


# Market Operations Report

A faint background graphic shows a map of New York State overlaid with a network diagram. The network consists of various nodes (represented by small circles in blue, red, and green) connected by lines of the same colors. Some lines are solid, while others are dashed, suggesting different types of connections or data flows within the system.

**Rana Mukerji**

*Senior Vice President, Market Structures  
New York Independent System Operator*

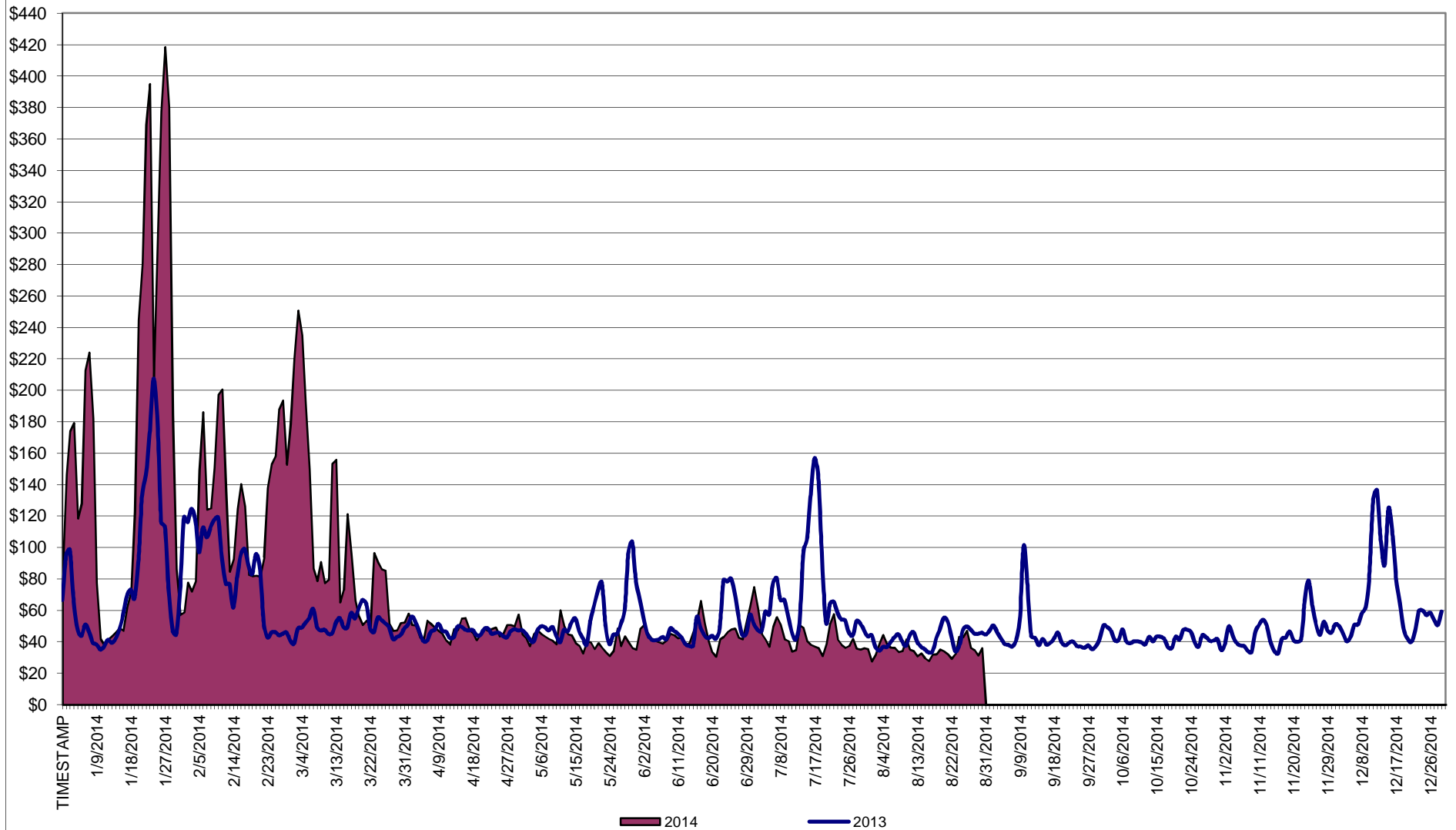
**Business Issues Committee Meeting**

*September 10, 2014*

# Market Performance Highlights for August 2014

- **LBMP for August is \$34.48/MWh; lower than the \$43.96/MWh in July 2014 and the \$40.81/MWh in August 2013.**
  - Day Ahead and Real Time Load Weighted LBMPs are lower compared to July.
- **August 2014 average year-to-date monthly cost of \$82.57/MWh is a 33% increase from \$62.27/MWh in August 2013.**
- **Average daily sendout is 470 GWh/day in August; lower than 496 GWh/day in July 2014 and lower than 485 GWh/day in August 2013.**
- **Natural gas prices were lower compared to the previous month and distillate prices were mixed compared to the previous month.**
  - Natural Gas (Transco Z6 NY) was \$2.42/MMBtu, down 9% from \$2.66/MMBtu in July.
  - Jet Kerosene Gulf Coast was \$21.03/MMBtu, up from \$20.87/MMBtu in July.
  - Ultra Low Sulfur No.2 Diesel NY Harbor was \$20.36/MMBtu, down from \$20.58/MMBtu in July.
- **Uplift per MWh is higher compared to the previous month.**
  - Uplift (not including NYISO cost of operations) is (\$0.19)/MWh; higher than (\$0.26)/MWh in July.
    - The Local Reliability Share is \$0.27/MWh, lower than \$0.29 in July.
    - The Statewide Share is (\$0.46)/MWh, higher than (\$0.55)/MWh in July.
  - TSA \$ per NYC MWh is \$0.00/MWh.
  - Total uplift costs (Schedule 1 components including NYISO Cost of Operations) are lower than July.

**Daily NYISO Average Cost/MWh (Energy & Ancillary Services)\***  
 2013 Annual Average \$59.13/MWh  
 August 2013 YTD Average \$62.27/MWh  
 August 2014 YTD Average \$82.57/MWh



\* Excludes ICAP payments.

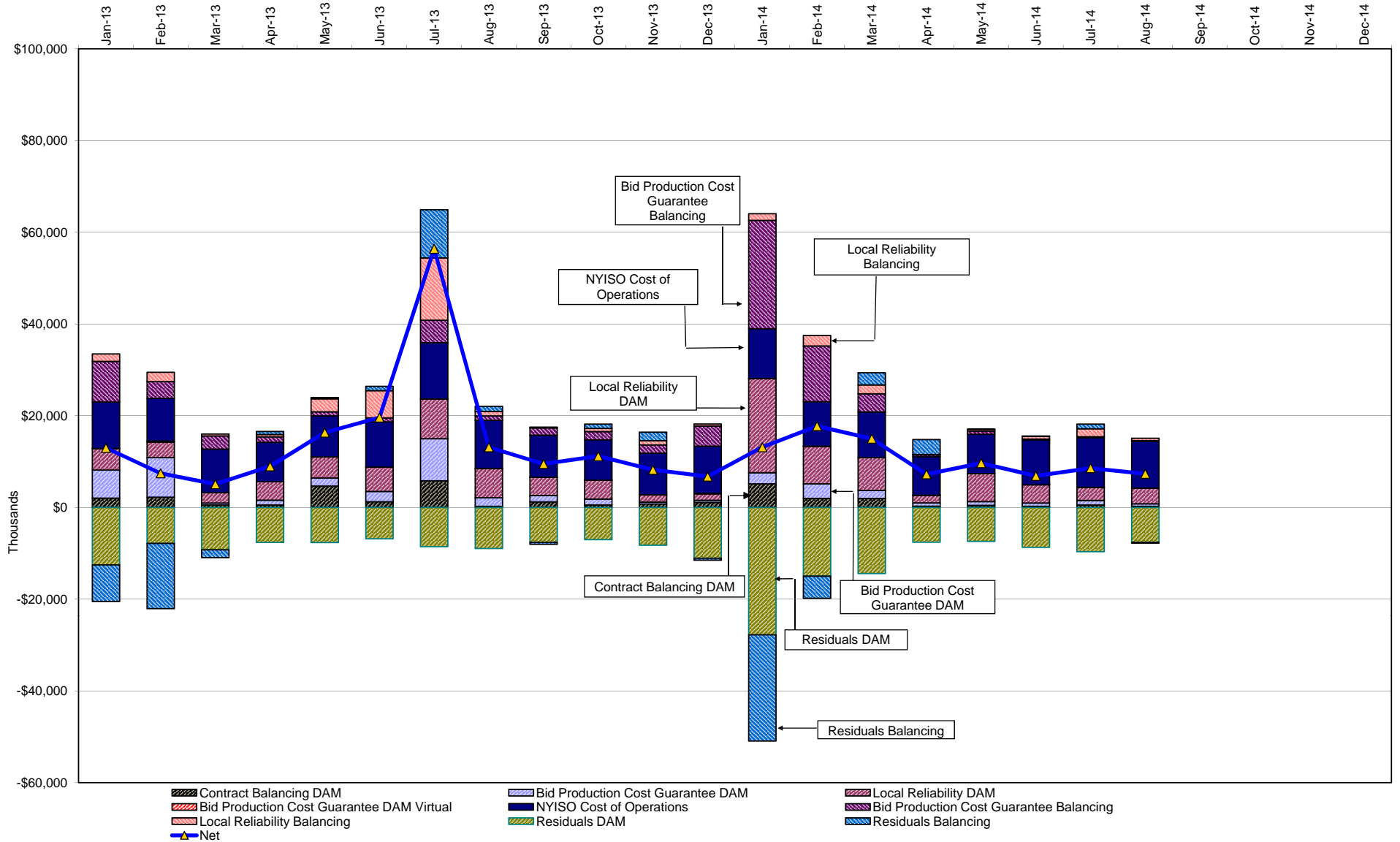
**NYISO Average Cost/MWh (Energy and Ancillary Services) \***  
**from the LBMP Customer point of view**

<b>2014</b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
LBMP	183.36	123.19	109.58	46.08	40.29	43.38	43.96	34.48				
NTAC	0.56	0.64	0.39	1.18	0.69	0.78	0.43	0.41				
Reserve	0.78	0.49	0.56	0.46	0.28	0.27	0.26	0.26				
Regulation	0.27	0.21	0.22	0.13	0.12	0.12	0.12	0.13				
NYISO Cost of Operations	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69				
Uplift	0.17	0.58	0.35	(0.09)	0.07	(0.21)	(0.26)	(0.19)				
Uplift: Local Reliability Share	1.43	0.75	0.63	0.15	0.51	0.32	0.29	0.27				
Uplift: Statewide Share	(1.26)	(0.17)	(0.27)	(0.24)	(0.44)	(0.53)	(0.55)	(0.46)				
Voltage Support and Black Start	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36				
<b>Avg Monthly Cost</b>	<b>186.18</b>	<b>126.16</b>	<b>112.15</b>	<b>48.82</b>	<b>42.50</b>	<b>45.38</b>	<b>45.56</b>	<b>36.14</b>				
Avg YTD Cost	186.18	157.91	142.76	121.95	108.33	97.81	89.43	82.57				
TSA \$ per NYC MWh	0.00	0.00	0.00	0.00	0.00	0.03	0.35	0.00				
<b>2013</b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
LBMP	79.77	85.76	48.94	44.47	52.21	50.17	68.49	40.81	44.24	39.85	43.30	66.41
NTAC	0.79	0.83	0.76	0.90	0.85	0.86	0.66	0.28	0.57	0.87	1.08	0.59
Reserve	0.38	0.44	0.43	0.36	0.49	0.34	0.50	0.32	0.38	0.42	0.38	0.44
Regulation	0.13	0.13	0.10	0.11	0.09	0.13	0.11	0.13	0.13	0.16	0.13	0.12
NYISO Cost of Operations	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Uplift	0.21	(0.15)	(0.33)	0.02	0.41	0.49	2.06	0.03	(0.05)	0.18	(0.07)	(0.25)
Uplift: Local Reliability Share	0.44	0.40	0.19	0.37	0.58	0.81	1.27	0.49	0.31	0.38	0.19	0.12
Uplift: Statewide Share	(0.23)	(0.55)	(0.52)	(0.35)	(0.17)	(0.31)	0.79	(0.46)	(0.36)	(0.19)	(0.25)	(0.37)
Voltage Support and Black Start	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
<b>Avg Monthly Cost</b>	<b>82.34</b>	<b>88.06</b>	<b>50.96</b>	<b>46.91</b>	<b>55.10</b>	<b>53.05</b>	<b>72.87</b>	<b>42.62</b>	<b>46.31</b>	<b>42.54</b>	<b>45.88</b>	<b>68.36</b>
Avg YTD Cost	82.34	85.08	74.02	67.80	65.46	63.36	65.10	62.27	60.74	59.30	58.24	59.13
TSA \$ per NYC MWh	0.00	0.00	0.00	0.04	0.58	0.61	1.52	0.43	0.22	0.01	0.00	0.00
<b>2012</b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
LBMP	44.00	32.45	28.98	28.31	34.68	47.37	63.80	46.24	39.59	39.30	50.16	44.67
NTAC	0.85	0.80	0.68	0.71	0.72	0.77	0.58	0.65	0.57	0.70	0.75	0.83
Reserve	0.35	0.25	0.38	0.32	0.13	0.36	0.36	0.22	0.23	0.29	0.40	0.26
Regulation	0.10	0.08	0.13	0.12	0.09	0.15	0.15	0.12	0.09	0.10	0.11	0.09
NYISO Cost of Operations	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Uplift	0.44	0.17	0.00	(0.18)	(0.11)	0.61	0.23	0.22	(0.33)	1.04	0.82	(0.11)
Uplift: Local Reliability Share	0.49	0.27	0.19	0.07	0.25	0.42	0.49	0.83	0.26	0.67	0.72	0.30
Uplift: Statewide Share	(0.05)	(0.10)	(0.19)	(0.25)	(0.36)	0.19	(0.26)	(0.61)	(0.59)	0.38	0.11	(0.41)
Voltage Support and Black Start	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
<b>Avg Monthly Cost</b>	<b>46.75</b>	<b>34.75</b>	<b>31.19</b>	<b>30.29</b>	<b>36.52</b>	<b>50.27</b>	<b>66.14</b>	<b>48.46</b>	<b>41.17</b>	<b>42.44</b>	<b>53.26</b>	<b>46.74</b>
Avg YTD Cost	46.75	41.12	37.96	36.09	36.18	38.89	44.26	44.91	44.51	44.33	45.14	45.28
TSA \$ per NYC MWh	0.00	0.00	0.00	0.00	1.52	0.45	0.85	0.46	0.59	0.00	0.00	0.00

\* Excludes ICAP payments.  
Market Mitigation and Analysis  
Prepared: 9/8/2014 1:18 PM

Data reflects true-ups thru Mar 2014.

## NYISO Dollar Flows - Uplift- OATT Schedule 1 components - Data through August 31, 2014



DAM Contract Balancing amounts are for payments made to generating units to make them whole for being dispatched below their Day-Ahead schedule, as a result of out-of-merit dispatches.  
 DAM Bid Production Cost Guarantees for Virtual Transactions are included in the chart and are shown from the inception of Virtual Transactions. These values are small and cannot be identified on the chart.  
 DAM residuals consist of both energy and loss revenue collections and payments. By design, there is a net over collection of revenues due to the difference between the marginal losses paid to generation and the average losses charged to loads.

## NYISO Markets Transactions

2014	January	February	March	April	May	June	July	August	September	October	November	December
<b>Day Ahead Market MWh</b>	16,034,264	14,409,515	14,633,570	12,101,747	12,984,458	14,719,929	16,528,338	15,536,610				
DAM LSE Internal LBMP Energy Sales	52%	50%	53%	56%	53%	54%	58%	57%				
DAM External TC LBMP Energy Sales	5%	7%	6%	3%	2%	3%	1%	0%				
DAM Bilateral - Internal Bilaterals	36%	36%	35%	33%	38%	36%	34%	35%				
DAM Bilateral - Import/Non-LBMP Market Bilaterals	5%	5%	5%	6%	5%	5%	4%	5%				
DAM Bilateral - Export/Non-LBMP Market Bilaterals	2%	1%	1%	2%	2%	1%	1%	1%				
DAM Bilateral - Wheel Through Bilaterals	1%	1%	1%	0%	1%	1%	1%	1%				
<b>Balancing Energy Market MWh</b>	-249,484	-298,340	-116,173	58,263	-503,552	-553,748	-848,037	-756,911				
Balancing Energy LSE Internal LBMP Energy Sales	-232%	-203%	-294%	-170%	-134%	-114%	-116%	-117%				
Balancing Energy External TC LBMP Energy Sales	105%	76%	97%	191%	22%	22%	18%	15%				
Balancing Energy Bilateral - Internal Bilaterals	20%	26%	69%	26%	3%	7%	4%	7%				
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	12%	0%	3%	0%	0%	0%				
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	11%	6%	25%	63%	5%	3%	2%	2%				
Balancing Energy Bilateral - Wheel Through Bilaterals	-4%	-6%	-10%	-11%	1%	-18%	-8%	-7%				
<b>Transactions Summary</b>												
LBMP	56%	56%	57%	59%	53%	55%	57%	55%				
Internal Bilaterals	37%	37%	36%	33%	39%	38%	36%	37%				
Import Bilaterals	5%	5%	5%	6%	5%	5%	5%	5%				
Export Bilaterals	2%	1%	2%	2%	2%	1%	1%	2%				
Wheels Through	1%	1%	1%	0%	1%	1%	1%	1%				
<b>Market Share of Total Load</b>												
Day Ahead Market	101.6%	102.1%	100.8%	99.5%	104.0%	103.9%	105.4%	105.1%				
Balancing Energy +	-1.6%	-2.1%	-0.8%	0.5%	-4.0%	-3.9%	-5.4%	-5.1%				
Total MWh	15,784,780	14,111,175	14,517,397	12,160,010	12,480,906	14,166,181	15,680,301	14,779,699				
Average Daily Energy Sendout/Month GWh	475	460	440	390	391	456	496	470				

2013	January	February	March	April	May	June	July	August	September	October	November	December
<b>Day Ahead Market MWh</b>	15,140,096	14,116,189	14,250,091	12,963,905	13,451,310	14,872,971	17,974,314	16,090,437	14,021,472	13,411,499	13,692,854	15,406,816
DAM LSE Internal LBMP Energy Sales	56%	55%	56%	57%	56%	57%	59%	57%	55%	51%	52%	52%
DAM External TC LBMP Energy Sales	4%	6%	3%	3%	1%	1%	1%	0%	0%	0%	3%	6%
DAM Bilateral - Internal Bilaterals	38%	37%	38%	37%	37%	36%	33%	36%	38%	41%	40%	36%
DAM Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	0%	0%	3%	4%	5%	5%	4%	5%	4%	4%
DAM Bilateral - Export/Non-LBMP Market Bilaterals	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	1%
DAM Bilateral - Wheel Through Bilaterals	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
<b>Balancing Energy Market MWh</b>	-471,167	-648,574	-501,253	-525,278	-501,948	-669,315	-294,946	-915,232	-759,051	-694,291	-579,298	-531,521
Balancing Energy LSE Internal LBMP Energy Sales	-131%	-117%	-127%	-123%	-133%	-115%	-189%	-113%	-120%	-122%	-134%	-130%
Balancing Energy External TC LBMP Energy Sales	33%	20%	23%	21%	35%	16%	78%	9%	11%	13%	23%	16%
Balancing Energy Bilateral - Internal Bilaterals	4%	10%	11%	3%	5%	4%	11%	3%	6%	5%	4%	13%
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	0%	0%	0%	1%	4%	0%	0%	0%	0%	0%
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	5%	3%	4%	5%	4%	2%	3%	1%	2%	3%	7%	5%
Balancing Energy Bilateral - Wheel Through Bilaterals	-11%	-16%	-11%	-6%	-11%	-9%	-7%	0%	1%	0%	1%	-4%
<b>Transactions Summary</b>												
LBMP	59%	59%	58%	59%	55%	56%	59%	54%	53%	49%	52%	56%
Internal Bilaterals	39%	39%	40%	39%	39%	38%	34%	39%	41%	43%	41%	38%
Import Bilaterals	0%	0%	0%	0%	4%	4%	5%	5%	4%	6%	4%	4%
Export Bilaterals	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%	2%
Wheels Through	1%	0%	1%	1%	0%	1%	1%	1%	1%	1%	1%	1%
<b>Market Share of Total Load</b>												
Day Ahead Market	103.2%	104.8%	103.6%	104.2%	103.9%	104.7%	101.7%	106.0%	105.7%	105.5%	104.4%	103.6%
Balancing Energy +	-3.2%	-4.8%	-3.6%	-4.2%	-3.9%	-4.7%	-1.7%	-6.0%	-5.7%	-5.5%	-4.4%	-3.6%
Total MWh	14,668,929	13,467,615	13,748,838	12,438,627	12,949,362	14,203,656	17,679,368	15,175,205	13,262,421	12,717,208	13,113,556	14,875,295
Average Daily Energy Sendout/Month GWh	453	453	429	398	407	469	561	485	438	407	421	450

+ Balancing Energy: Load(MW) purchased at Real Time LBMP.

\* The signs for the detail section intuitively reflect the direction of power flow eliminating the use of double negatives when Balancing Energy is negative.

Notes: Percent totals may not equal 100% due to rounding.  
Virtual Transactions are not reflected in this chart.

### NYISO Markets 2014 Energy Statistics

	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>DAY AHEAD LBMP</u></b>												
Price *	\$155.11	\$110.69	\$97.07	\$44.16	\$36.61	\$39.17	\$38.82	\$31.78				
Standard Deviation	\$121.52	\$50.86	\$59.89	\$8.90	\$10.99	\$12.29	\$15.56	\$9.90				
Load Weighted Price **	\$164.06	\$114.77	\$100.81	\$45.19	\$38.05	\$41.14	\$41.18	\$33.28				
<b><u>RTC LBMP</u></b>												
Price *	\$138.41	\$110.71	\$94.71	\$44.00	\$33.16	\$37.34	\$35.32	\$31.74				
Standard Deviation	\$125.42	\$72.22	\$97.72	\$27.44	\$17.51	\$25.39	\$24.90	\$23.34				
Load Weighted Price **	\$147.06	\$115.31	\$98.80	\$45.48	\$34.63	\$39.64	\$37.85	\$33.48				
<b><u>REAL TIME LBMP</u></b>												
Price *	\$137.90	\$111.51	\$93.37	\$42.79	\$34.06	\$38.23	\$35.97	\$31.21				
Standard Deviation	\$122.32	\$70.35	\$89.05	\$19.38	\$17.15	\$23.33	\$27.27	\$18.18				
Load Weighted Price **	\$147.77	\$115.80	\$97.58	\$43.97	\$35.46	\$40.71	\$39.00	\$33.13				
Average Daily Energy Sendout/Month GWh	475	460	440	390	391	456	496	470				

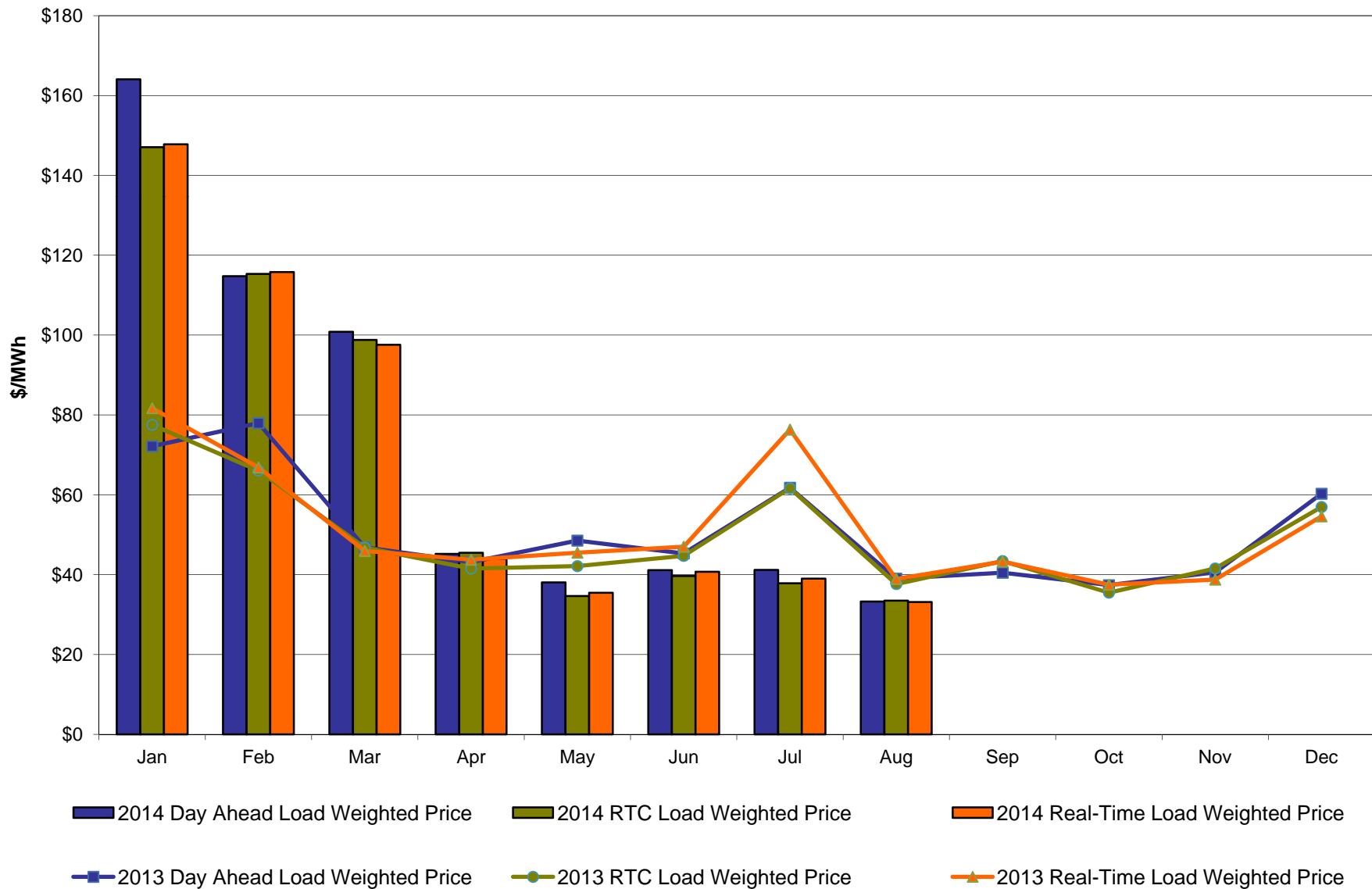
### NYISO Markets 2013 Energy Statistics

	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>DAY AHEAD LBMP</u></b>												
Price *	\$69.17	\$75.82	\$45.97	\$42.21	\$45.87	\$42.66	\$56.90	\$37.19	\$38.32	\$36.15	\$39.18	\$57.72
Standard Deviation	\$47.21	\$29.98	\$9.40	\$7.84	\$18.77	\$17.98	\$37.12	\$11.85	\$15.21	\$9.15	\$13.56	\$28.61
Load Weighted Price **	\$72.17	\$77.95	\$46.85	\$43.13	\$48.52	\$45.32	\$61.77	\$39.00	\$40.47	\$37.37	\$40.58	\$60.27
<b><u>RTC LBMP</u></b>												
Price *	\$73.69	\$64.15	\$45.75	\$40.50	\$39.51	\$42.00	\$55.41	\$35.90	\$39.06	\$34.08	\$39.57	\$54.53
Standard Deviation	\$88.27	\$36.96	\$22.62	\$14.79	\$24.44	\$30.96	\$58.54	\$18.35	\$60.70	\$17.38	\$30.77	\$41.66
Load Weighted Price **	\$77.52	\$66.07	\$46.79	\$41.52	\$42.14	\$44.70	\$61.64	\$37.65	\$43.41	\$35.49	\$41.56	\$56.95
<b><u>REAL TIME LBMP</u></b>												
Price *	\$76.47	\$64.87	\$45.01	\$42.74	\$42.32	\$43.93	\$65.57	\$37.03	\$39.02	\$36.02	\$37.28	\$52.49
Standard Deviation	\$83.80	\$38.96	\$16.27	\$15.96	\$26.99	\$34.72	\$89.92	\$20.11	\$36.85	\$19.07	\$25.69	\$34.01
Load Weighted Price **	\$81.71	\$66.83	\$45.94	\$43.73	\$45.50	\$47.00	\$76.32	\$38.92	\$43.28	\$37.47	\$38.75	\$54.60
Average Daily Energy Sendout/Month GWh	453	453	429	398	407	469	561	485	438	407	421	450

\* Average zonal load weighted prices.

\*\* Average zonal load weighted prices, load weighted in each hour.

### NYISO Monthly Average Internal LBMPs 2013- 2014



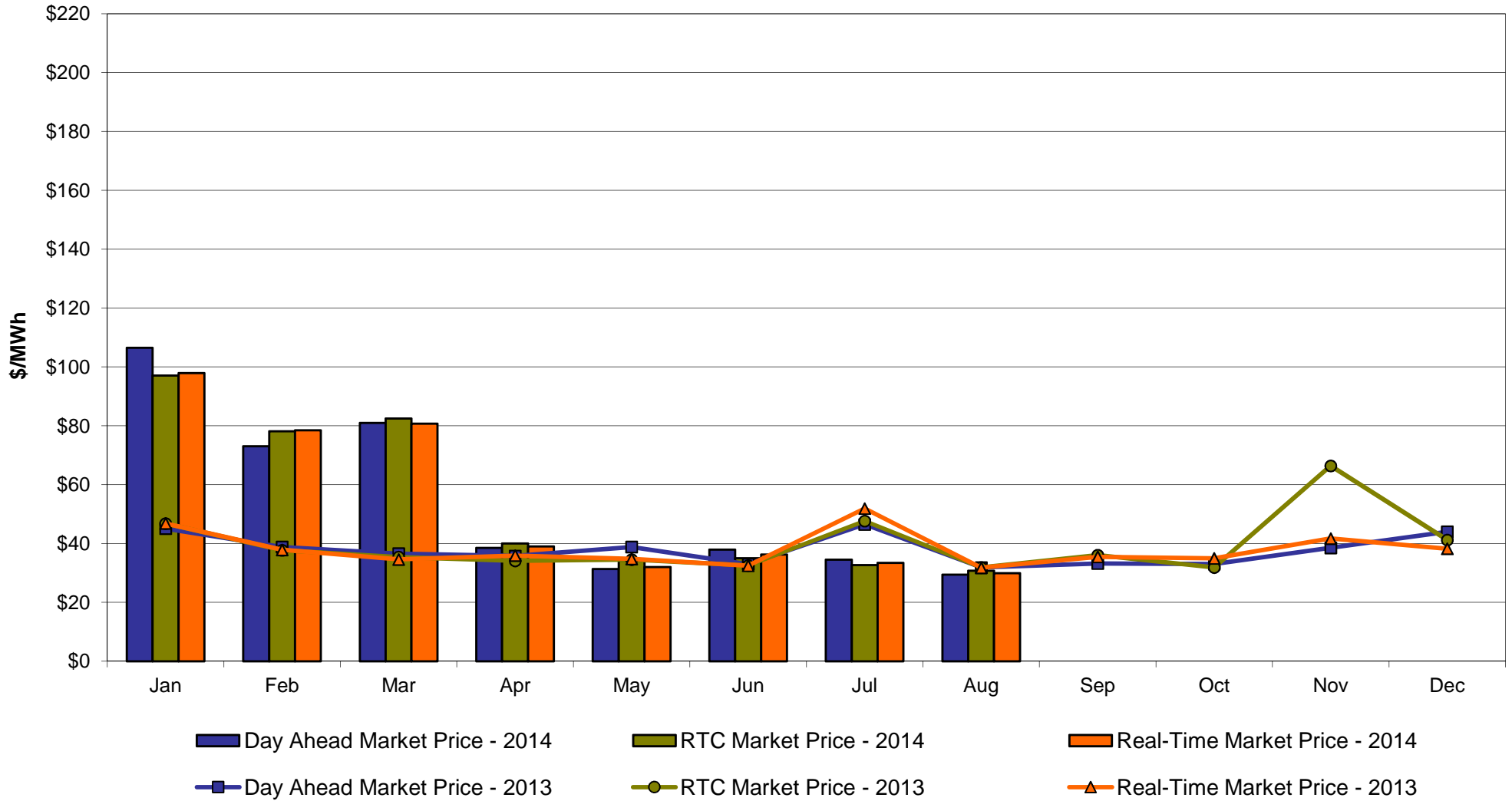


**August 2014 Zonal LBMP Statistics for NYISO (\$/MWh)**

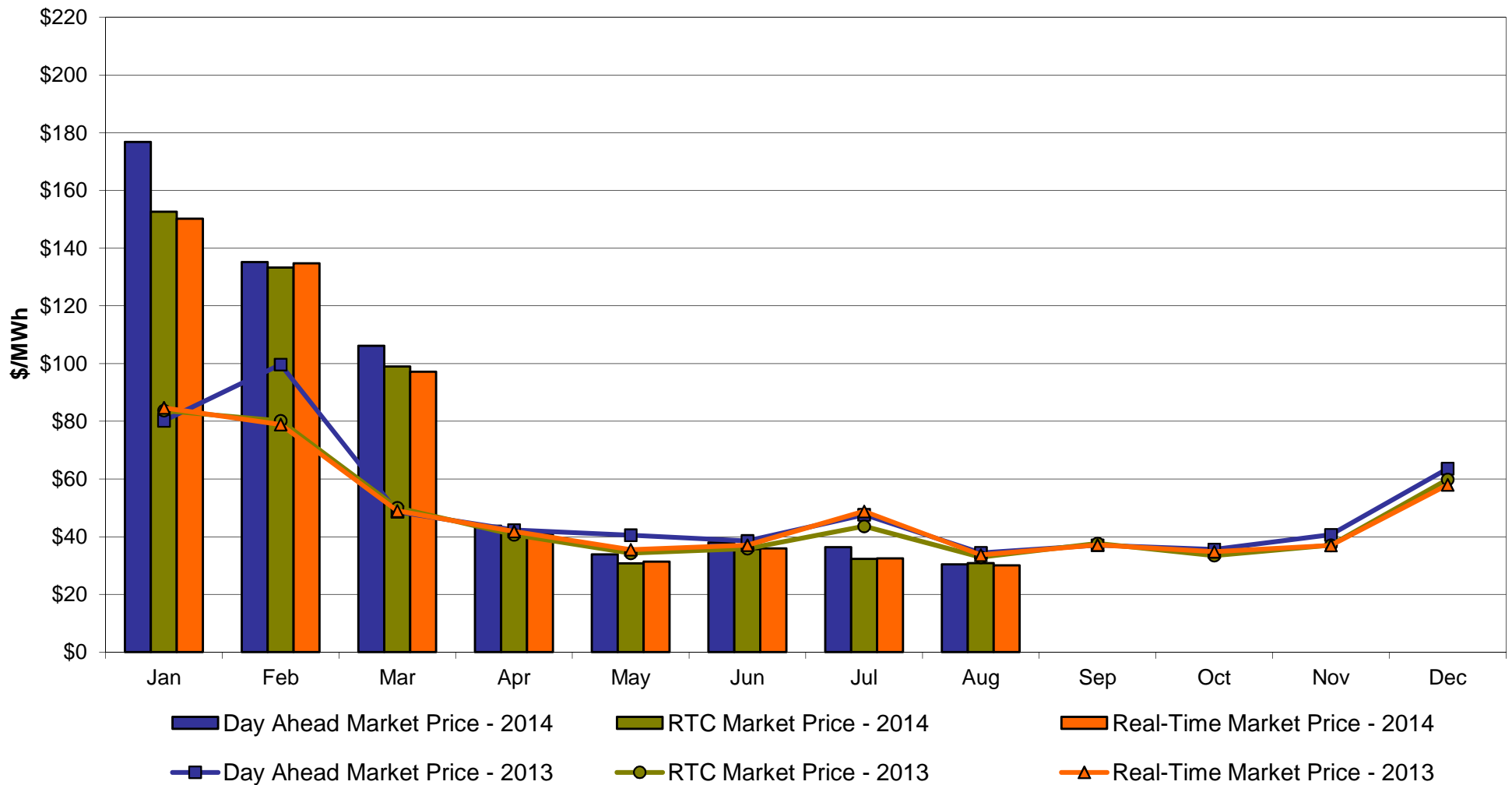
	<u>WEST Zone A</u>	<u>GENESEE Zone B</u>	<u>NORTH Zone D</u>	<u>CENTRAL Zone C</u>	<u>MOHAWK VALLEY Zone E</u>	<u>CAPITAL Zone F</u>	<u>HUDSON VALLEY Zone G</u>	<u>MILLWOOD Zone H</u>	<u>DUNWOODIE Zone I</u>	<u>NEW YORK CITY Zone J</u>	<u>LONG ISLAND Zone K</u>
<b>DAY AHEAD LBMP</b>											
Unweighted Price *	29.38	28.60	27.27	29.40	29.60	30.45	31.73	31.85	31.82	32.10	37.00
Standard Deviation	9.34	8.14	7.69	8.56	8.63	8.86	9.50	9.57	9.53	9.56	14.94
<b>RTC LBMP</b>											
Unweighted Price *	30.71	29.07	27.79	29.90	30.19	30.86	31.92	31.97	31.92	32.25	34.64
Standard Deviation	38.35	20.15	18.47	21.72	21.19	21.58	22.31	22.34	22.27	22.33	31.10
<b>REAL TIME LBMP</b>											
Unweighted Price *	29.93	28.32	27.42	29.16	29.44	30.11	31.15	31.19	31.14	32.04	33.97
Standard Deviation	30.90	14.77	14.76	16.45	15.91	16.26	16.87	16.89	16.82	17.89	27.34
	<u>ONTARIO IESO Zone O</u>	<u>HYDRO QUEBEC (Wheel) Zone M</u>	<u>HYDRO QUEBEC (Import/Export) Zone M</u>	<u>PJM Zone P</u>	<u>NEW ENGLAND Zone N</u>	<u>CROSS SOUND CABLE Controllable Line</u>	<u>NORTHPORT- NORWALK Controllable Line</u>	<u>NEPTUNE Controllable Line</u>	<u>LINDEN VFT Controllable Line</u>	<u>HUDSON Controllable Line</u>	<u>Dennison Controllable Line</u>
<b>DAY AHEAD LBMP</b>											
Unweighted Price *	27.73	27.74	27.74	30.47	30.90	36.49	33.70	35.90	31.55	31.99	26.81
Standard Deviation	7.54	7.91	7.91	9.01	9.05	14.93	10.58	14.56	8.71	9.56	7.45
<b>RTC LBMP</b>											
Unweighted Price *	25.65	25.56	25.56	28.40	28.84	31.40	30.52	31.18	29.62	29.74	25.45
Standard Deviation	15.83	16.52	16.52	17.62	17.67	26.24	23.44	26.18	18.15	18.22	15.98
<b>REAL TIME LBMP</b>											
Unweighted Price *	27.01	26.76	26.74	30.12	30.39	33.37	31.94	33.20	31.13	31.25	26.53
Standard Deviation	13.04	14.60	14.61	18.11	16.33	27.25	24.34	27.07	16.70	16.86	14.42

\* Straight LBMP averages

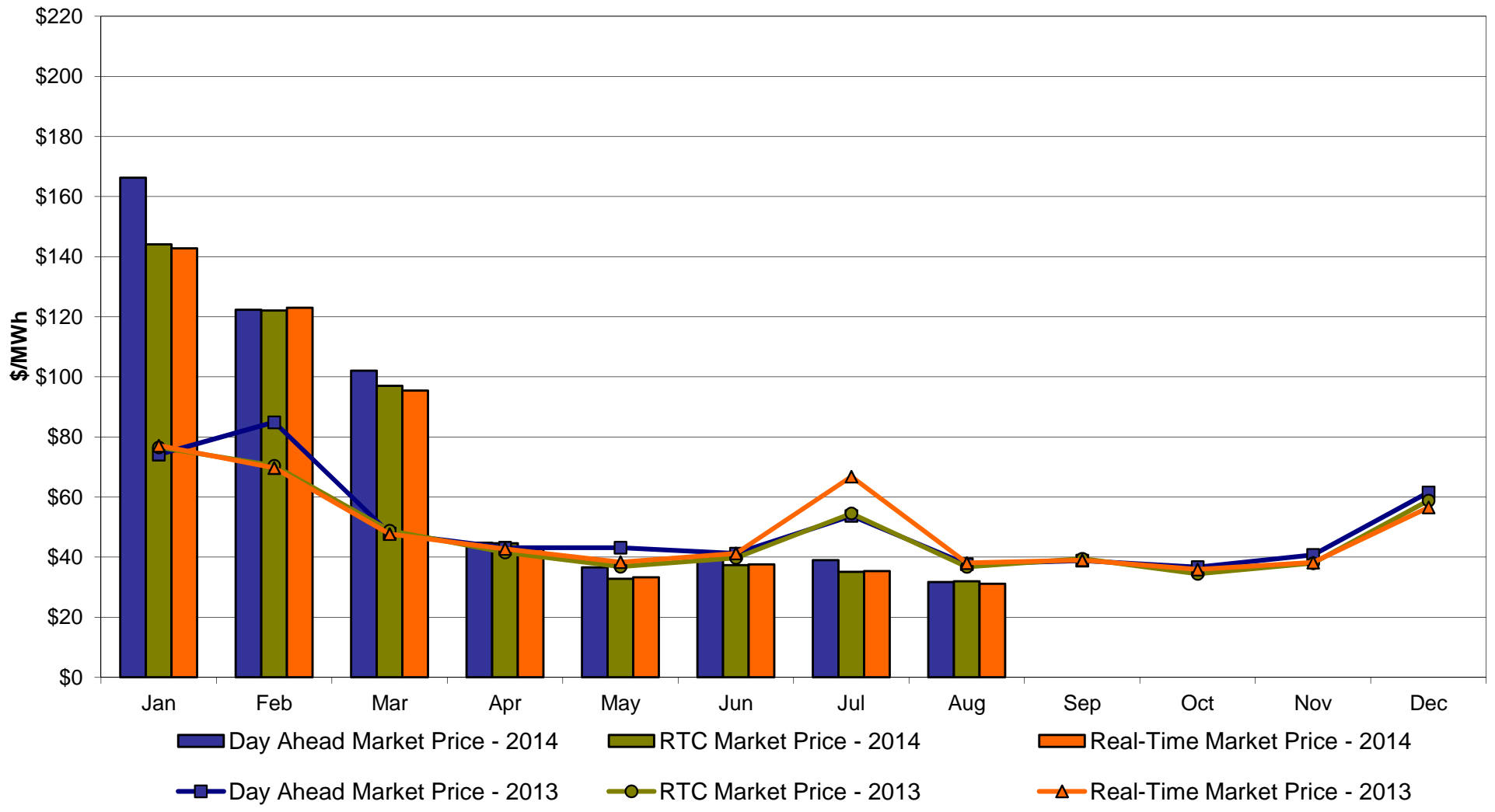
**West Zone A  
Monthly Average LBMP Prices 2013 - 2014**



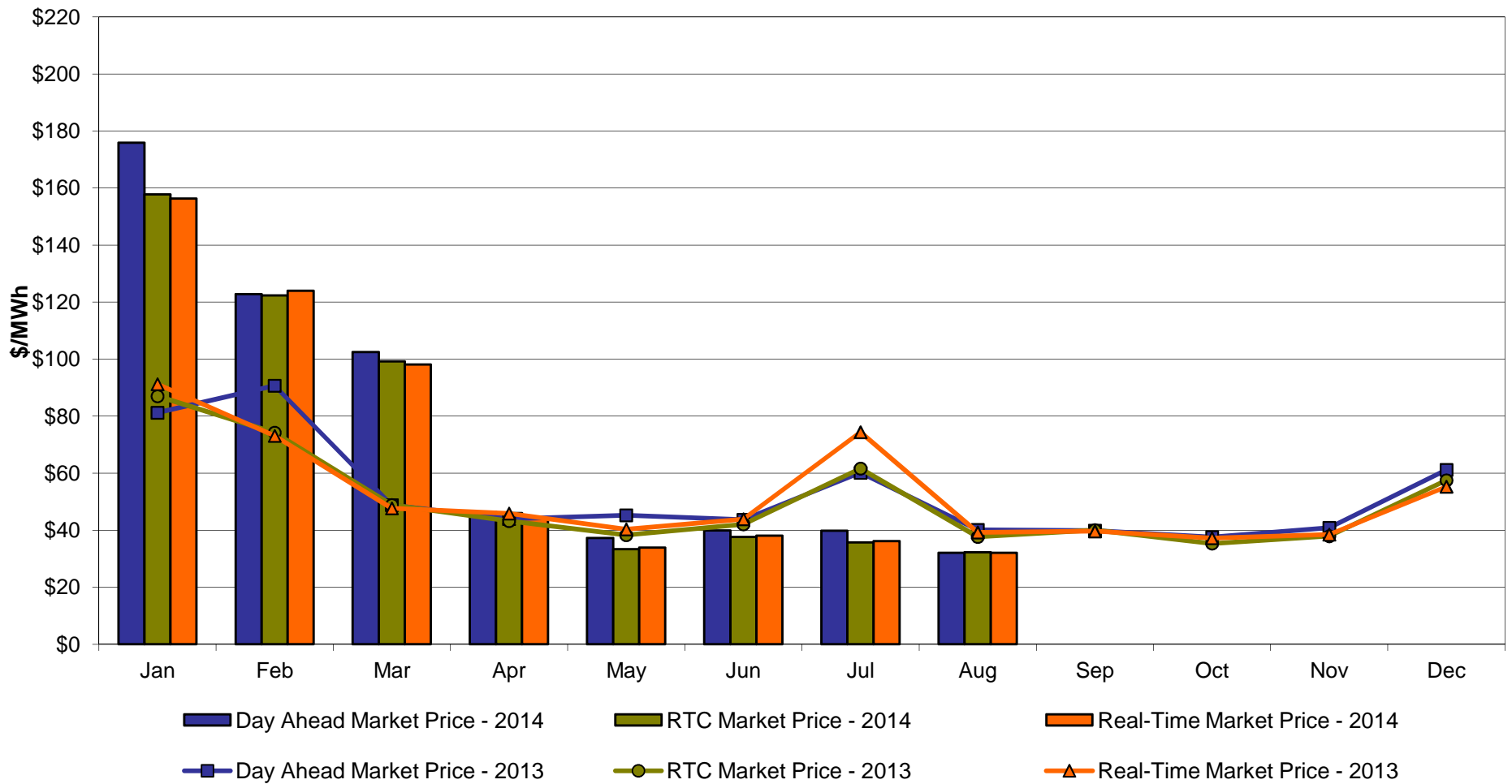
## Capital Zone F Monthly Average LBMP Prices 2013 - 2014



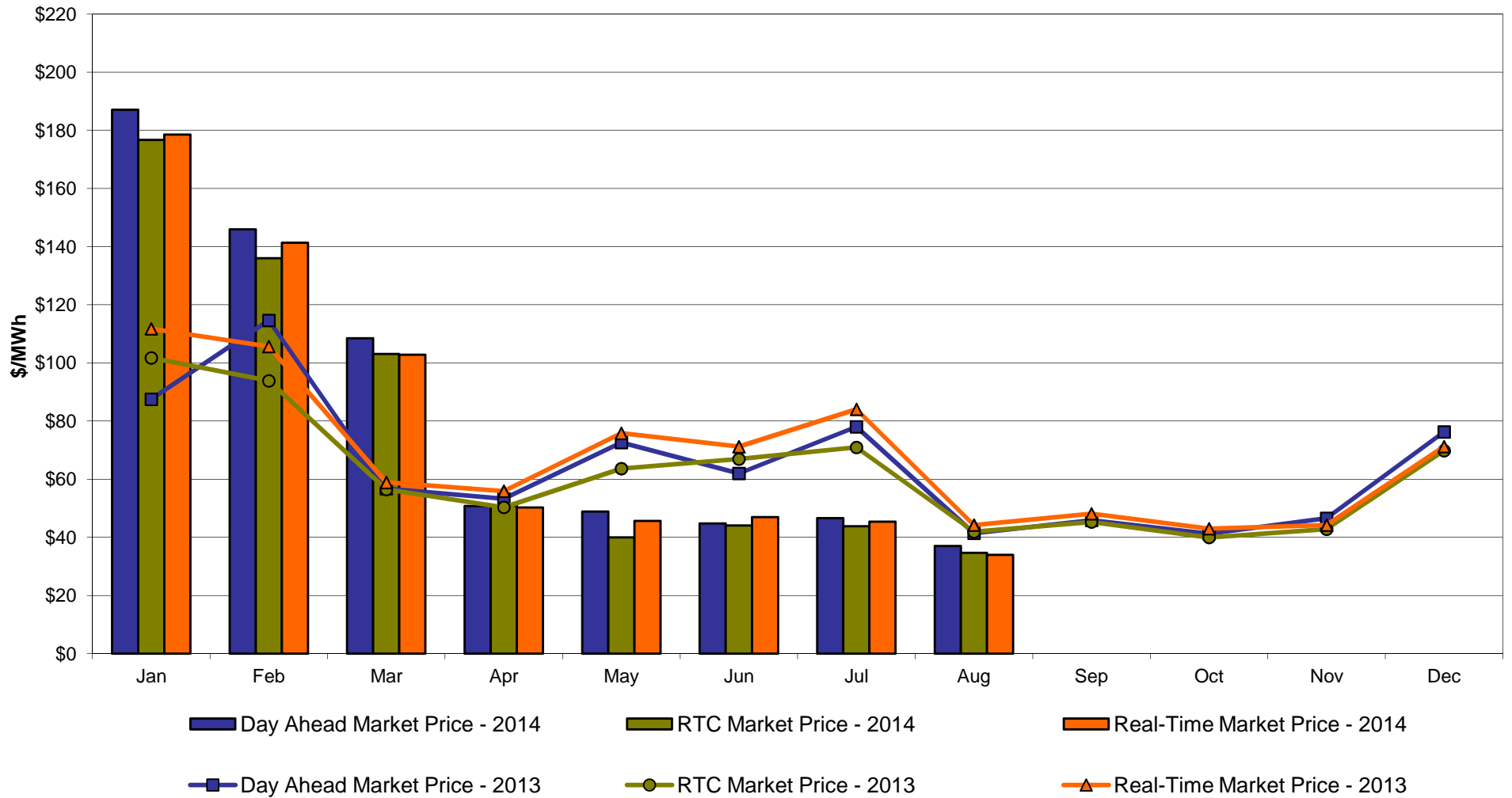
## Hudson Valley Zone G Monthly Average LBMP Prices 2013 - 2014



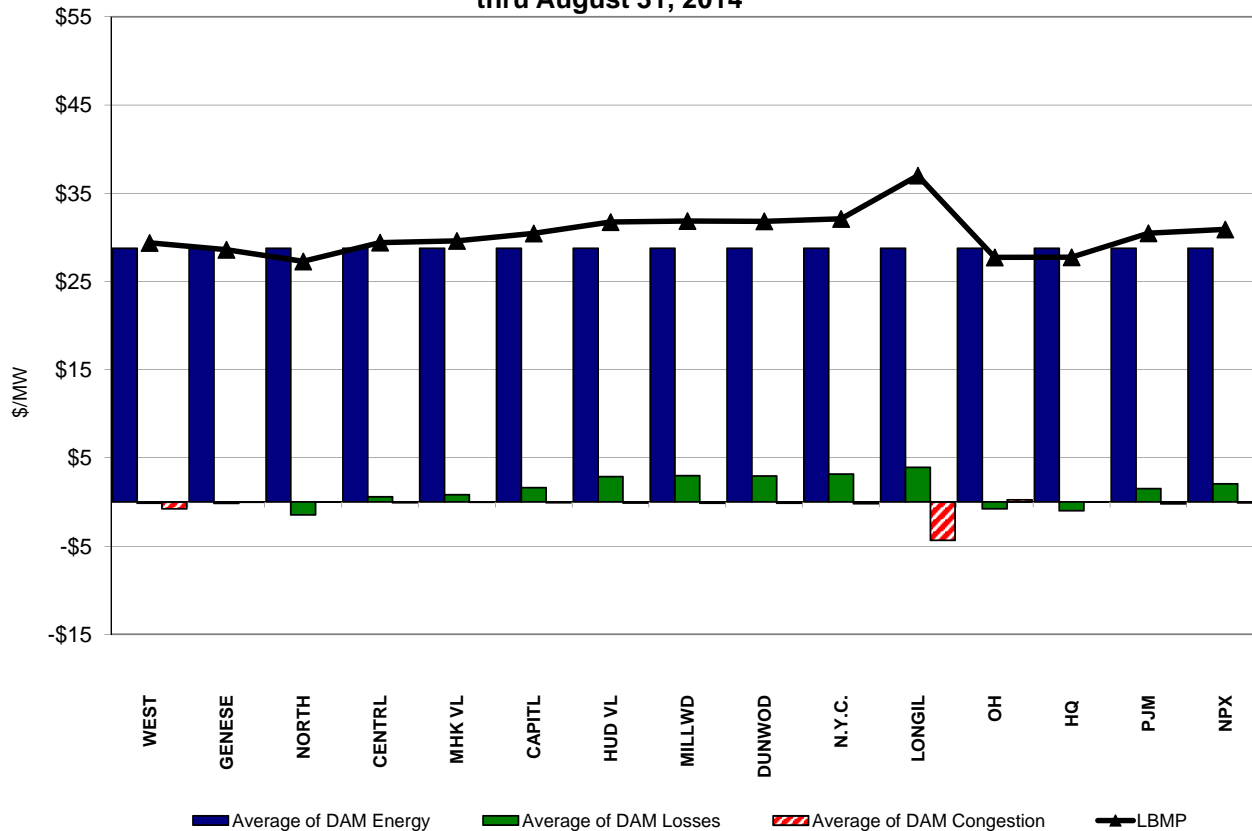
## NYC Zone J Monthly Average LBMP Prices 2013 - 2014



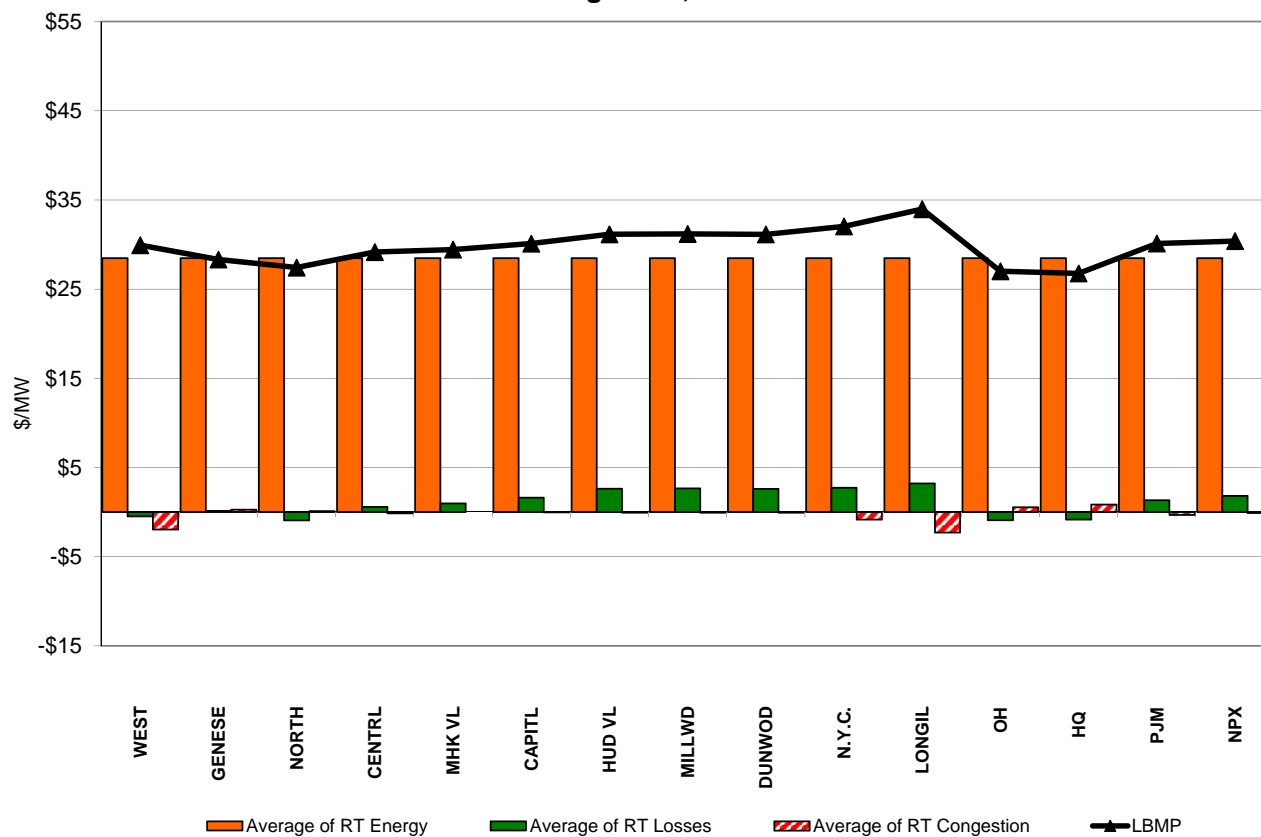
## Long Island Zone K Monthly Average LBMP Prices 2013 - 2014



**DAM Zonal Unweighted Monthly Average LBMP Components  
thru August 31, 2014**

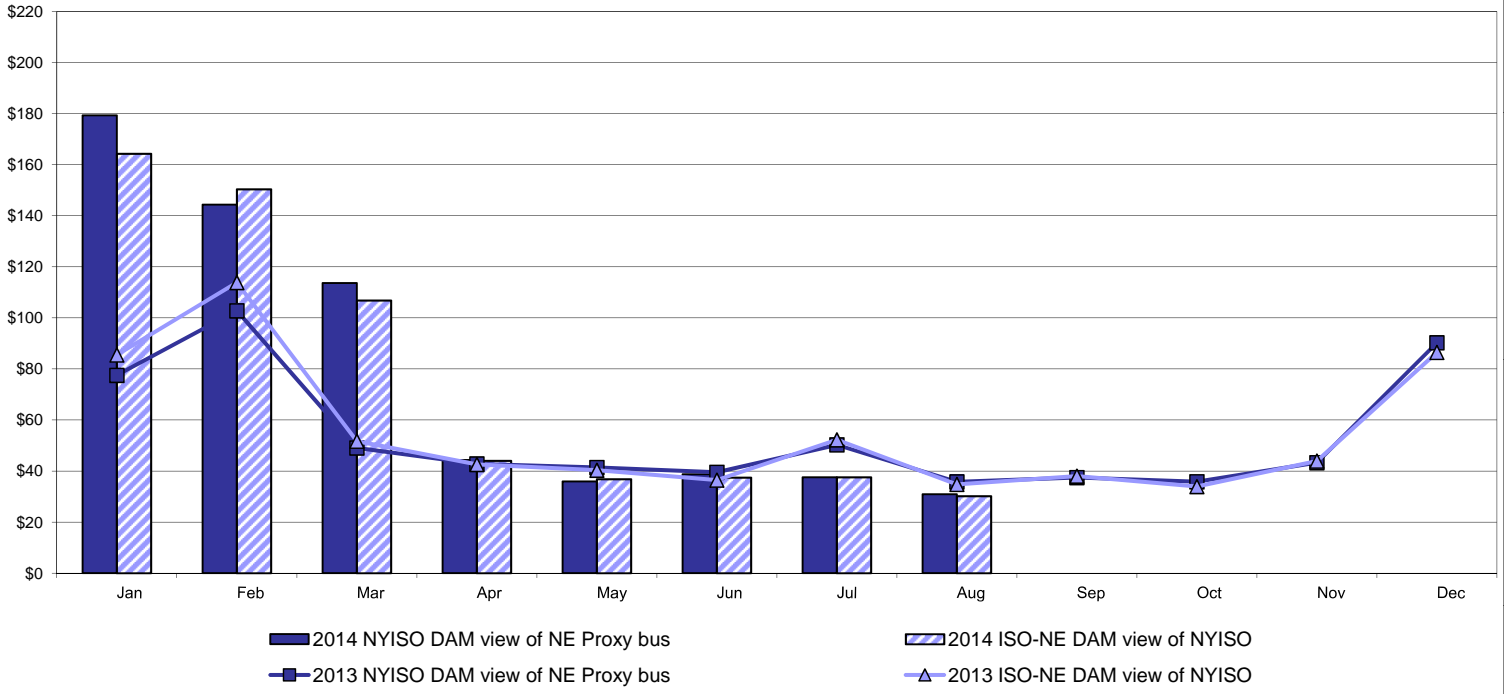


**RT Zonal Unweighted Monthly Average LBMP Components  
thru August 31, 2014**

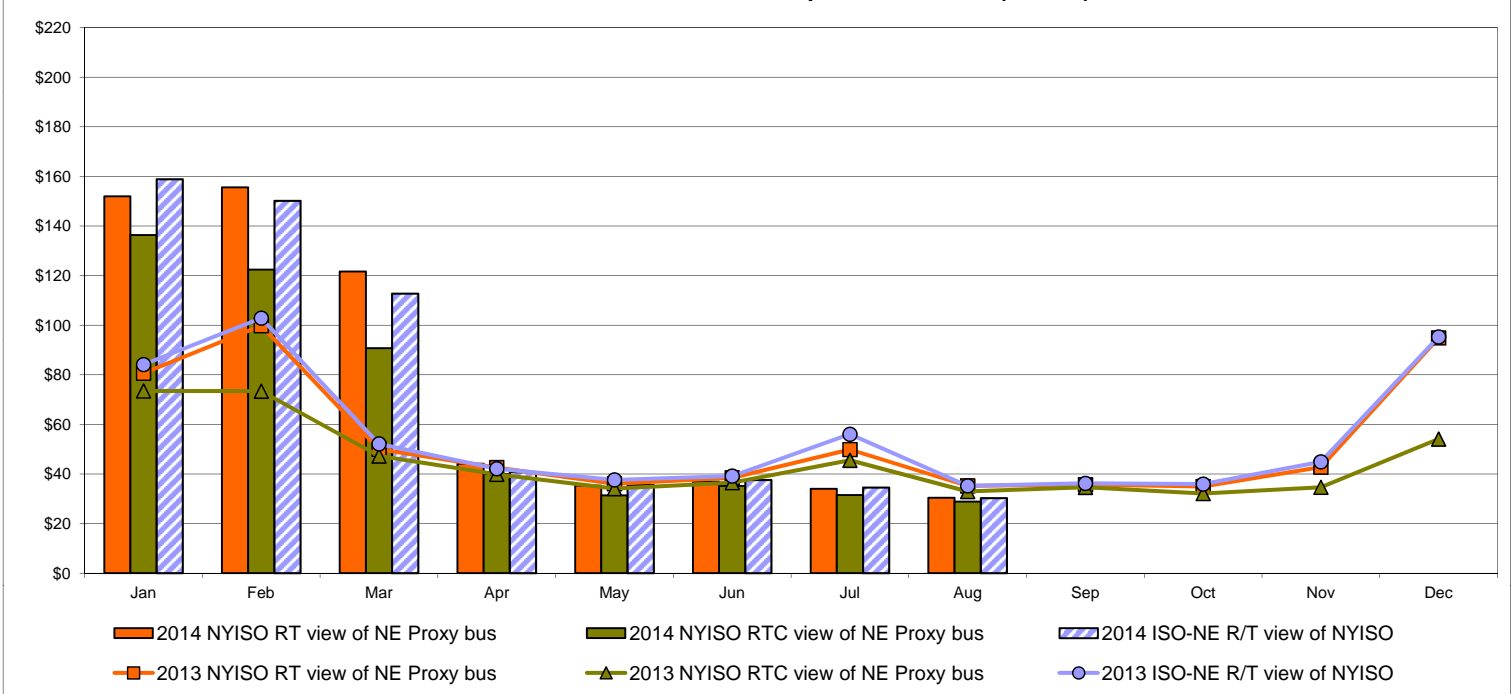


# External Comparison ISO-New England

### Day Ahead Market External Zone Comparison: ISO-NE (\$/MWh)



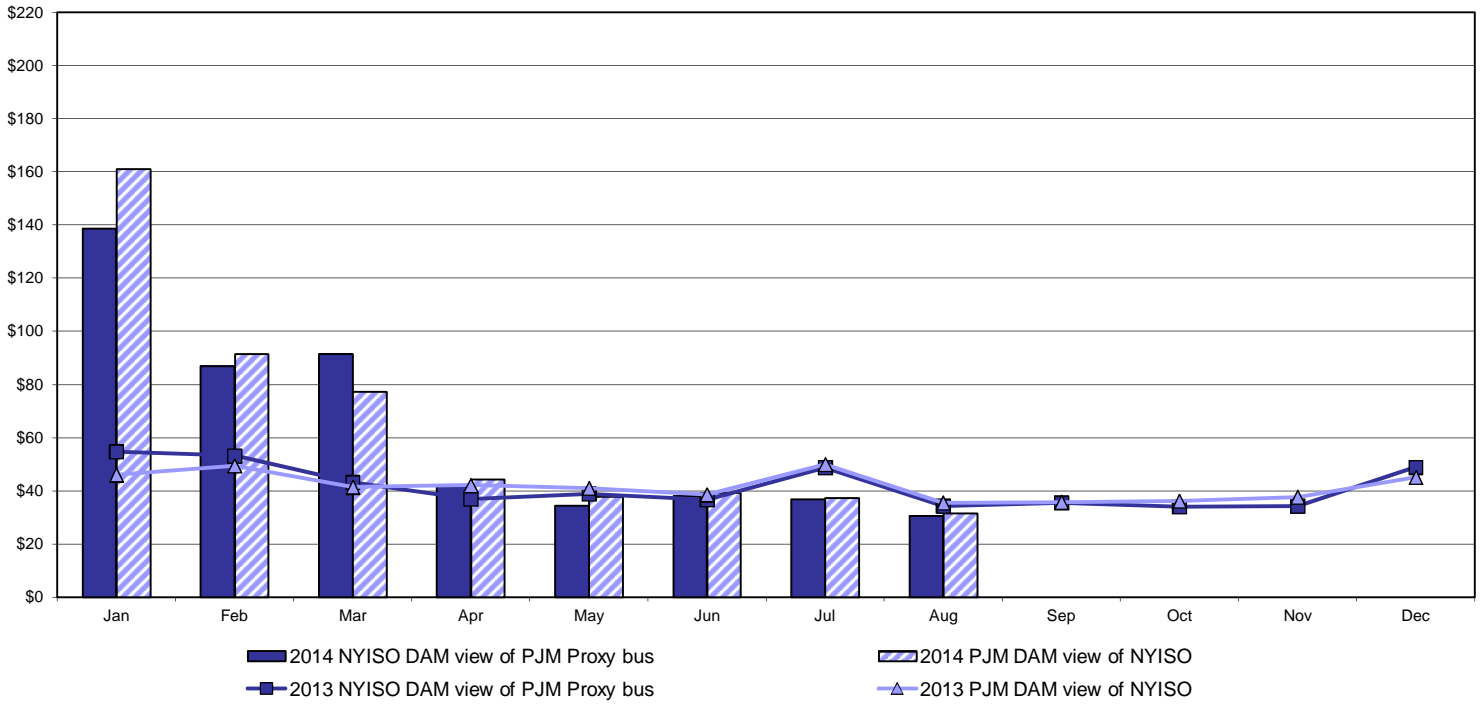
### Real Time Market External Zone Comparison: ISO-NE (\$/MWh)



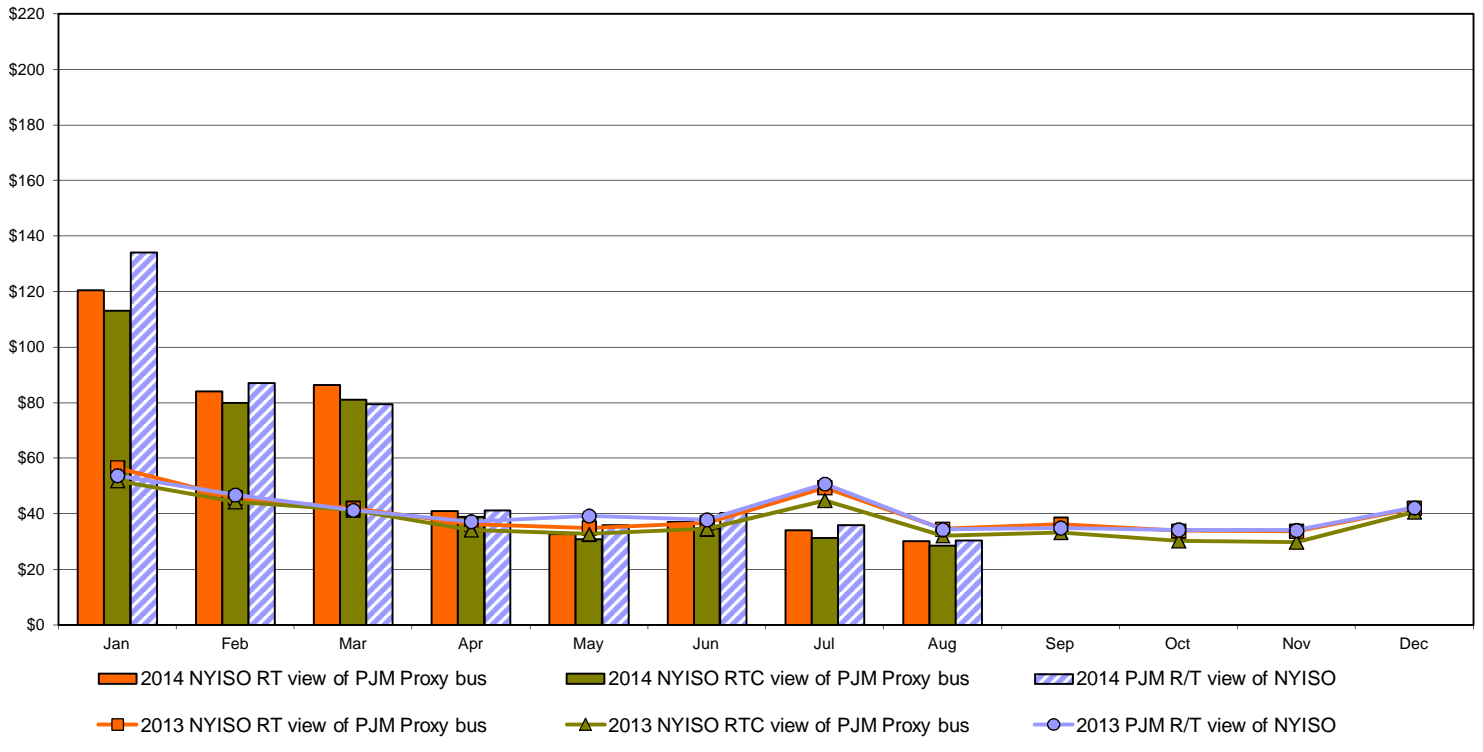


# External Comparison PJM

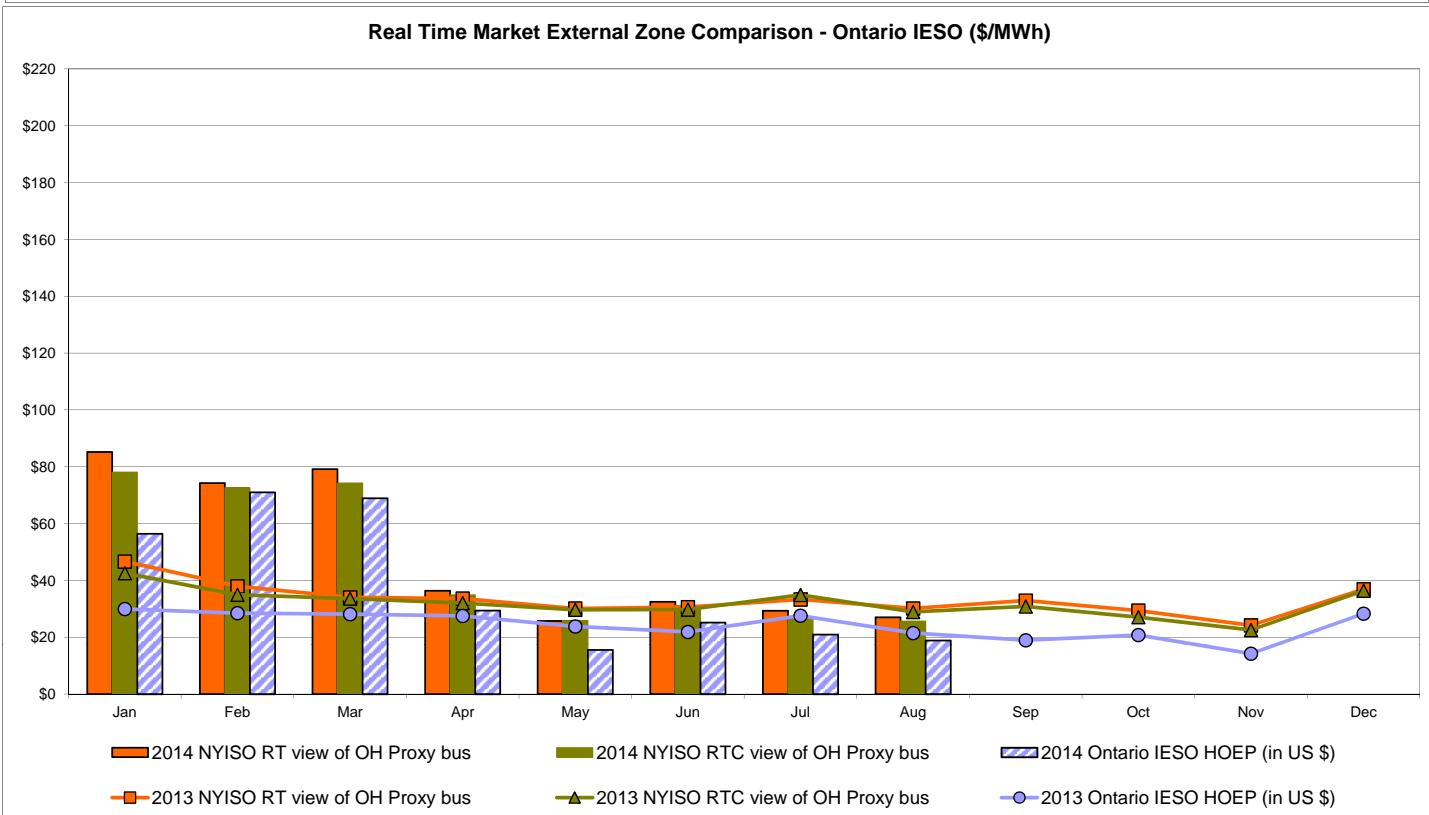
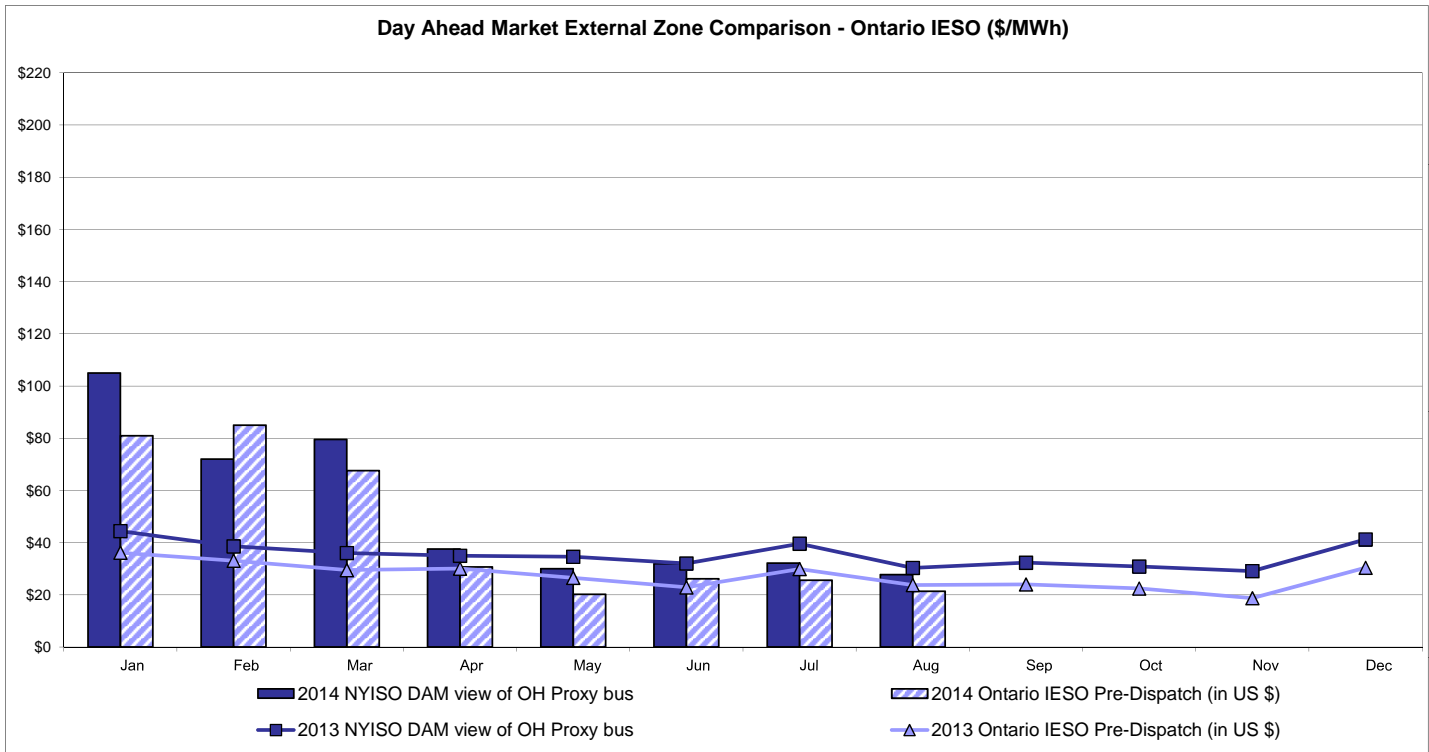
## Day Ahead Market External Zone Comparison - PJM (\$/MWh)



## Real Time Market External Zone Comparison - PJM (\$/MWh)

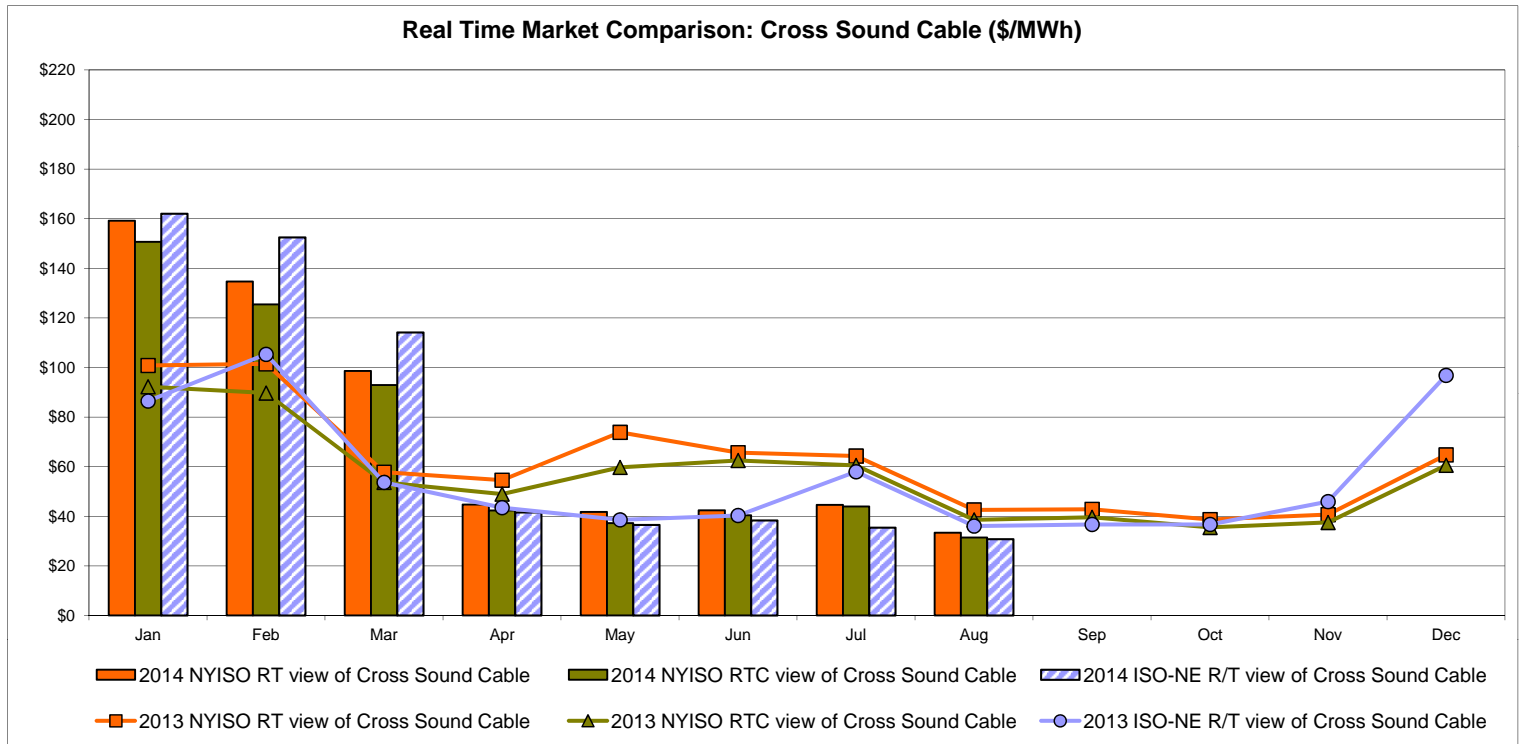
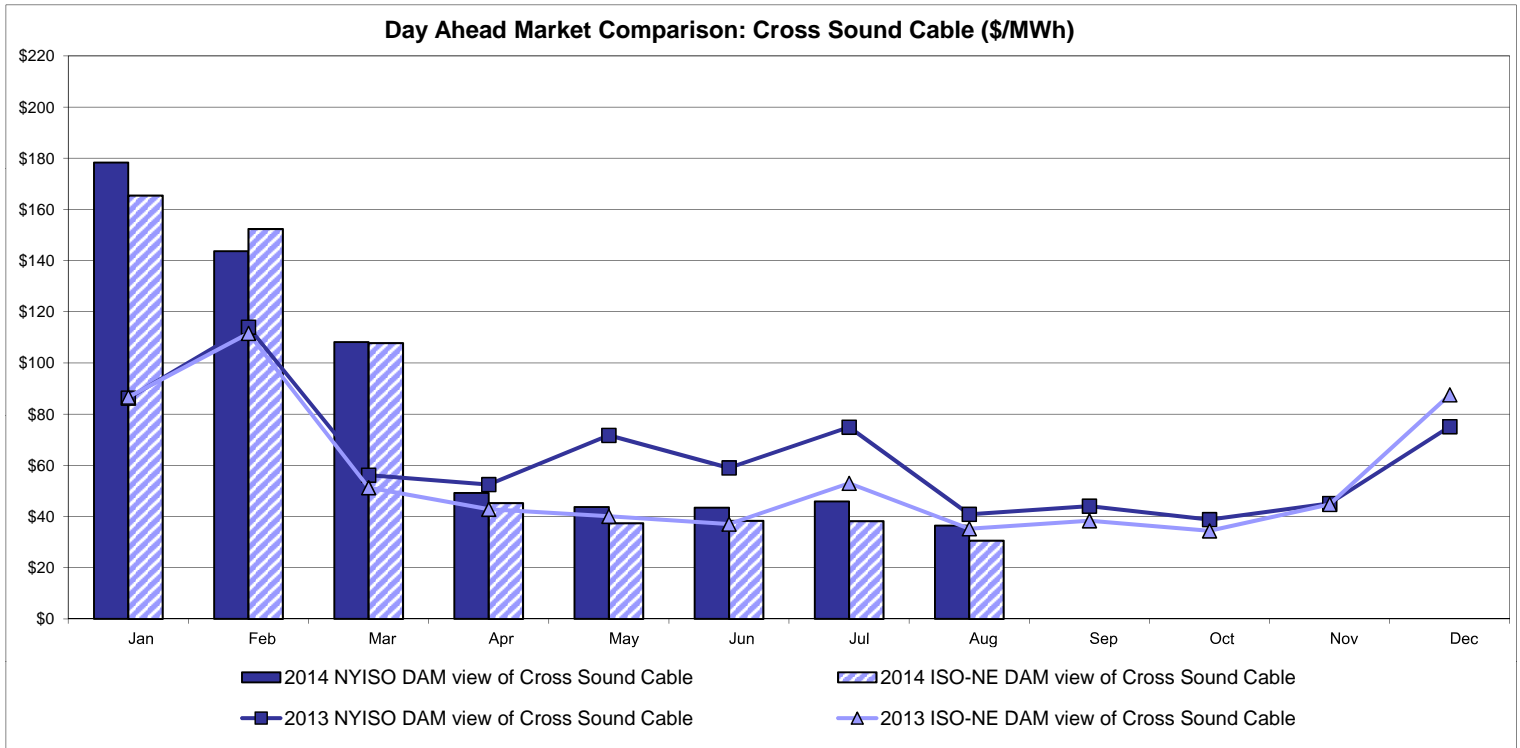


# External Comparison Ontario IESO



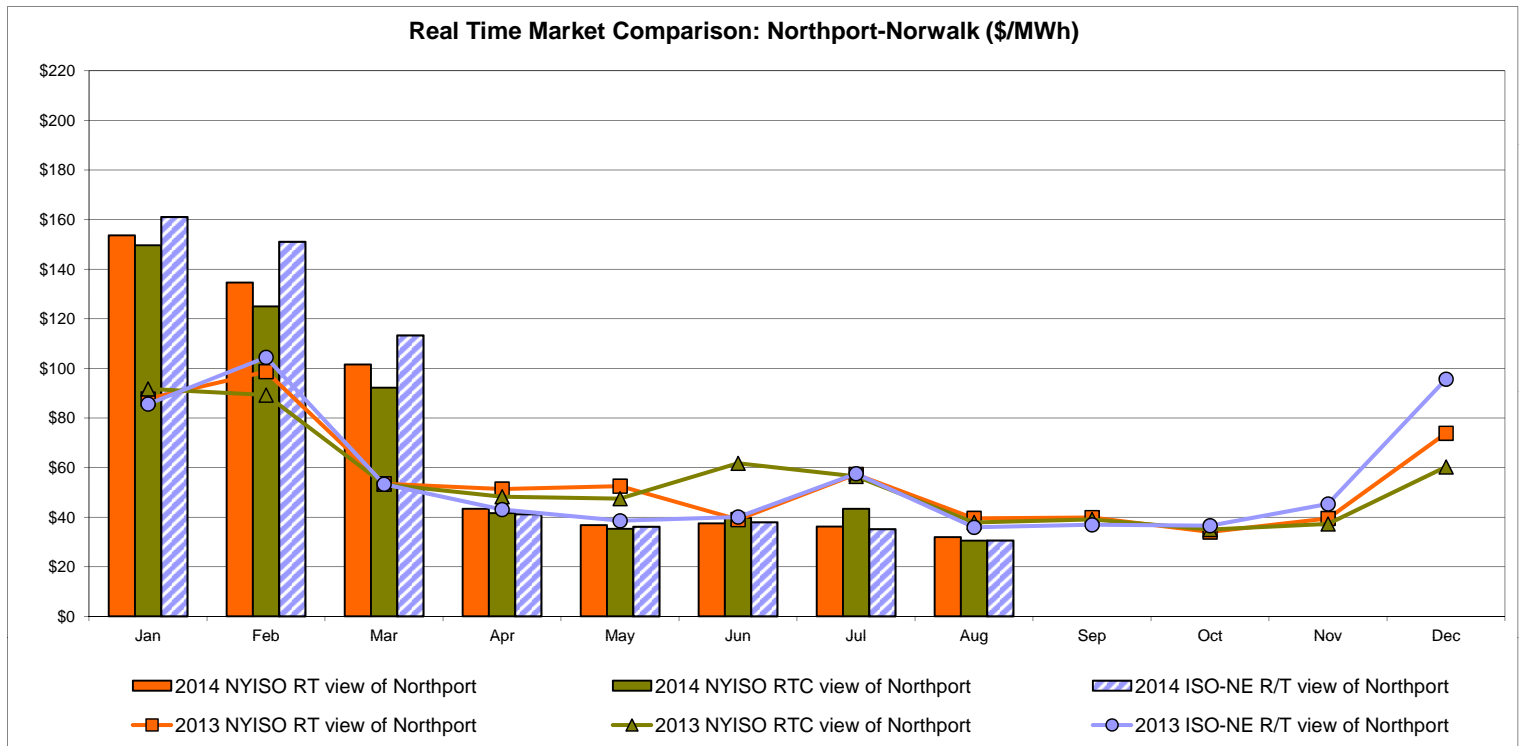
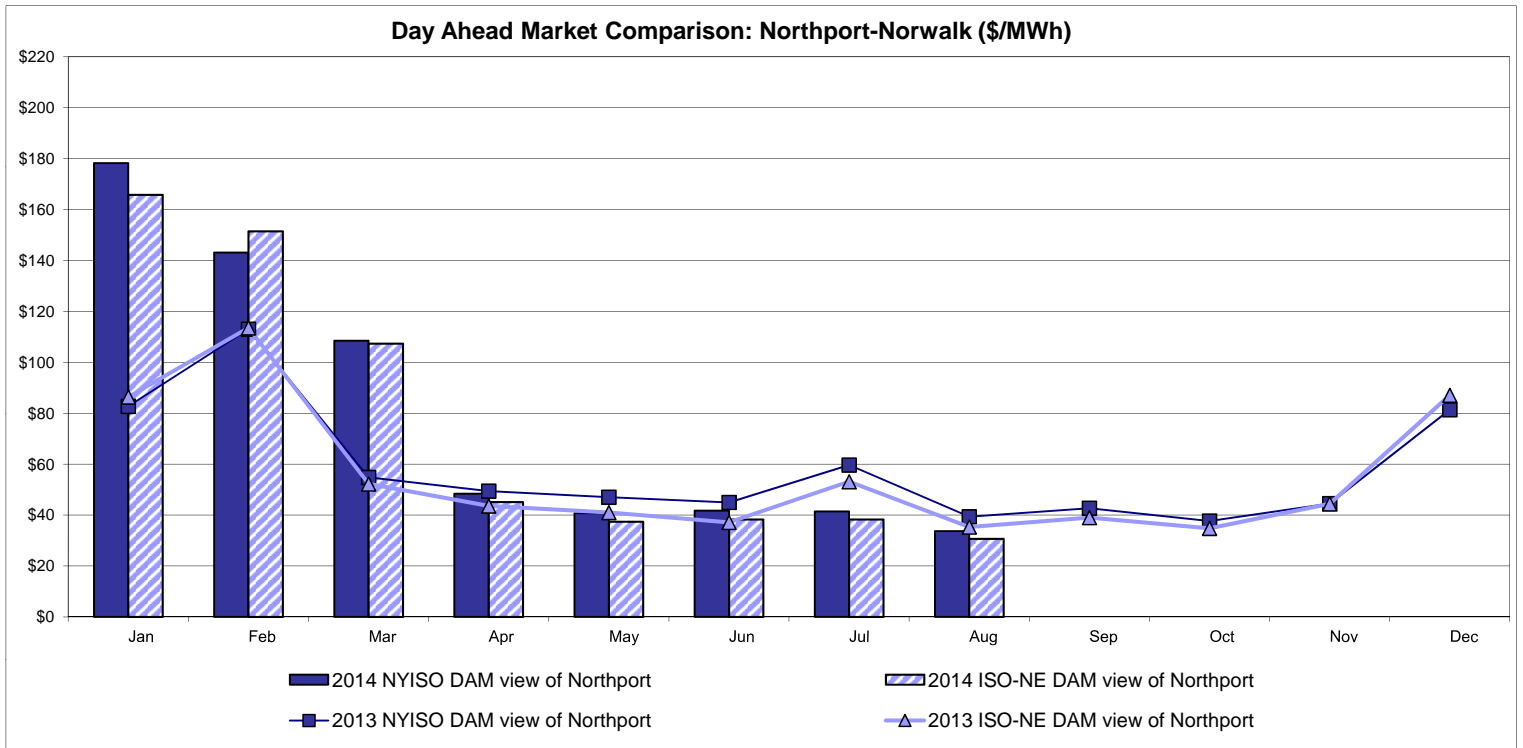
Notes: Exchange factor used for August 2014 was 0.9153 to US \$  
 HOEP: Hourly Ontario Energy Price  
 Pre-Dispatch: Projected Energy Price

# External Controllable Line: Cross Sound Cable (New England)



Note:  
 ISO-NE Forecast is an advisory posting @ 18:00 day before.  
 The DAM and R/T prices at the Shorham 13899 interface are used for ISO-NE.  
 The DAM and R/T prices at the CSC interface are used for NYISO.

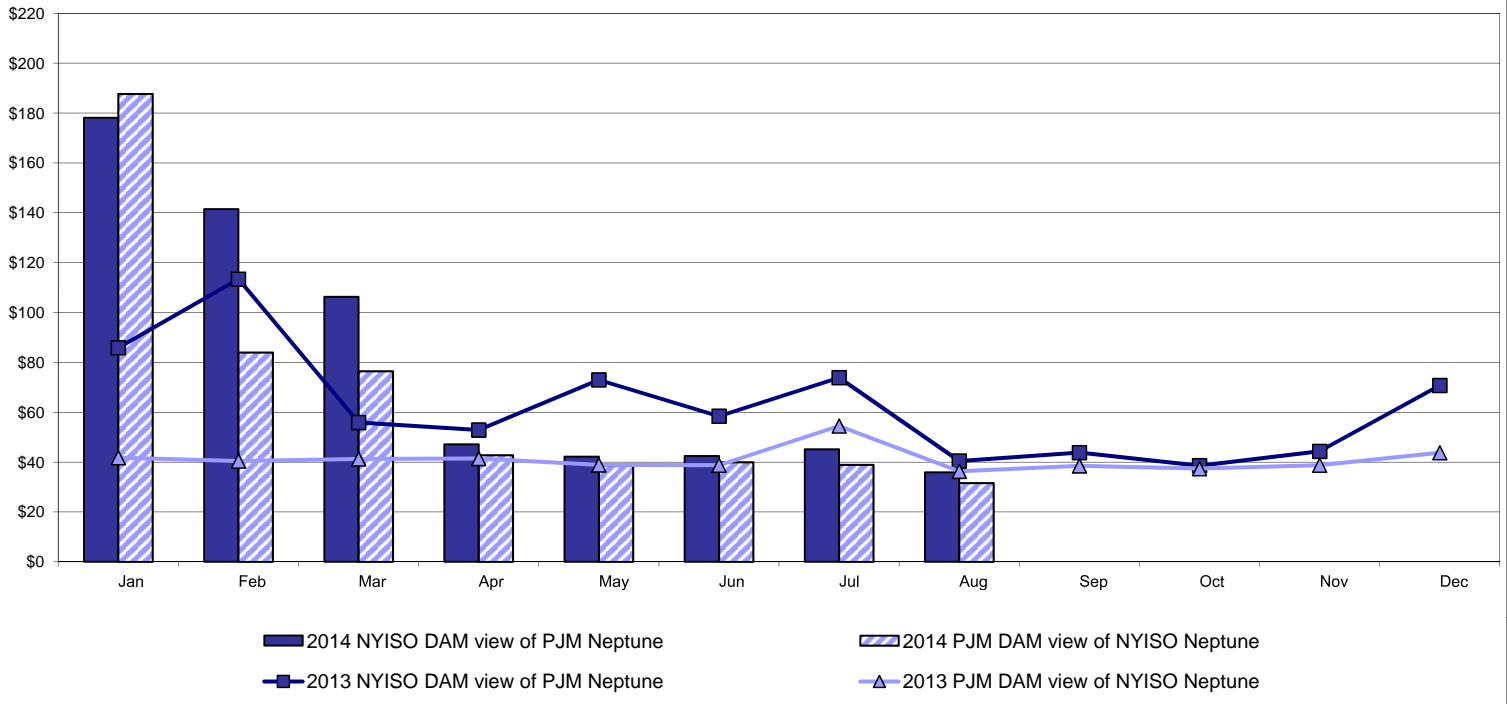
# External Controllable Line: Northport - Norwalk (New England)



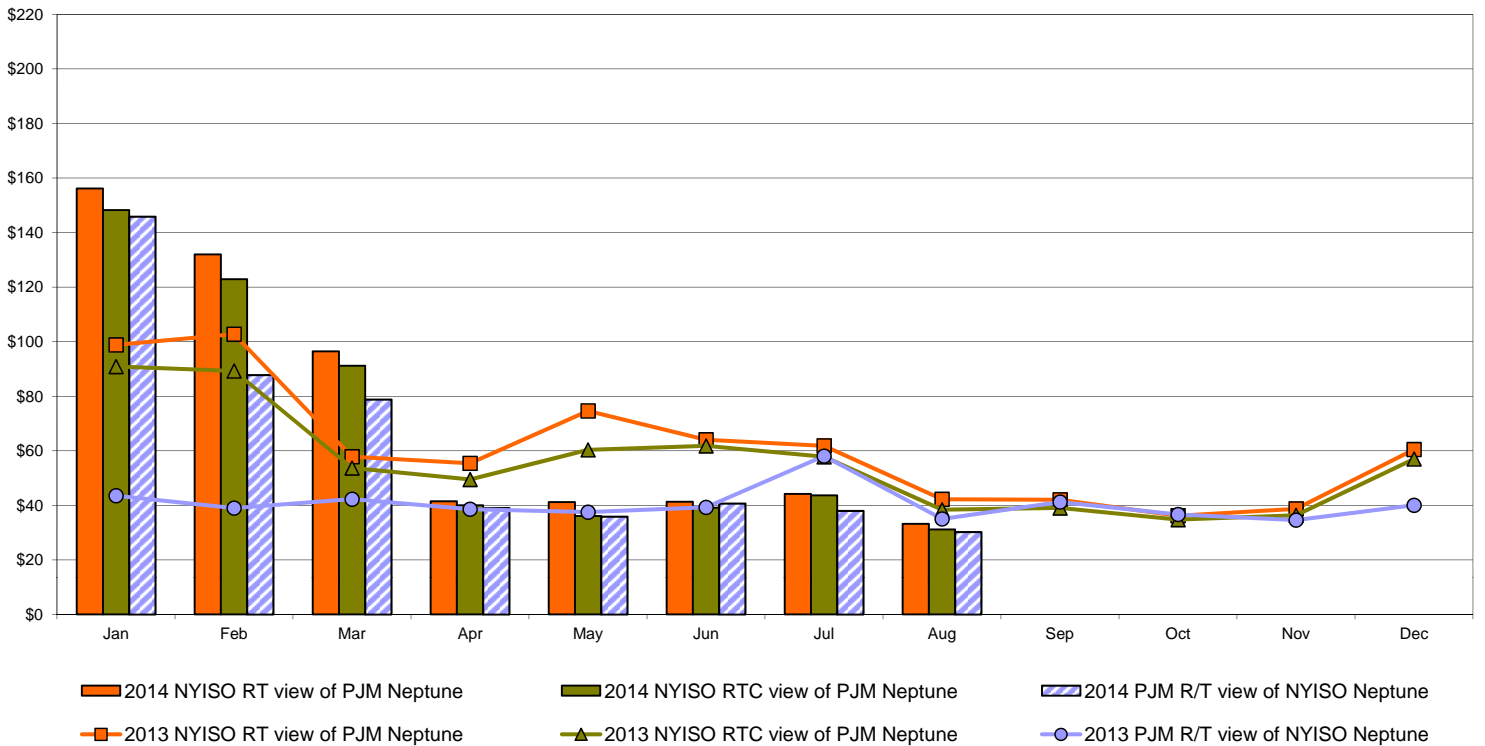
Note:  
 ISO-NE Forecast is an advisory posting @ 18:00 day before.  
 The DAM and R/T prices at the Northport 138 interface are used for ISO-NE.  
 The DAM and R/T prices at the 1385 interface are used for NYISO.

## External Controllable Line: Neptune (PJM)

**Day Ahead Market Comparison: Neptune (\$/MWh)**

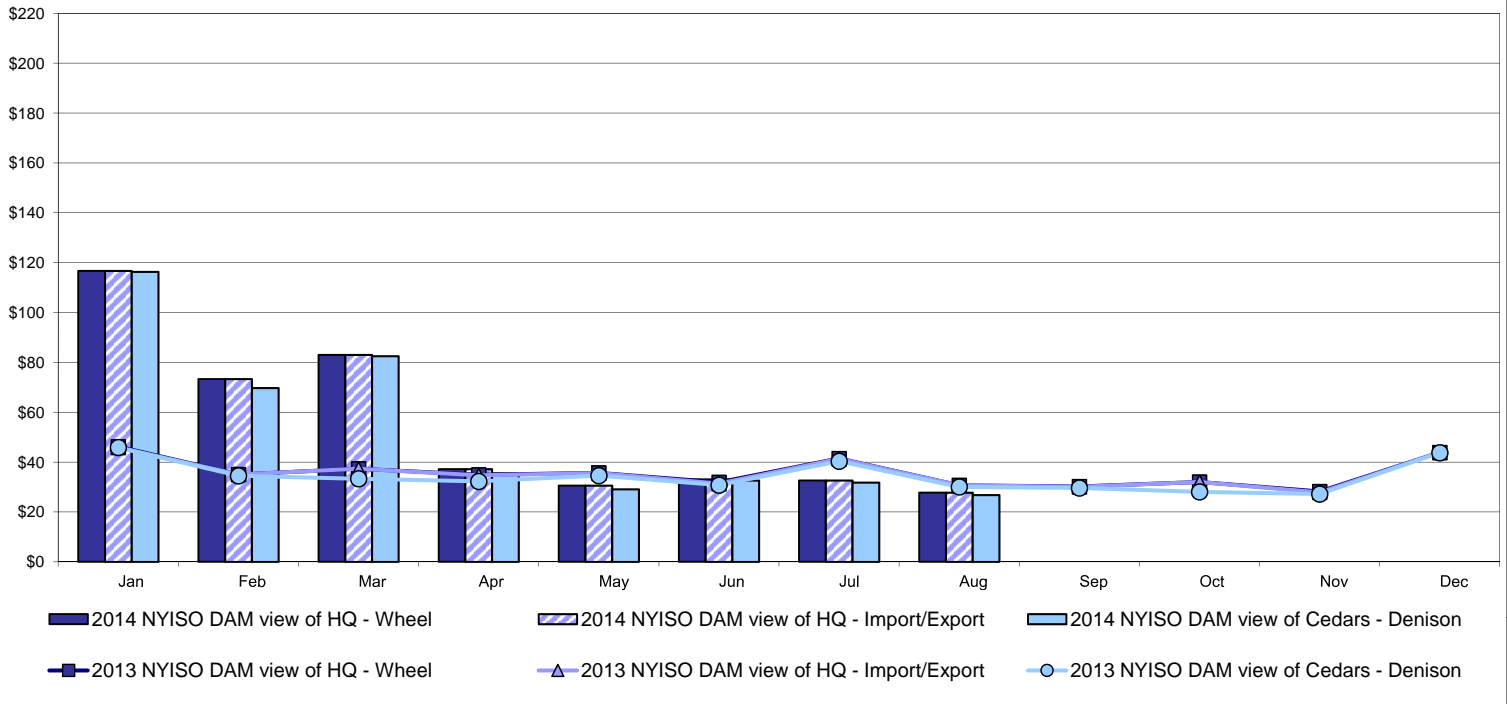


**Real Time Market Comparison: Neptune (\$/MWh)**

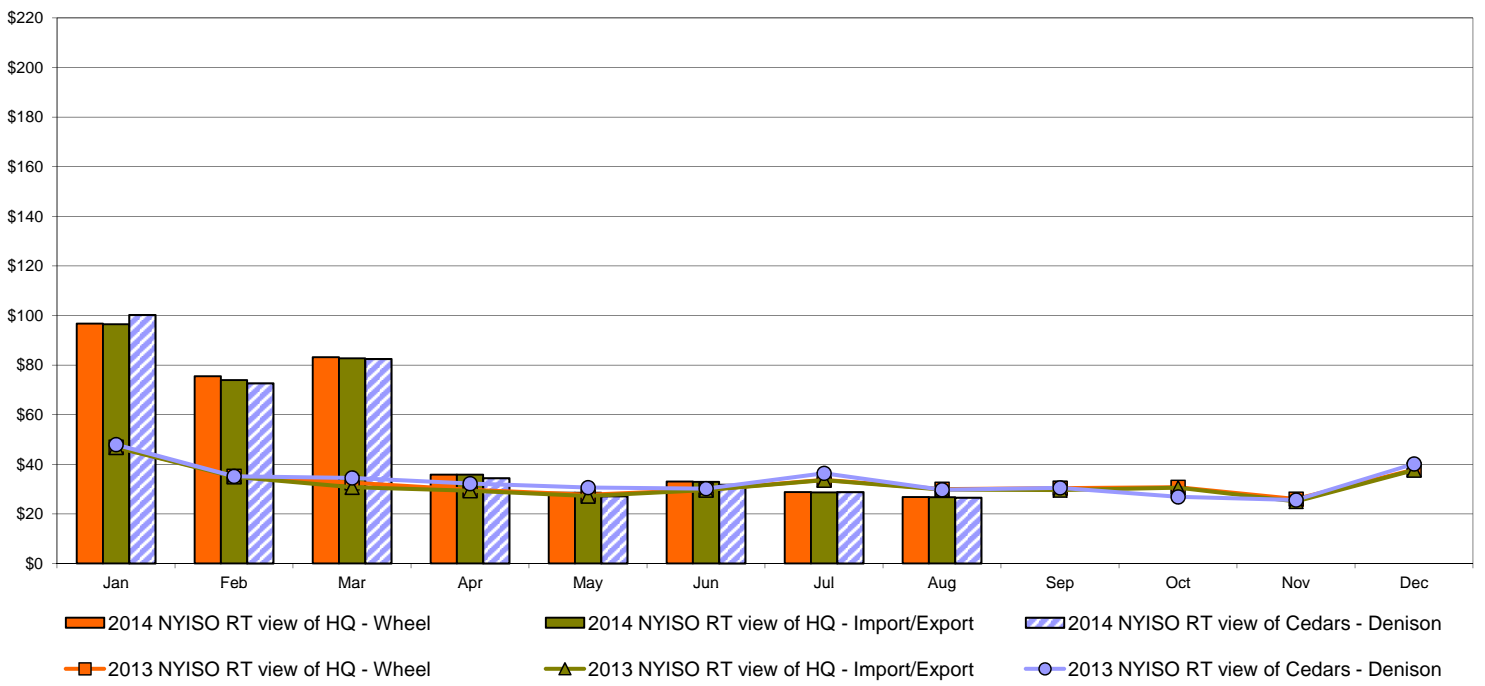


# External Comparison Hydro-Quebec

## Day Ahead Market External Zone Comparison - HQ (\$/MWh)

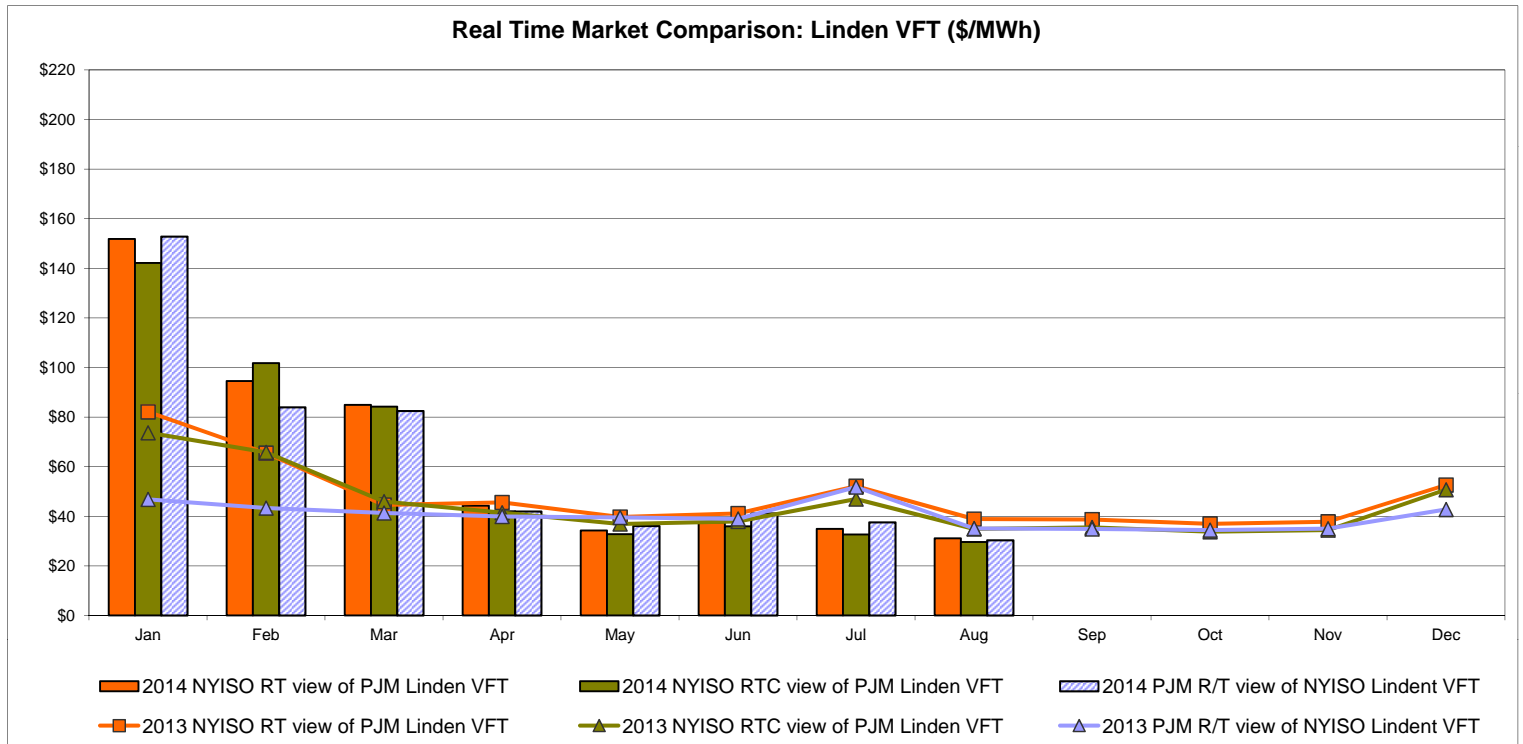
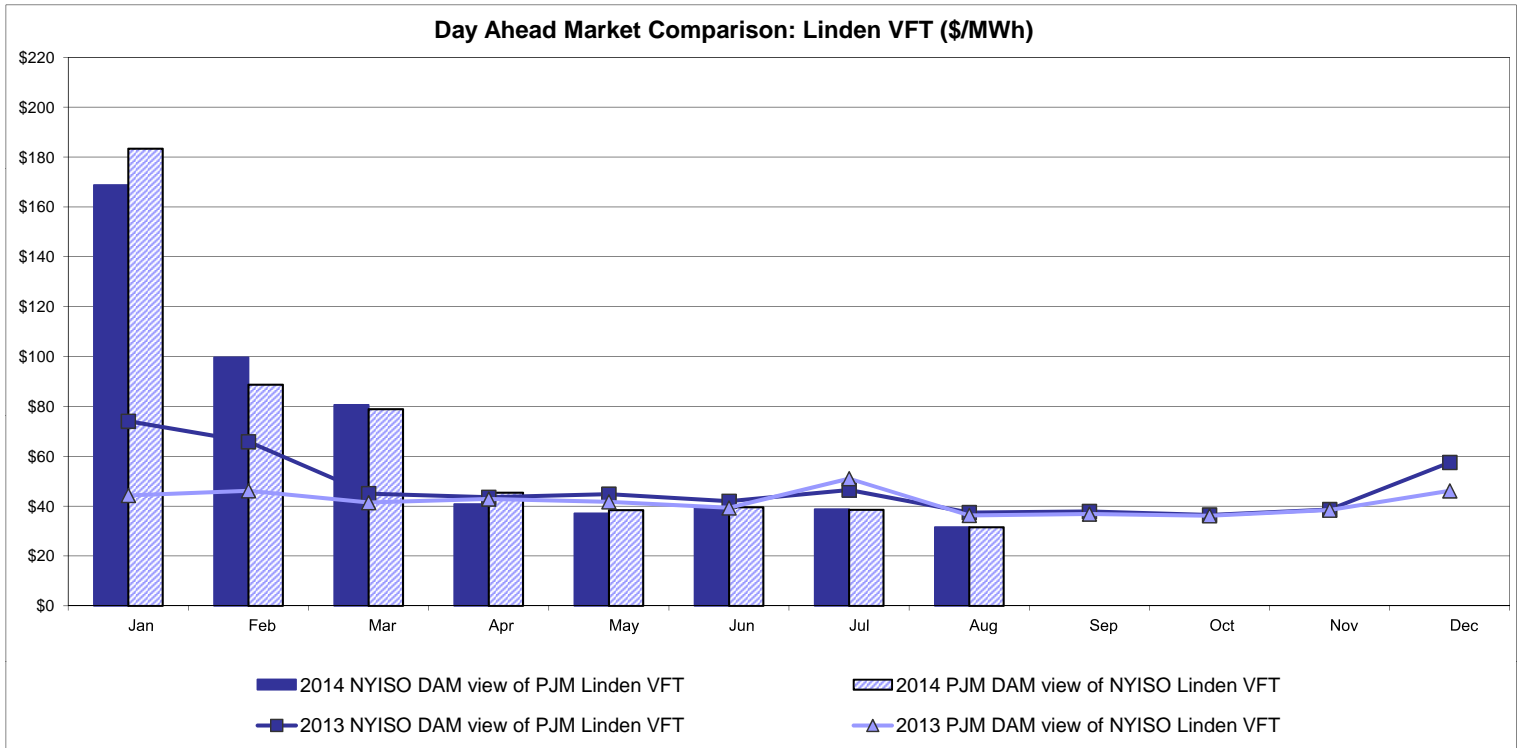


## Real Time Market External Zone Comparison - HQ (\$/MWh)

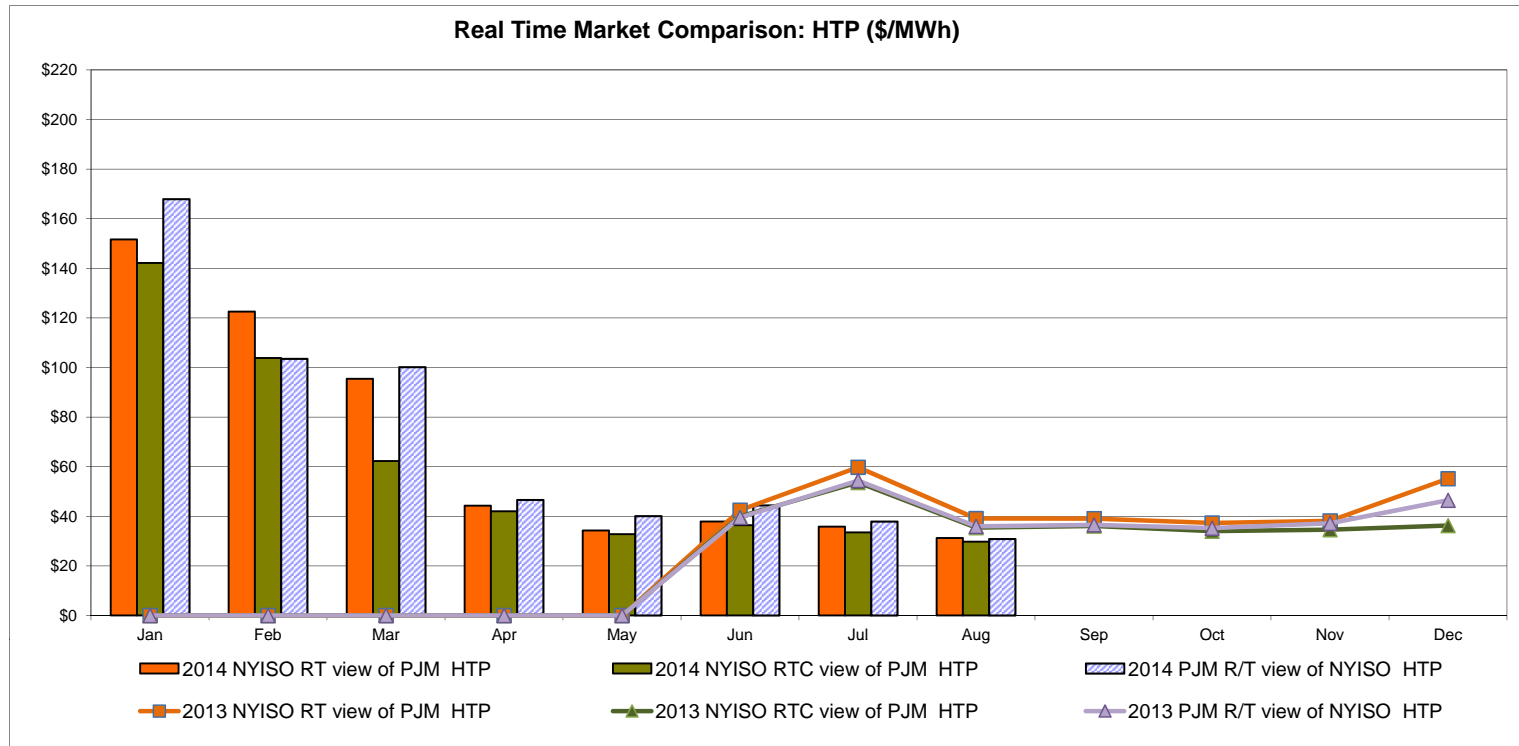
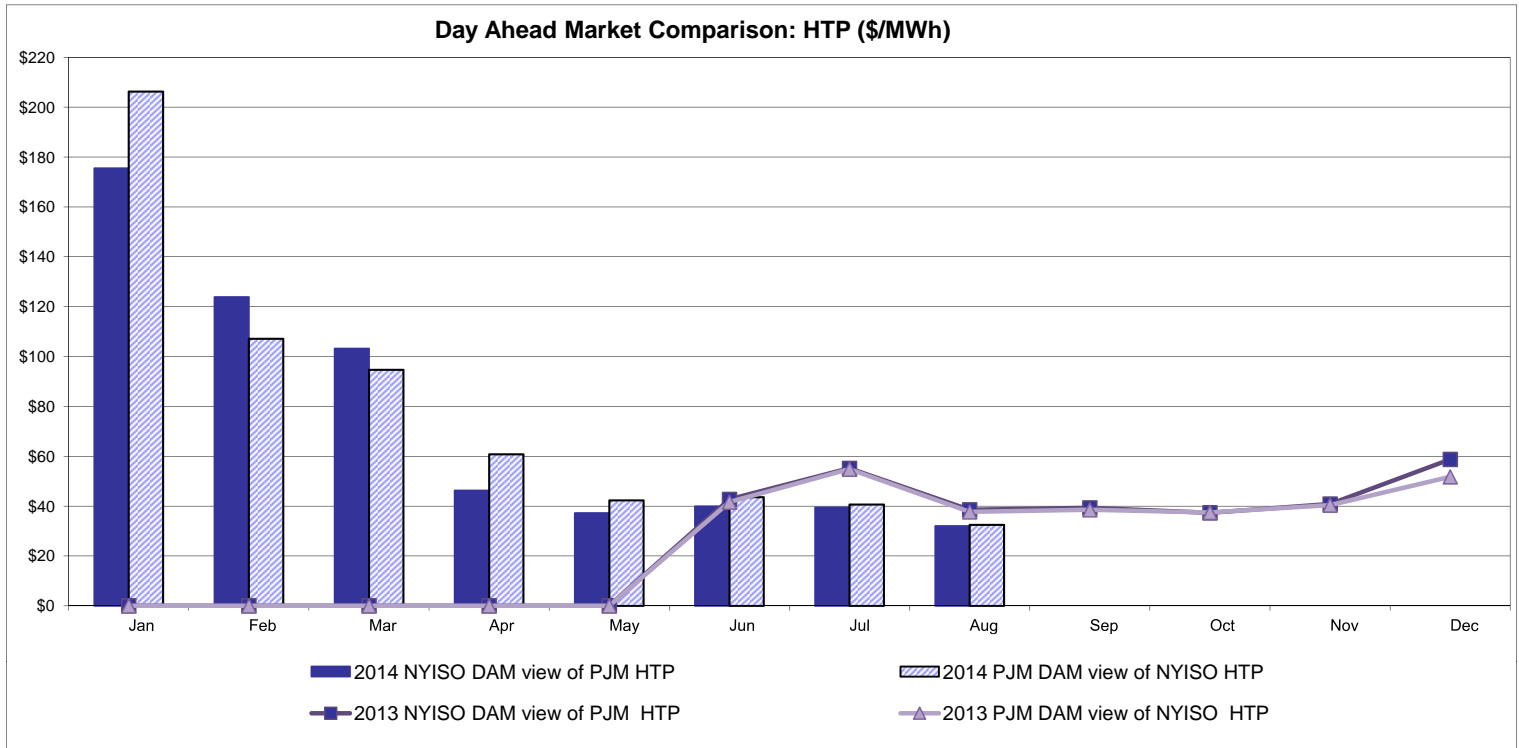


Note:  
Hydro-Quebec Prices are unavailable.

## External Controllable Line: Linden VFT (PJM)



## External Controllable Line: Hudson (PJM)



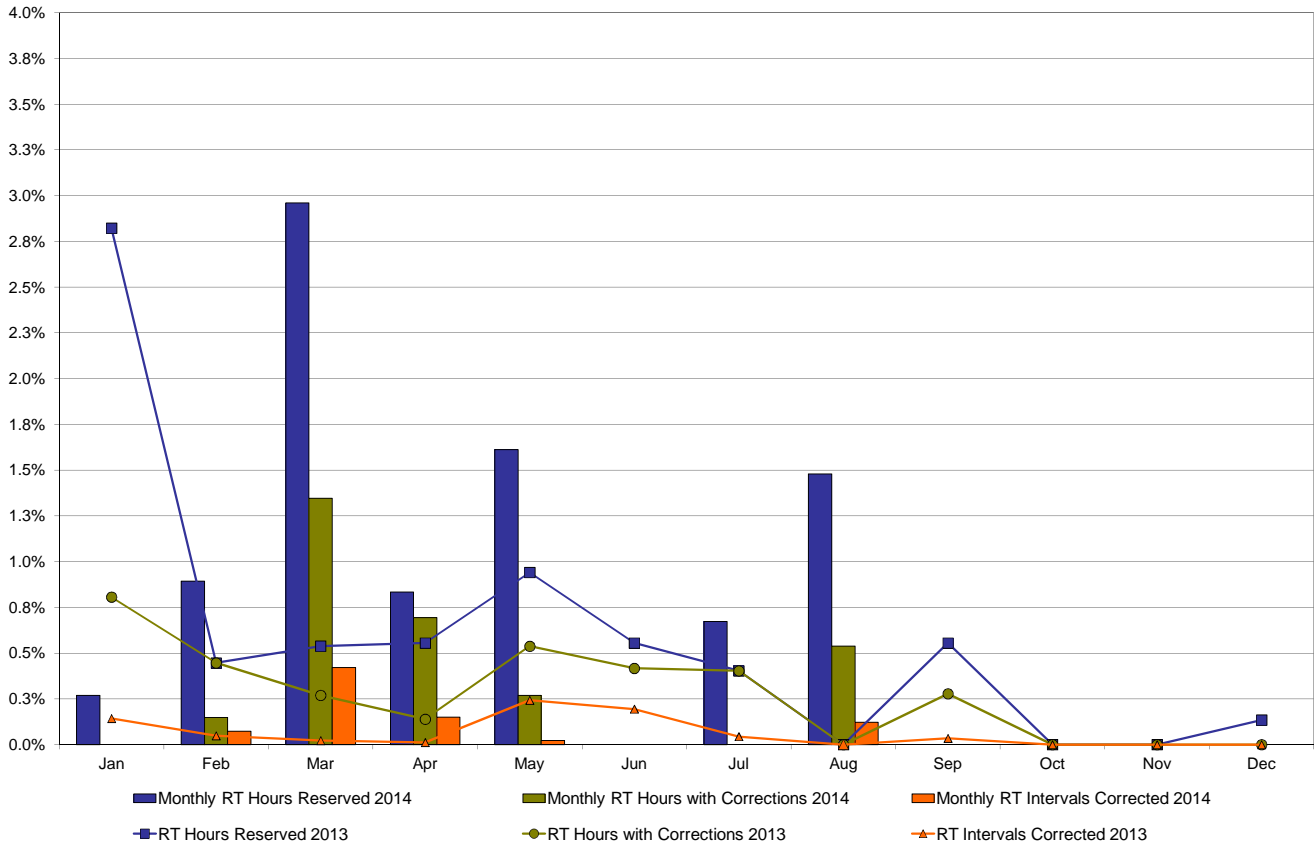


**NYISO Real Time Price Correction Statistics**

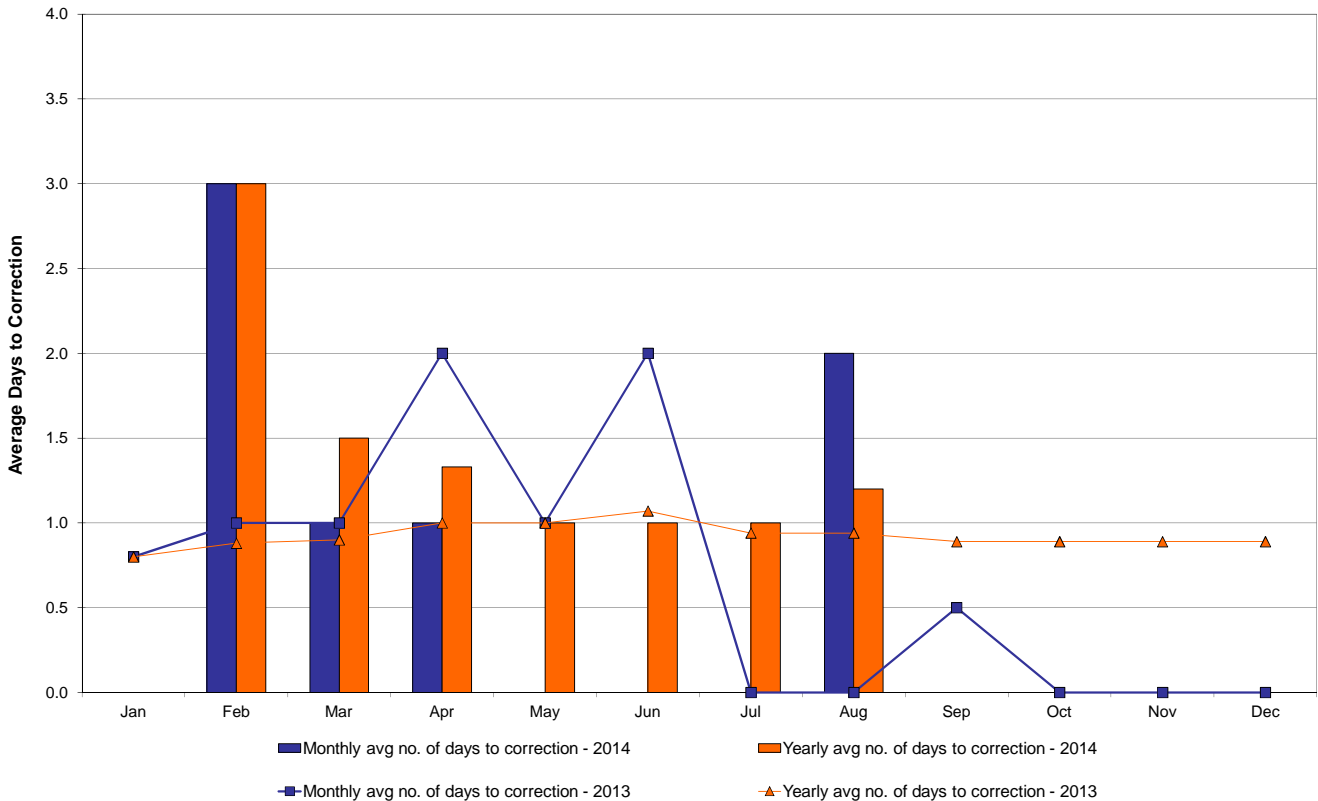
<b>2014</b>		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b>Hour Corrections</b>													
Number of hours with corrections	in the month	0	1	10	5	2	0	0	4				
Number of hours	in the month	744	672	743	720	744	720	744	744				
% of hours with corrections	in the month	0.00%	0.15%	1.35%	0.69%	0.27%	0.00%	0.00%	0.54%				
% of hours with corrections	year-to-date	0.00%	0.07%	0.51%	0.56%	0.50%	0.41%	0.35%	0.38%				
<b>Interval Corrections</b>													
Number of intervals corrected	in the month	0	6	38	13	2	0	0	11				
Number of intervals	in the month	9,232	8,205	9,023	8,720	9,030	8,729	8,999	8,975				
% of intervals corrected	in the month	0.00%	0.07%	0.42%	0.15%	0.02%	0.00%	0.00%	0.12%				
% of intervals corrected	year-to-date	0.00%	0.03%	0.17%	0.16%	0.13%	0.11%	0.10%	0.10%				
<b>Hours Reserved</b>													
Number of hours reserved	in the month	2	6	22	6	12	0	5	11				
Number of hours	in the month	744	672	743	720	744	720	744	744				
% of hours reserved	in the month	0.27%	0.89%	2.96%	0.83%	1.61%	0.00%	0.67%	1.48%				
% of hours reserved	year-to-date	0.27%	0.56%	1.39%	1.25%	1.32%	1.11%	1.04%	1.10%				
<b>Days to Correction *</b>													
Avg. number of days to correction	in the month	0.00	3.00	1.00	1.00	0.00	0.00	0.00	2.00				
Avg. number of days to correction	year-to-date	0.00	3.00	1.50	1.33	1.00	1.00	1.00	1.20				
<b>Days Without Corrections</b>													
Days without corrections	in the month	31	27	28	28	29	30	31	29				
Days without corrections	year-to-date	31	58	86	114	143	173	204	233				
<b>2013</b>		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b>Hour Corrections</b>													
Number of hours with corrections	in the month	6	3	2	1	4	3	3	0	2	0	0	0
Number of hours	in the month	744	672	743	720	744	720	744	744	720	744	721	744
% of hours with corrections	in the month	0.81%	0.45%	0.27%	0.14%	0.54%	0.42%	0.40%	0.00%	0.28%	0.00%	0.00%	0.00%
% of hours with corrections	year-to-date	0.81%	0.64%	0.51%	0.42%	0.44%	0.44%	0.43%	0.38%	0.37%	0.33%	0.30%	0.27%
<b>Interval Corrections</b>													
Number of intervals corrected	in the month	13	4	2	1	22	17	4	0	3	0	0	0
Number of intervals	in the month	9,104	8,230	9,026	8,727	9,083	8,740	9,079	9,002	8,760	9,041	8,854	9,073
% of intervals corrected	in the month	0.14%	0.05%	0.02%	0.01%	0.24%	0.19%	0.04%	0.00%	0.03%	0.00%	0.00%	0.00%
% of intervals corrected	year-to-date	0.14%	0.10%	0.07%	0.06%	0.10%	0.11%	0.10%	0.09%	0.08%	0.07%	0.07%	0.06%
<b>Hours Reserved</b>													
Number of hours reserved	in the month	21	3	4	4	7	4	3	0	4	0	0	1
Number of hours	in the month	744	672	743	720	744	720	744	744	720	744	721	744
% of hours reserved	in the month	2.82%	0.45%	0.54%	0.56%	0.94%	0.56%	0.40%	0.00%	0.56%	0.00%	0.00%	0.13%
% of hours reserved	year-to-date	2.82%	1.69%	1.30%	1.11%	1.08%	0.99%	0.90%	0.79%	0.76%	0.69%	0.62%	0.58%
<b>Days to Correction *</b>													
Avg. number of days to correction	in the month	0.80	1.00	1.00	2.00	1.00	2.00	0.00	0.00	0.50	0.00	0.00	0.00
Avg. number of days to correction	year-to-date	0.80	0.88	0.90	1.00	1.00	1.07	0.94	0.94	0.89	0.89	0.89	0.89
<b>Days Without Corrections</b>													
Days without corrections	in the month	26	25	29	29	28	29	29	31	28	31	30	31
Days without corrections	year-to-date	26	51	80	109	137	166	195	226	254	285	315	346

\* Calendar days from reservation date.

### Percentage of Real-Time Corrections

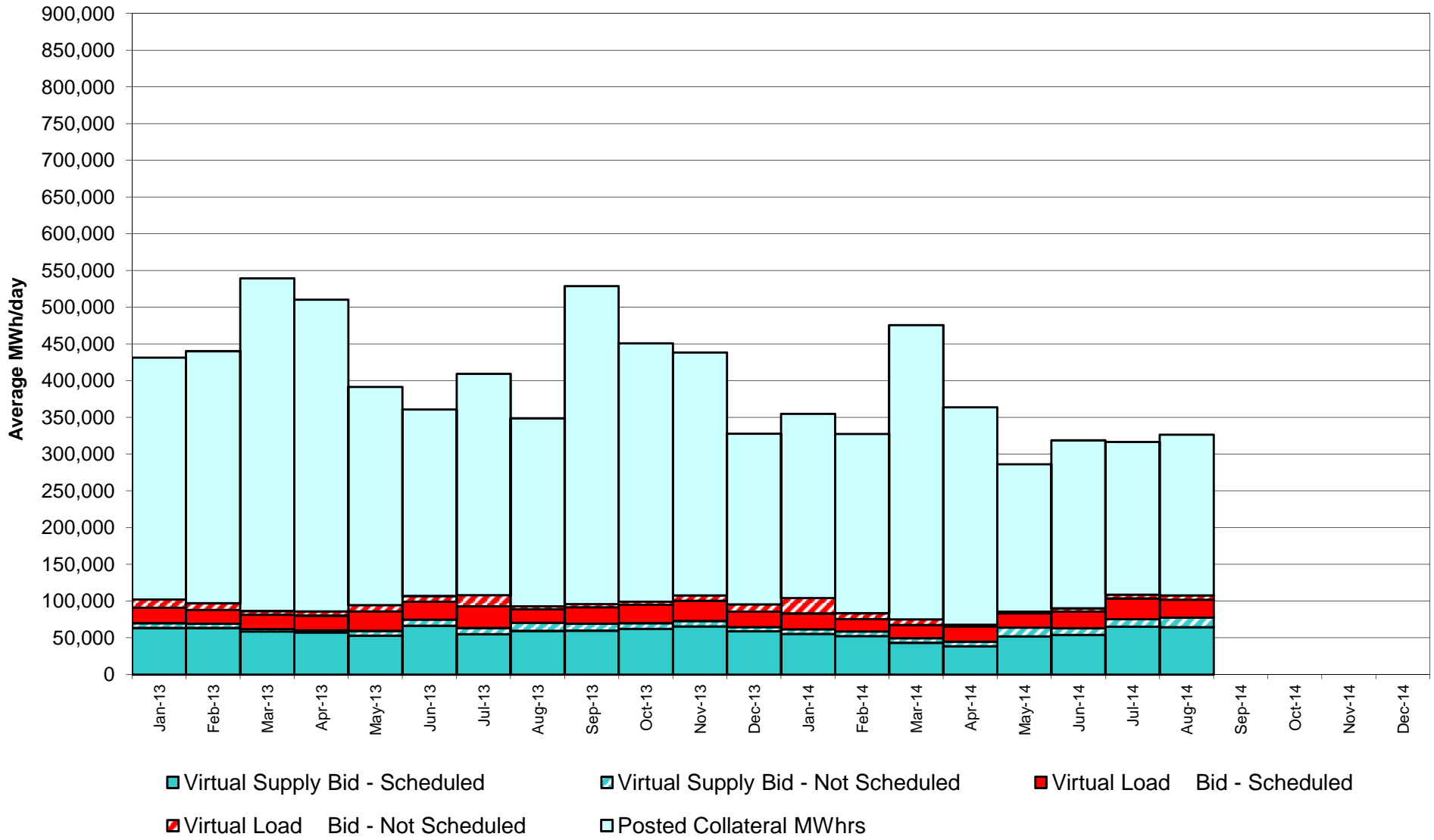


### Annual average time period for making Price Corrections (from reservation date) \*

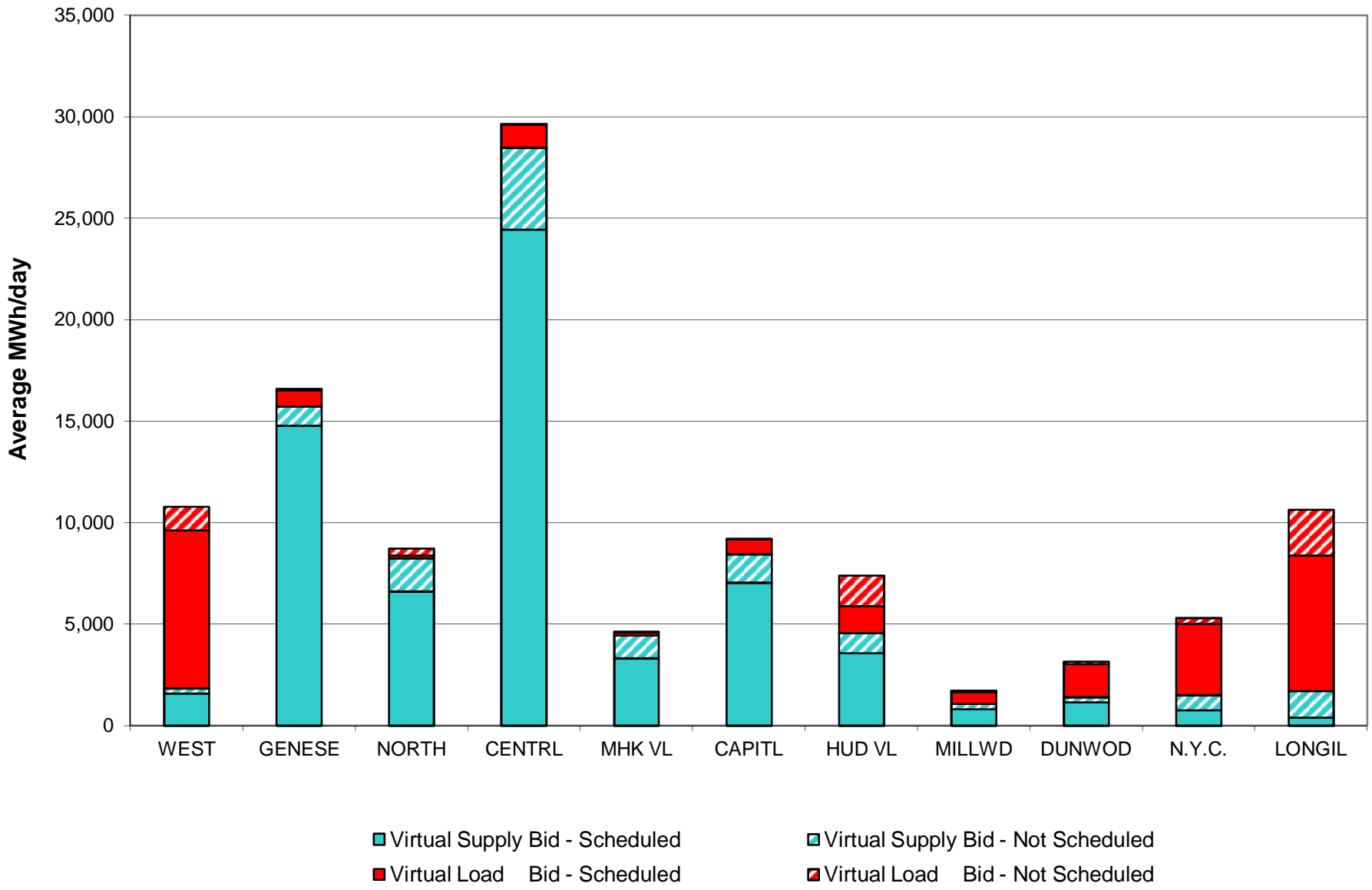


\* Calendar days from reservation date.

## NYISO Virtual Trading Average MWh per day



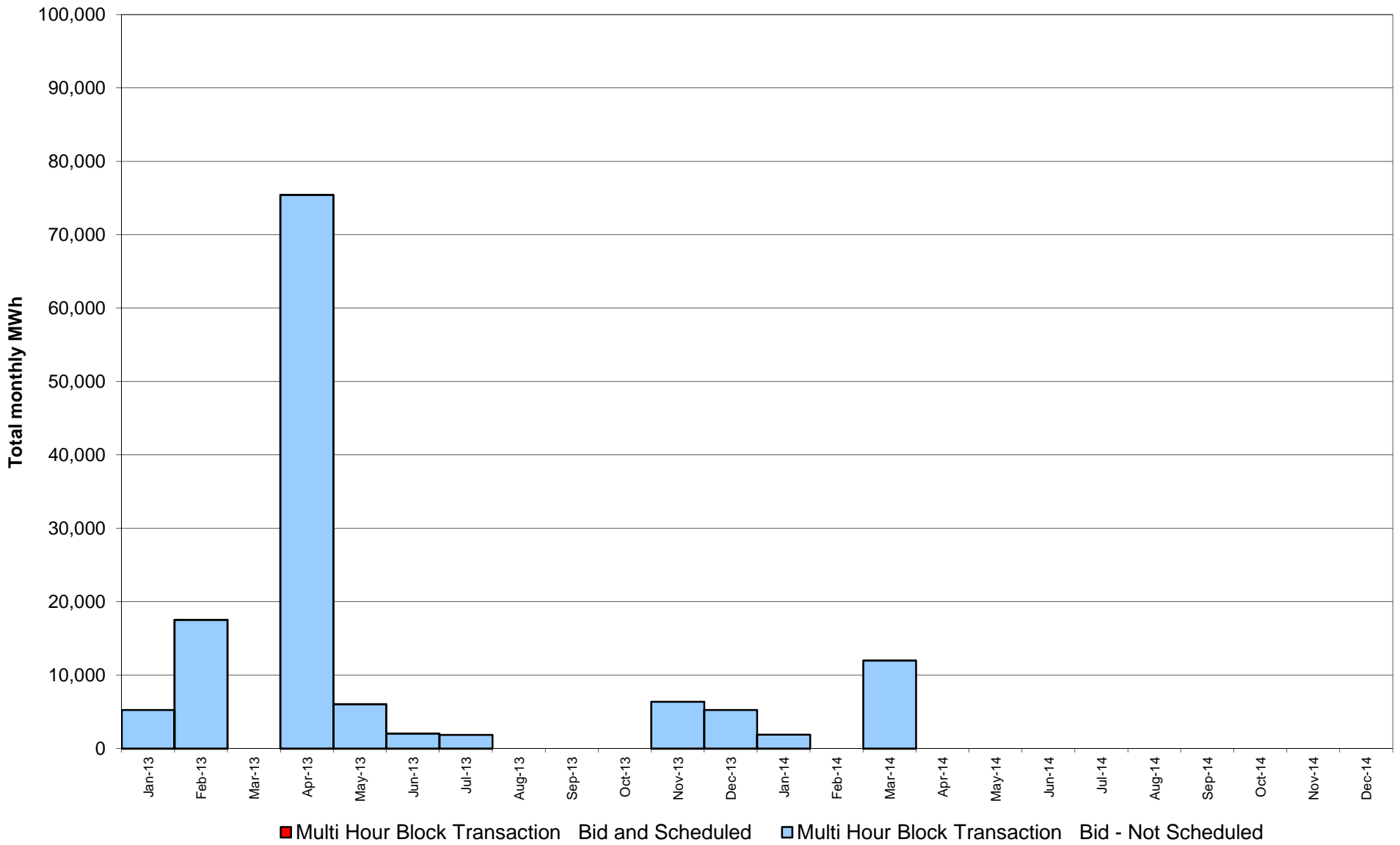
### Virtual Load and Supply Zonal Statistics through August 31, 2014



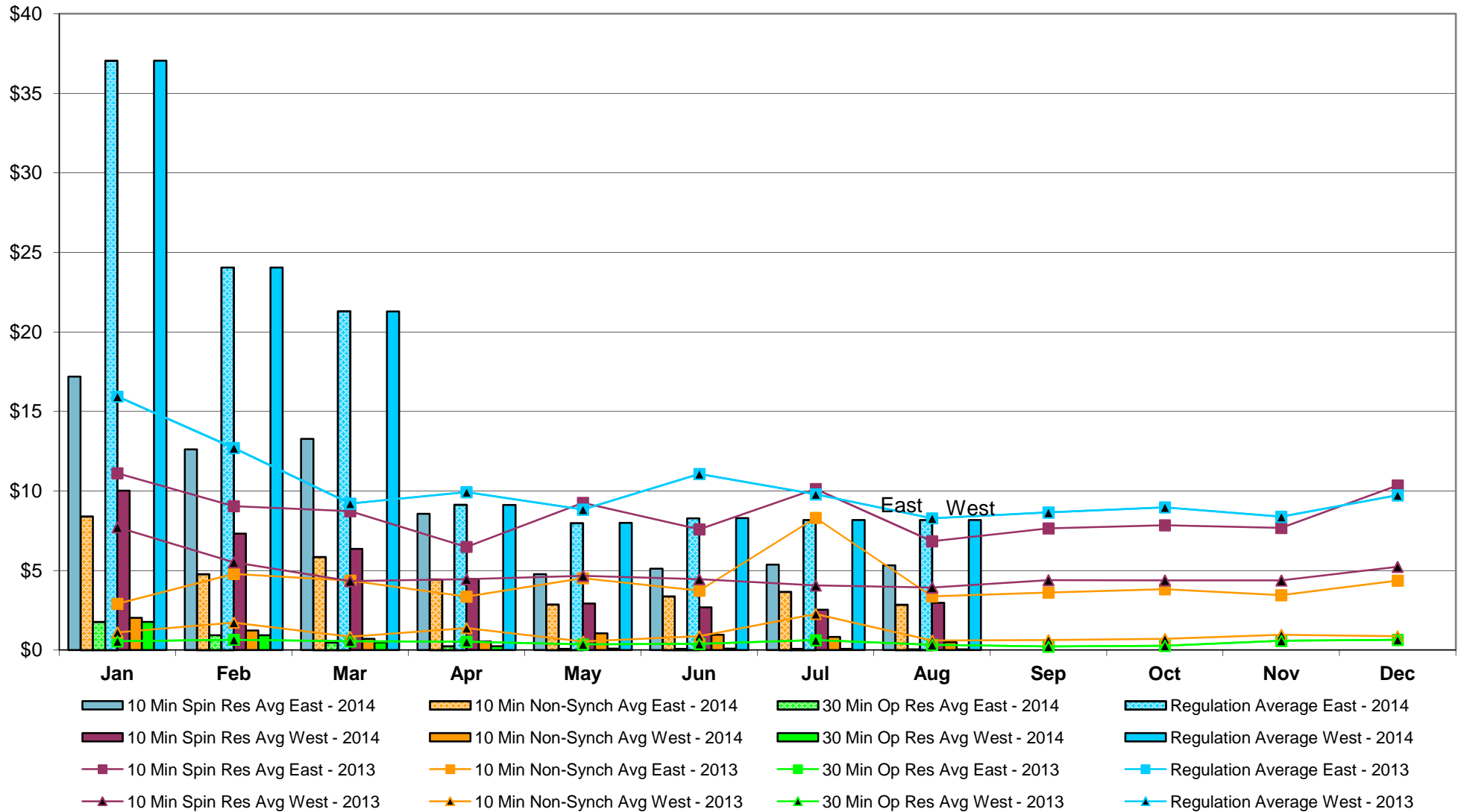
**Virtual Load and Supply Zonal Statistics (Average MWh/day) - 2014**

		Virtual Load Bid		Virtual Supply Bid				Virtual Load Bid		Virtual Supply Bid				Virtual Load Bid		Virtual Supply Bid	
Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled	Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled	Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled
<b>WEST</b>	Jan-14	6,213	5,063	2,777	155	<b>MHK VL</b>	Jan-14	429	587	1,316	260	<b>DUNWOD</b>	Jan-14	354	631	2,182	268
	Feb-14	5,077	805	2,814	422		Feb-14	340	204	824	90		Feb-14	577	348	846	176
	Mar-14	4,982	601	2,874	159		Mar-14	415	527	826	106		Mar-14	481	473	1,794	146
	Apr-14	7,473	451	1,880	130		Apr-14	242	44	1,685	136		Apr-14	211	17	2,493	87
	May-14	7,071	353	952	158		May-14	231	7	2,372	412		May-14	930	75	580	67
	Jun-14	7,711	1,645	1,701	277		Jun-14	632	115	2,090	195		Jun-14	1,814	96	966	25
	Jul-14	6,396	470	1,608	78		Jul-14	610	99	2,733	256		Jul-14	3,228	249	1,043	243
	Aug-14	7,802	1,161	1,574	255		Aug-14	148	59	3,327	1,114		Aug-14	1,647	106	1,146	255
	Sep-14						Sep-14						Sep-14				
	Oct-14						Oct-14						Oct-14				
	Nov-14						Nov-14						Nov-14				
	Dec-14						Dec-14						Dec-14				
<b>GENESE</b>	Jan-14	434	279	5,230	425	<b>CAPITL</b>	Jan-14	1,439	1,278	3,985	379	<b>N.Y.C.</b>	Jan-14	2,627	3,843	666	1,083
	Feb-14	473	107	5,250	487		Feb-14	1,116	871	4,100	127		Feb-14	2,470	1,392	521	625
	Mar-14	1,164	176	6,014	88		Mar-14	1,237	939	4,623	129		Mar-14	3,075	1,308	152	1,172
	Apr-14	551	13	8,329	173		Apr-14	780	107	4,476	133		Apr-14	3,335	289	152	2,900
	May-14	134	18	5,223	798		May-14	479	17	5,367	337		May-14	2,276	165	205	4,679
	Jun-14	211	2	9,133	405		Jun-14	367	93	5,631	333		Jun-14	2,741	390	121	3,613
	Jul-14	979	78	15,781	549		Jul-14	452	31	8,007	1,290		Jul-14	4,273	712	513	780
	Aug-14	817	62	14,782	938		Aug-14	753	8	7,039	1,402		Aug-14	3,526	270	768	740
	Sep-14						Sep-14						Sep-14				
	Oct-14						Oct-14						Oct-14				
	Nov-14						Nov-14						Nov-14				
	Dec-14						Dec-14						Dec-14				
<b>NORTH</b>	Jan-14	47	168	6,579	1,592	<b>HUD VL</b>	Jan-14	1,612	1,554	4,091	466	<b>LONGIL</b>	Jan-14	7,605	6,704	59	375
	Feb-14	110	4	5,732	1,308		Feb-14	634	1,325	3,963	792		Feb-14	5,365	2,494	145	230
	Mar-14	121	10	6,390	895		Mar-14	552	1,130	3,644	1,081		Mar-14	5,083	1,885	166	223
	Apr-14	67	4	8,216	1,007		Apr-14	413	725	4,889	918		Apr-14	7,434	579	102	18
	May-14	89	1	7,535	955		May-14	817	358	4,407	760		May-14	6,303	1,452	83	151
	Jun-14	17	0	4,710	1,222		Jun-14	1,007	964	3,669	640		Jun-14	6,607	1,264	97	77
	Jul-14	42	1	6,501	1,278		Jul-14	1,828	1,243	2,924	1,328		Jul-14	7,903	2,104	304	854
	Aug-14	146	344	6,615	1,624		Aug-14	1,349	1,507	3,568	987		Aug-14	6,681	2,246	412	1,306
	Sep-14						Sep-14						Sep-14				
	Oct-14						Oct-14						Oct-14				
	Nov-14						Nov-14						Nov-14				
	Dec-14						Dec-14						Dec-14				
<b>CENTRL</b>	Jan-14	675	392	27,758	624	<b>MILLWD</b>	Jan-14	235	401	848	470	<b>NYISO</b>	Jan-14	21,670	20,900	55,491	6,098
	Feb-14	419	155	27,395	1,484		Feb-14	324	183	1,015	357		Feb-14	16,907	7,888	52,604	6,097
	Mar-14	466	359	16,130	1,822		Mar-14	278	293	872	262		Mar-14	17,855	7,700	43,485	6,082
	Apr-14	222	13	5,535	430		Apr-14	119	54	878	255		Apr-14	20,848	2,295	38,637	6,187
	May-14	743	0	24,434	3,035		May-14	395	32	1,104	392		May-14	19,467	2,478	52,261	11,742
	Jun-14	829	25	24,422	2,180		Jun-14	670	66	1,230	254		Jun-14	22,606	4,660	53,771	9,221
	Jul-14	1,041	71	25,054	3,466		Jul-14	1,148	184	840	213		Jul-14	27,900	5,243	65,308	10,336
	Aug-14	1,119	65	24,453	4,027		Aug-14	573	91	809	266		Aug-14	24,561	5,920	64,494	12,915
	Sep-14						Sep-14						Sep-14				
	Oct-14						Oct-14						Oct-14				
	Nov-14						Nov-14						Nov-14				
	Dec-14						Dec-14						Dec-14				

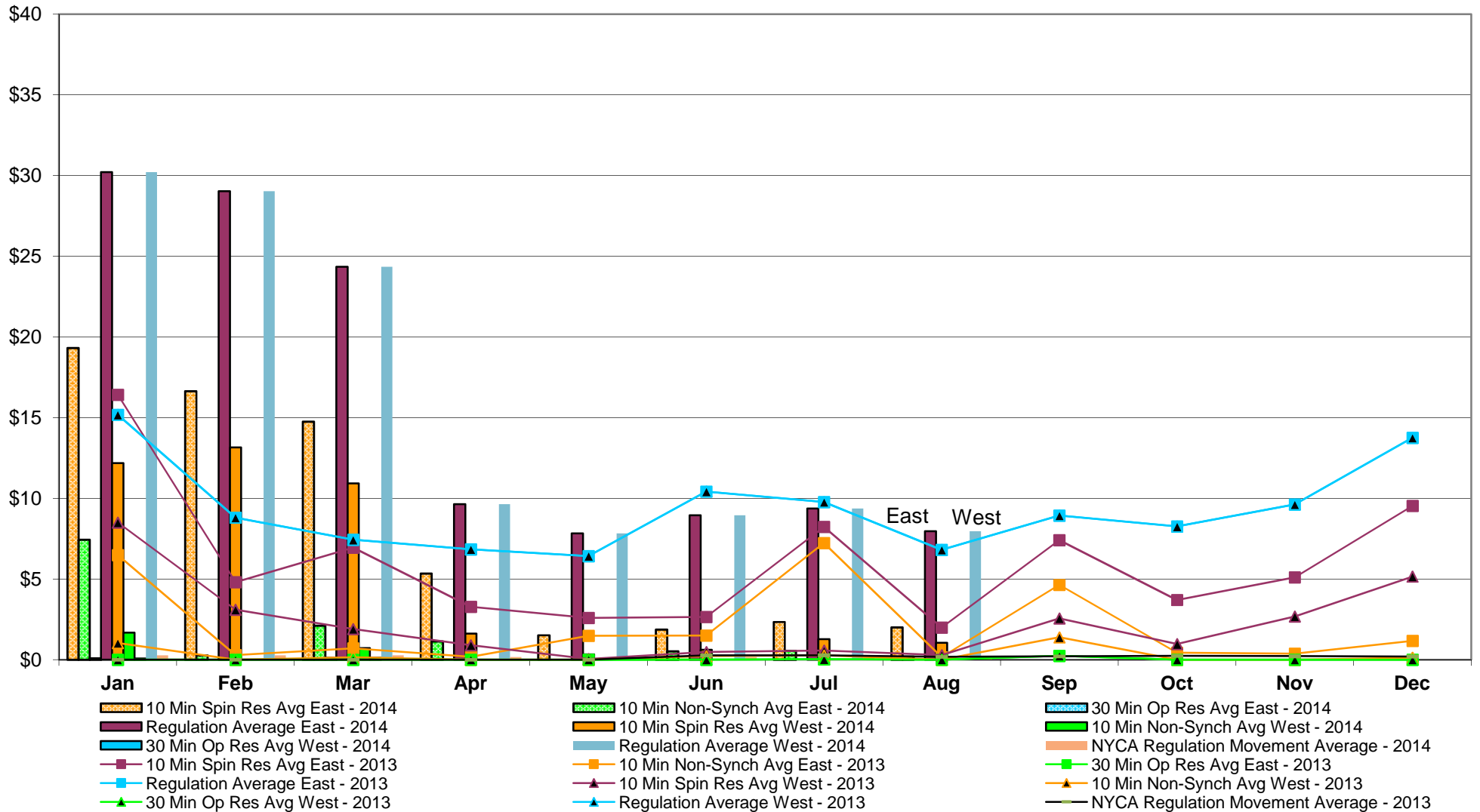
## NYISO Multi Hour Block Transactions Monthly Total MWh



## NYISO Monthly Average Ancillary Service Prices Day Ahead Market 2013 - 2014

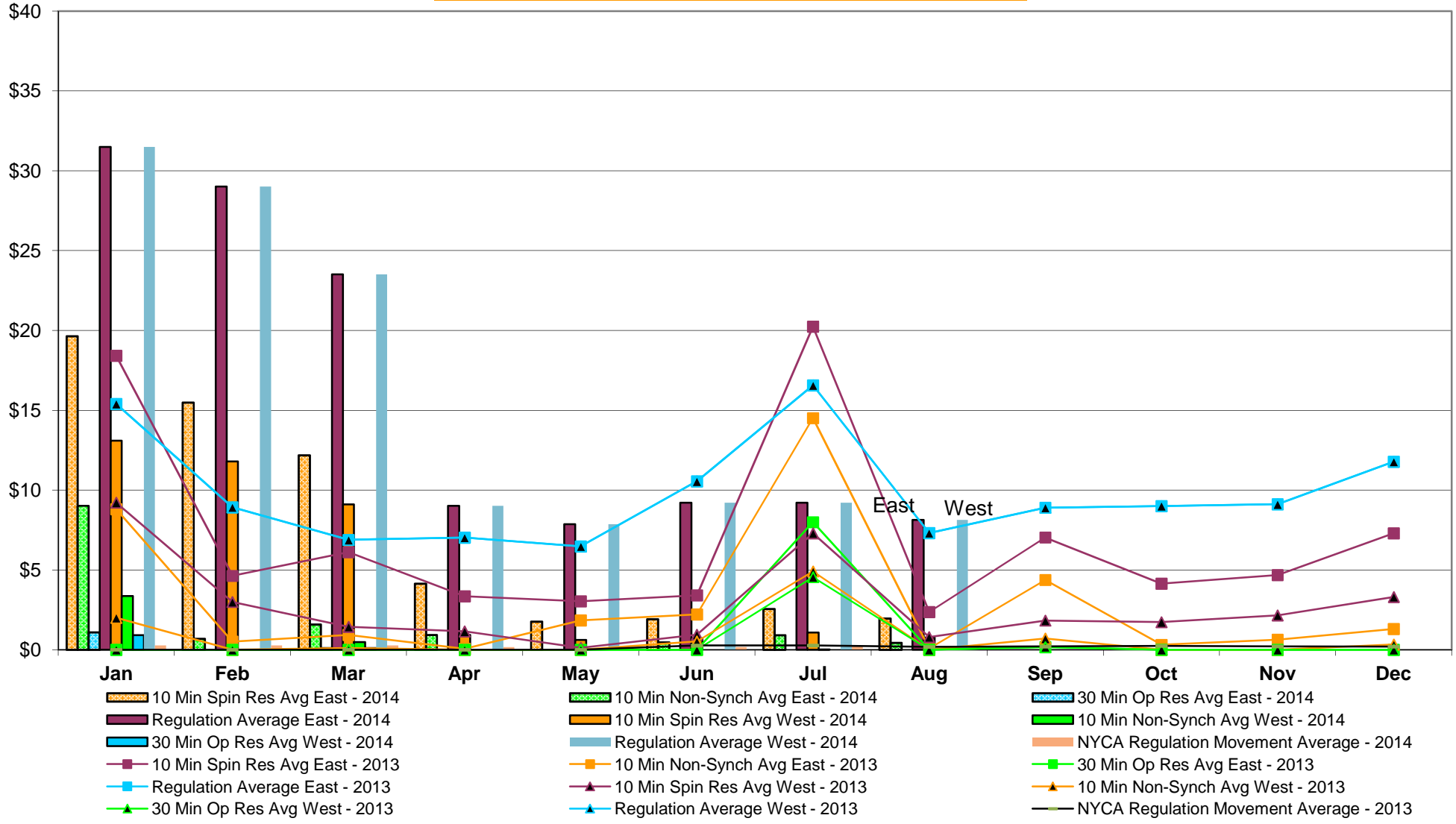


## NYISO Monthly Average Ancillary Service Prices RTC Market 2013 - 2014





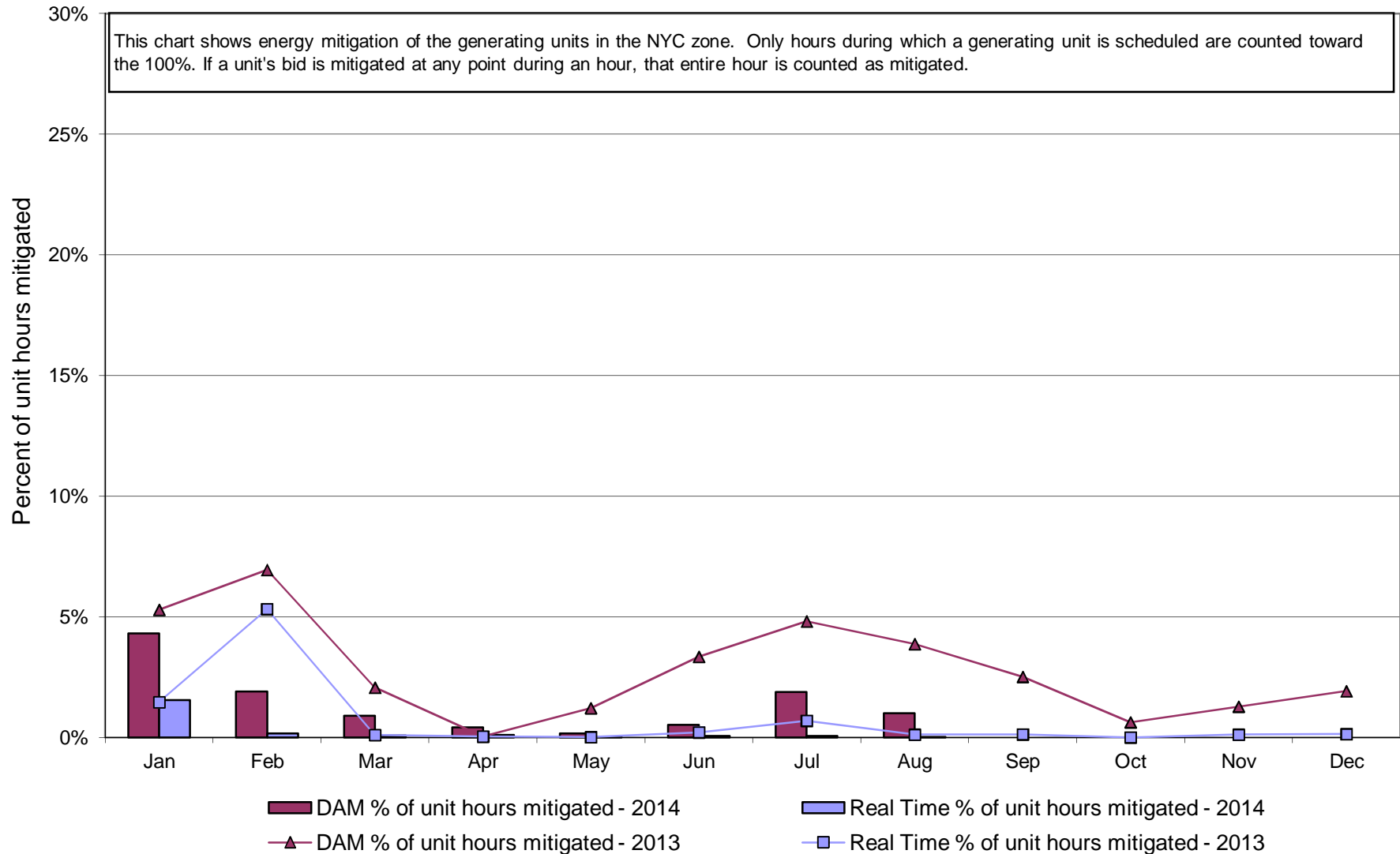
## NYISO Monthly Average Ancillary Service Prices Real Time Market 2013 - 2014



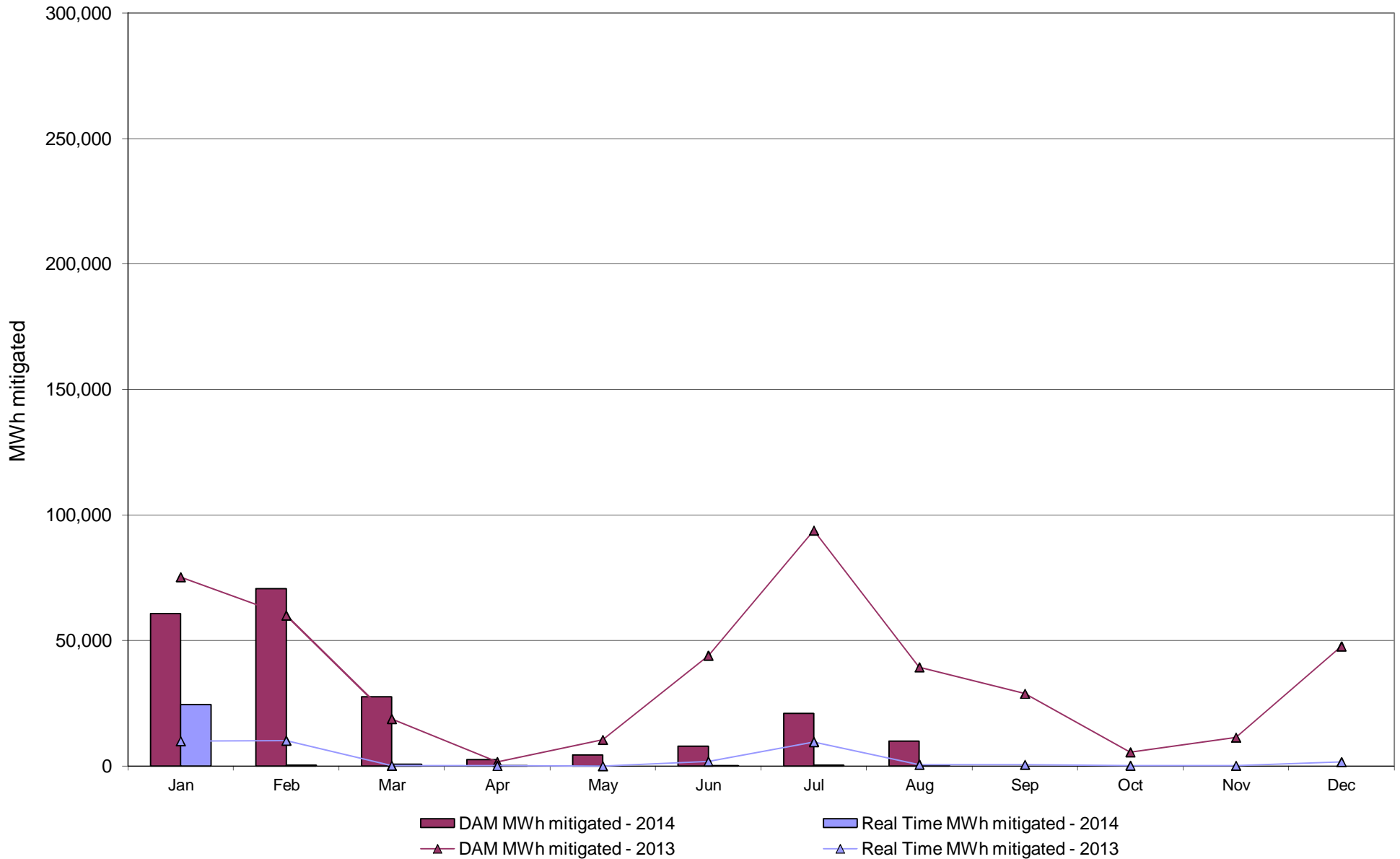
**NYISO Markets Ancillary Services Statistics - Unweighted Price (\$/MWH)**

<b>2014</b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b>Day Ahead Market</b>												
10 Min Spin East	17.19	12.62	13.27	8.57	4.77	5.11	5.37	5.33				
10 Min Spin West	10.02	7.32	6.36	4.47	2.92	2.69	2.54	2.96				
10 Min Non Synch East	8.40	4.78	5.86	4.44	2.86	3.37	3.65	2.85				
10 Min Non Synch West	2.02	1.23	0.70	0.55	1.06	0.96	0.83	0.49				
30 Min East	1.77	0.93	0.47	0.24	0.09	0.08	0.08	0.04				
30 Min West	1.77	0.93	0.47	0.24	0.09	0.08	0.08	0.04				
Regulation East	37.05	24.05	21.29	9.12	7.99	8.30	8.18	8.18				
Regulation West	37.05	24.05	21.29	9.12	7.99	8.30	8.18	8.18				
<b>RTC Market</b>												
10 Min Spin East	19.32	16.64	14.76	5.34	1.52	1.87	2.35	2.00				
10 Min Spin West	12.18	13.16	10.93	1.61	0.33	0.61	1.27	1.04				
10 Min Non Synch East	7.43	0.26	2.10	1.14	0.00	0.52	0.55	0.20				
10 Min Non Synch West	1.68	0.00	0.72	0.00	0.00	0.00	0.00	0.00				
30 Min East	0.08	0.00	0.12	0.00	0.00	0.00	0.00	0.00				
30 Min West	0.08	0.00	0.12	0.00	0.00	0.00	0.00	0.00				
Regulation East	30.21	29.03	24.35	9.64	7.83	8.95	9.36	7.97				
Regulation West	30.21	29.03	24.35	9.64	7.83	8.95	9.36	7.97				
NYCA Regulation Movement	0.28	0.27	0.26	0.17	0.15	0.17	0.21	0.18				
<b>Real Time Market</b>												
10 Min Spin East	19.64	15.48	12.19	4.15	1.78	1.92	2.57	1.96				
10 Min Spin West	13.10	11.80	9.11	0.94	0.61	0.72	1.08	0.76				
10 Min Non Synch East	9.03	0.70	1.59	0.93	0.00	0.48	0.92	0.44				
10 Min Non Synch West	3.37	0.00	0.48	0.00	0.00	0.00	0.00	0.00				
30 Min East	1.10	0.00	0.11	0.00	0.00	0.00	0.00	0.00				
30 Min West	0.92	0.00	0.11	0.00	0.00	0.00	0.00	0.00				
Regulation East	31.50	29.02	23.52	9.02	7.87	9.21	9.21	8.13				
Regulation West	31.50	29.02	23.52	9.02	7.87	9.21	9.21	8.13				
NYCA Regulation Movement	0.27	0.27	0.27	0.17	0.15	0.18	0.21	0.19				
<b>2013</b>												
	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b>Day Ahead Market</b>												
10 Min Spin East	11.12	9.05	8.73	6.49	9.25	7.59	10.13	6.84	7.65	7.85	7.68	10.35
10 Min Spin West	7.72	5.53	4.34	4.46	4.67	4.46	4.06	3.94	4.40	4.38	4.37	5.23
10 Min Non Synch East	2.91	4.79	4.36	3.36	4.52	3.73	8.31	3.37	3.62	3.82	3.45	4.37
10 Min Non Synch West	1.11	1.73	0.84	1.38	0.55	0.88	2.27	0.60	0.63	0.70	0.96	0.87
30 Min East	0.56	0.65	0.56	0.53	0.36	0.40	0.62	0.33	0.23	0.28	0.59	0.65
30 Min West	0.56	0.65	0.56	0.53	0.36	0.40	0.62	0.33	0.23	0.28	0.59	0.65
Regulation East	15.94	12.70	9.21	9.93	8.84	11.07	9.80	8.29	8.65	8.98	8.38	9.74
Regulation West	15.94	12.70	9.21	9.93	8.84	11.07	9.80	8.29	8.65	8.98	8.38	9.74
<b>RTC Market</b>												
10 Min Spin East	16.42	4.81	6.94	3.28	2.59	2.65	8.23	1.99	7.40	3.70	5.11	9.53
10 Min Spin West	8.50	3.10	1.90	0.90	0.05	0.48	0.57	0.29	2.56	0.97	2.68	5.16
10 Min Non Synch East	6.48	0.28	0.70	0.18	1.48	1.50	7.23	0.16	4.63	0.44	0.38	1.17
10 Min Non Synch West	1.04	0.00	0.15	0.00	0.00	0.22	0.26	0.00	1.39	0.00	0.00	0.13
30 Min East	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.24	0.00	0.00	0.00
30 Min West	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.24	0.00	0.00	0.00
Regulation East	15.18	8.81	7.43	6.84	6.42	10.42	9.77	6.81	8.93	8.26	9.63	13.75
Regulation West	15.18	8.81	7.43	6.84	6.42	10.42	9.77	6.81	8.93	8.26	9.63	13.75
NYCA Regulation Movement	0.00	0.00	0.00	0.00	0.00	0.27	0.28	0.18	0.21	0.24	0.22	0.20
<b>Real Time Market</b>												
10 Min Spin East	18.42	4.63	6.12	3.35	3.03	3.41	20.24	2.37	7.03	4.14	4.68	7.29
10 Min Spin West	9.22	3.00	1.44	1.15	0.13	0.94	7.29	0.80	1.83	1.73	2.16	3.31
10 Min Non Synch East	8.81	0.52	0.93	0.06	1.84	2.22	14.51	0.07	4.37	0.31	0.63	1.31
10 Min Non Synch West	2.00	0.00	0.10	0.00	0.00	0.53	4.91	0.00	0.70	0.00	0.00	0.34
30 Min East	0.00	0.00	0.00	0.00	0.00	0.00	7.99	0.00	0.17	0.00	0.00	0.00
30 Min West	0.00	0.00	0.00	0.00	0.00	0.00	4.55	0.00	0.17	0.00	0.00	0.00
Regulation East	15.40	8.92	6.89	7.03	6.48	10.55	16.57	7.32	8.90	9.00	9.12	11.78
Regulation West	15.40	8.92	6.89	7.03	6.48	10.55	16.57	7.32	8.90	9.00	9.12	11.78
NYCA Regulation Movement	0.00	0.00	0.00	0.00	0.00	0.27	0.27	0.19	0.21	0.24	0.22	0.20

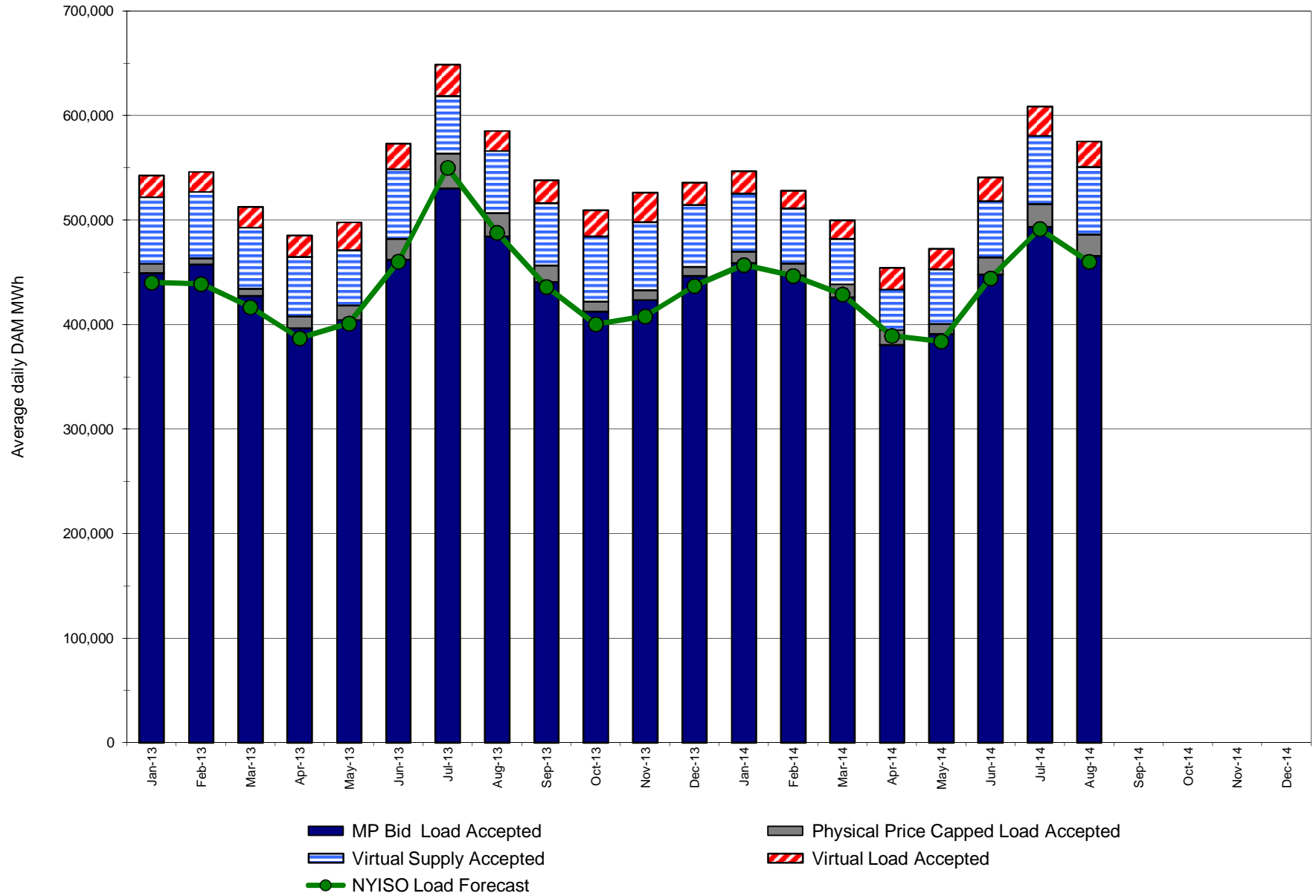
## NYISO In City Energy Mitigation - AMP (NYC Zone) 2013 - 2014 Percentage of committed unit-hours mitigated



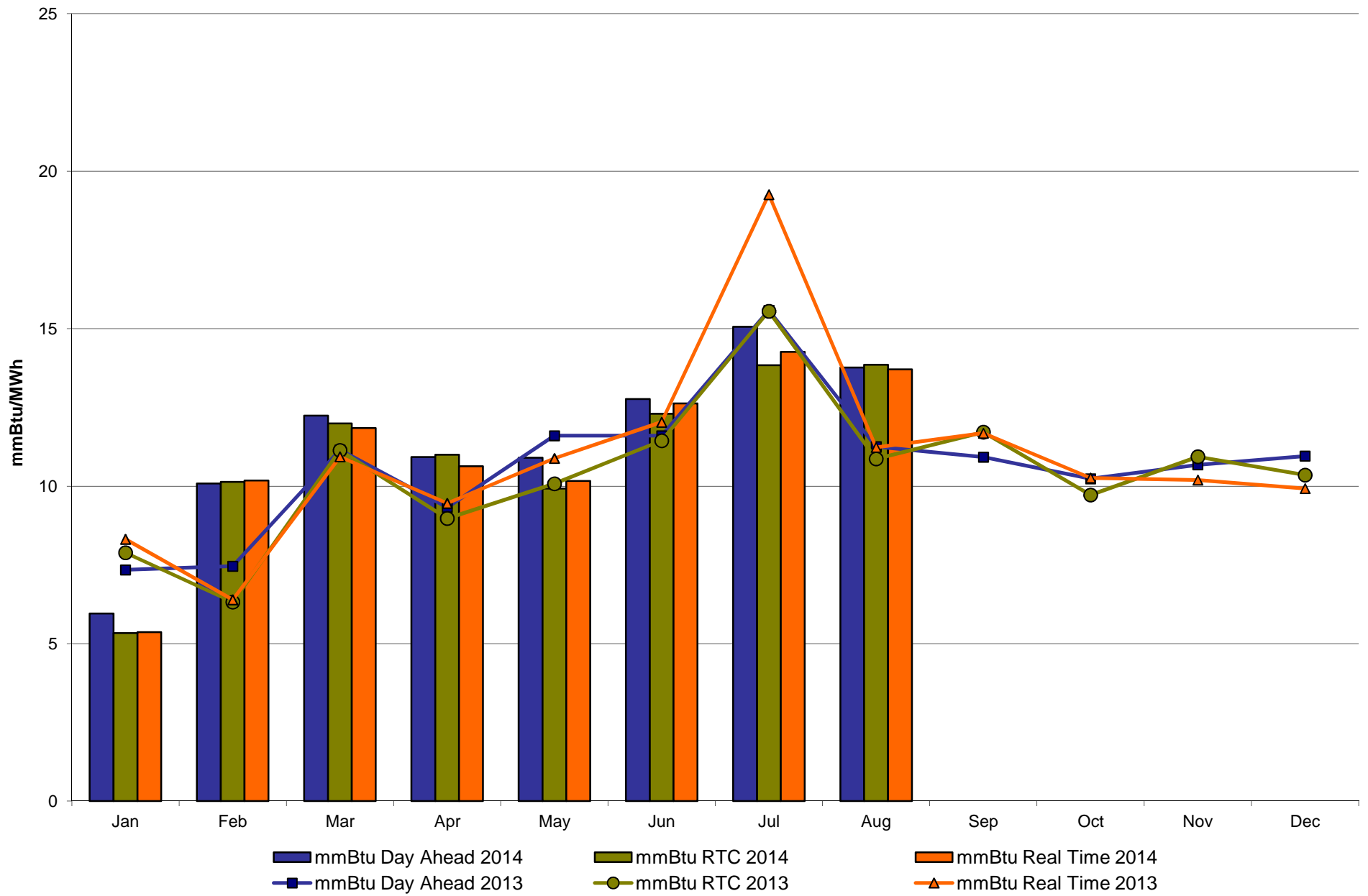
**NYISO In City Energy Mitigation (NYC Zone) 2013 - 2014  
Monthly megawatt hours mitigated**



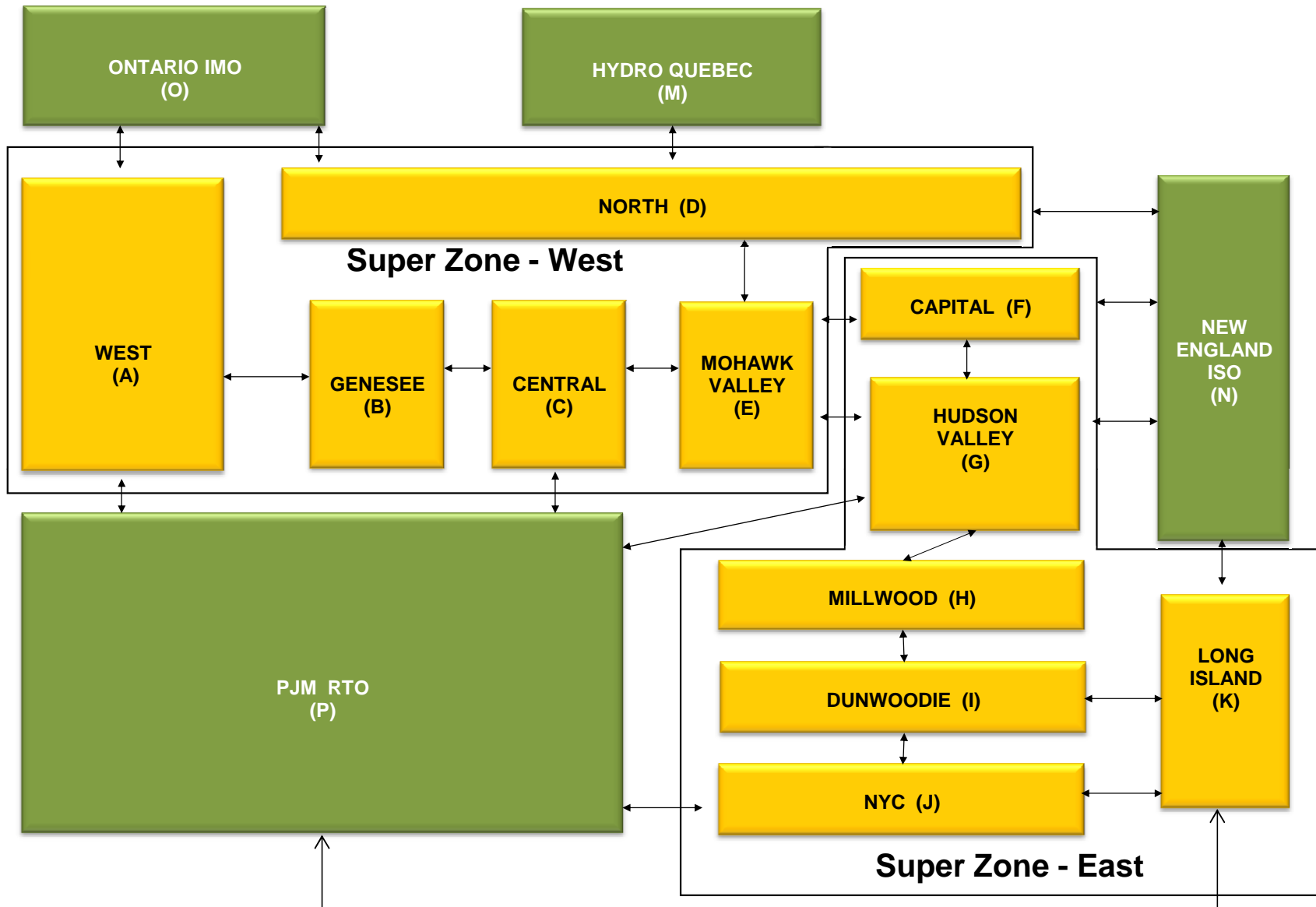
### NYISO Average Daily DAM Load Bid Summary



## Monthly Implied Heat Rate 2013-2014



# NYISO LBMP ZONES

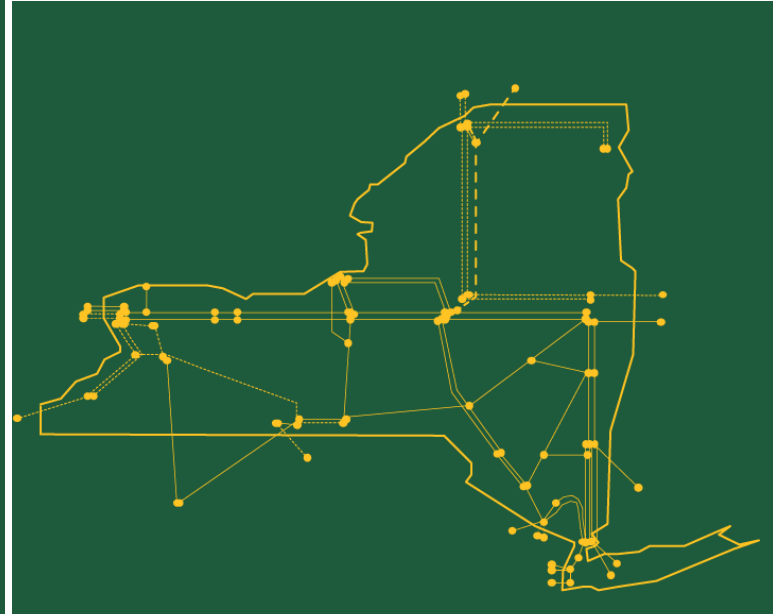


**Billing Codes for Chart 4-C**

<b>Chart - C Category Name</b>	<b>Billing Code</b>	<b>Billing Category Name</b>
Bid Production Cost Guarantee Balancing	81203	Balancing NYISO Bid Production Cost Guarantee - Internal Units
Bid Production Cost Guarantee Balancing	81204	Balancing NYISO Bid Production Cost Guarantee - External Units
Bid Production Cost Guarantee Balancing	81205	Balancing NYISO Bid Production Cost Guarantee Expenditure due to Curtailed Imports
Bid Production Cost Guarantee Balancing	81208	Balancing NYISO Bid Production Cost Guarantee - Internal Units
Bid Production Cost Guarantee Balancing	81209	Balancing NYISO Bid Production Cost Guarantee - External Units
Bid Production Cost Guarantee Balancing	81213	Balancing NYISO Bid Production Cost Guarantee Expenditure due to Curtailed Imports
Bid Production Cost Guarantee DAM	81201	DAM NYISO Bid Production Cost Guarantee - Internal Units
Bid Production Cost Guarantee DAM	84001	EDRP/SCR Demand Response - Local
Bid Production Cost Guarantee DAM	84101	EDRP/SCR Demand Response - NYISO Wide
Bid Production Cost Guarantee DAM	81401	DAM Price Responsive Load Program
Bid Production Cost Guarantee DAM	81202	DAM NYISO Bid Production Cost Guarantee - External Units
Bid Production Cost Guarantee DAM	81206	DAM NYISO Bid Production Cost Guarantee - Internal Units
Bid Production Cost Guarantee DAM	81207	DAM NYISO Bid Production Cost Guarantee - External Units
Bid Production Cost Guarantee DAM Virtual	81501	DAM Virtual Bid Production Cost Guarantee
DAM Contract Balancing	81315	DAM Contract Balancing
DAM Contract Balancing	81317	DAM Contract Balancing
Local Reliability Balancing	81002	Balancing Local Reliability Bid Production Cost Guarantee
Local Reliability Balancing	83901	Margin Restoration (MOB) Revenue
Local Reliability DAM	81001	DAM Local Reliability Bid Production Cost Guarantee
NYISO Cost of Operations	80901	NYISO Cost Of Operations
NYISO Cost of Operations	80902	NYISO Cost Of Operations
NYISO Cost of Operations	83501	NYISO Cost Of Operations
NYISO Cost of Operations	83502	NYISO Cost Of Operations
Residuals Balancing	81302	Balancing Market Energy Residual
Residuals Balancing	81304	Balancing Market Loss Residual
Residuals Balancing	81305	Balancing Market Congestion Balancing
Residuals Balancing	81306	Emergency Energy Purchases
Residuals Balancing	81307	Emergency Energy Sales
Residuals Balancing	81309	Balancing Market Energy Residual
Residuals Balancing	81311	Balancing Market Loss Residual
Residuals Balancing	81312	Balancing Market Congestion Balancing
Residuals Balancing	81313	Emergency Energy Purchases
Residuals Balancing	81314	Emergency Energy Sales
Residuals DAM	81301	Day Ahead Market Energy Residual
Residuals DAM	81303	Day Ahead Market Loss Residual
Residuals DAM	81308	Day Ahead Market Energy Residual
Residuals DAM	81310	Day Ahead Market Loss Residual



The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



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