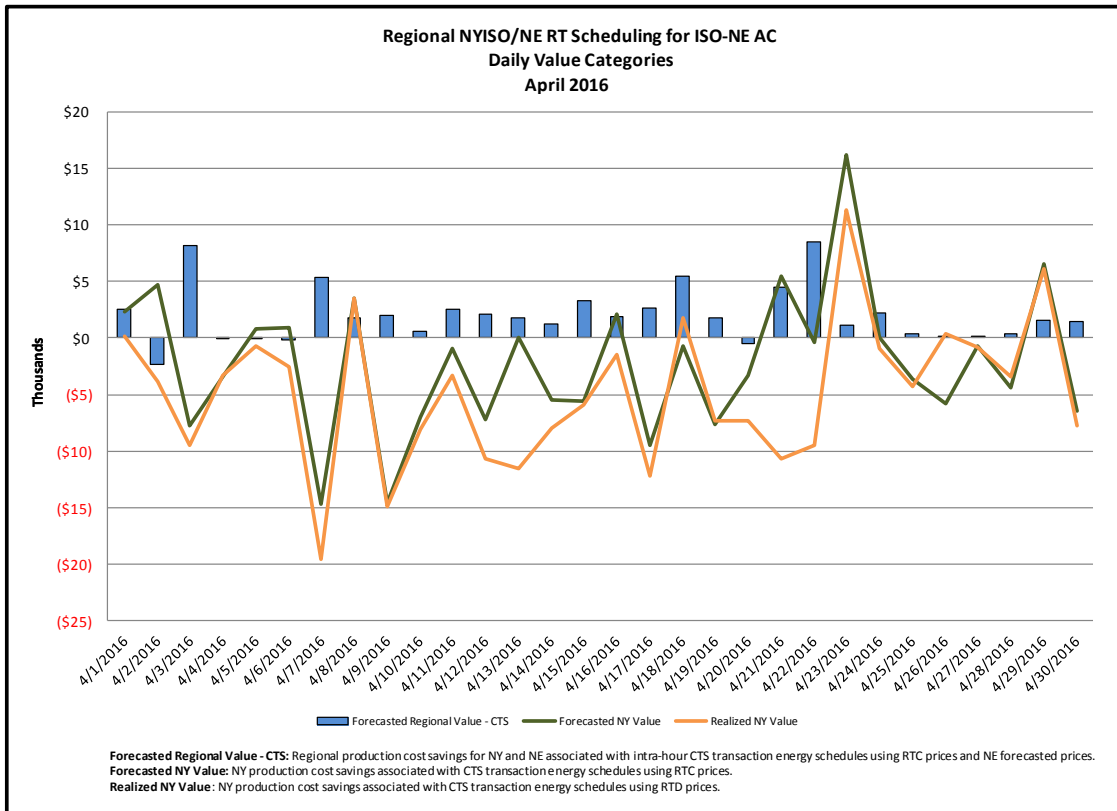
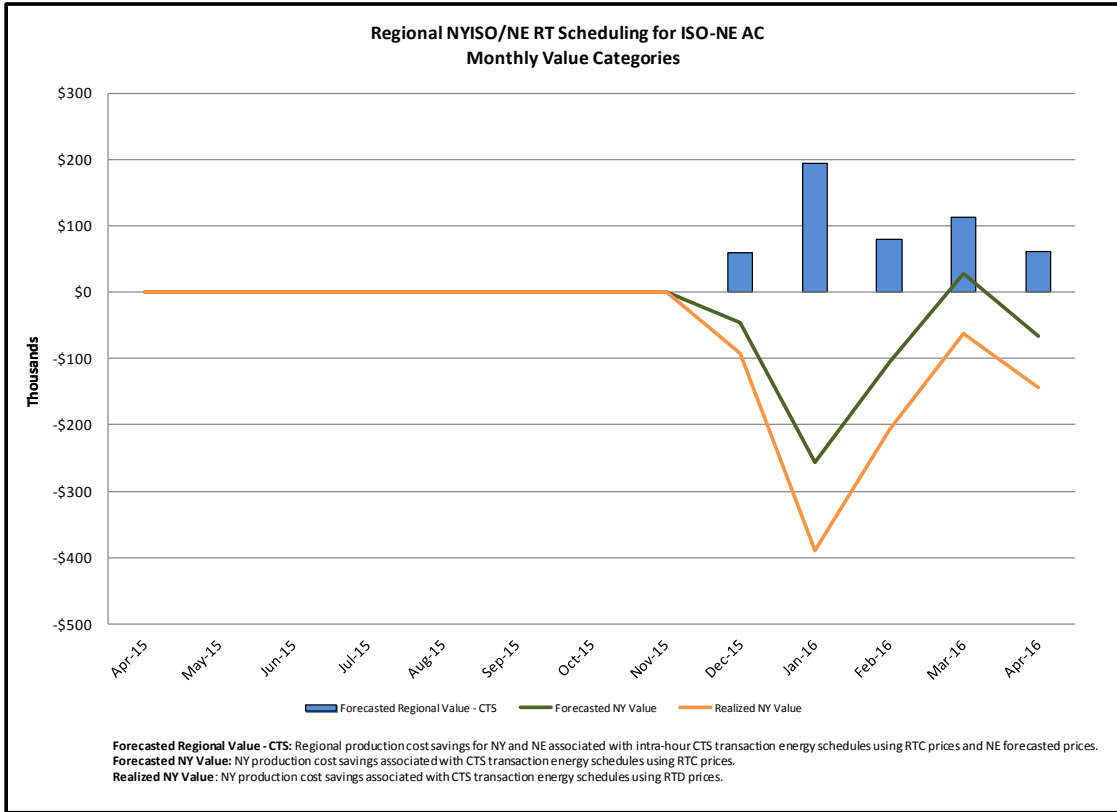
Pricing Data²

Interface	Max Forecasted Price Spread	Min Forecasted Price Spread	Forecasted Price Spreads minus Real-time Price Spreads					
			< \$-20	\$-20 to \$-10	\$-10 to \$0	\$0 to \$10	\$10 to \$20	> \$20
Keystone	\$213.28	(\$296.56)	6.3%	4.7%	44.6%	36.0%	3.7%	4.6%
HTP	\$473.35	(\$294.48)	6.6%	5.2%	43.2%	36.4%	4.2%	4.4%
NEPTUNE	\$227.87	(\$328.03)	6.2%	4.9%	43.4%	37.7%	4.6%	3.2%
VFT	\$228.48	(\$293.07)	7.6%	5.6%	43.1%	36.0%	4.0%	3.7%
Sandy Pond	\$53.01	(\$63.32)	8.7%	9.1%	41.4%	33.1%	5.2%	2.4%





1. All MW Values include the absolute sum of both imports + exports. Wheels have been excluded.
 2. “Forecasted Prices” refer to NYISO’s RTC LBMP and RTO’s LMP used in RTC. “Real-time Prices” refer to NYISO’s RTD LBMP and RTO’s Real-time LMP. Forecasted Prices are used during NYISO’s RTC evaluation to schedule transactions. Real-time Prices are used to settle transactions. Price Spreads are always calculated as NYISO’s LBMP minus RTO’s LMP.







Regional NYISO RT Scheduling

<u>Category</u>	<u>Description</u>
 Forecasted Regional Value - CTS	Forecasted regional production cost savings from the intra-hour (non-TOH) energy schedule changes ¹ on CTS bids (Intra-hour CTS Schedule Changes * [NY RTC LBMP – PJM or ISO-NE’s Forecasted LMP]).
 Forecasted Regional Value - LBMP	Forecasted regional production cost savings from the intra-hour (non-TOH) energy schedule changes ¹ on LBMP bids (Intra-hour LBMP Schedule Changes * [NY RTC LBMP - PJM or ISO-NE’s Forecasted LMP]).
 Forecasted NY Value	Forecasted NY production cost savings from the intra-hour (non-TOH) energy schedule changes ¹ on CTS and LBMP bids (Total Intra-hour CTS & LBMP Schedule Changes * NY RTC LBMP).
 Realized NY Value	Realized NY production cost savings from the intra-hour (non-TOH) energy schedule changes ¹ on CTS and LBMP bids (Total Intra-hour CTS & LBMP Schedule Changes * NY RTD LBMP).

¹ Note: Schedule changes associated with manual Operator actions such as curtailments and/or transaction derates, and that have a significant impact (either positive or negative) to the above metrics, are generally excluded.

