



# Monthly Report

July 2015

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# ***Operations Performance Metrics Monthly Report***



## ***July 2015 Report***

### **Operations & Reliability Department New York Independent System Operator**

Prepared by NYISO Operations Analysis and Services, based on settlements initial invoice data collected on or before August 10, 2015.

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## July 2015 Operations Performance Highlights

- Peak load of 31,138 MW occurred on 7/29/2015 HB 16
- All-time summer capability period peak load of 33,956 MW occurred on 7/19/2013 HB 16
- 19 hours of Thunder Storm Alerts were declared
- 0 hours of NERC TLR level 3 curtailment
- Commissioning began at the end of July for a new 200 MVAR Shunt Reactor at the 345kV Coopers Corners substation.
- The following table identifies the estimated production cost savings associated with the Broader Regional Market initiatives.

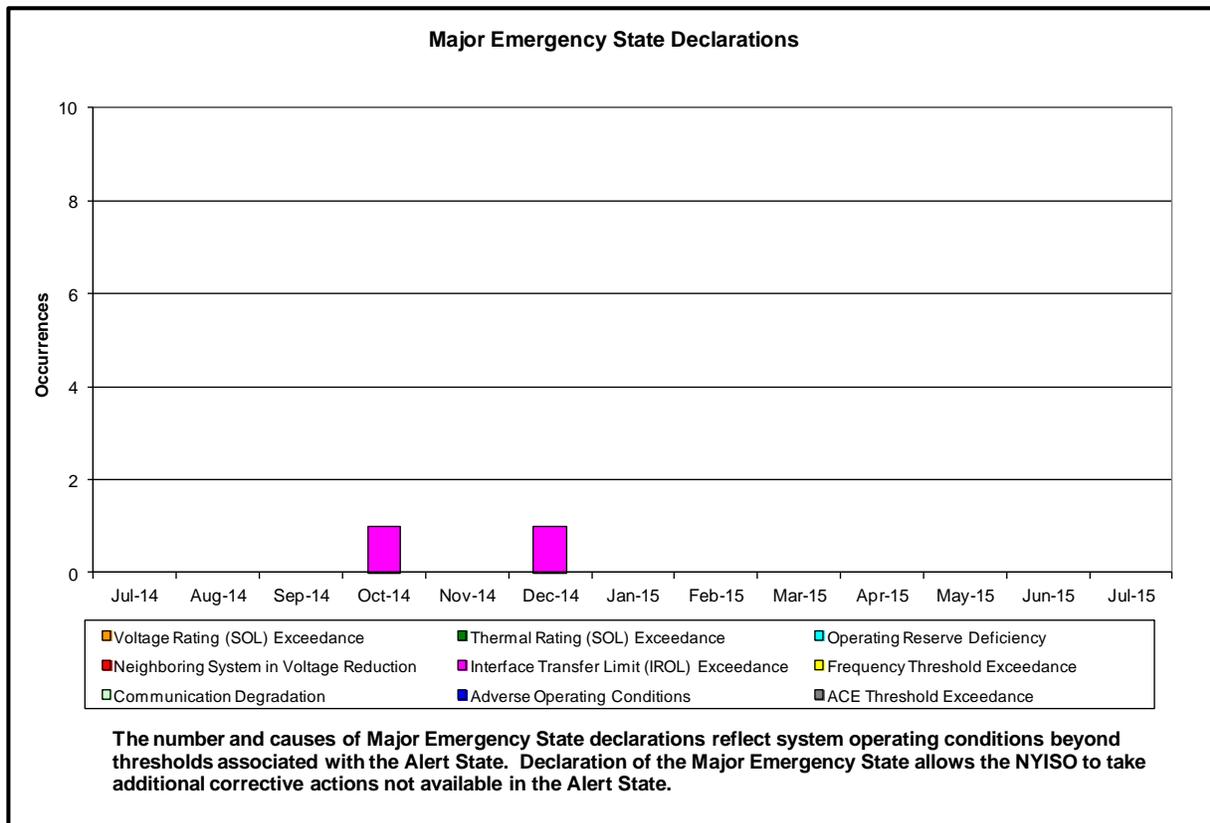
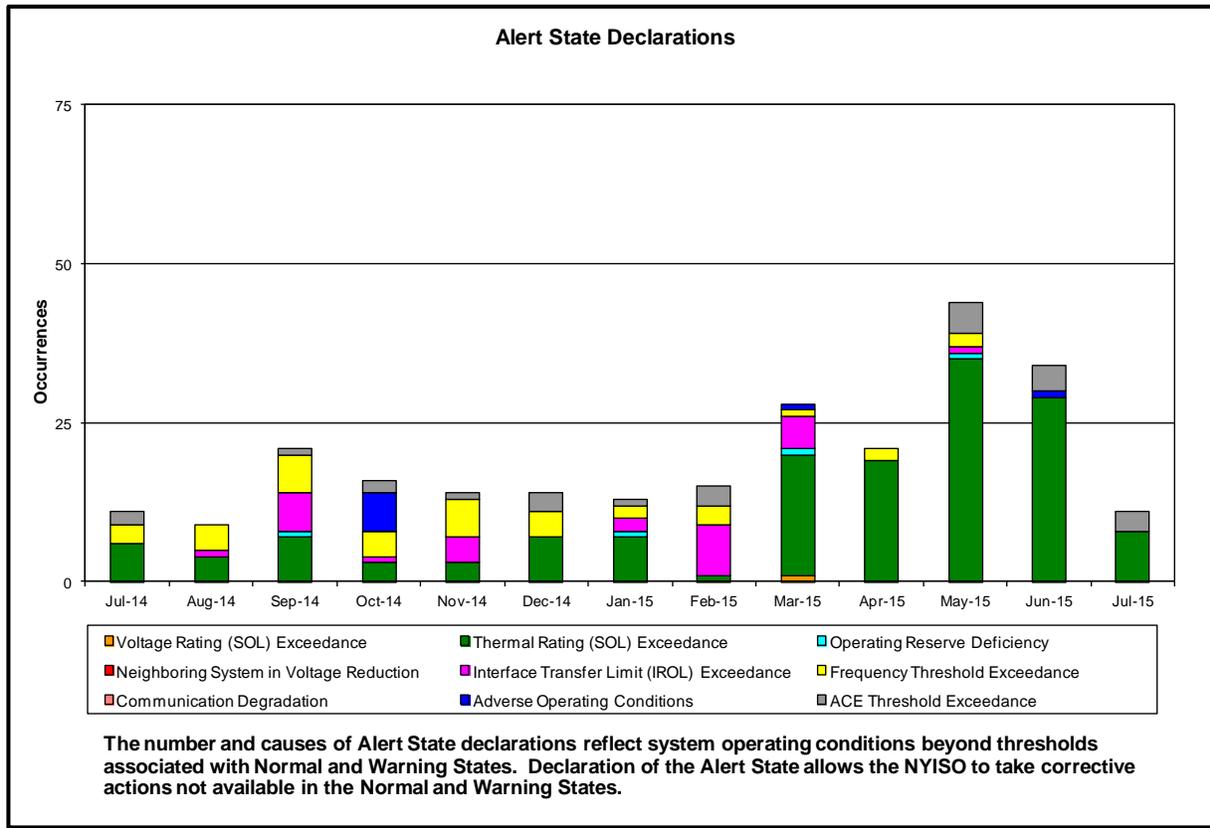
	Current Month Value (\$M)	Year-to-Date Value (\$M)
Regional Congestion Coordination	\$0.32	\$9.42
Regional PJM-NY RT Scheduling	\$0.40	\$4.14
<b>Total</b>	<b>\$0.72</b>	<b>\$13.56</b>

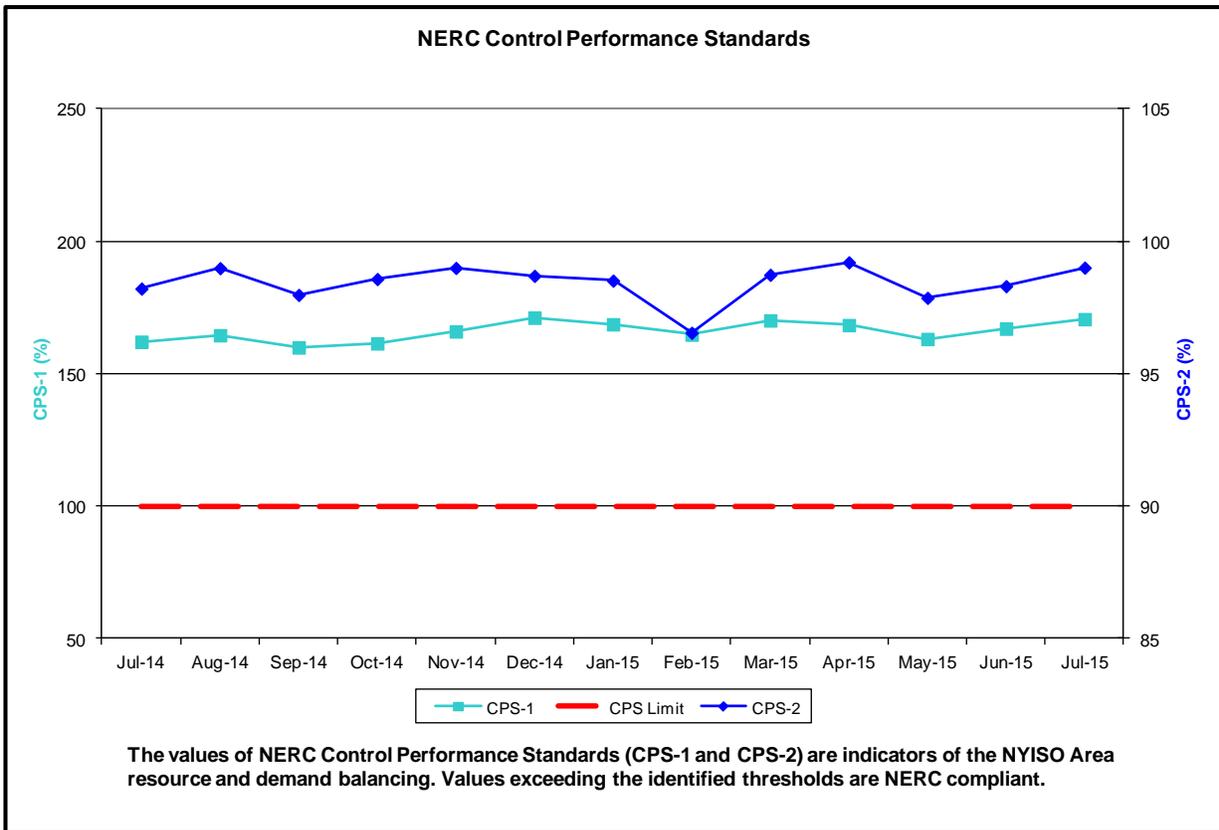
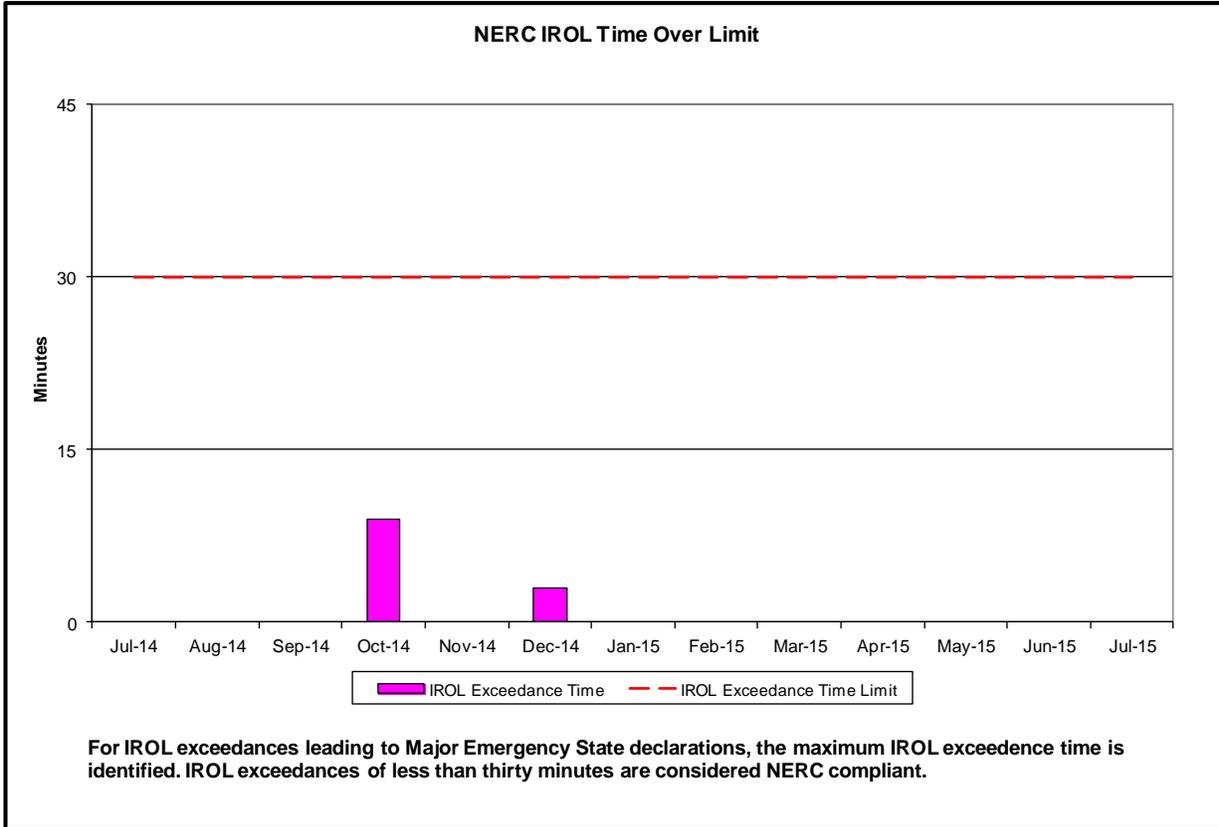
- Statewide uplift cost monthly average was **(\$0.31)/MWh**
- The following table identifies the Monthly ICAP spot market prices by locality and the price changes from the prior month.

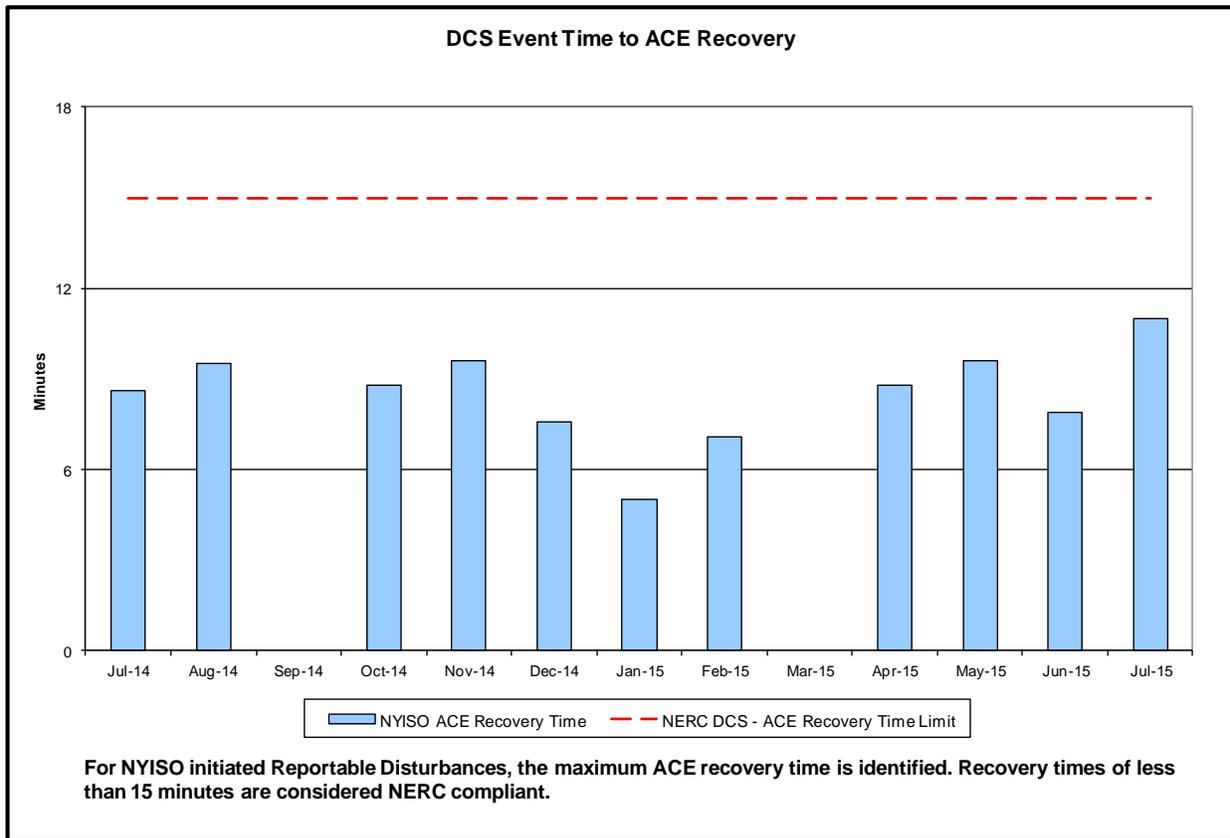
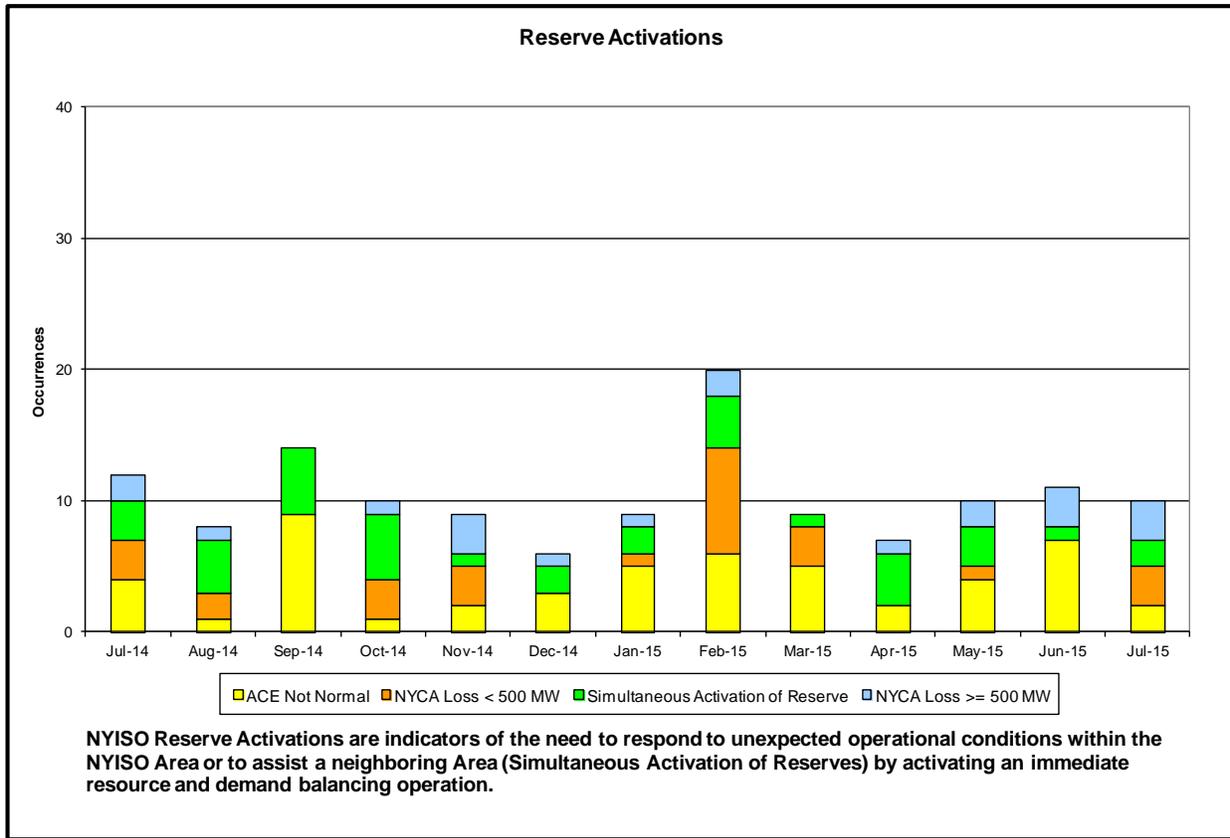
Spot Auction Price Results	NYCA	Lower Hudson Valley Zone	New York City Zone	Long Island Zone
August 2015 Spot Price	\$3.58	\$8.32	\$15.32	\$5.77
Change from Prior Month	<b>(\$0.40)</b>	<b>(\$0.04)</b>	\$0.06	\$0.00

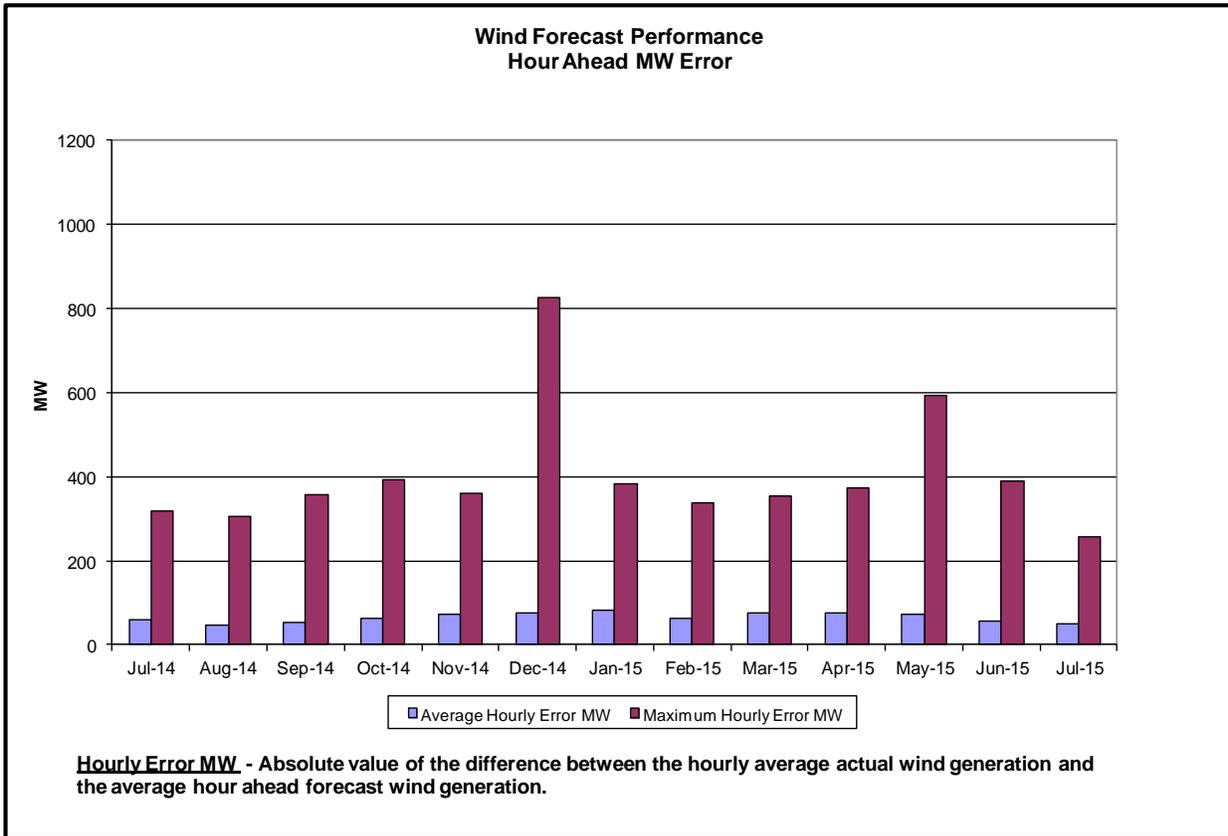
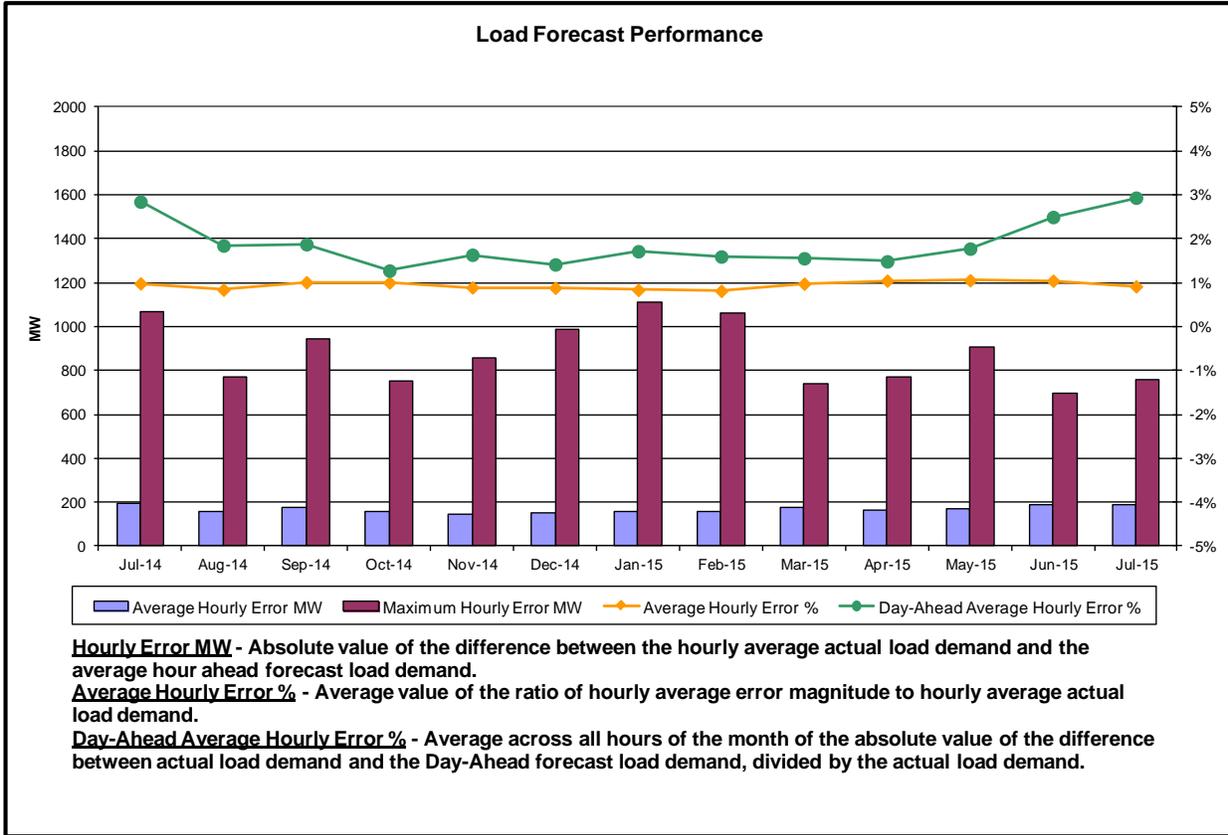
- NYCA - Price decrease of \$0.40 due primarily to net increase in imports.

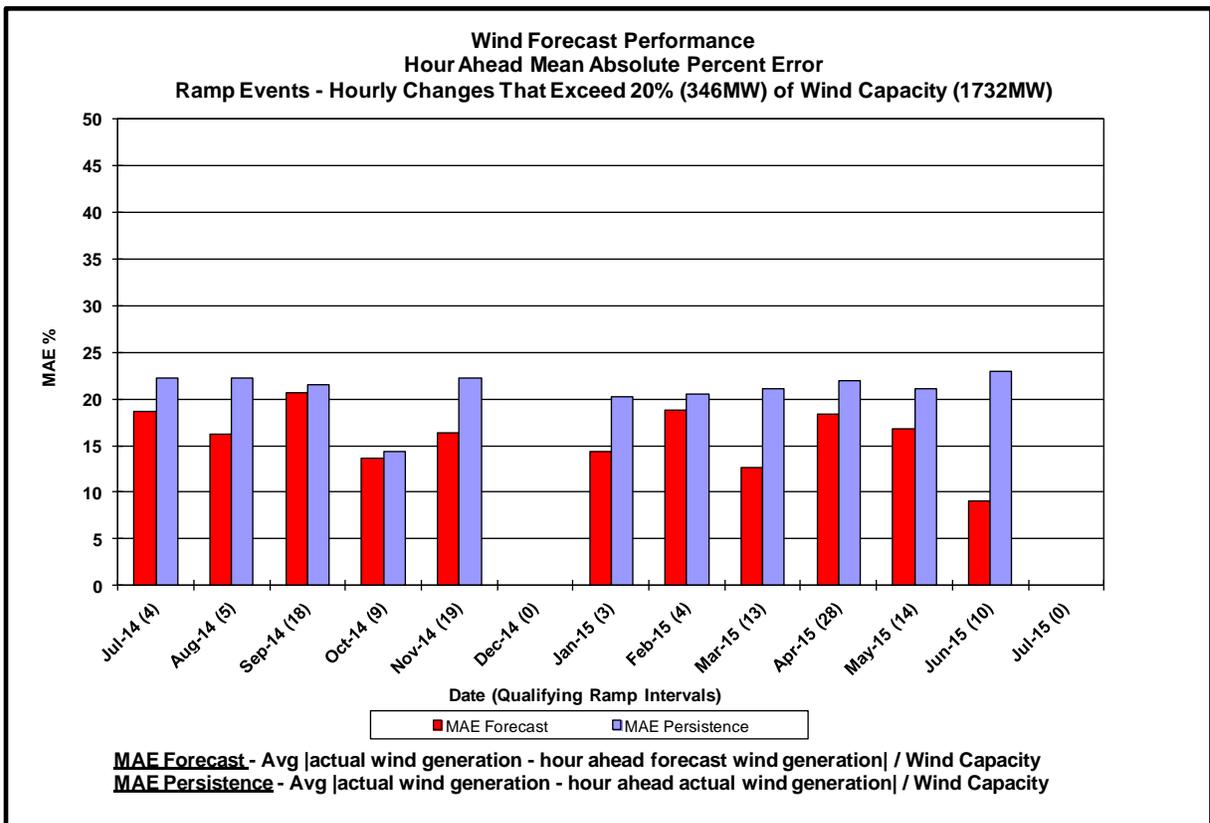
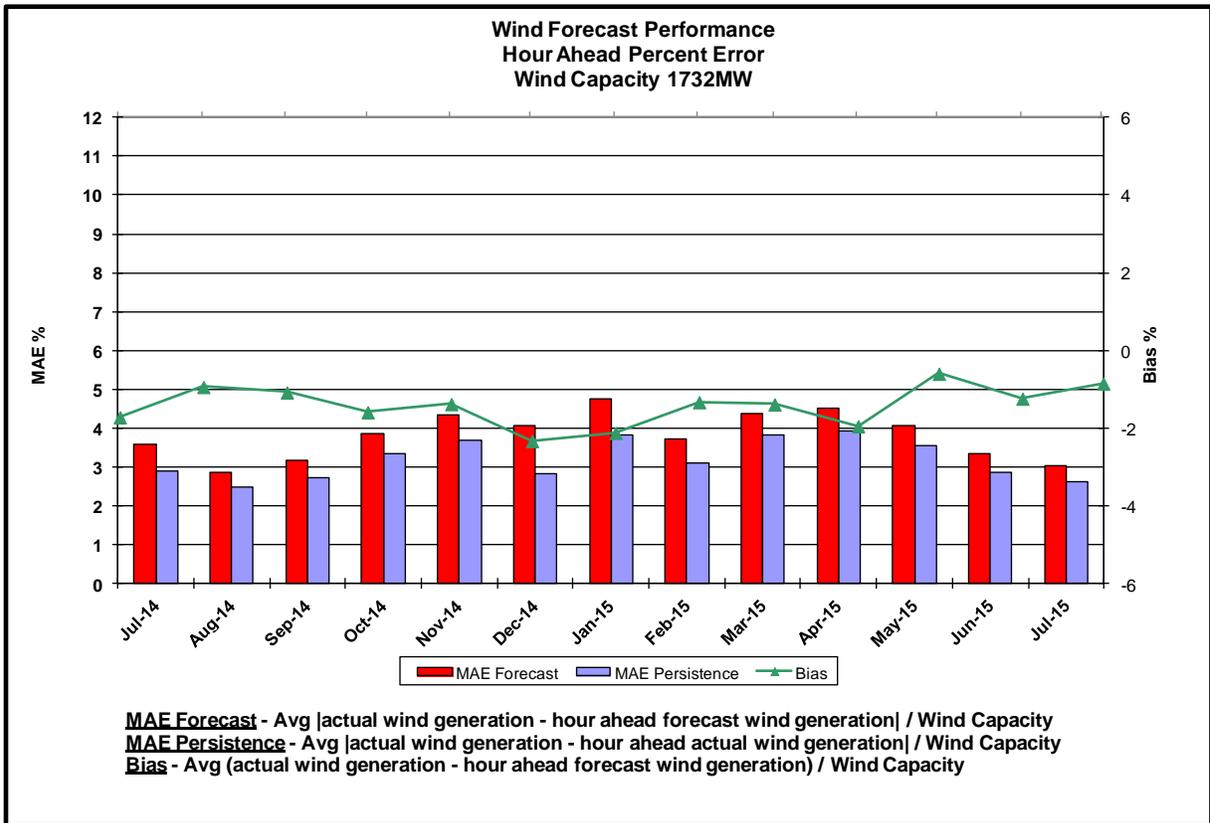
## Reliability Performance Metrics

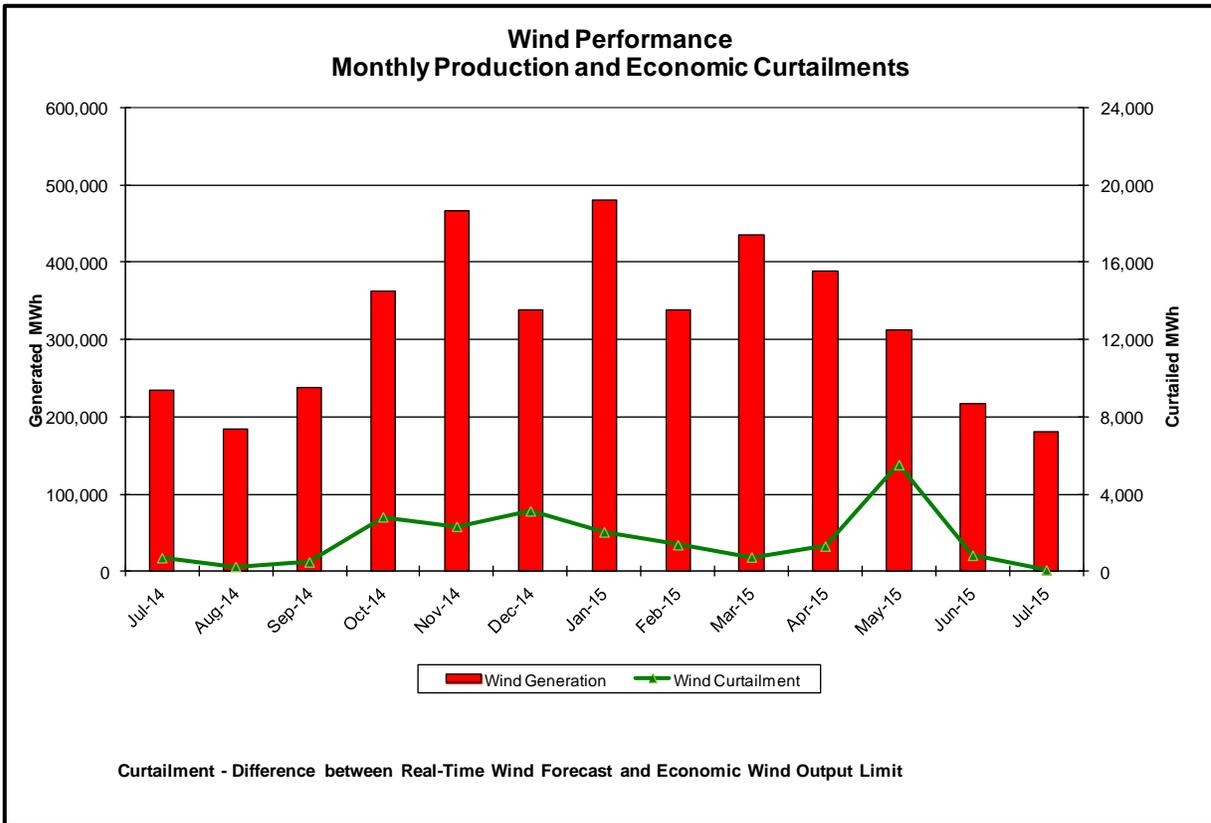
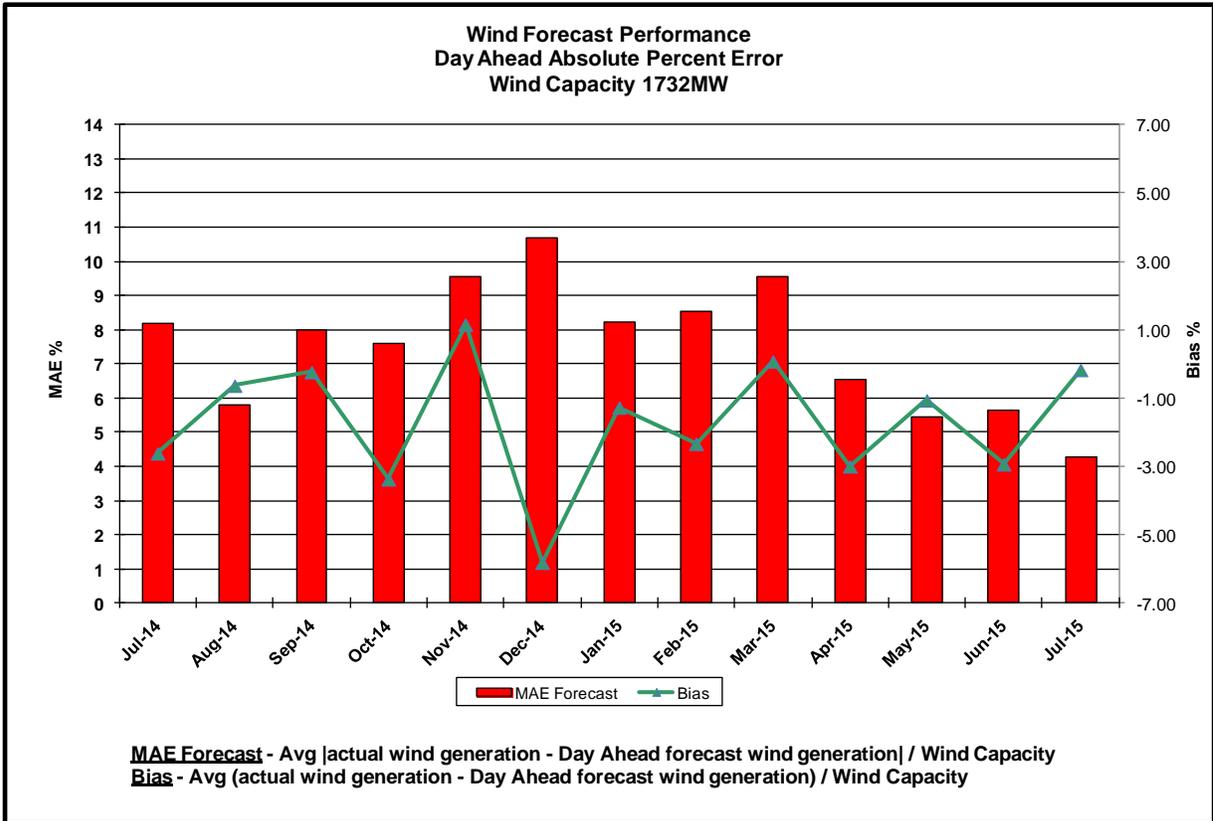


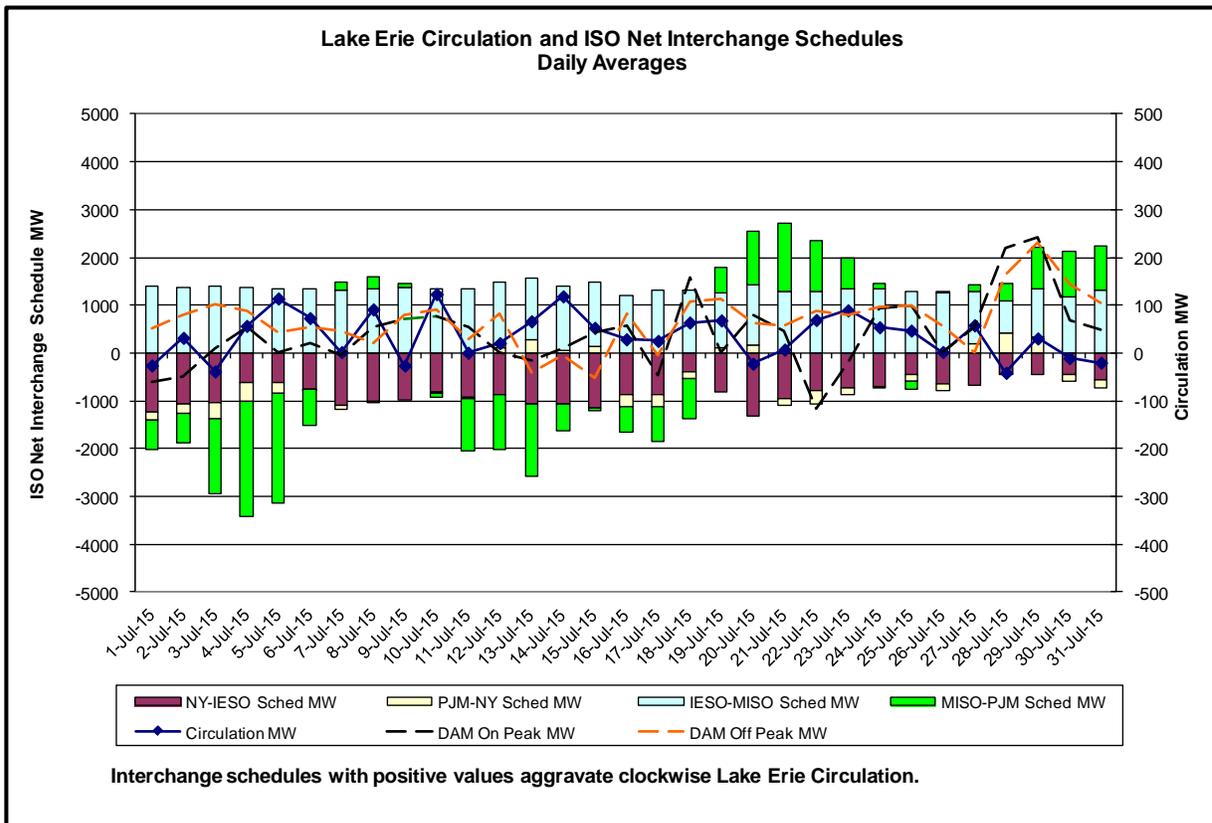
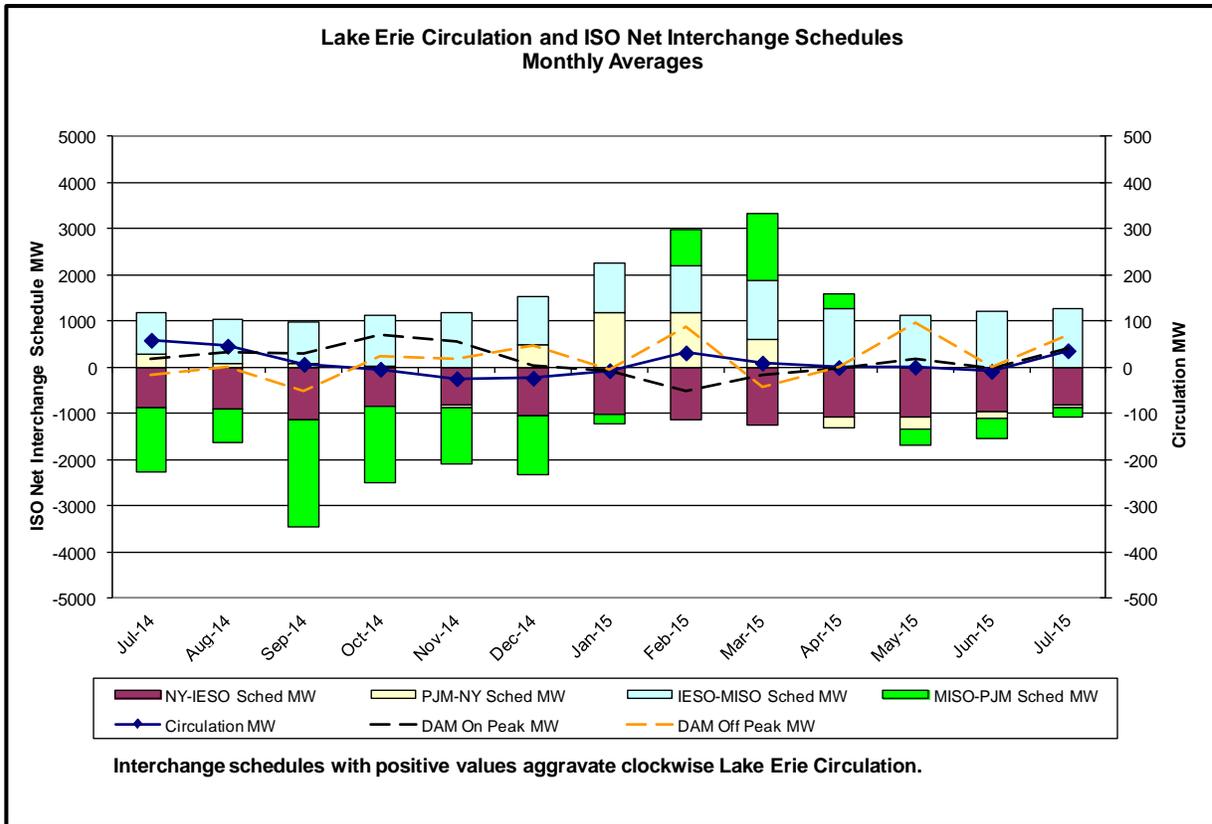




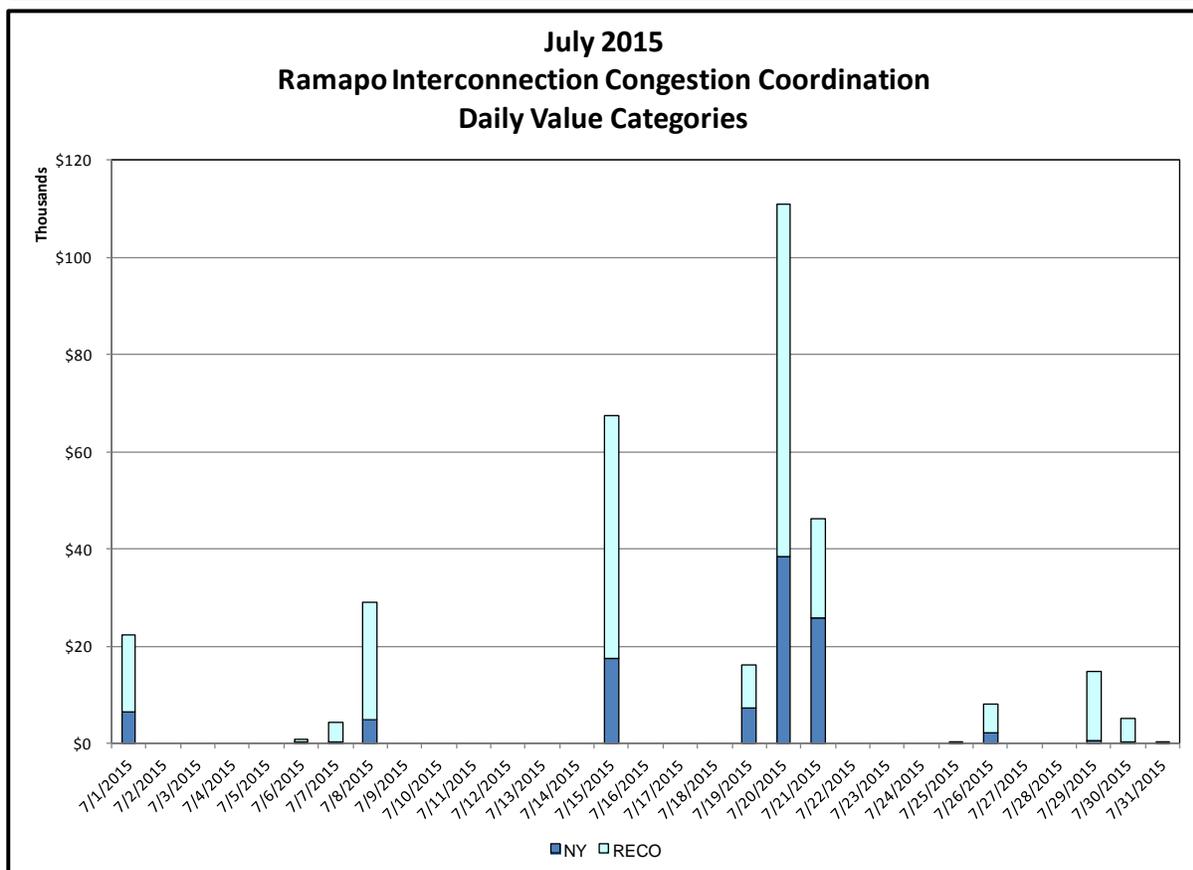
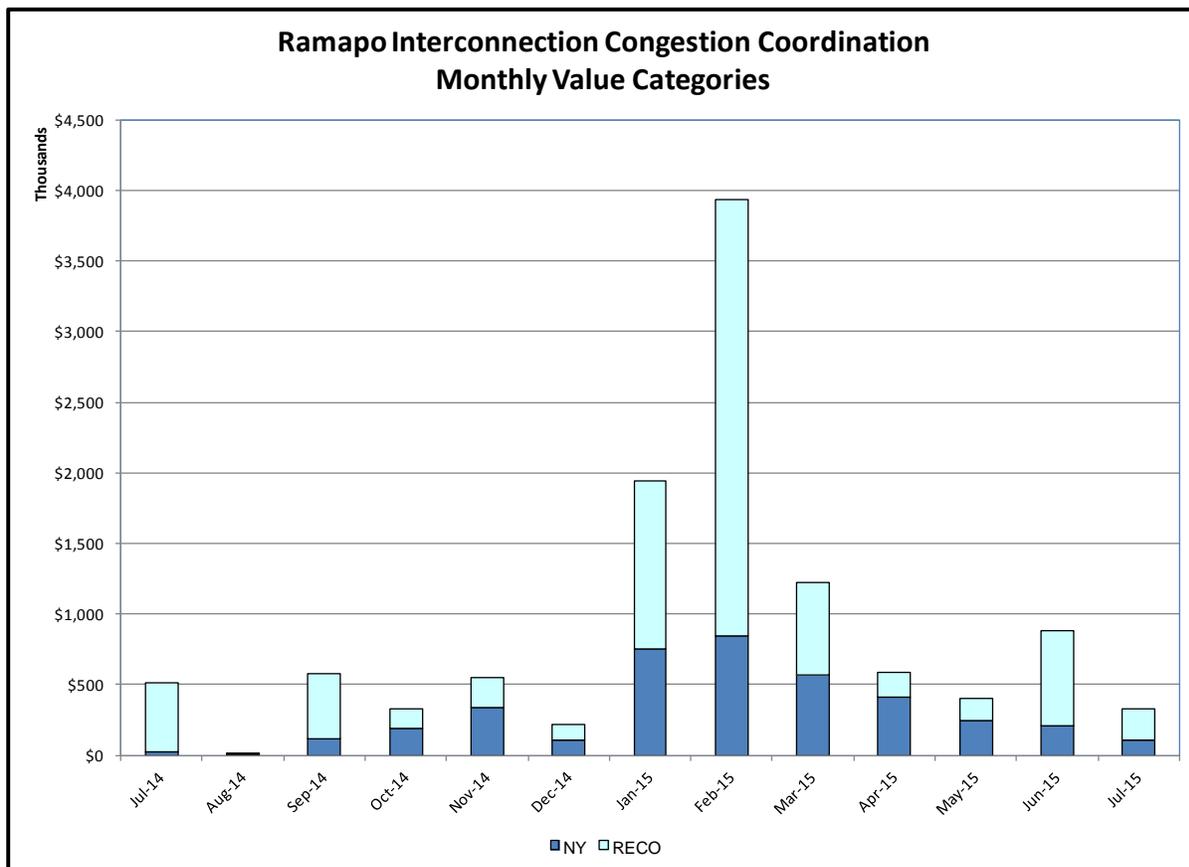






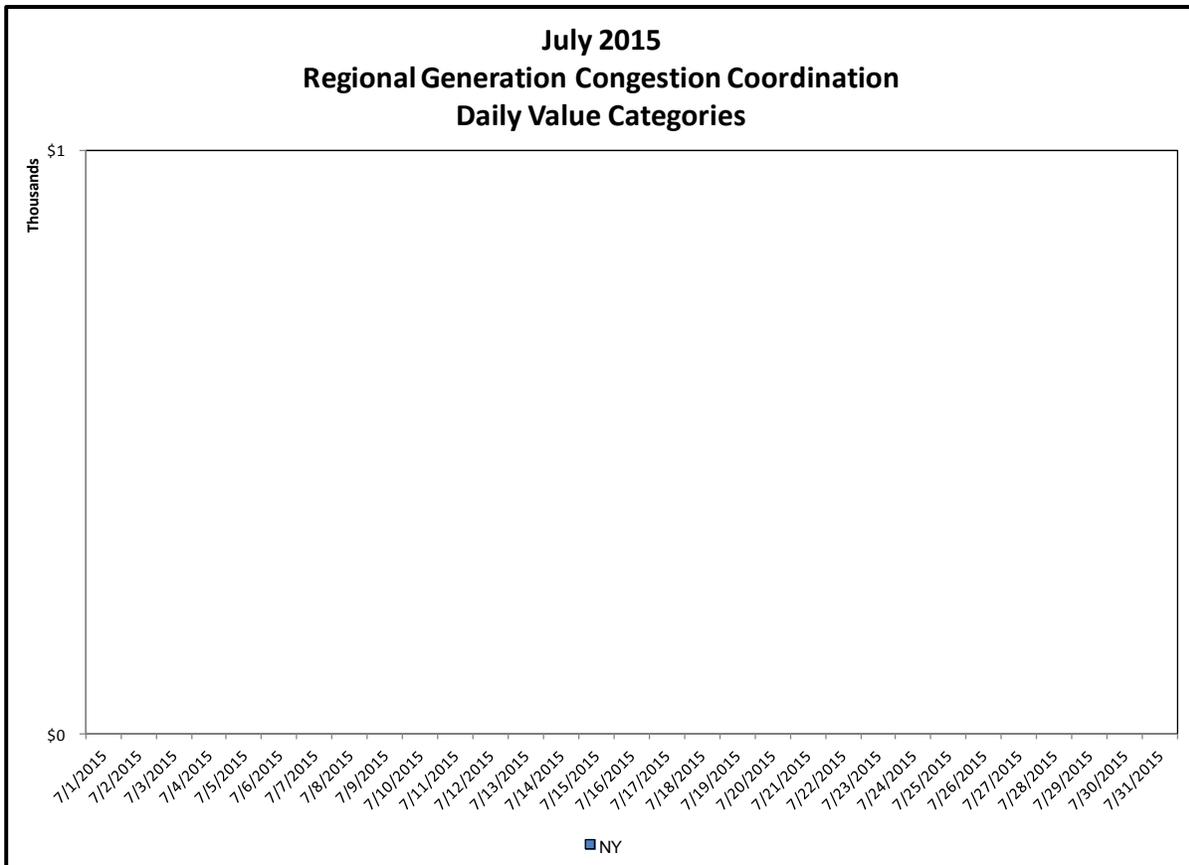
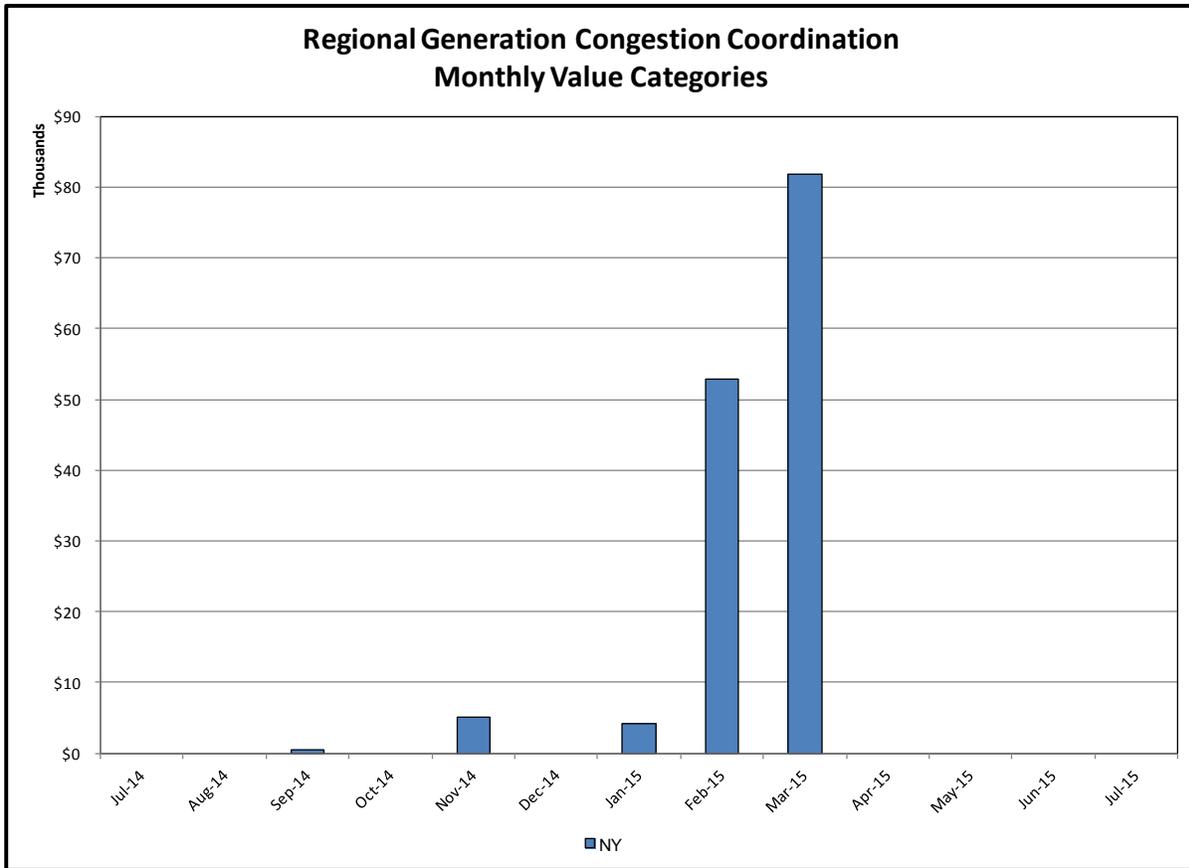


## Broader Regional Market Performance Metrics



**Ramapo Interconnection Congestion Coordination**

<u>Category</u>	<u>Description</u>
NY	Represents the value NY realizes from Market-to-Market Ramapo Coordination. When experiencing congestion, this includes (1) the estimated savings to NY for additional deliveries into NY, plus (2) PJM compensation to NY for additional deliveries into PJM (as compared to the Ramapo Target level, excluding RECO). This is net of any settlements to PJM when they are congested.
RECO	Represents the value of PJM's obligation to deliver 80% of service to RECO load over Ramapo 5018. This includes (1) the estimated reduction in NYCA congestion due to the PJM delivery of RECO over Ramapo 5018, plus (2) PJM compensation to NY for NYCA congestion for the under-delivery or inability to deliver service to RECO load over Ramapo 5018.



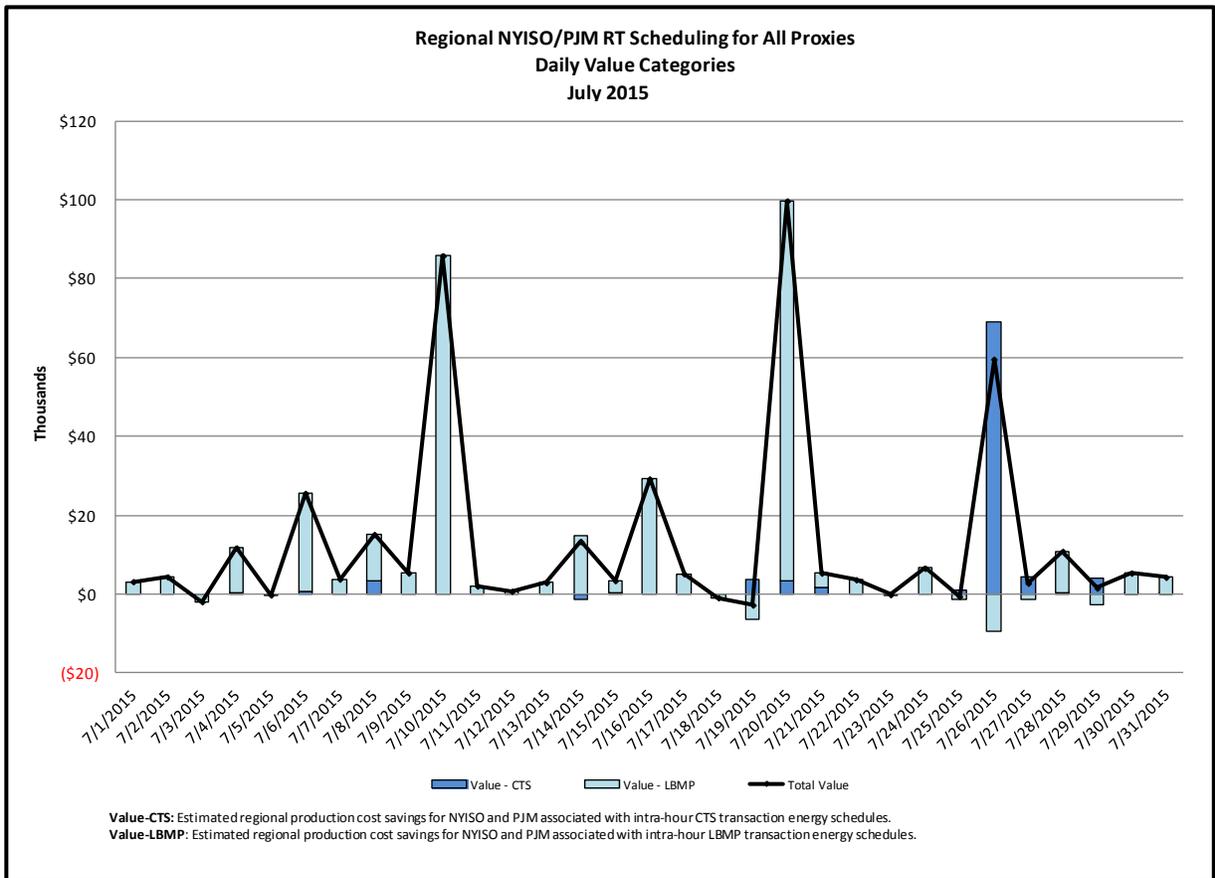
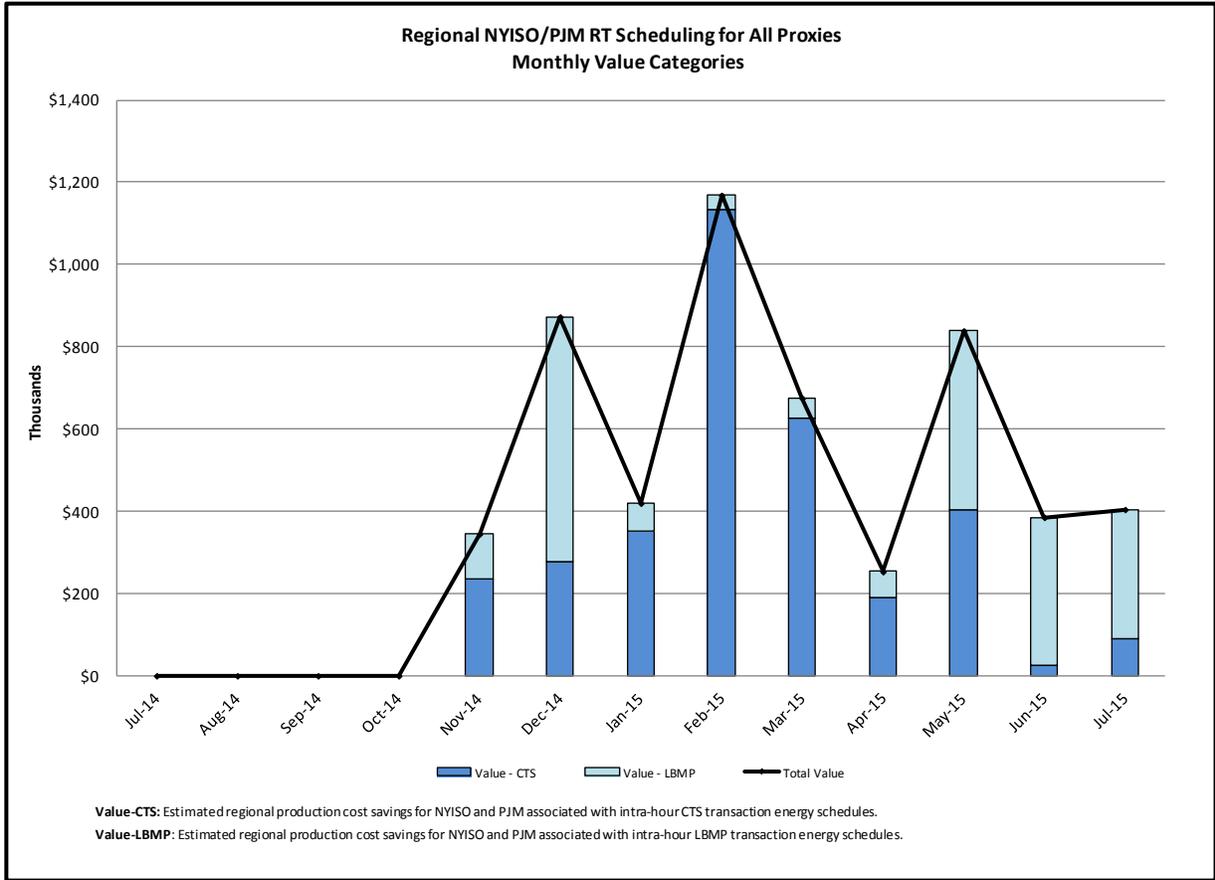
### Regional Generation Congestion Coordination

Category

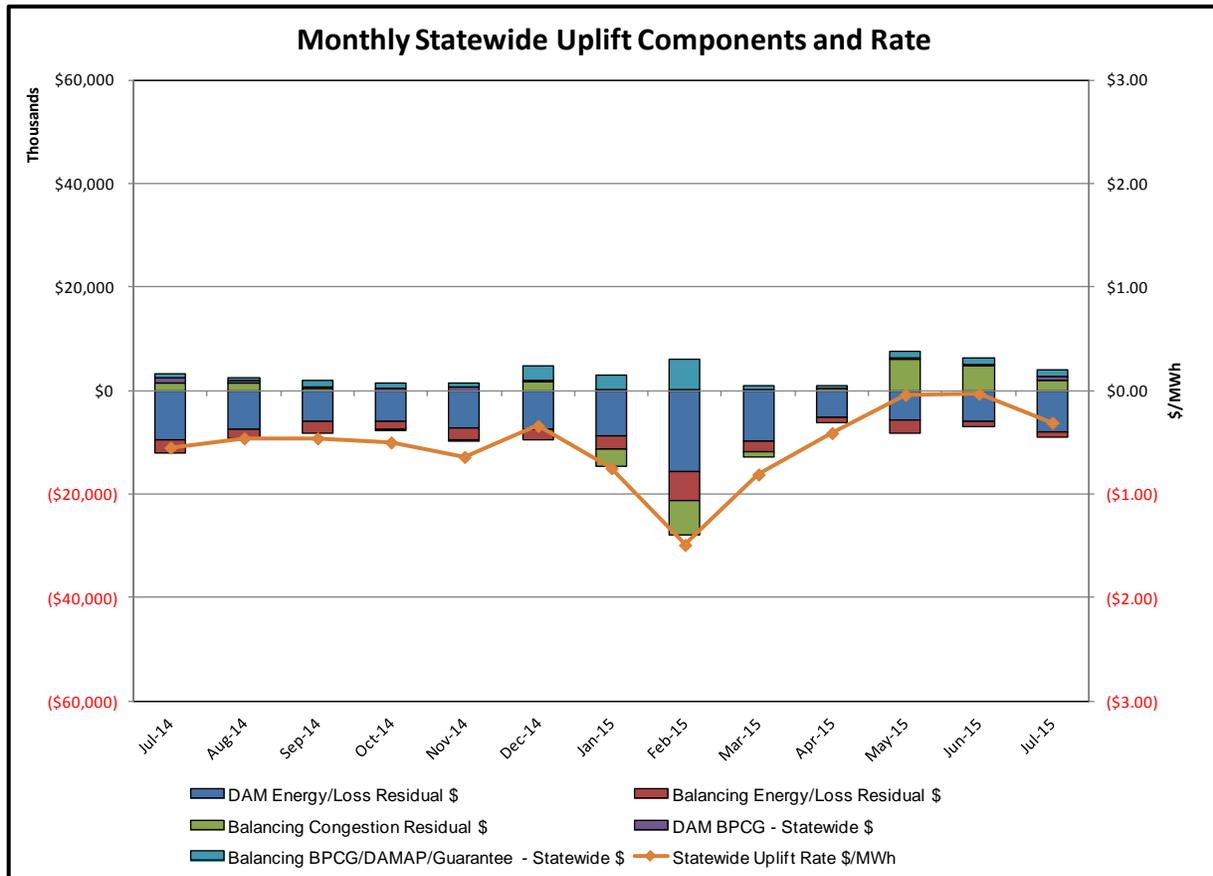
NY

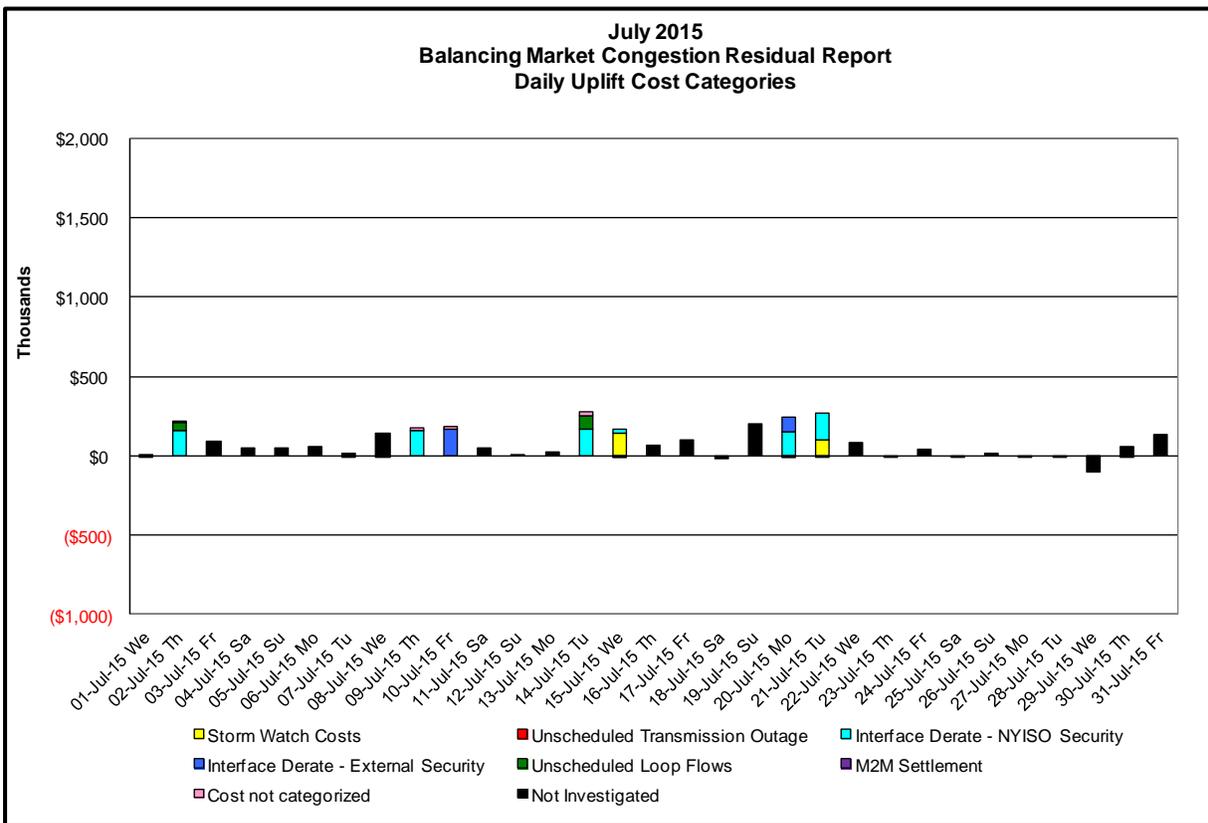
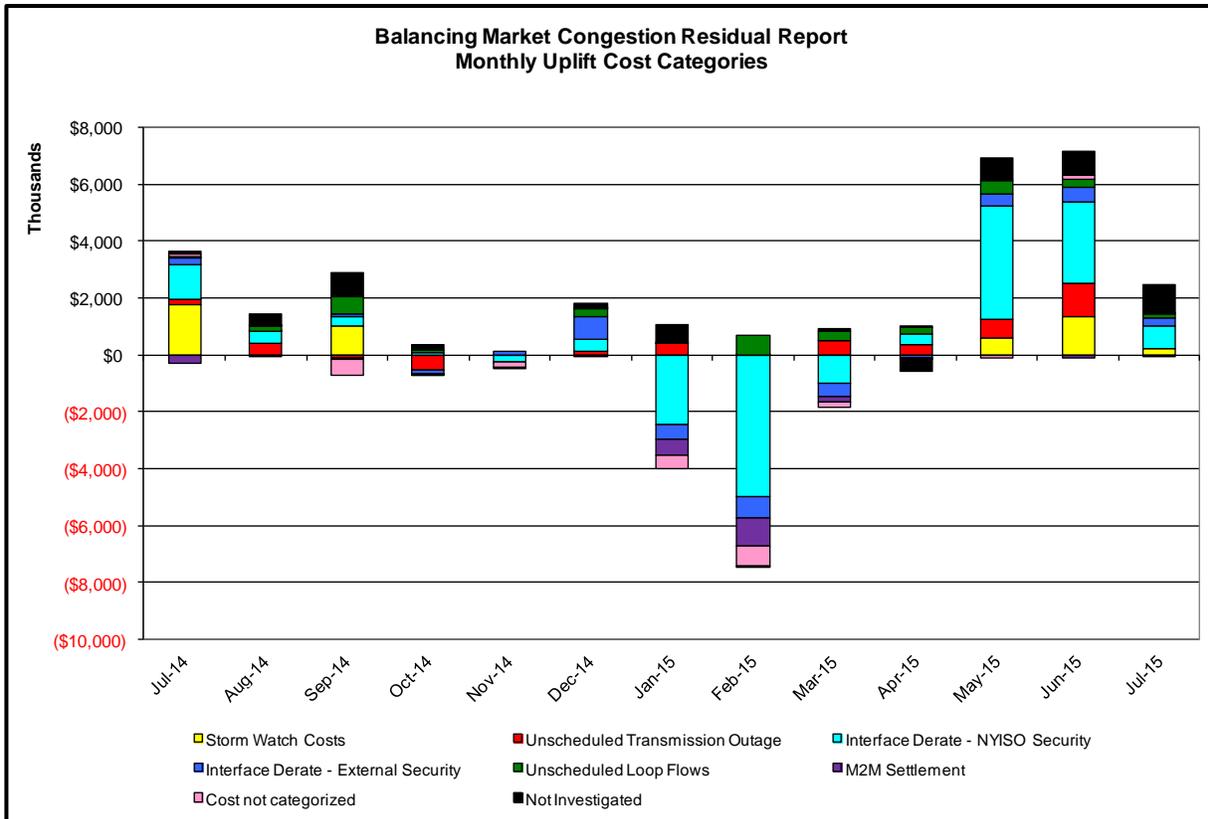
Description

NYISO savings that result from PJM payments to NYISO when PJM's transmission use (PJM's market flow) is greater than PJM's entitlement of the NY transmission system and NYISO is incurring Western or Central NY congestion. Additionally, NYISO savings may result from the more efficient regional utilization of PJM's generation resources to directly address Western or Central NY transmission congestion.



## Market Performance Metrics





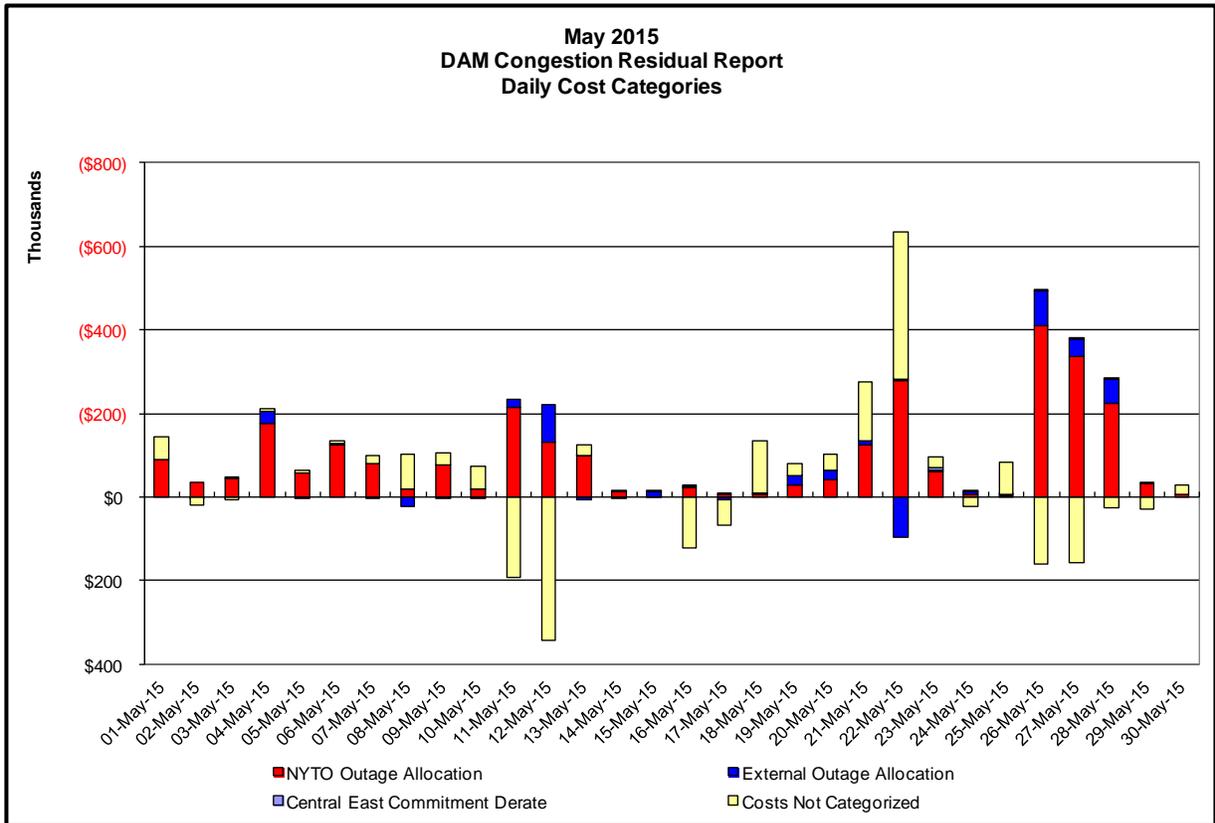
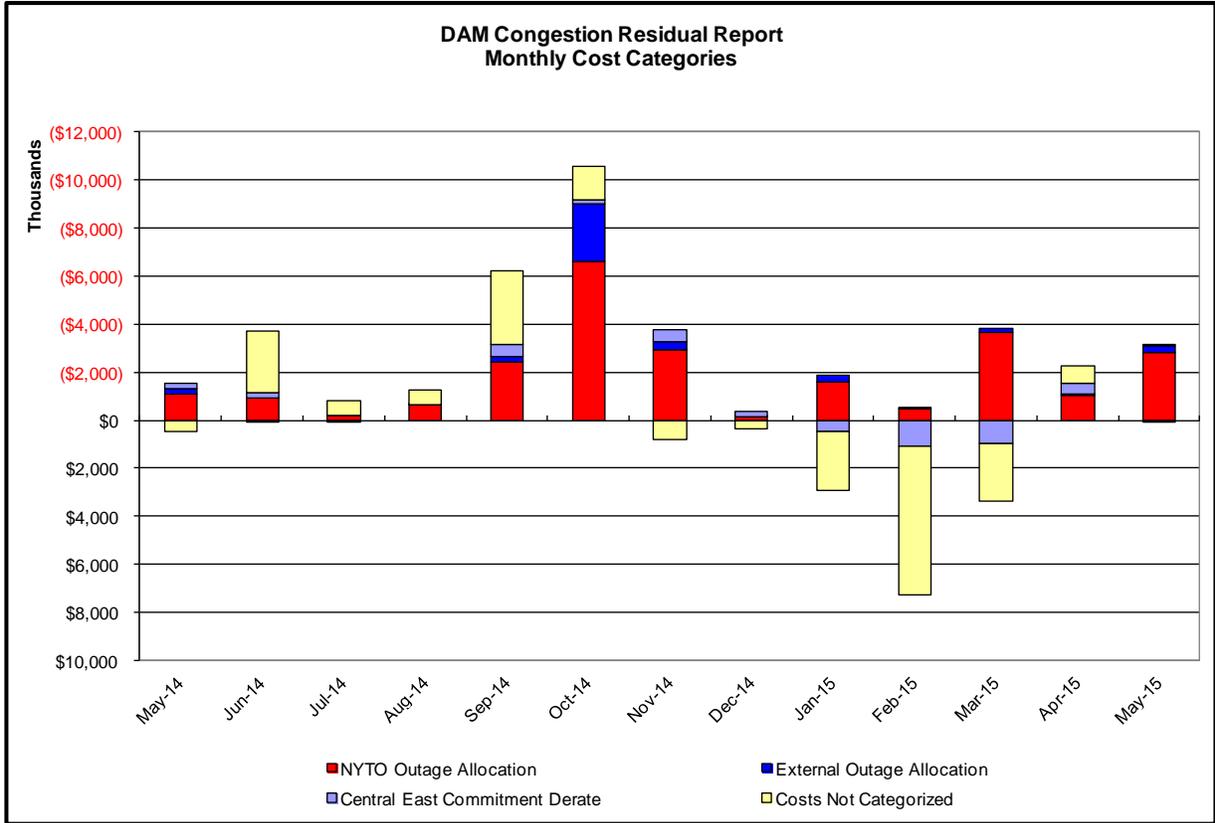
Day's investigated in July:2,9,10,14,15,20,21			
Event	Date (yyyymmdd)	Hours	Description
	7/2/2015	11-13	Derate Mott Haven-Rainey 345kV (#Q11) for I/o Mott Haven-Rainey 345kV (#Q12)
	7/2/2015	8,13	Lake Erie Clockwise Circulation, DAM-RTM exceeds 125MW; Packard-Sawyer 230KV (#78)
	7/9/2015	10	Derate Niagara-Packard 230kV (#61) for I/o TWR:PACKARD 62 & BP76
	7/9/2015	10	Derate Packard-Sawyer 230kV (#78) for I/o Packard-Sawyer 230kV (#77)
	7/10/2015	3,4	PJM_AC-NY Scheduling Limit
	7/14/2015	10-12,14,16-18	Derate Packard-Sawyer 230kV (#78) for I/o Packard-Sawyer 230kV (#77)
	7/14/2015	10	Derate Sprainbrook-East Garden City 345kV (#Y49) for I/o NEPTUNE HVDC TIE LINE
	7/14/2015	17	NYCA DNI Ramp Limit
	7/14/2015	14,16-18	Lake Erie Clockwise Circulation, DAM-RTM exceeds 125MW; Packard-Sawyer 230KV (#78)
	7/15/2015	13-17	Thunder Storm Alert
	7/15/2015	13,15-17	Derate FreshKills-Willow Brook 138kV (#29212-2)
	7/15/2015	17	Derate Goethals-Gowanus 345kV (#25) for I/o Goethals-Gowanus 345kV (#26)
	7/15/2015	13,15-17	Derate Goethals-Gowanus 345kV (#26) for I/oSCB:GOETH(3);25&22&R25
	7/15/2015	21	IESO_AC DNI Ramp Limit
	7/15/2015	15	PJM_AC DNI Ramp Limit
	7/20/2015	16	NYCA DNI Ramp Limit
	7/20/2015	18-23	Uprate Central East
	7/20/2015	0	Derate East Garden City-ValleyStream 138kV (#262) for I/o TWR:EGRDNCTY 361& 362
	7/20/2015	10,11	Derate FreshKills-Willow Brook 138kV (#29212-2)
	7/20/2015	15	Derate FreshKills 345/138kV (#TA1) for I/o SCB:FRESHKILLS(6)
	7/20/2015	15	Derate FreshKills 345/138kV (#TA1) for I/oSCB:GOWANUS(14);42&42232
	7/20/2015	20,21,23	Uprate Gowanus-Greenwood 138kV (#42231)
	7/20/2015	20-23	Uprate Gowanus-Greenwood 138kV (#42232)
	7/20/2015	20-22	Uprate Gowanus-Greenwood 138kV (#42231) for I/o SCB:GOWANUS(14);42&42232
	7/20/2015	20	Uprate Gowanus-Greenwood 138kV (#42232) for I/o SCB:GOWANUS(2);41&42231
	7/20/2015	20-23	Uprate Gowanus-Greenwood 138kV (#42232) for I/o TWR:GOETHALS 22 & 21
	7/20/2015	0	Derate Greenwood/Staten Island
	7/20/2015	11,16	Derate Huntley-Sawyer 230kV (#80) for I/o Sawyer-SUNY_BUF 230kV (#79)
	7/20/2015	18,20	Uprate Leeds-Pleasant Valley 345kV (#92) for I/o Athens-Pleasant Valley 345kV (#91)
	7/20/2015	11,13-16	Derate Sprainbrook-East Garden City 345kV (#Y49) for I/o NEPTUNE HVDC TIE LINE
	7/20/2015	19	NE_AC-NY Scheduling Limit
	7/20/2015	15,16	PJM_AC DNI Ramp Limit
	7/21/2015	17-21,23	Thunder Storm Alert
	7/21/2015	18	NYCA DNI Ramp Limit
	7/21/2015	2,3	Uprate Central East
	7/21/2015	0	Derate FreshKills 345/138kV (#TA1) for I/o SCB:FRESHKILLS(6)
	7/21/2015	2,3	Uprate Gowanus-Greenwood 138kV (#42231) for I/o TWR:GOETHALS 22 & 21
	7/21/2015	2,3	Uprate Gowanus-Greenwood 138kV (#42232) for I/o TWR:GOETHALS 22 & 21
	7/21/2015	16-23	Derate Greenwood/Staten Island
	7/21/2015	12-14,16,17	Derate Huntley-Sawyer 230kV (#80) for I/o Sawyer-SUNY_BUF 230kV (#79)
	7/21/2015	12-14,16,17	Derate Packard-Sawyer 230kV (#78) for I/o Packard-Sawyer 230kV (#77)

**Real-Time Balancing Market Congestion Residual (Uplift Cost) Categories**

<u>Category</u>	<u>Cost Assignment</u>	<u>Events Types</u>	<u>Event Examples</u>
Storm Watch	Zone J	Thunderstorm Alert (TSA)	TSA Activations
Unscheduled Transmission Outage	Market-wide	Reduction in DAM to RTM transfers related to unscheduled transmission outage	Forced Line Outage, Unit AVR Outages
Interface Derate - NYISO Security	Market-wide	Reduction in DAM to RTM transfers not related to transmission outage	Interface Derates due to RTM voltages
Interface Derate - External Security	Market-wide	Reduction in DAM to RTM transfers related to External Control Area Security Events	TLR Events, External Transaction Curtailments
Unscheduled Loop Flows	Market-wide	Changes in DAM to RTM unscheduled loop flows impacting NYISO Interface transmission constraints	DAM to RTM Clockwise Lake Erie Loop Flows greater than 125 MW
M2M Settlement	Market-wide	Settlement result inclusive of coordinated redispatch and Ramapo flowgates	

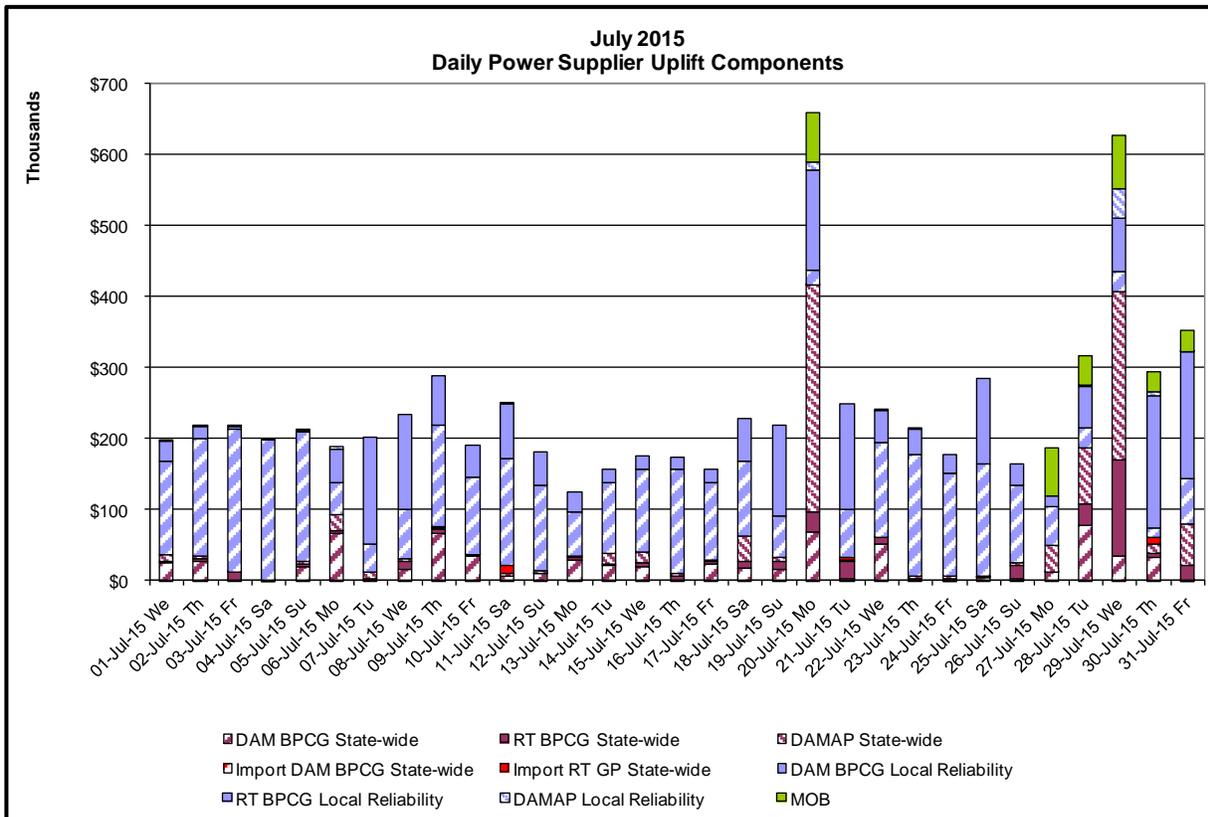
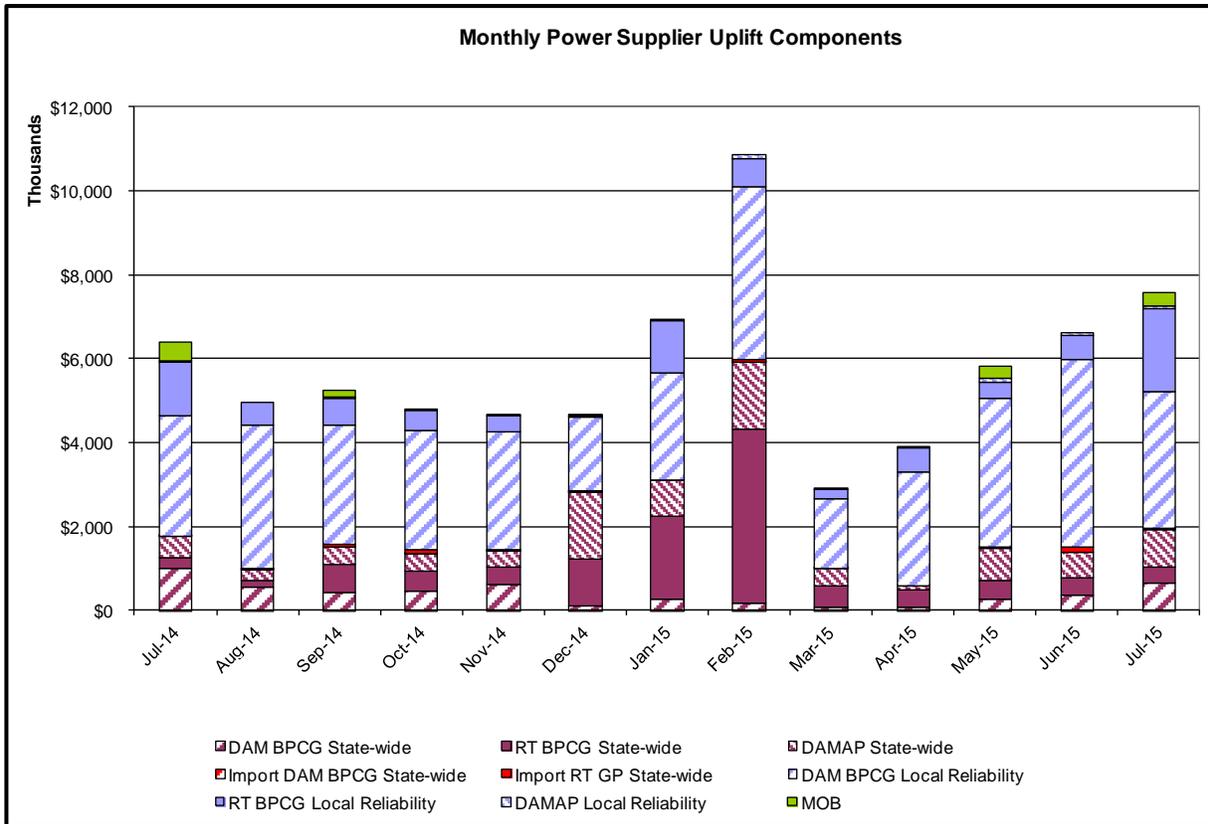
**Monthly Balancing Market Congestion Report Assumptions/Notes**

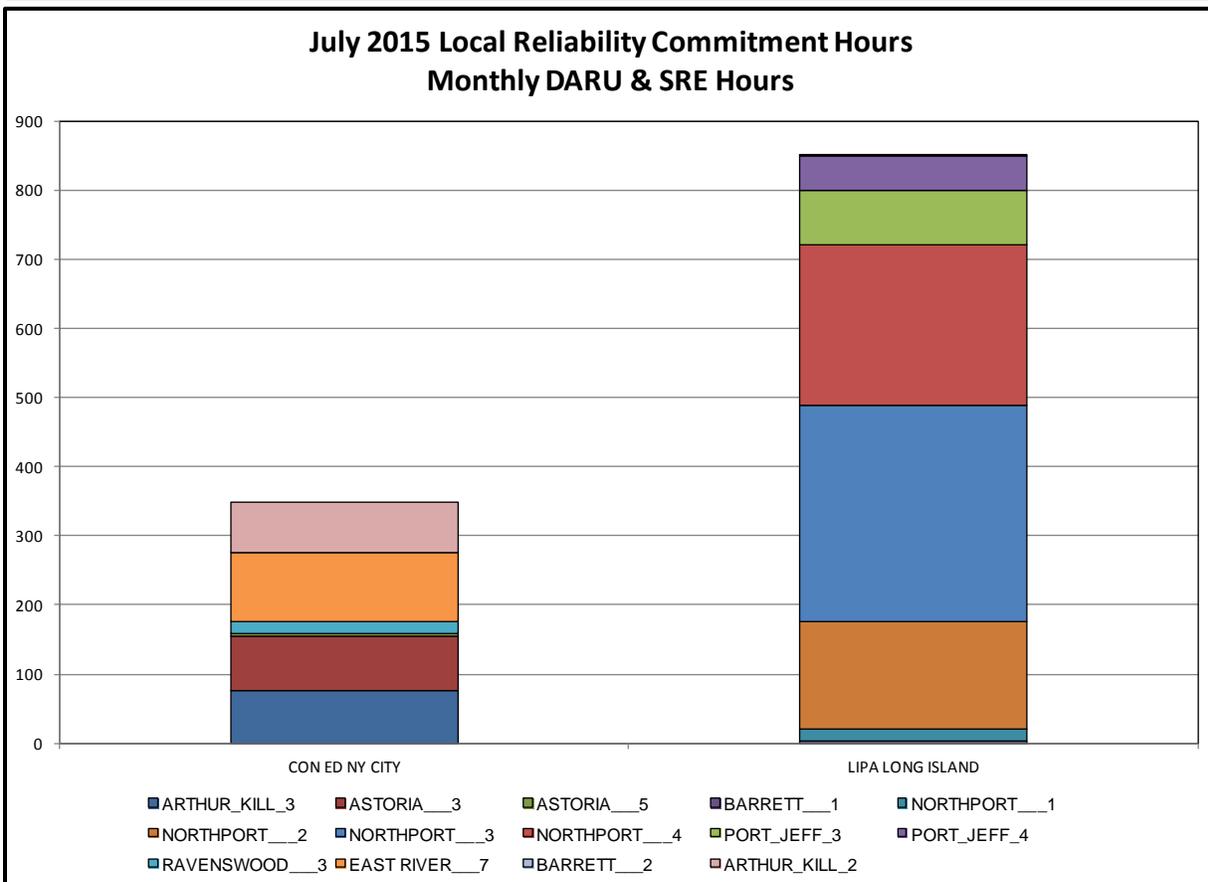
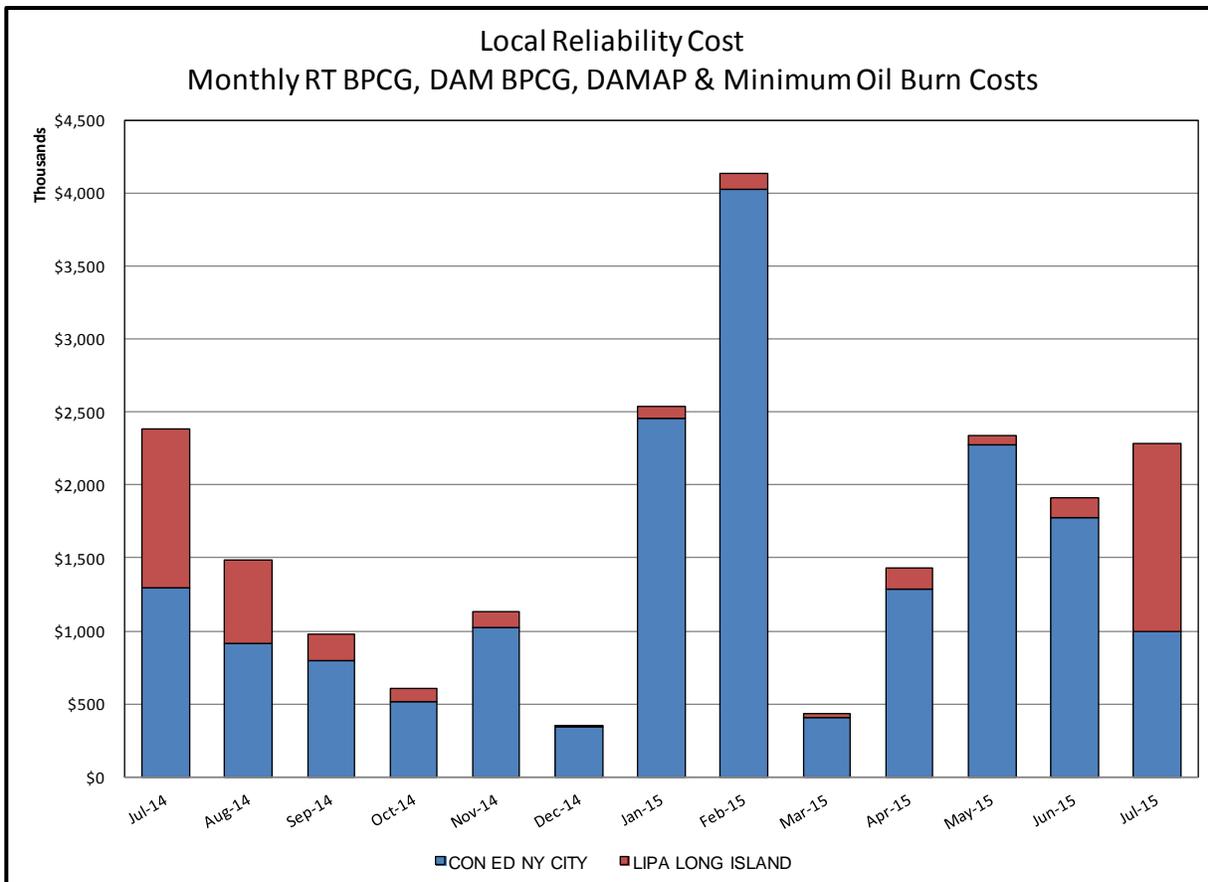
- 1) Storm Watch Costs are identified as daily total uplift costs
- 2) Days with a value of BMCR less M2M Settlement of \$100K/HR, shortfall of \$200K/Day or more, or surplus of \$100K/Day or more are investigated.
- 3) Uplift costs associated with multiple event types are apportioned equally by hour

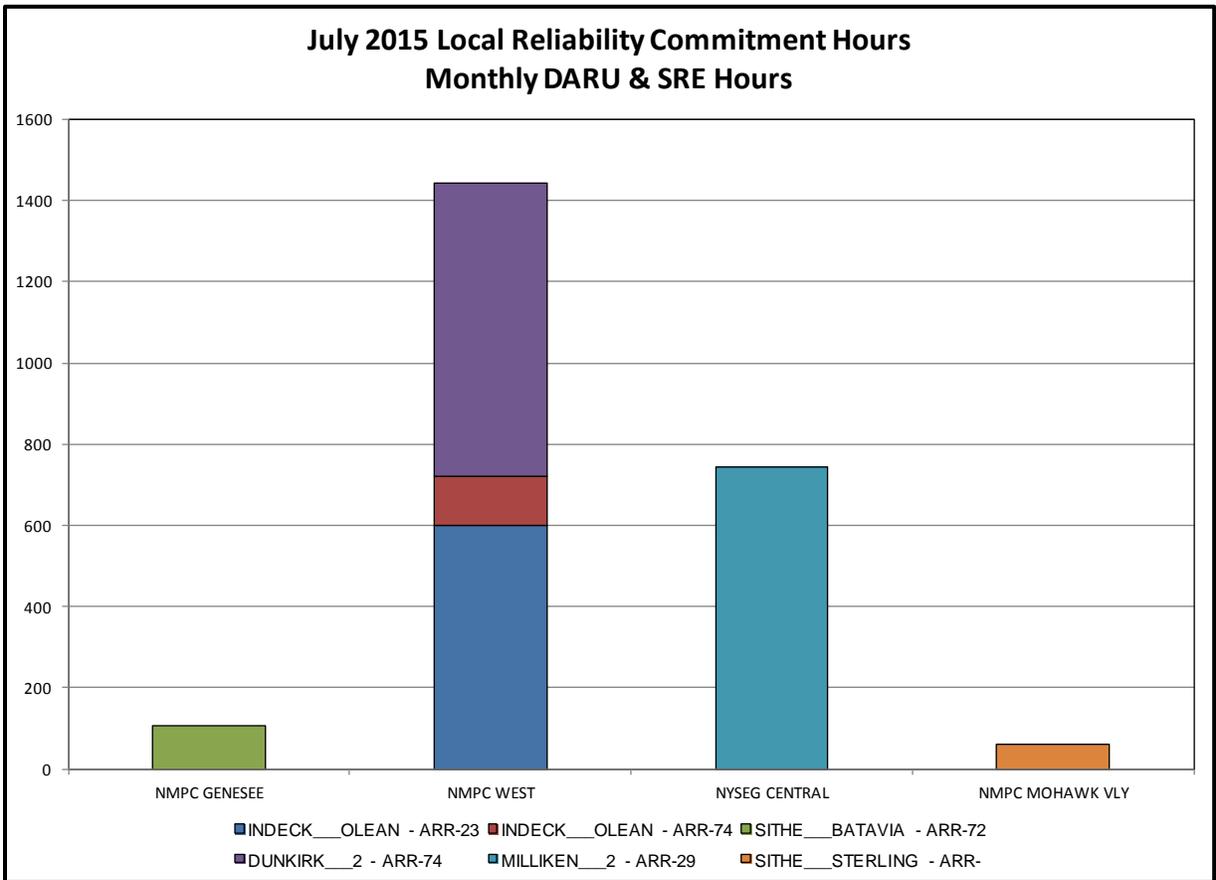
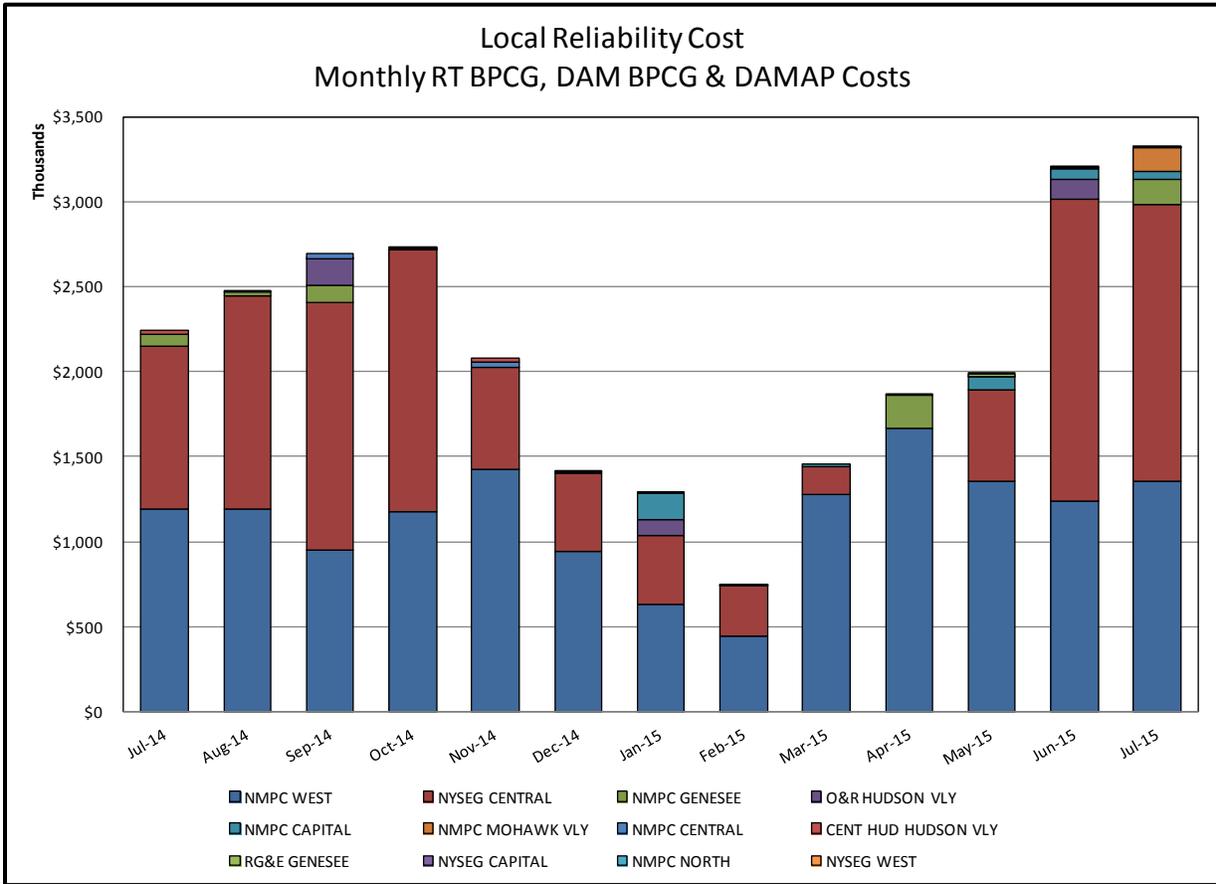


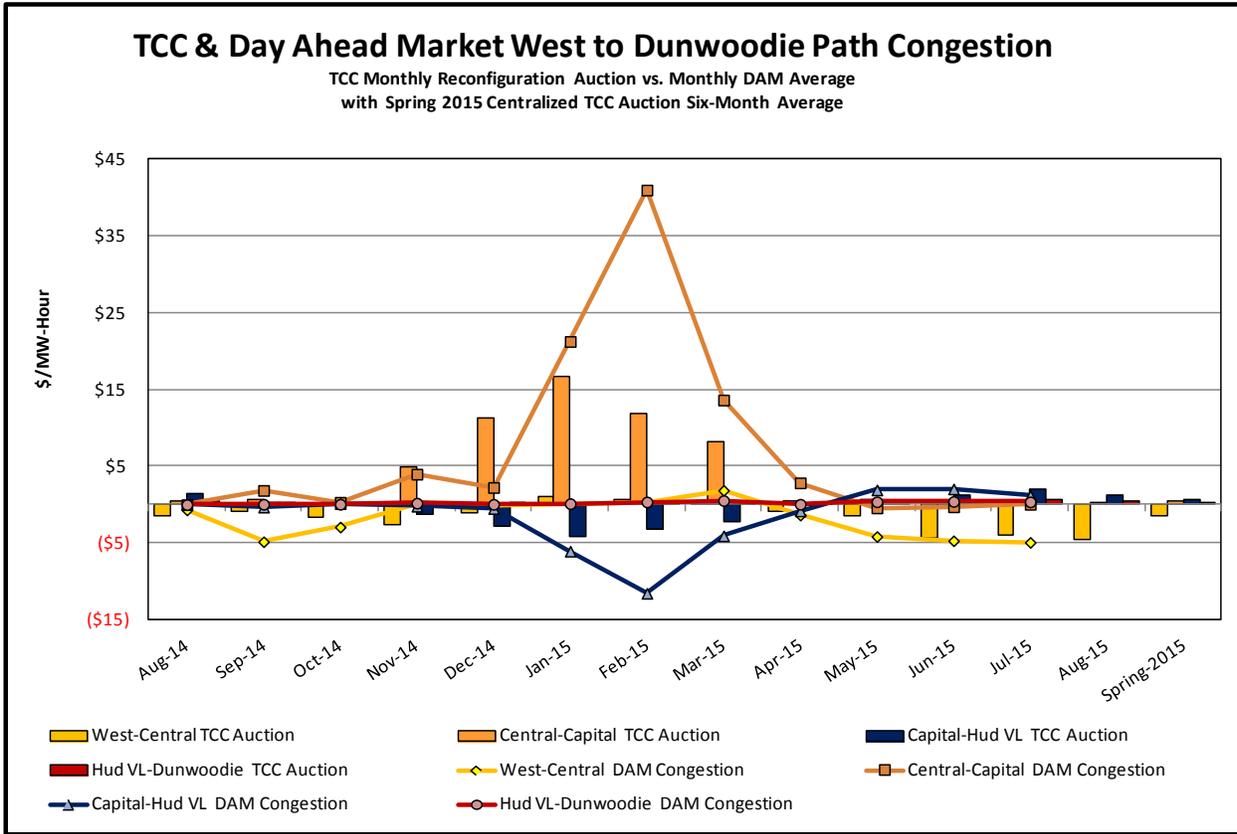
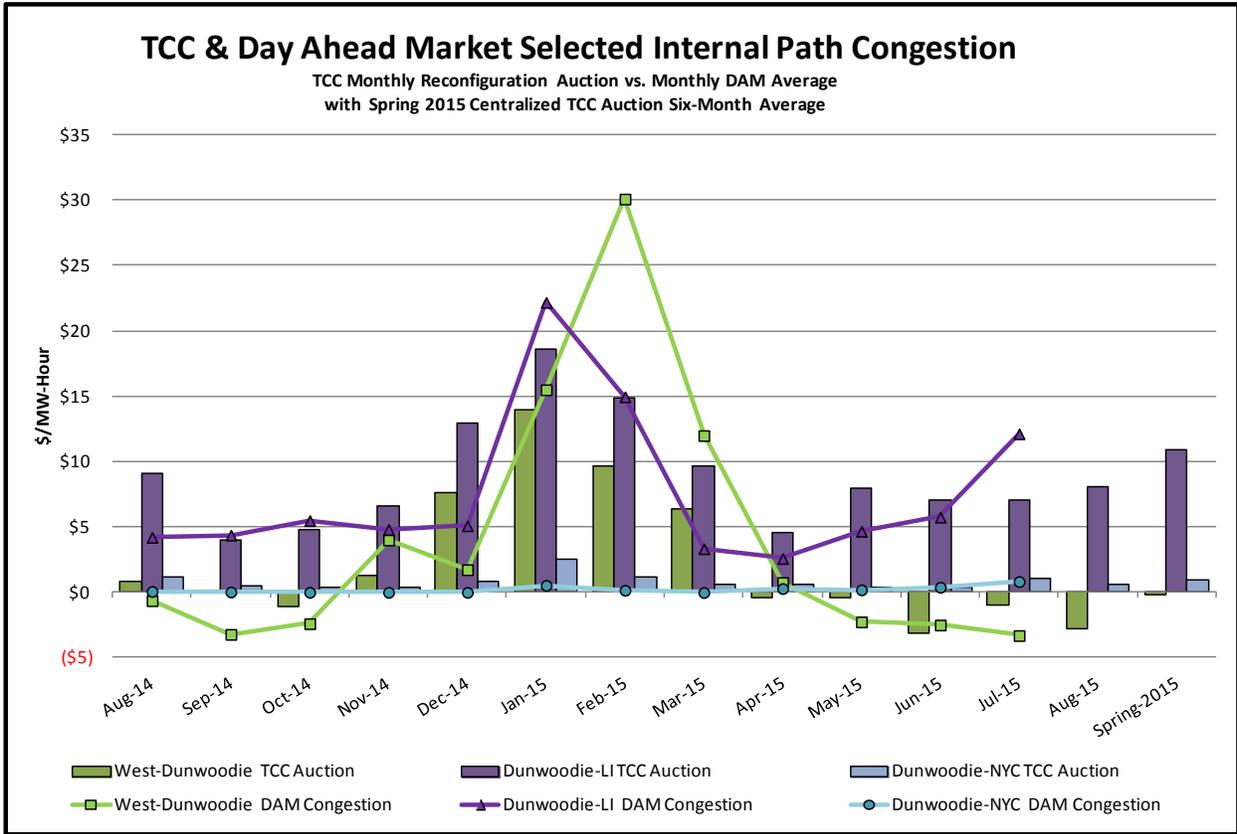
**Day-Ahead Market Congestion Residual Categories**

<u>Category</u>	<u>Cost Assignment</u>	<u>Events Types</u>	<u>Event Examples</u>
NYTO Outage Allocation	Responsible TO	Direct allocation to NYTO's responsible for transmission equipment status change.	DAM scheduled outage for equipment modeled in-service for the TCC Auction.
External Outage Allocation	All TO by Monthly Allocation Factor	Direct allocation to transmission equipment status change caused by change in status of external equipment.	Tie line required out-of-service by TO of neighboring control area.
Central East Commitment Derate	All TO by Monthly Allocation Factor	Reductions in the DAM Central East_VC limit as compared to the TCC Auction limit, which are not associated with transmission line outages.	



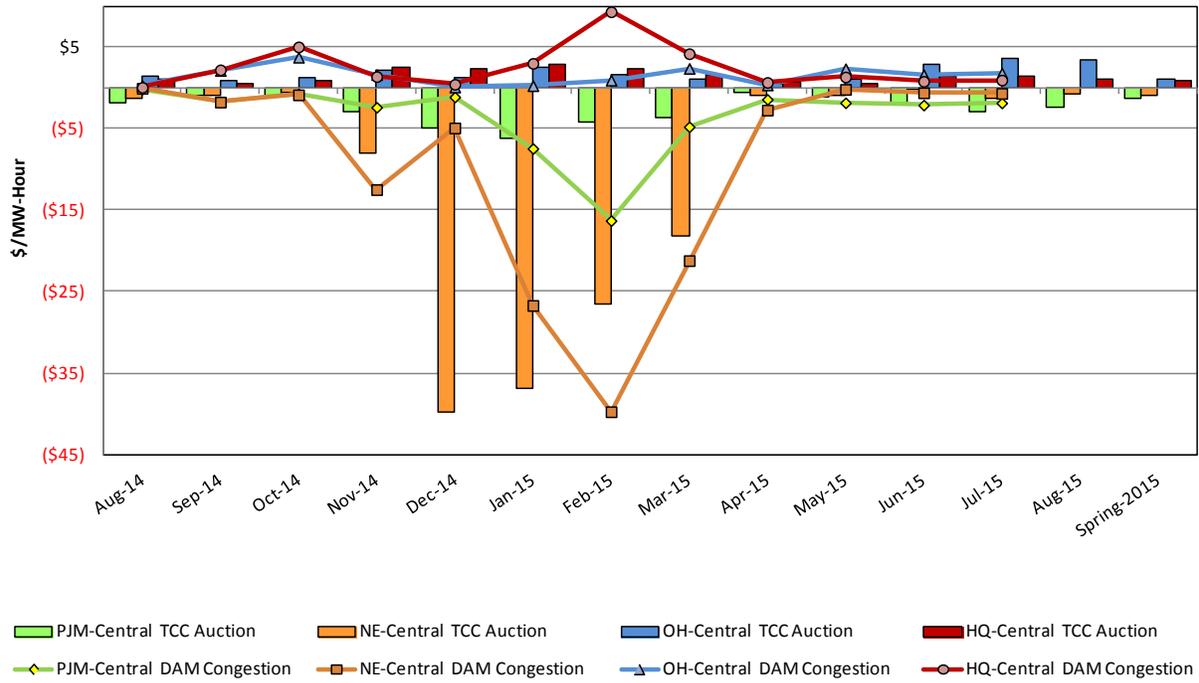


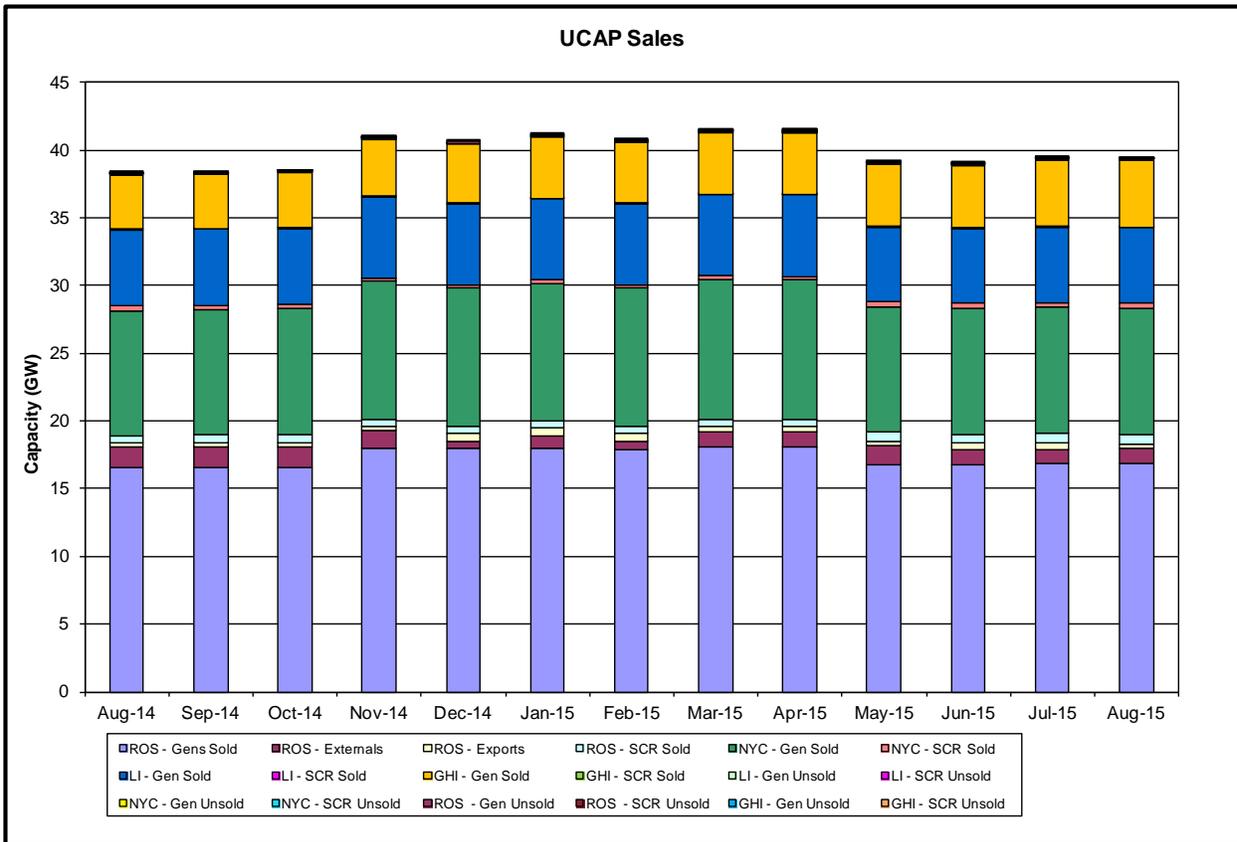
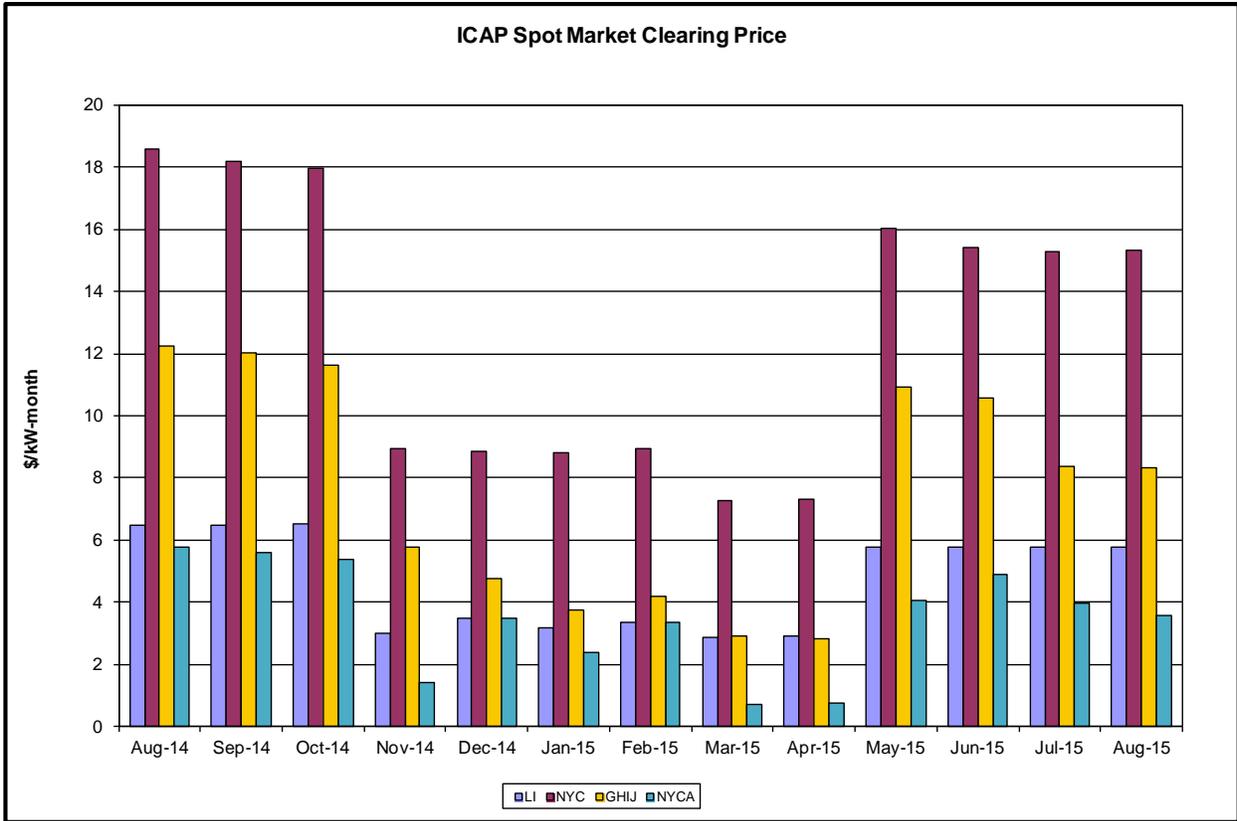




### TCC & Day Ahead Market Selected External Path Congestion

TCC Monthly Reconfiguration Auction vs. Monthly DAM Average  
with Spring 2015 Centralized TCC Auction Six-Month Average

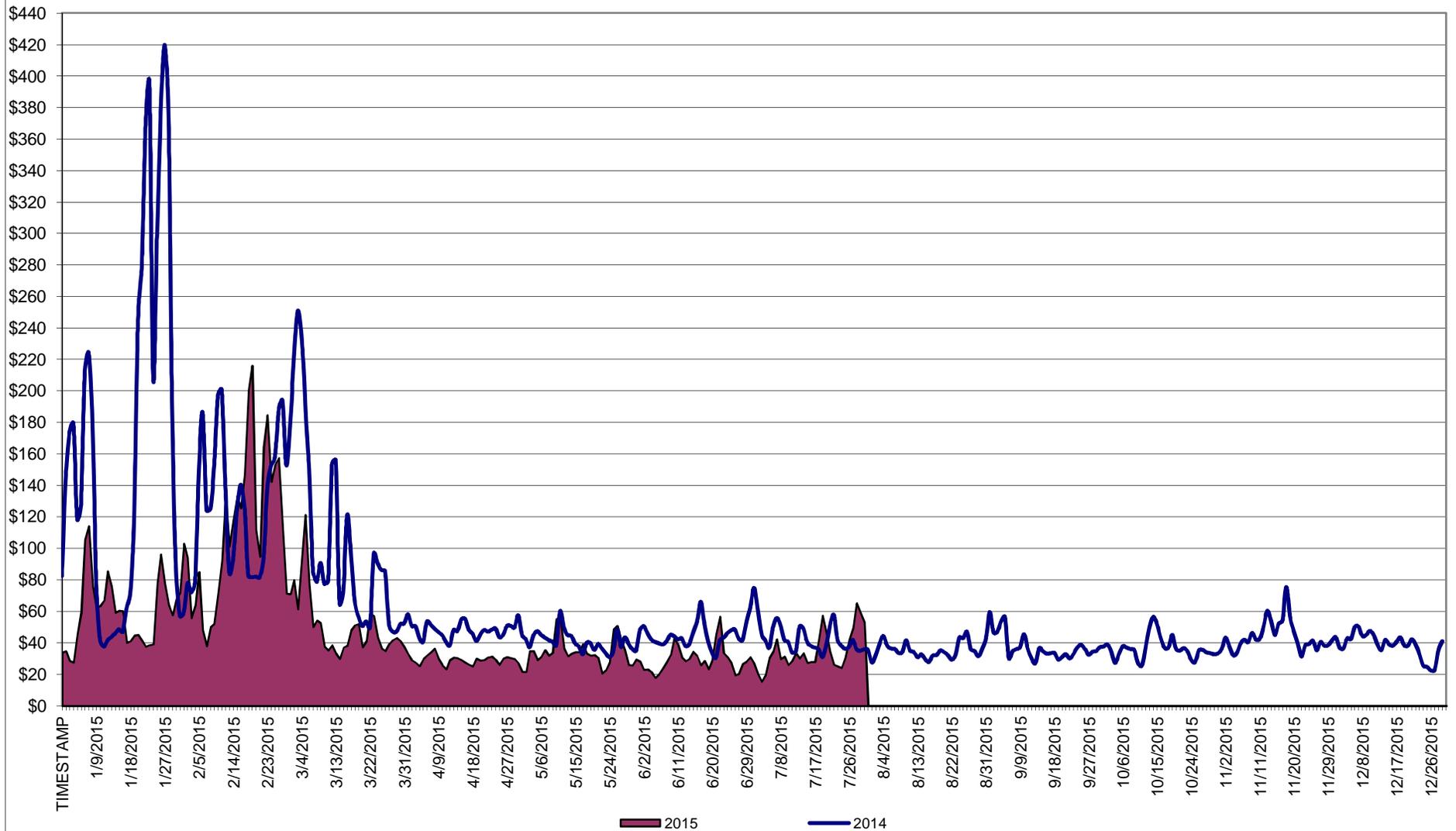




# Market Performance Highlights for July 2015

- **LBMP for July is \$34.78/MWh; higher than \$28.19/MWh in June 2015 and lower than \$43.97/MWh in July 2014.**
  - Day Ahead and Real Time Load Weighted LBMPs are higher compared to June.
  - This is the lowest LBMP for the month of July during NYISO operation.
- **July 2015 average year-to-date monthly cost of \$52.76/MWh is a 41% decrease from \$89.46/MWh in July 2014.**
- **Average daily sendout is 512 GWh/day in July; higher than 450 GWh/day in June 2015 and 496 GWh/day in July 2014.**
- **Natural gas and distillate prices were lower compared to the previous month.**
  - Natural Gas (Transco Z6 NY) was \$1.99/MMBtu, down 15% from \$2.34/MMBtu in June.
    - Transco Z6 NY is down 25% year-over-year
  - Jet Kerosene Gulf Coast was \$11.51/MMBtu, down from \$12.80/MMBtu in June.
  - Ultra Low Sulfur No.2 Diesel NY Harbor was \$12.07/MMBtu, down from \$13.45/MMBtu in June.
- Distillate prices are down 41% year-over-year
- **Uplift per MWh is lower compared to the previous month.**
  - Uplift (not including NYISO cost of operations) is \$0.04/MWh; lower than \$0.33/MWh in June.
    - The Local Reliability Share is \$0.34/MWh, lower than \$0.37 in June.
    - The Statewide Share is (\$0.31)/MWh, lower than (\$0.03)/MWh in June.
  - TSA \$ per NYC MWh is \$0.07/MWh.
  - Total uplift costs (Schedule 1 components including NYISO Cost of Operations) are lower than June.

**Daily NYISO Average Cost/MWh (Energy & Ancillary Services)\***  
 2014 Annual Average \$69.31/MWh  
 July 2014 YTD Average \$89.46/MWh  
 July 2015 YTD Average \$52.76/MWh



\* Excludes ICAP payments.

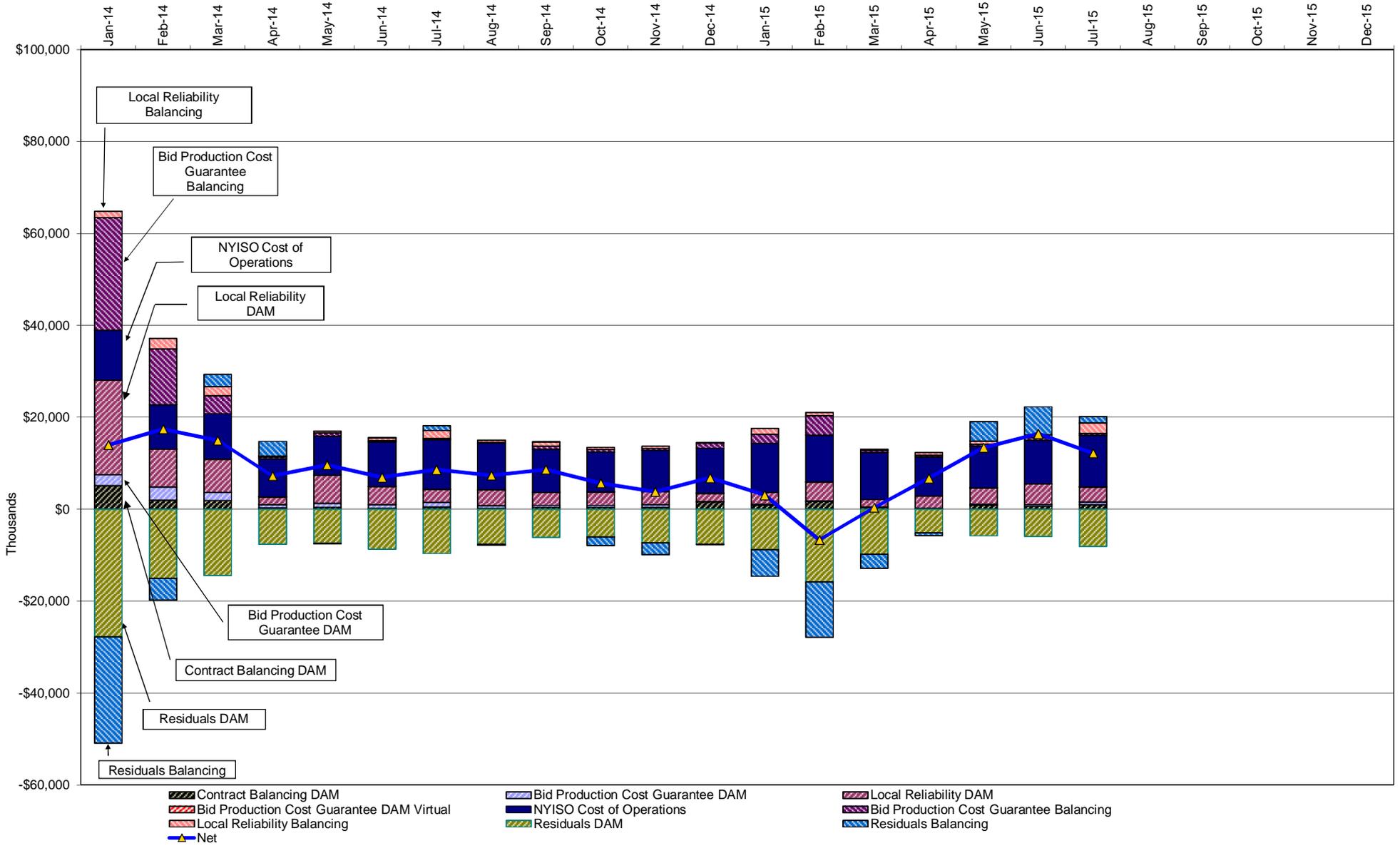
**NYISO Average Cost/MWh (Energy and Ancillary Services) \***  
**from the LBMP Customer point of view**

<b>2015</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	59.60	114.35	52.09	28.35	32.98	28.19	34.78					
NTAC	0.32	0.35	0.42	0.64	0.56	0.80	0.55					
Reserve	0.27	0.37	0.56	0.36	0.38	0.24	0.27					
Regulation	0.10	0.18	0.11	0.12	0.10	0.13	0.12					
NYISO Cost of Operations	0.70	0.70	0.70	0.70	0.70	0.70	0.70					
Uplift	(0.50)	(1.17)	(0.68)	(0.14)	0.28	0.33	0.04					
Uplift: Local Reliability Share	0.25	0.33	0.13	0.27	0.32	0.37	0.34					
Uplift: Statewide Share	(0.75)	(1.49)	(0.81)	(0.41)	(0.04)	(0.03)	(0.31)					
Voltage Support and Black Start	0.39	0.39	0.39	0.39	0.39	0.39	0.39					
<b>Avg Monthly Cost</b>	<b>60.88</b>	<b>115.17</b>	<b>53.59</b>	<b>30.42</b>	<b>35.39</b>	<b>30.79</b>	<b>36.84</b>					
Avg YTD Cost	60.88	87.68	76.61	66.80	60.95	56.02	52.76					
TSA \$ per NYC MWh	0.00	0.00	0.00	0.00	0.17	0.50	0.07					
<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	46.09	40.30	43.39	43.97	34.48	37.63	35.61	42.89	38.08
NTAC	0.56	0.64	0.39	1.18	0.69	0.78	0.43	0.41	0.50	0.57	0.68	0.86
Reserve	0.78	0.49	0.56	0.46	0.28	0.27	0.26	0.26	0.29	0.48	0.37	0.23
Regulation	0.27	0.21	0.22	0.13	0.12	0.12	0.12	0.13	0.11	0.12	0.11	0.08
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	0.22	0.56	0.35	(0.09)	0.07	(0.21)	(0.26)	(0.19)	(0.20)	(0.24)	(0.40)	(0.20)
Uplift: Local Reliability Share	1.43	0.75	0.62	0.15	0.51	0.32	0.29	0.27	0.26	0.26	0.24	0.13
Uplift: Statewide Share	(1.21)	(0.19)	(0.27)	(0.24)	(0.44)	(0.53)	(0.55)	(0.45)	(0.46)	(0.50)	(0.64)	(0.33)
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>186.24</b>	<b>126.14</b>	<b>112.15</b>	<b>48.82</b>	<b>42.51</b>	<b>45.39</b>	<b>45.57</b>	<b>36.14</b>	<b>39.38</b>	<b>37.59</b>	<b>44.71</b>	<b>40.09</b>
Avg YTD Cost	186.24	157.93	142.77	121.97	108.36	97.84	89.46	82.60	78.07	74.63	72.06	69.31
TSA \$ per NYC MWh	0.00	0.00	0.00	0.00	0.00	0.03	0.35	0.00	0.42	0.00	0.00	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

\* Excludes ICAP payments.  
Market Mitigation and Analysis  
Prepared: 8/7/2015 1:57 PM

Data reflects true-ups thru Dec 2014.

## NYISO Dollar Flows - Uplift- OATT Schedule 1 components - Data through July 31, 2015



## NYISO Markets Transactions

2015	January	February	March	April	May	June	July	August	September	October	November	December
<b>Day Ahead Market MWh</b>	15,961,306	14,967,371	15,059,207	12,589,321	13,291,917	14,277,299	16,573,027					
DAM LSE Internal LBMP Energy Sales	55%	54%	53%	55%	57%	57%	62%					
DAM External TC LBMP Energy Sales	5%	6%	6%	4%	2%	1%	1%					
DAM Bilateral - Internal Bilaterals	35%	33%	33%	33%	35%	33%	30%					
DAM Bilateral - Import/Non-LBMP Market Bilaterals	3%	5%	5%	6%	4%	5%	4%					
DAM Bilateral - Export/Non-LBMP Market Bilaterals	2%	2%	1%	2%	1%	1%	1%					
DAM Bilateral - Wheel Through Bilaterals	0%	1%	1%	1%	0%	2%	2%					
<b>Balancing Energy Market MWh</b>	-648,574	-287,795	-397,342	-410,311	-327,906	-545,880	-500,469					
Balancing Energy LSE Internal LBMP Energy Sales	-149%	-252%	-192%	-147%	-143%	-106%	-121%					
Balancing Energy External TC LBMP Energy Sales	30%	117%	64%	36%	36%	17%	25%					
Balancing Energy Bilateral - Internal Bilaterals	13%	14%	19%	5%	6%	6%	13%					
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	0%	0%	0%	1%	0%					
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	6%	8%	12%	11%	10%	4%	3%					
Balancing Energy Bilateral - Wheel Through Bilaterals	0%	12%	-4%	-5%	-9%	-22%	-21%					
<b>Transactions Summary</b>												
LBMP	58%	59%	57%	57%	58%	57%	61%					
Internal Bilaterals	37%	34%	35%	35%	36%	35%	32%					
Import Bilaterals	3%	5%	5%	6%	4%	5%	5%					
Export Bilaterals	2%	2%	2%	2%	2%	1%	1%					
Wheels Through	0%	1%	1%	0%	0%	1%	1%					
<b>Market Share of Total Load</b>												
Day Ahead Market	104.2%	102.0%	102.7%	103.4%	102.5%	104.0%	103.1%					
Balancing Energy +	-4.2%	-2.0%	-2.7%	-3.4%	-2.5%	-4.0%	-3.1%					
Total MWh	15,312,732	14,679,576	14,661,865	12,179,010	12,964,011	13,731,419	16,072,558					
Average Daily Energy Sendout/Month GWh	462	481	436	387	409	450	512					

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	14,312,509	13,684,158	13,945,509	14,992,656
DAM LSE Internal LBMP Energy Sales	52%	50%	53%	56%	53%	54%	58%	57%	56%	54%	54%	54%
DAM External TC LBMP Energy Sales	5%	7%	6%	3%	2%	3%	1%	0%	1%	2%	5%	5%
DAM Bilateral - Internal Bilaterals	36%	36%	35%	33%	38%	36%	34%	35%	36%	38%	36%	36%
DAM Bilateral - Import/Non-LBMP Market Bilaterals	5%	5%	5%	6%	5%	5%	4%	5%	4%	4%	3%	3%
DAM Bilateral - Export/Non-LBMP Market Bilaterals	2%	1%	1%	2%	2%	1%	1%	1%	1%	2%	2%	2%
DAM Bilateral - Wheel Through Bilaterals	1%	1%	1%	0%	1%	1%	1%	1%	1%	0%	0%	0%
<b>Balancing Energy Market MWh</b>	-249,484	-298,340	-116,173	54,298	-510,467	-558,413	-854,501	-764,108	-674,285	-999,342	-750,627	-705,848
Balancing Energy LSE Internal LBMP Energy Sales	-232%	-203%	-294%	-190%	-133%	-114%	-116%	-117%	-129%	-124%	-134%	-137%
Balancing Energy External TC LBMP Energy Sales	105%	76%	97%	207%	21%	22%	18%	15%	24%	14%	20%	28%
Balancing Energy Bilateral - Internal Bilaterals	20%	26%	69%	27%	3%	7%	4%	7%	7%	7%	9%	4%
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	12%	0%	3%	0%	0%	0%	2%	1%	0%	0%
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	11%	6%	25%	67%	4%	3%	2%	2%	3%	3%	5%	3%
Balancing Energy Bilateral - Wheel Through Bilaterals	-4%	-6%	-10%	-12%	1%	-18%	-8%	-7%	-7%	-1%	0%	1%
<b>Transactions Summary</b>												
LBMP	56%	56%	57%	59%	53%	55%	57%	55%	55%	52%	55%	56%
Internal Bilaterals	37%	37%	36%	33%	39%	38%	36%	37%	38%	42%	39%	38%
Import Bilaterals	5%	5%	5%	6%	5%	5%	5%	5%	5%	4%	4%	3%
Export Bilaterals	2%	1%	2%	2%	2%	1%	1%	2%	2%	2%	2%	2%
Wheels Through	1%	1%	1%	0%	1%	1%	1%	1%	1%	0%	1%	0%
<b>Market Share of Total Load</b>												
Day Ahead Market	101.6%	102.1%	100.8%	99.6%	104.1%	103.9%	105.5%	105.2%	104.9%	107.9%	105.7%	104.9%
Balancing Energy +	-1.6%	-2.1%	-0.8%	0.4%	-4.1%	-3.9%	-5.5%	-5.2%	-4.9%	-7.9%	-5.7%	-4.9%
Total MWh	15,784,780	14,111,175	14,517,397	12,156,045	12,473,991	14,161,516	15,673,837	14,772,502	13,638,224	12,684,816	13,194,882	14,286,808
Average Daily Energy Sendout/Month GWh	475	460	440	390	391	456	496	470	442	394	413	433

+ 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 2015 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 *	\$53.35	\$101.48	\$46.59	\$26.07	\$29.21	\$24.30	\$30.27					
Standard Deviation	\$24.61	\$48.85	\$21.51	\$6.73	\$13.44	\$11.96	\$17.67					
Load Weighted Price **	\$55.40	\$104.52	\$48.01	\$26.84	\$31.08	\$26.12	\$32.94					
<b><u>RTC LBMP</u></b>												
Price *	\$46.98	\$95.06	\$43.43	\$25.11	\$32.85	\$24.73	\$27.51					
Standard Deviation	\$22.84	\$47.55	\$29.42	\$12.31	\$35.40	\$24.71	\$21.84					
Load Weighted Price **	\$48.59	\$97.62	\$45.10	\$26.00	\$35.08	\$26.73	\$29.76					
<b><u>REAL TIME LBMP</u></b>												
Price *	\$48.51	\$98.83	\$44.38	\$25.46	\$30.39	\$23.96	\$27.71					
Standard Deviation	\$25.99	\$52.53	\$29.07	\$12.66	\$31.69	\$31.14	\$23.42					
Load Weighted Price **	\$50.18	\$101.34	\$46.10	\$26.28	\$32.52	\$26.86	\$30.50					
Average Daily Energy Sendout/Month GWh	462	481	436	387	409	450	512					

### 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	\$32.49	\$31.65	\$39.19	\$35.12
Standard Deviation	\$121.52	\$50.86	\$59.89	\$8.90	\$10.99	\$12.29	\$15.56	\$9.90	\$11.59	\$9.77	\$13.38	\$11.21
Load Weighted Price **	\$164.06	\$114.77	\$100.81	\$45.19	\$38.05	\$41.14	\$41.18	\$33.28	\$34.31	\$32.89	\$40.57	\$36.33
<b><u>RTC LBMP</u></b>												
Price *	\$138.41	\$110.71	\$94.71	\$44.00	\$33.16	\$37.34	\$35.32	\$31.74	\$32.89	\$29.23	\$34.27	\$34.99
Standard Deviation	\$125.42	\$72.22	\$97.72	\$27.44	\$17.51	\$25.39	\$24.90	\$23.34	\$33.68	\$20.45	\$14.23	\$35.81
Load Weighted Price **	\$147.06	\$115.31	\$98.80	\$45.48	\$34.63	\$39.64	\$37.85	\$33.48	\$35.31	\$30.74	\$35.46	\$36.79
<b><u>REAL TIME LBMP</u></b>												
Price *	\$137.90	\$111.51	\$93.37	\$42.79	\$34.06	\$38.23	\$35.97	\$31.21	\$32.50	\$29.36	\$36.01	\$34.80
Standard Deviation	\$122.32	\$70.35	\$89.05	\$19.38	\$17.15	\$23.33	\$27.27	\$18.18	\$33.51	\$21.14	\$17.99	\$42.67
Load Weighted Price **	\$147.77	\$115.80	\$97.58	\$43.97	\$35.46	\$40.71	\$39.00	\$33.13	\$35.42	\$30.81	\$37.17	\$36.69
Average Daily Energy Sendout/Month GWh	475	460	440	390	391	456	496	470	442	394	413	433

\* Average zonal load weighted prices.

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

### NYISO Monthly Average Internal LBMPs 2014- 2015

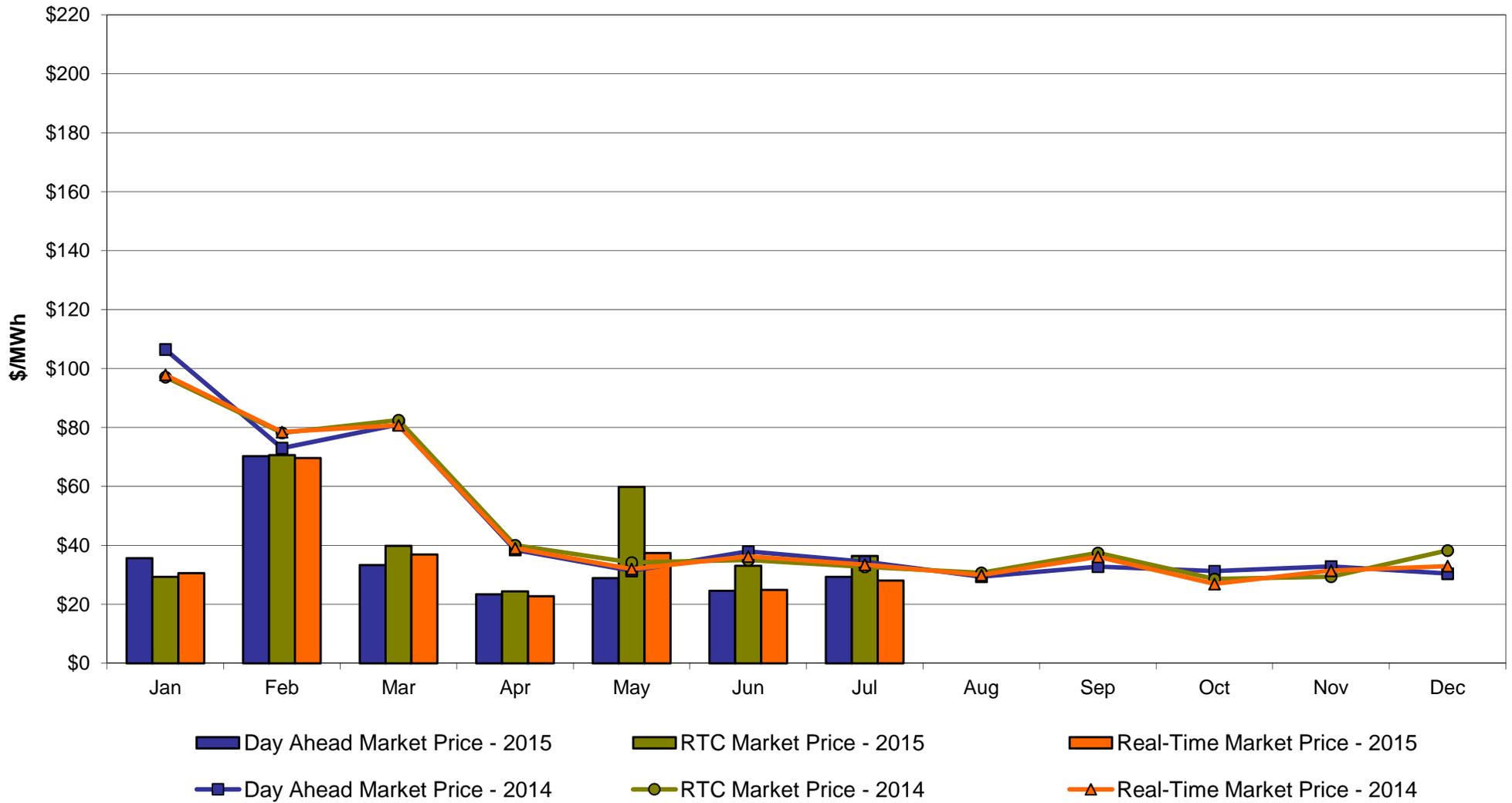


**July 2015 Zonal LBMP Statistics for NYISO (\$/MWh)**

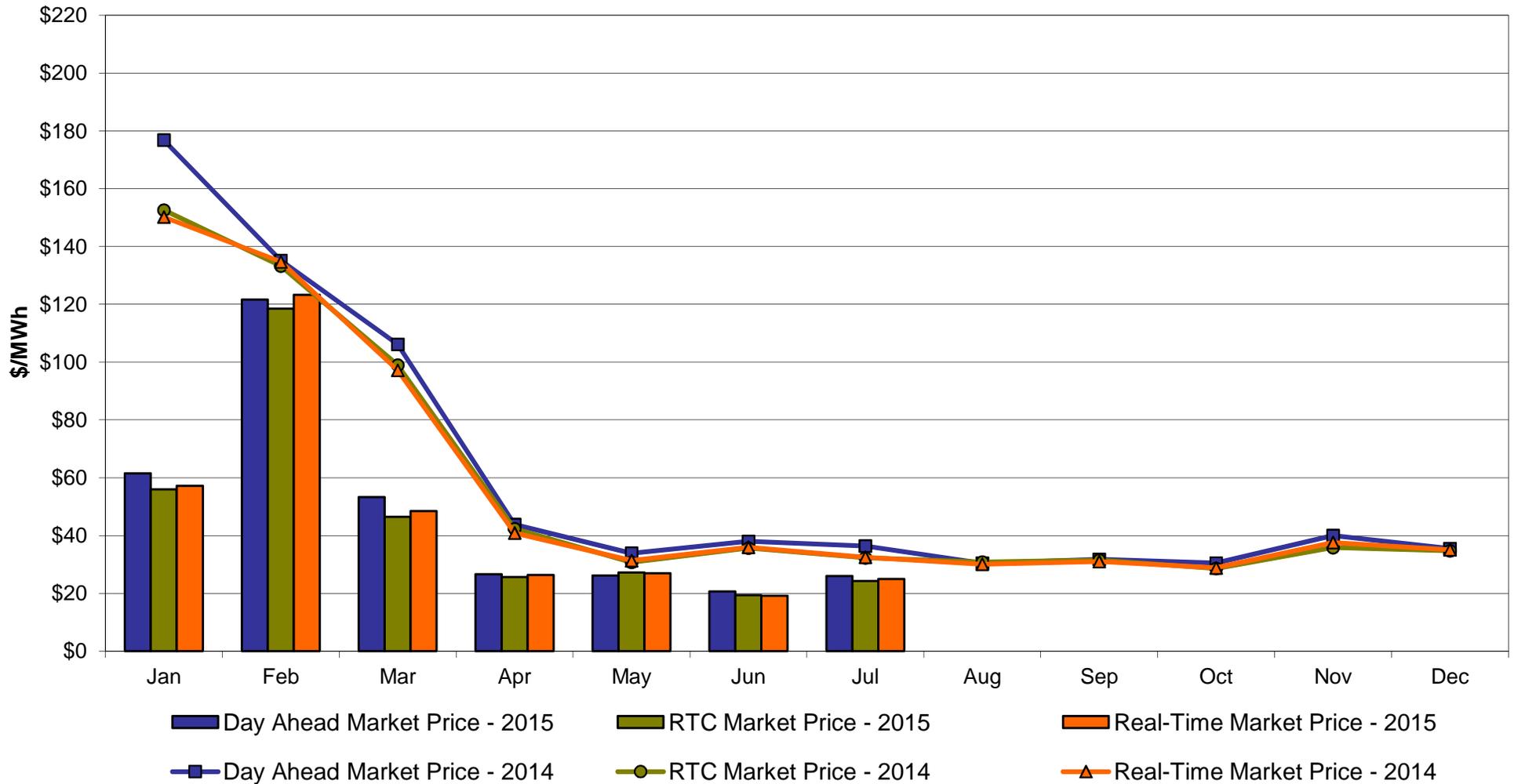
	<u>WEST</u> <u>Zone A</u>	<u>GENESEE</u> <u>Zone B</u>	<u>NORTH</u> <u>Zone D</u>	<u>CENTRAL</u> <u>Zone C</u>	<u>MOHAWK</u> <u>VALLEY</u> <u>Zone E</u>	<u>CAPITAL</u> <u>Zone F</u>	<u>HUDSON</u> <u>VALLEY</u> <u>Zone G</u>	<u>MILLWOOD</u> <u>Zone H</u>	<u>DUNWOODIE</u> <u>Zone I</u>	<u>NEW YORK</u> <u>CITY</u> <u>Zone J</u>	<u>LONG</u> <u>ISLAND</u> <u>Zone K</u>
<b>DAY AHEAD LBMP</b>											
Unweighted Price *	29.31	23.57	22.44	24.94	24.90	26.05	28.56	28.97	28.98	30.01	41.92
Standard Deviation	18.97	11.78	11.31	12.88	12.70	13.24	15.57	16.24	16.25	16.79	33.91
<b>RTC LBMP</b>											
Unweighted Price *	36.44	21.23	20.76	23.75	22.89	24.28	25.47	25.61	25.57	27.12	32.43
Standard Deviation	80.06	14.45	16.72	17.49	15.26	16.49	16.91	17.06	16.99	18.34	42.05
<b>REAL TIME LBMP</b>											
Unweighted Price *	28.08	22.42	21.75	23.63	23.57	24.98	26.24	26.41	26.36	28.60	33.73
Standard Deviation	34.93	15.36	15.02	17.71	16.72	19.59	20.04	20.38	20.32	22.52	45.62
	<u>ONTARIO</u> <u>IESO</u> <u>Zone O</u>	<u>HYDRO</u> <u>QUEBEC</u> <u>(Wheel)</u> <u>Zone M</u>	<u>HYDRO</u> <u>QUEBEC</u> <u>(Import/Export)</u> <u>Zone M</u>	<u>PJM</u> <u>Zone P</u>	<u>NEW</u> <u>ENGLAND</u> <u>Zone N</u>	<u>CROSS</u> <u>SOUND</u> <u>CABLE</u> <u>Controllable</u> <u>Line</u>	<u>NORTHPORT-</u> <u>NORWALK</u> <u>Controllable</u> <u>Line</u>	<u>NEPTUNE</u> <u>Controllable</u> <u>Line</u>	<u>LINDEN VFT</u> <u>Controllable</u> <u>Line</u>	<u>HUDSON</u> <u>Controllable</u> <u>Line</u>	<u>Dennison</u> <u>Controllable</u> <u>Line</u>
<b>DAY AHEAD LBMP</b>											
Unweighted Price *	22.01	22.68	22.68	27.85	27.12	39.67	30.65	35.32	28.92	29.19	21.63
Standard Deviation	10.24	10.95	10.95	15.42	14.19	26.25	14.17	21.34	15.96	16.29	10.65
<b>RTC LBMP</b>											
Unweighted Price *	17.71	20.68	20.68	28.55	24.59	30.30	28.45	28.60	24.94	25.69	20.44
Standard Deviation	20.61	17.69	17.69	39.67	16.34	34.36	31.46	27.87	14.54	16.94	16.28
<b>REAL TIME LBMP</b>											
Unweighted Price *	20.97	21.64	21.64	27.47	25.57	30.84	27.91	28.80	26.13	26.51	21.20
Standard Deviation	14.64	15.10	15.10	42.23	19.62	31.34	28.40	25.02	19.74	20.16	14.78

\* Straight LBMP averages

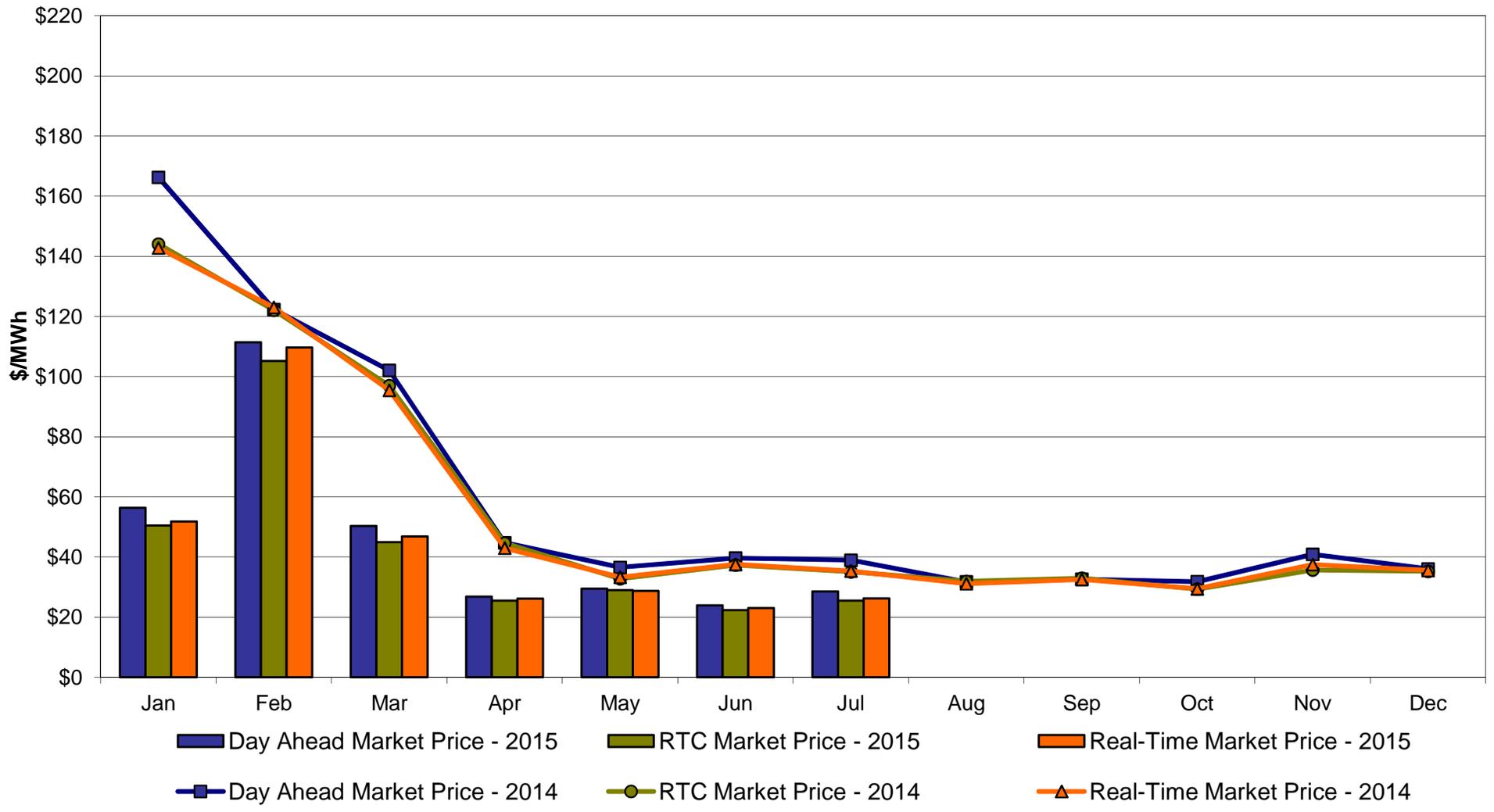
## West Zone A Monthly Average LBMP Prices 2014 - 2015



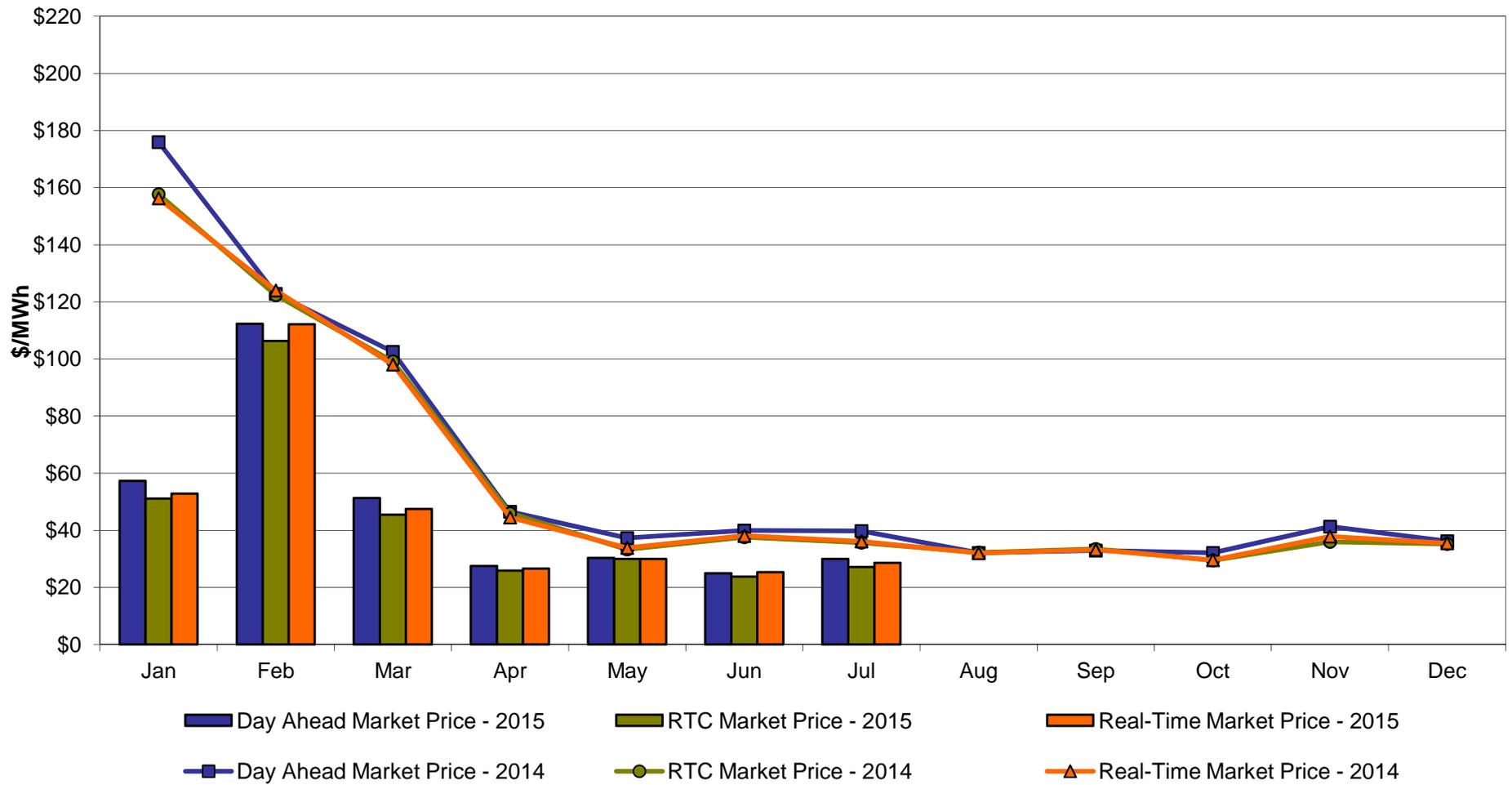
## Capital Zone F Monthly Average LBMP Prices 2014 - 2015



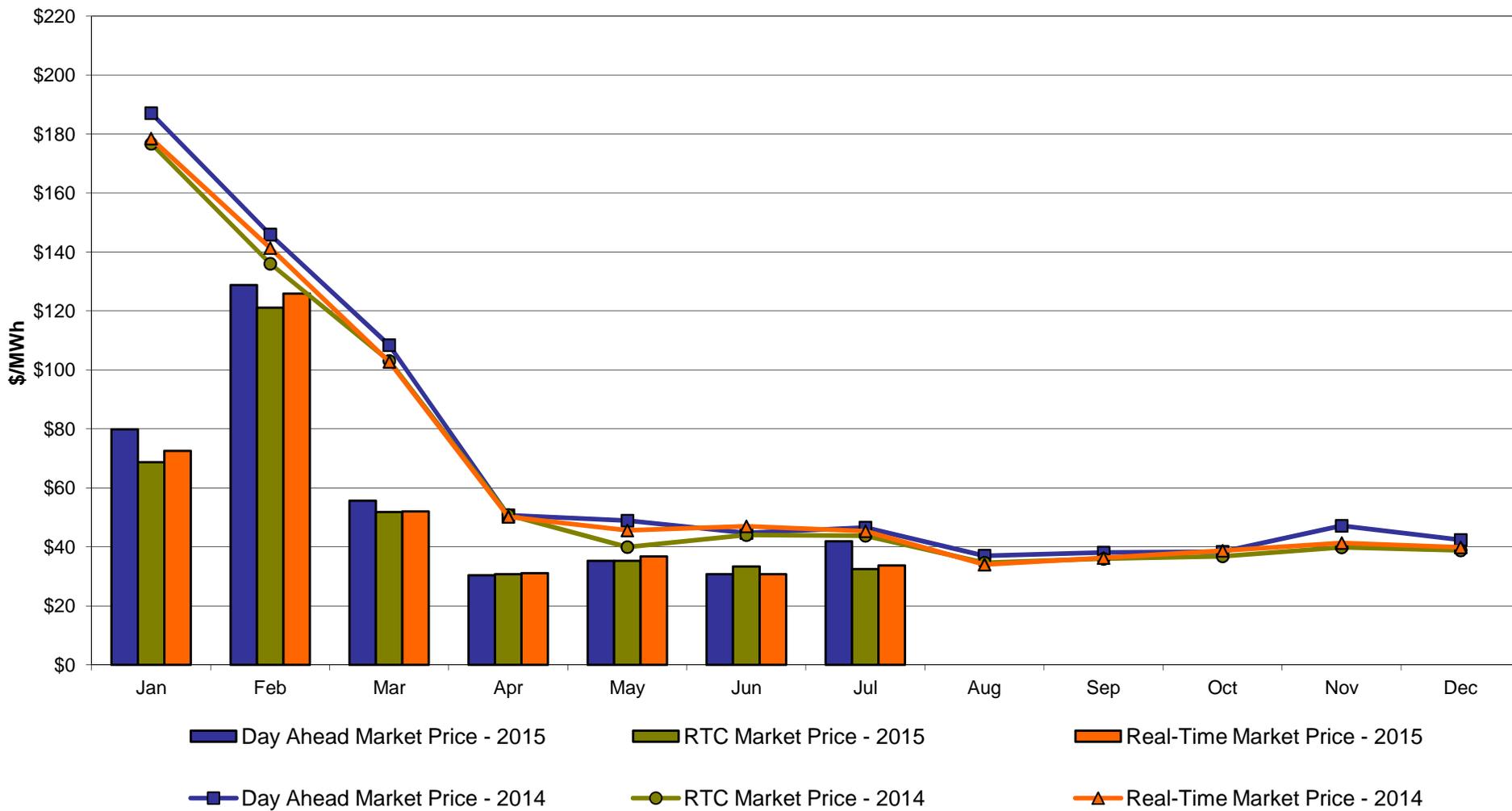
## Hudson Valley Zone G Monthly Average LBMP Prices 2014 - 2015



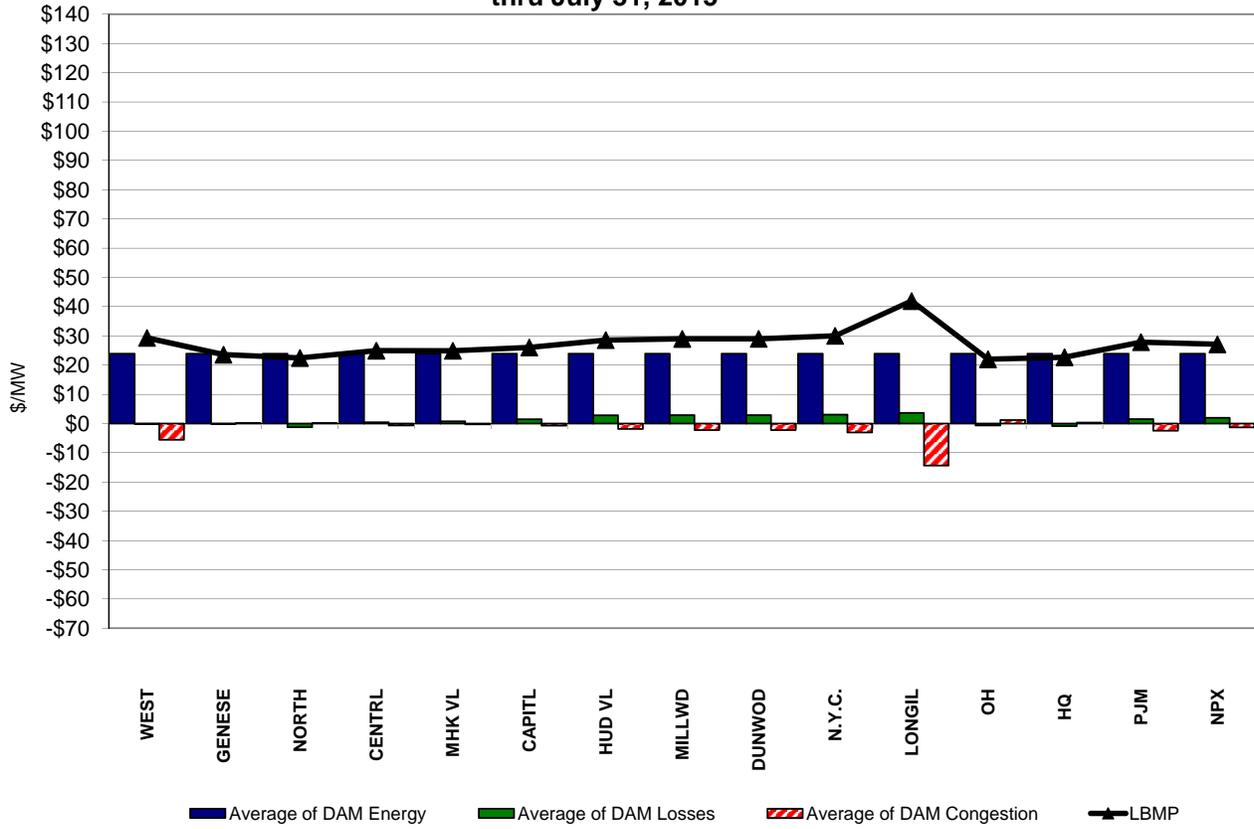
## NYC Zone J Monthly Average LBMP Prices 2014 - 2015



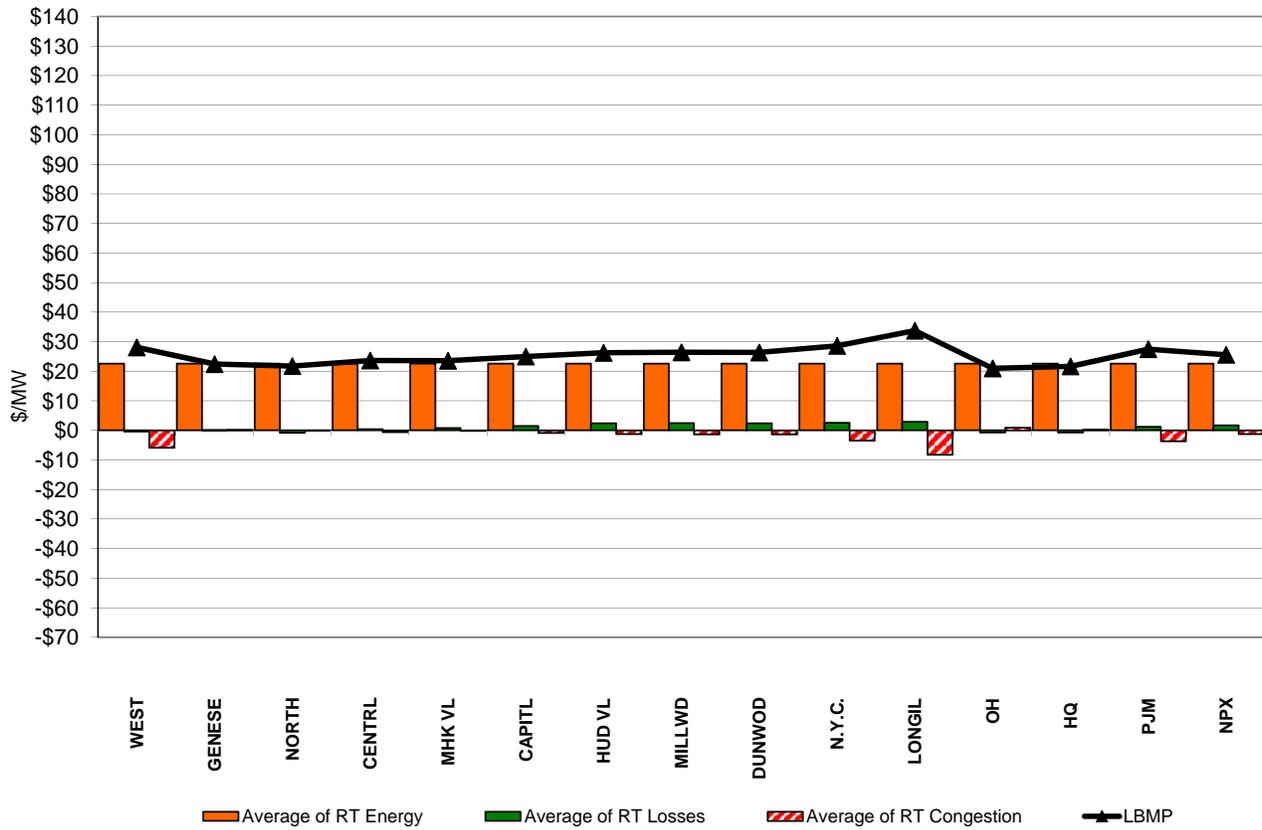
### Long Island Zone K Monthly Average LBMP Prices 2014 - 2015



### DAM Zonal Unweighted Monthly Average LBMP Components thru July 31, 2015

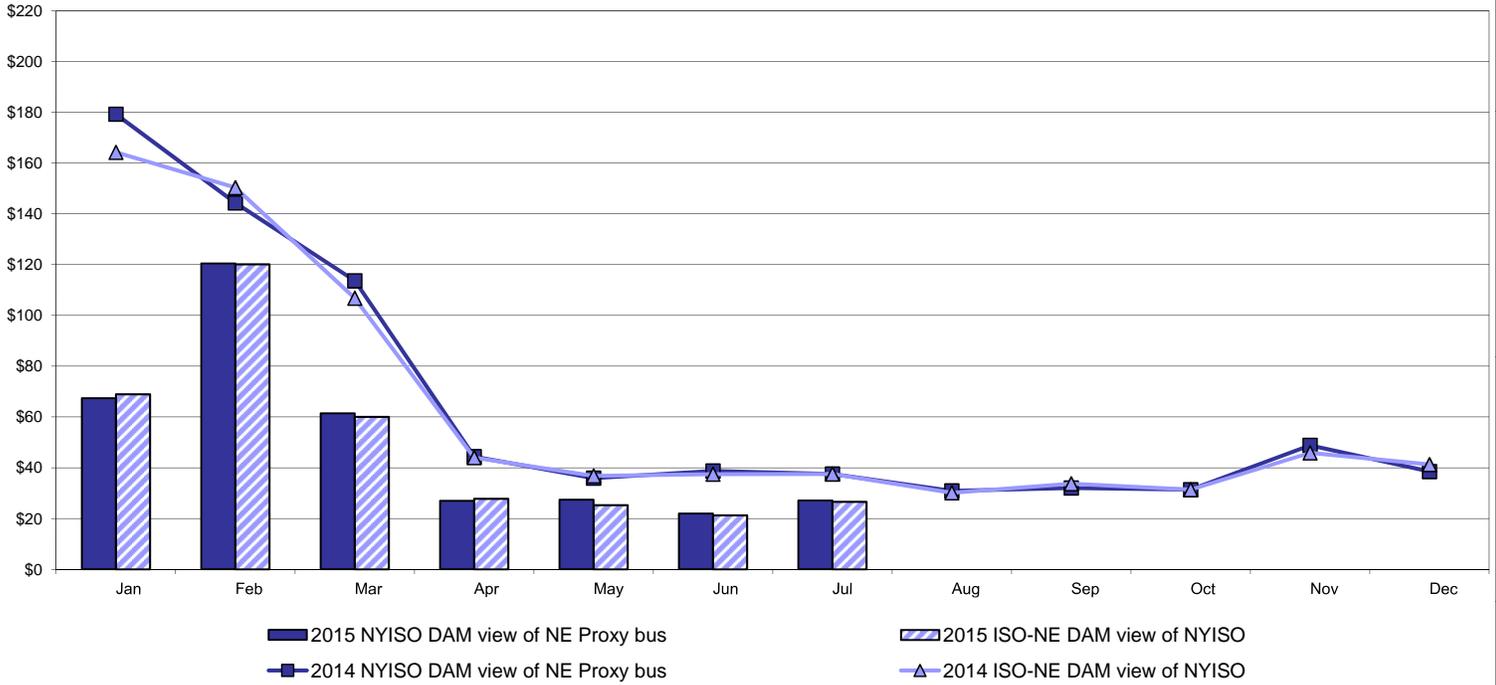


### RT Zonal Unweighted Monthly Average LBMP Components thru July 31, 2015

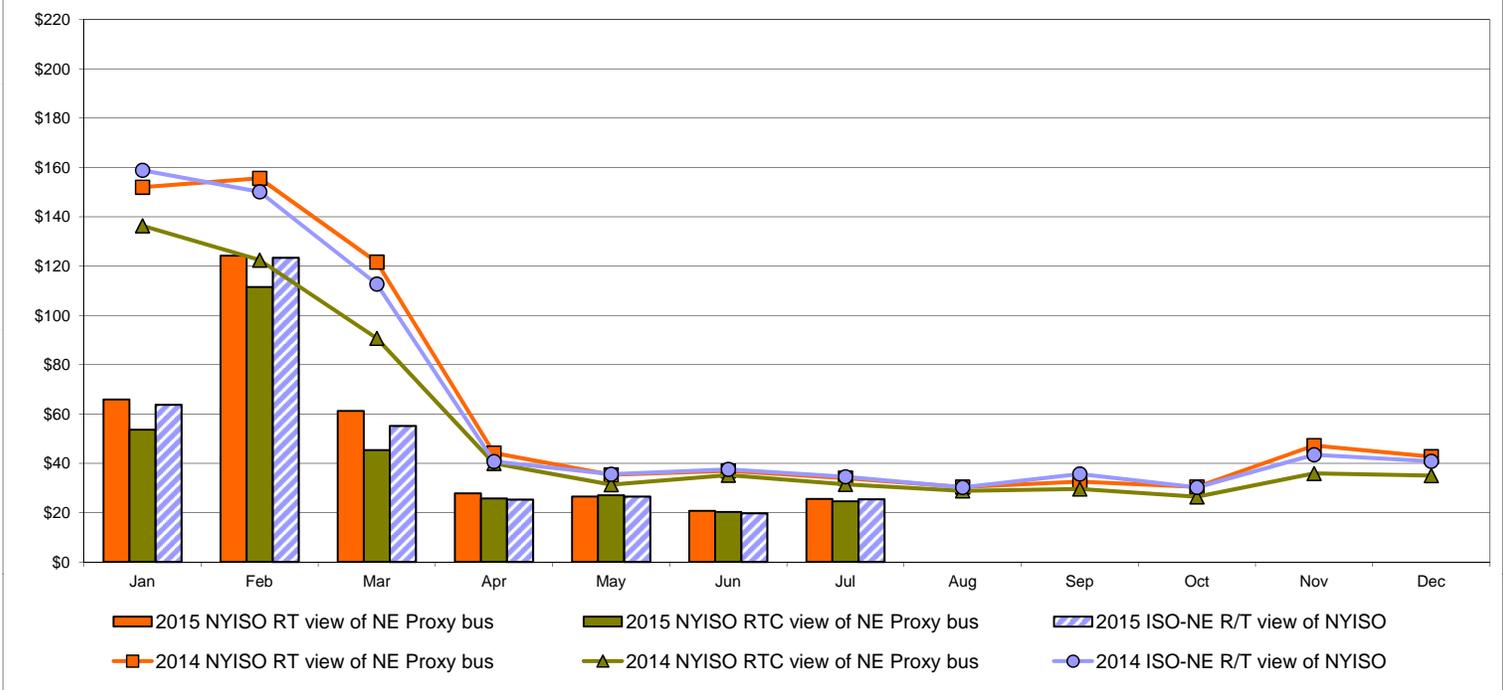


# External Comparison ISO-New England

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

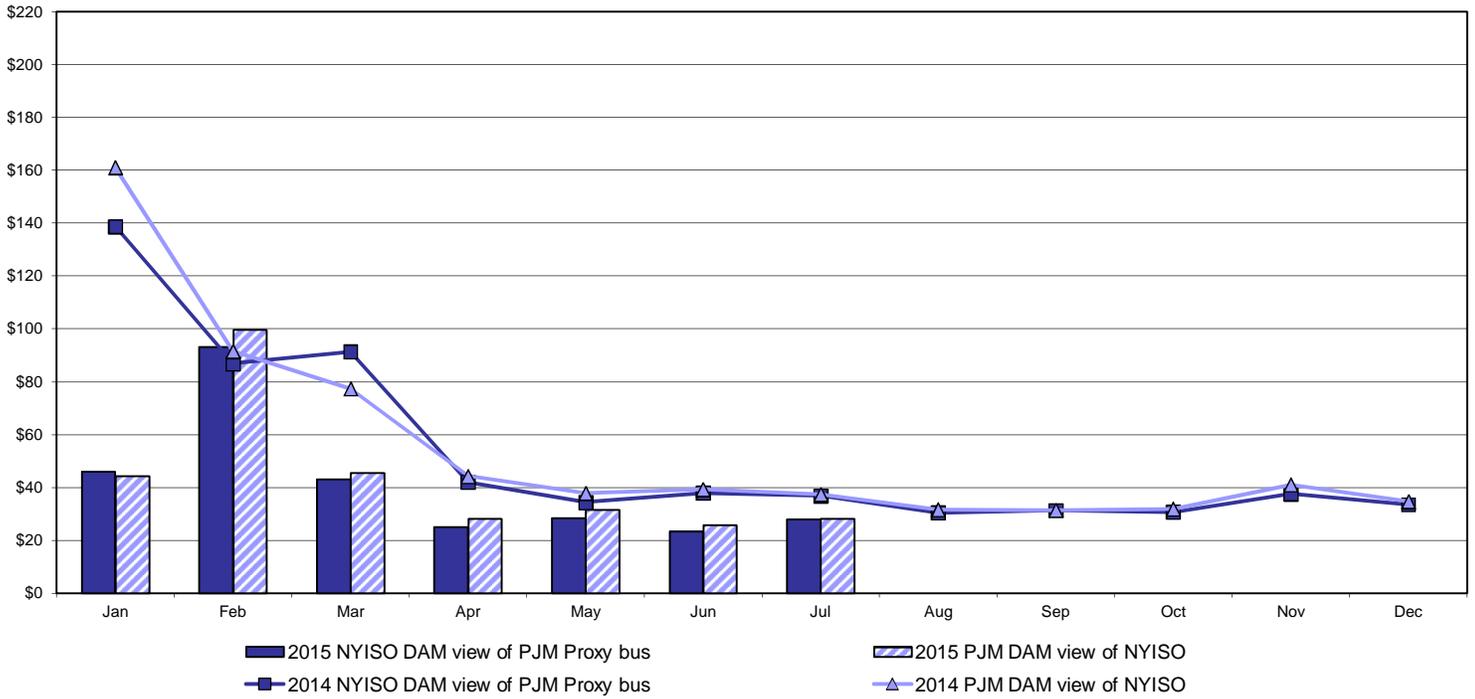


### Real Time Market External Zone Comparison: ISO-NE (\$/MWh)

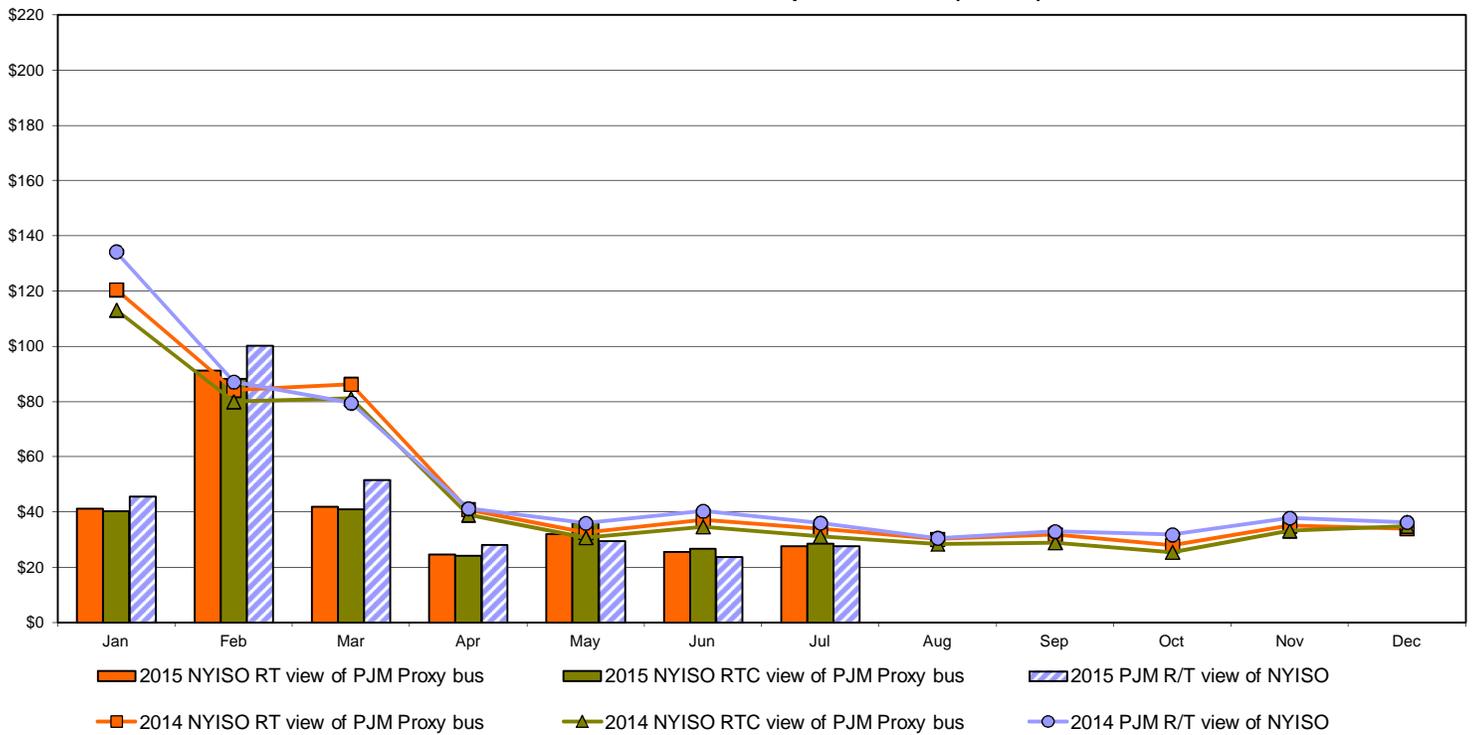


# External Comparison PJM

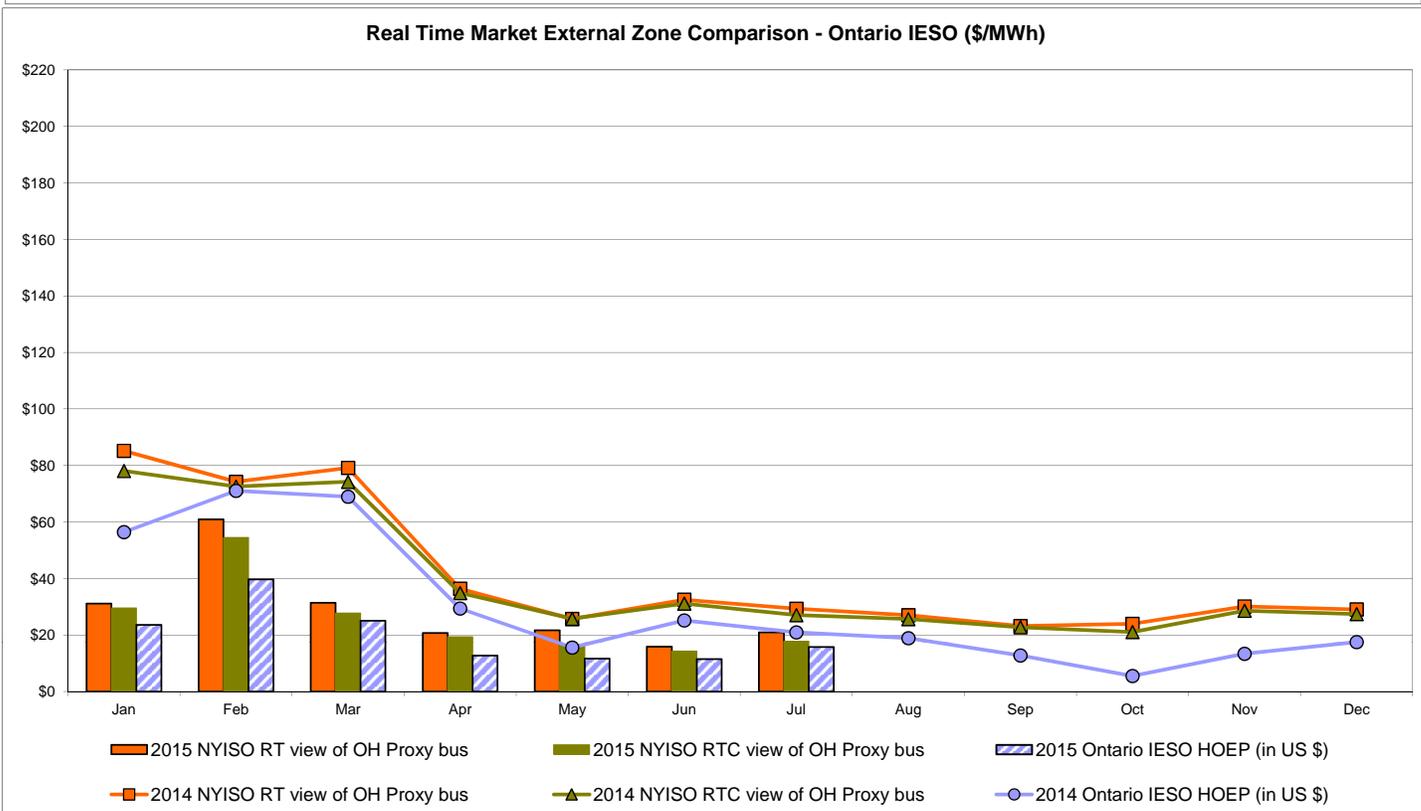
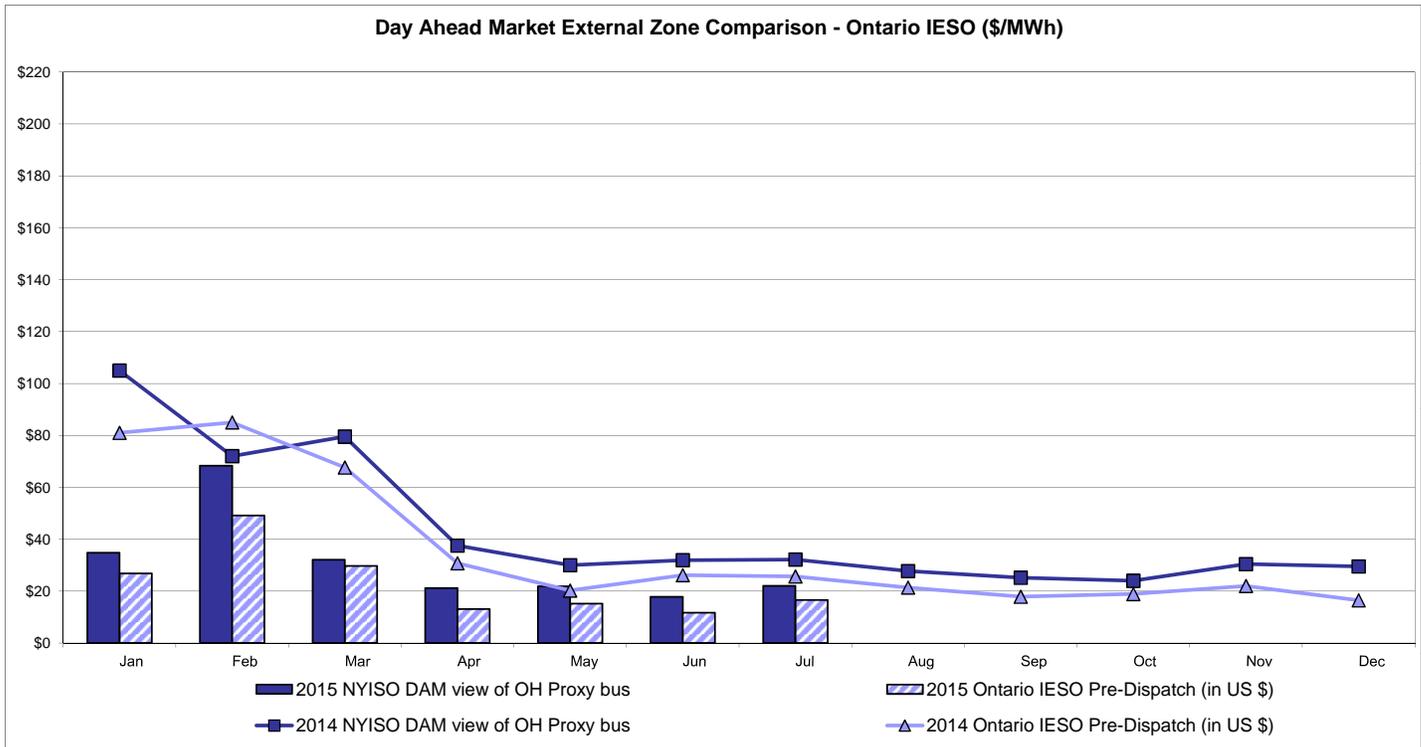
## Day Ahead Market External Zone Comparison - PJM (\$/MWh)



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

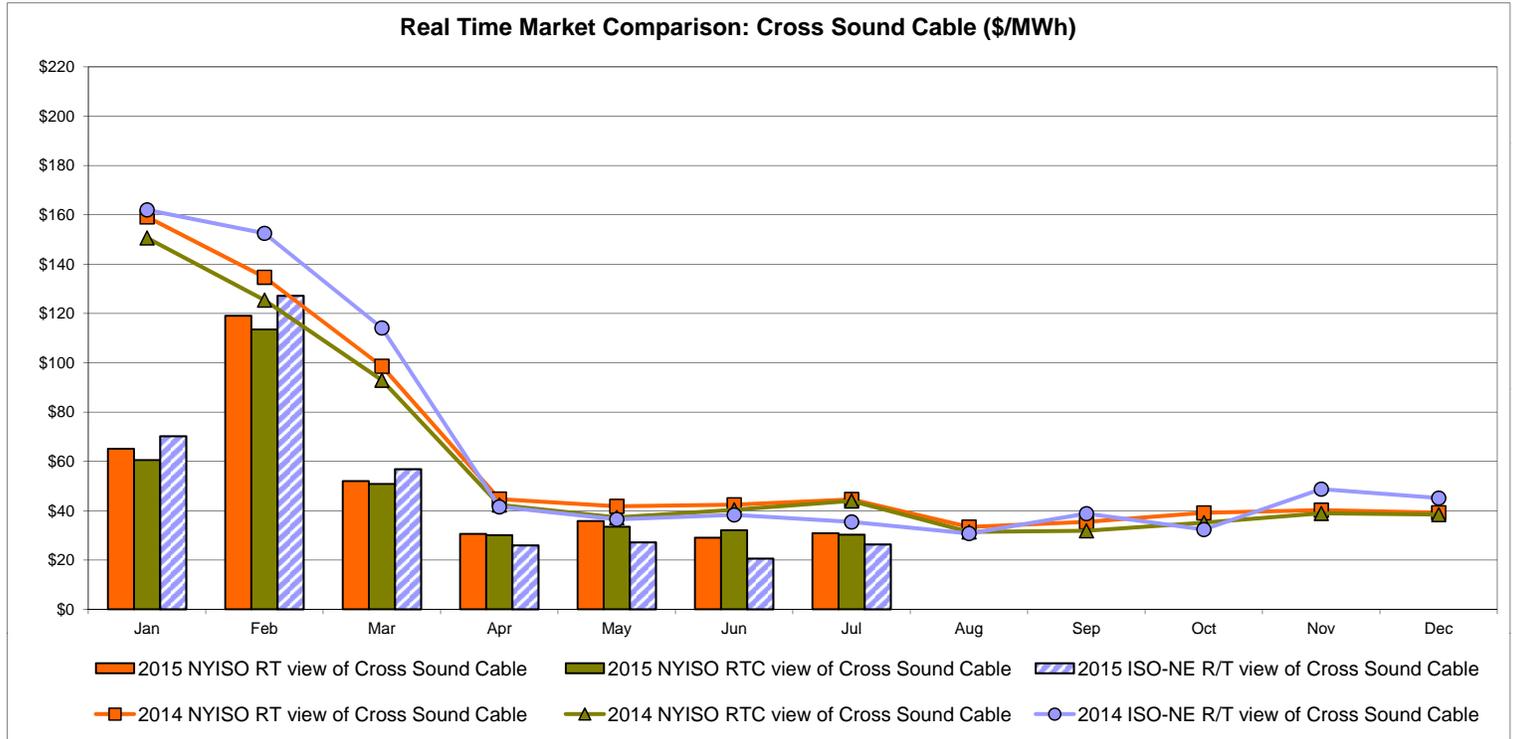
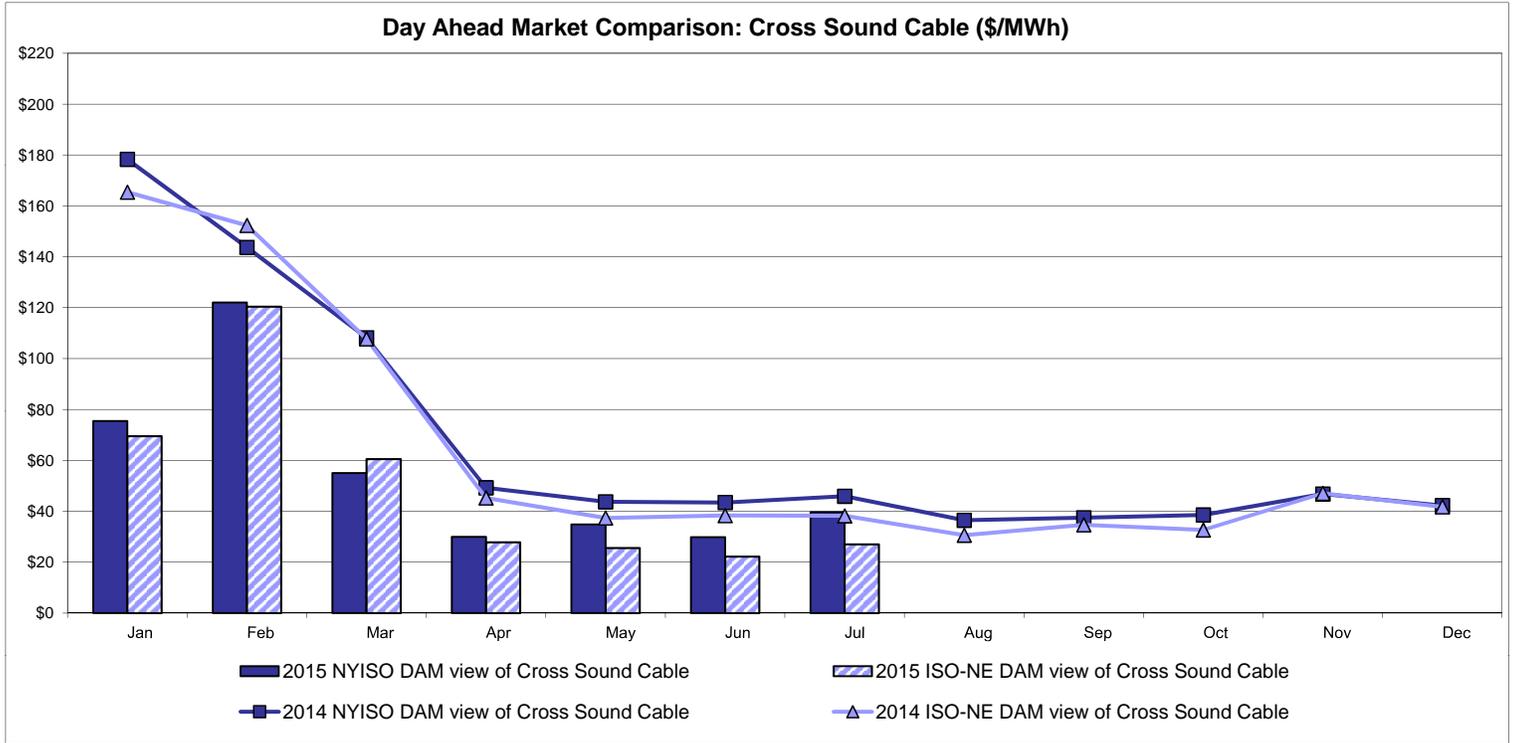


## External Comparison Ontario IESO



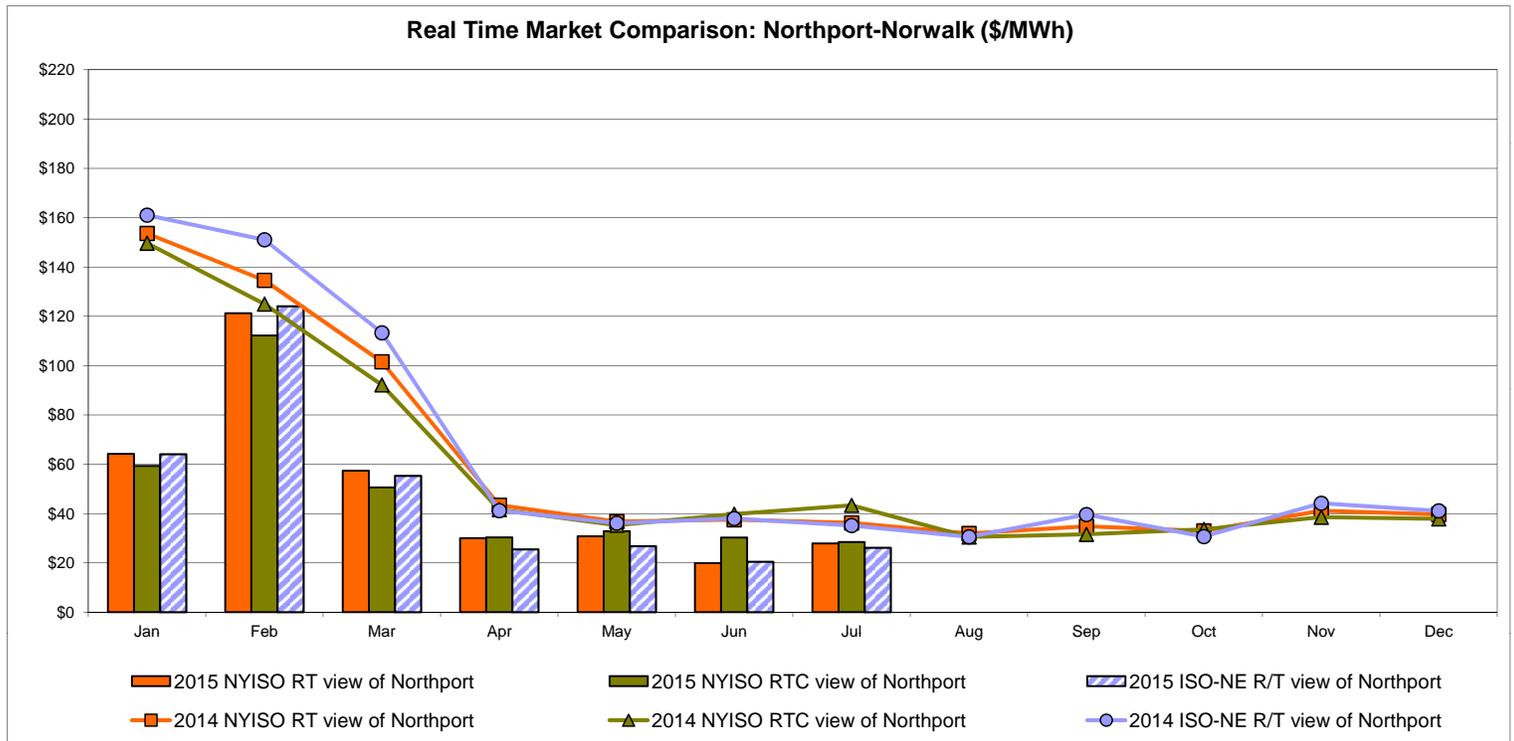
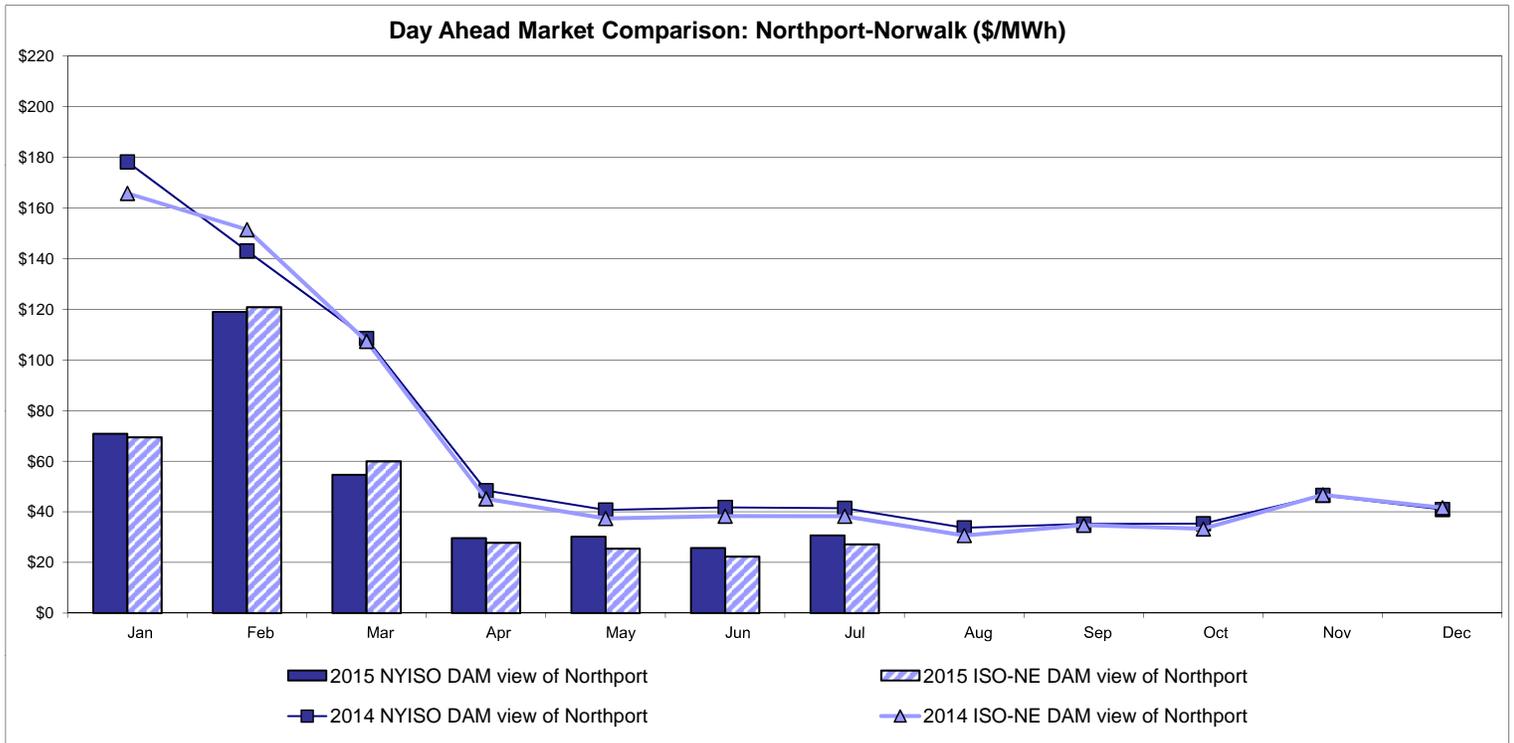
Notes: Exchange factor used for July 2015 was 0.777424 to US  
 HOEP: Hourly Ontario Energy Price  
 Pre-Dispatch: Projected Energy Price

# 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.

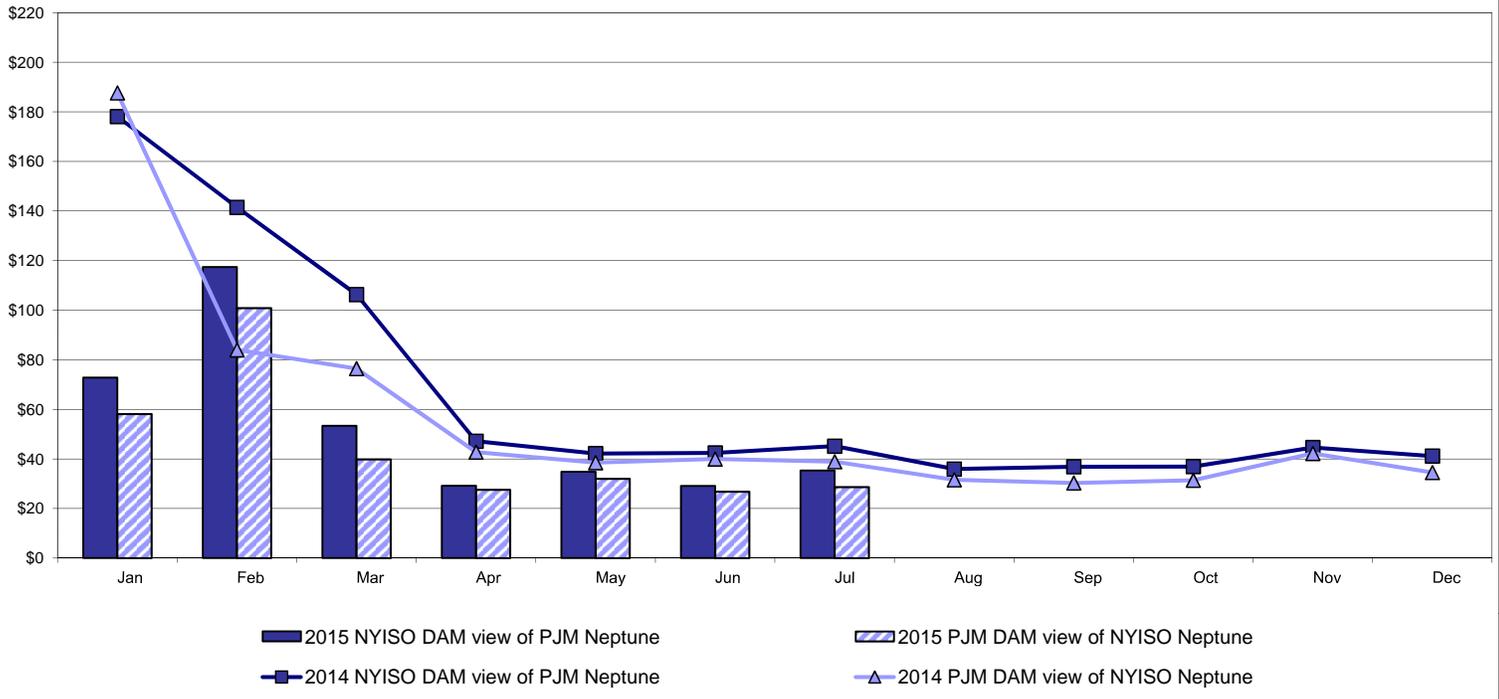
# External Controllable Line: Northport - Norwalk (New England)



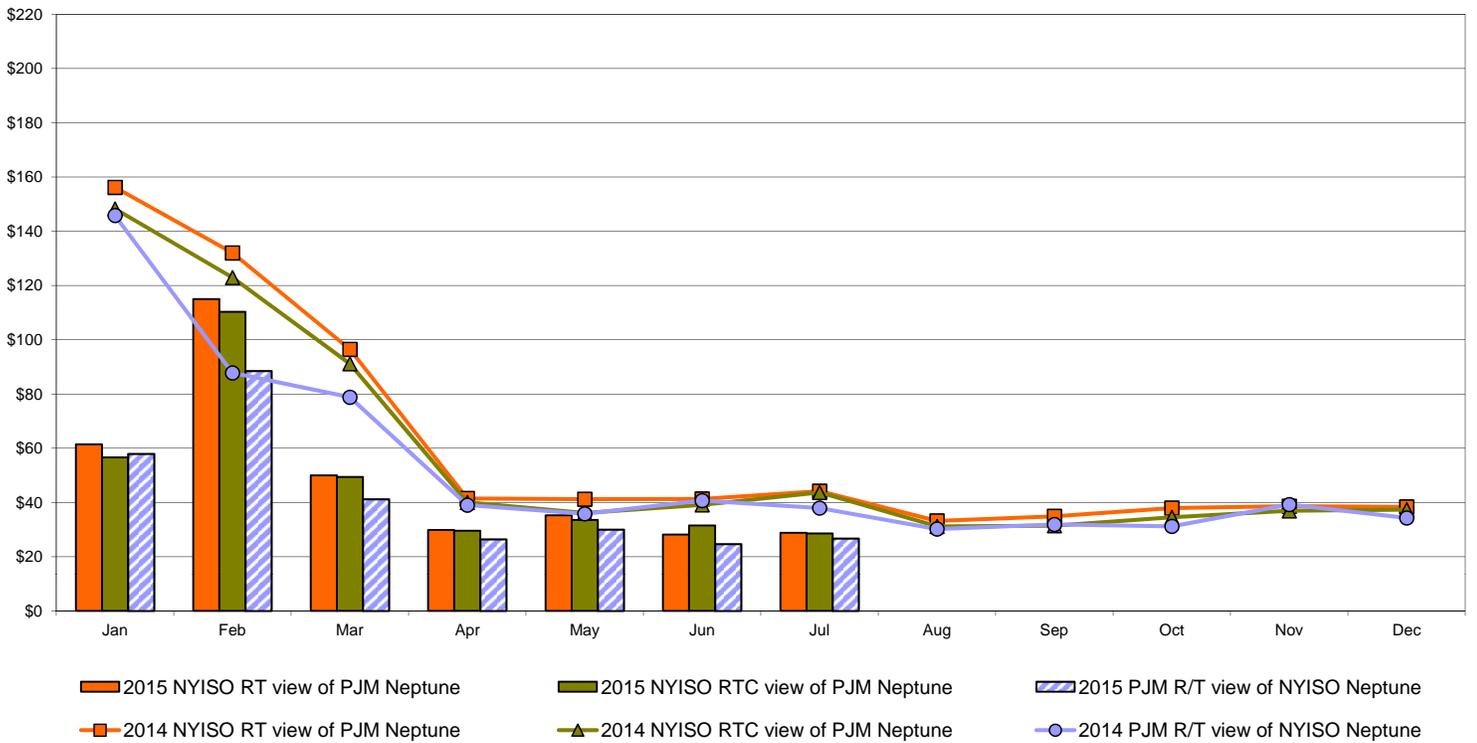
Note:  
 ISO-NE Forecast is an advisory posting @ 18:00 day before.  
 The DAM and R/T prices at the Northport 138 interface are used for ISO-NE.  
 The DAM and R/T prices at the 1385 interface are used for NYISO.

## External Controllable Line: Neptune (PJM)

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

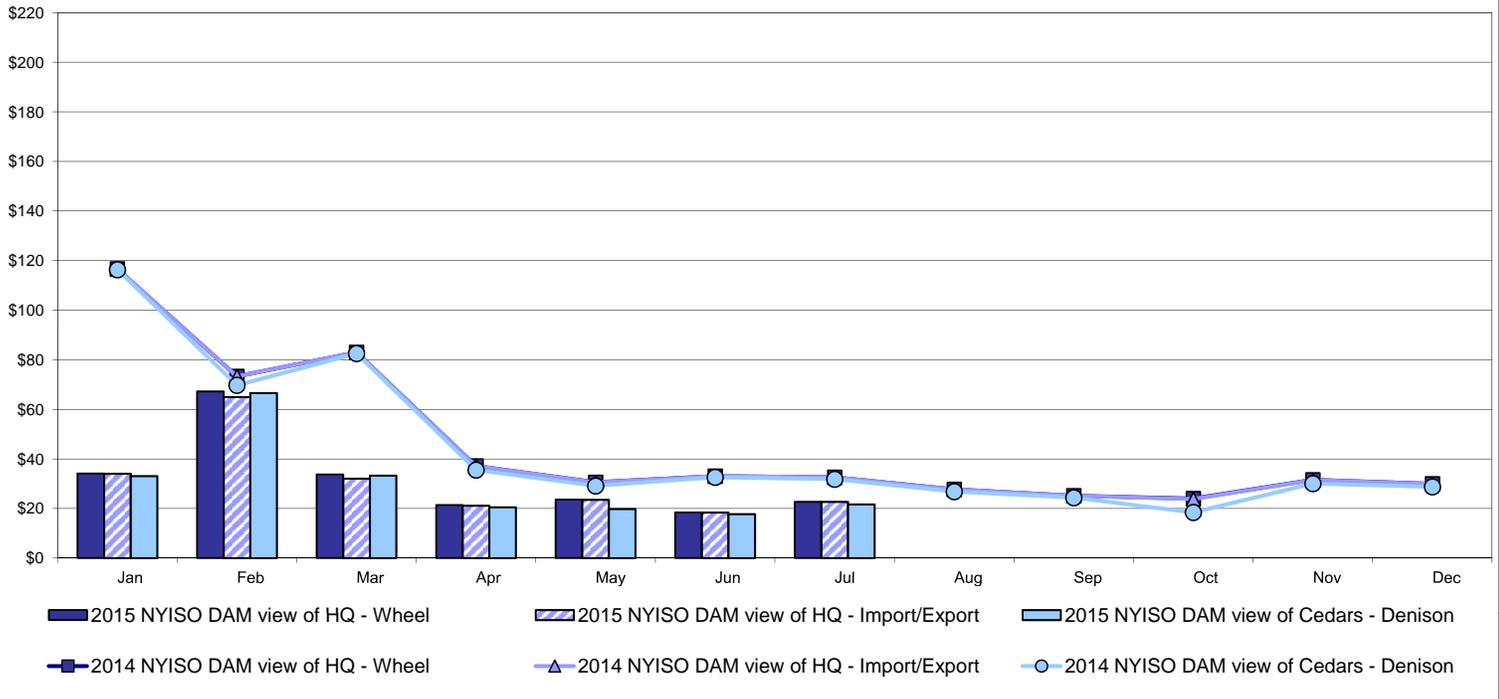


**Real Time Market Comparison: Neptune (\$/MWh)**

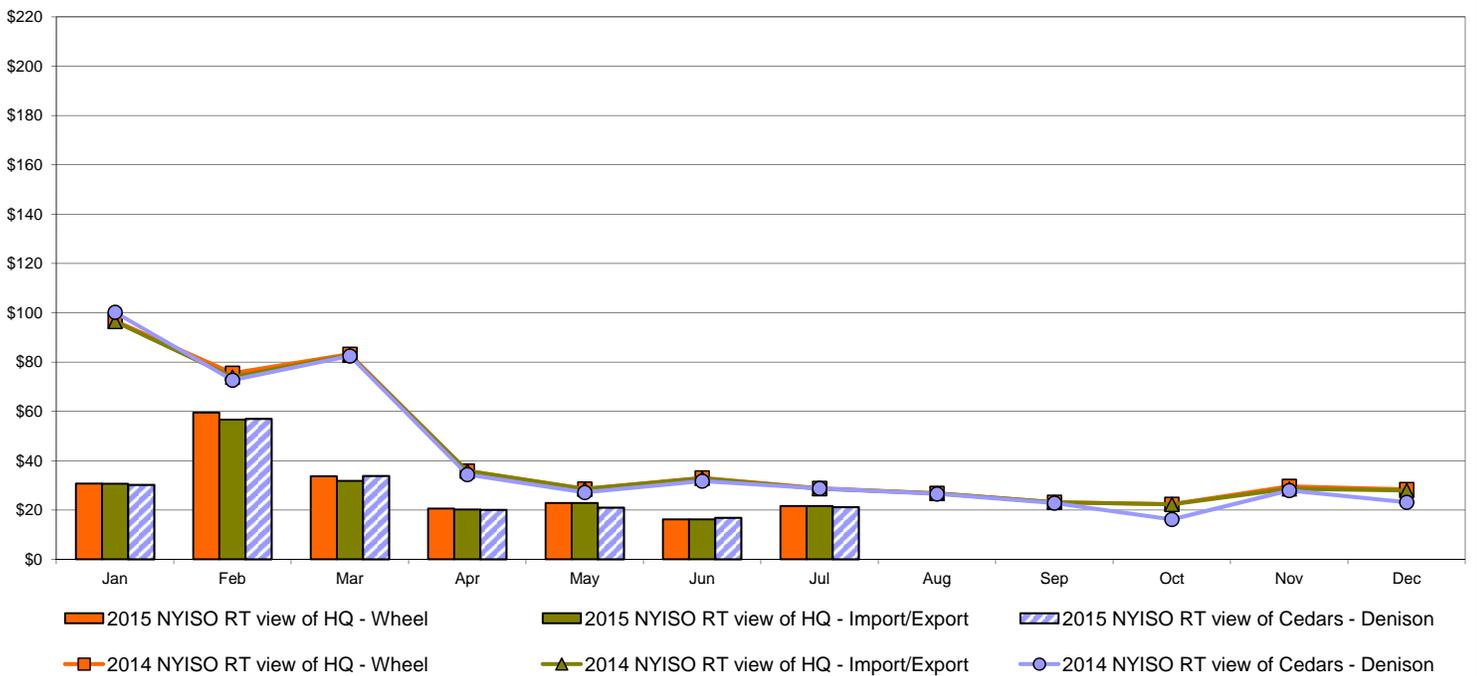


# External Comparison Hydro-Quebec

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

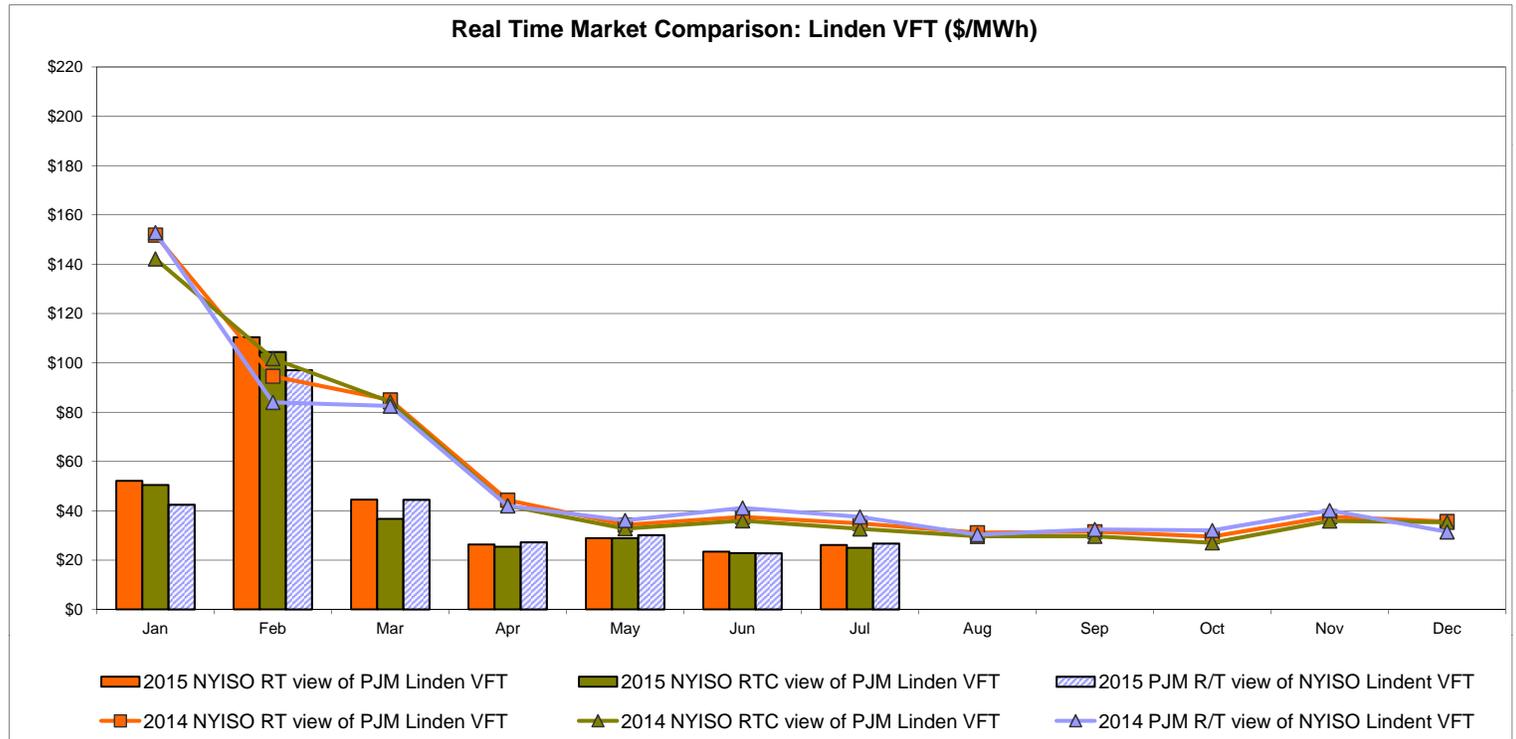
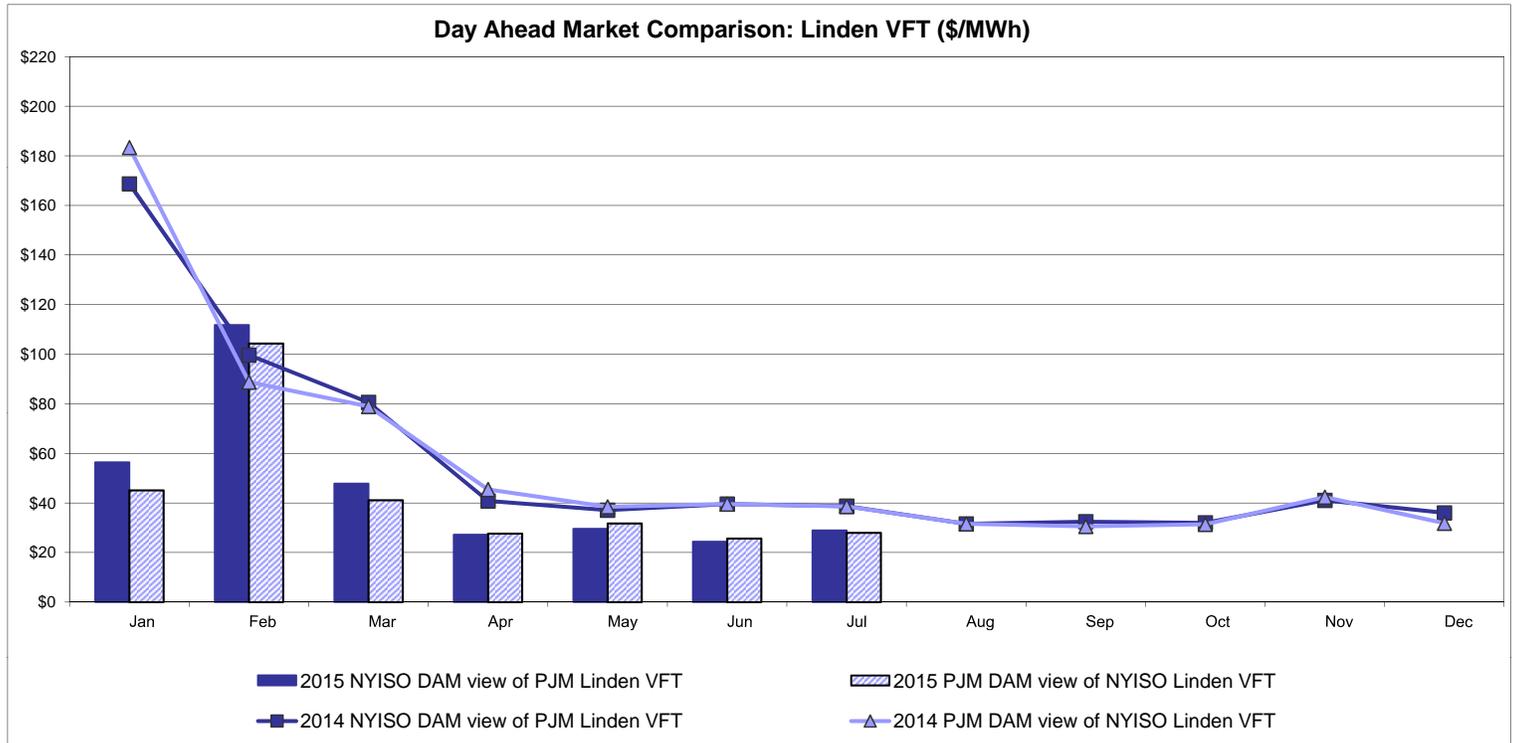


## Real Time Market External Zone Comparison - HQ (\$/MWh)

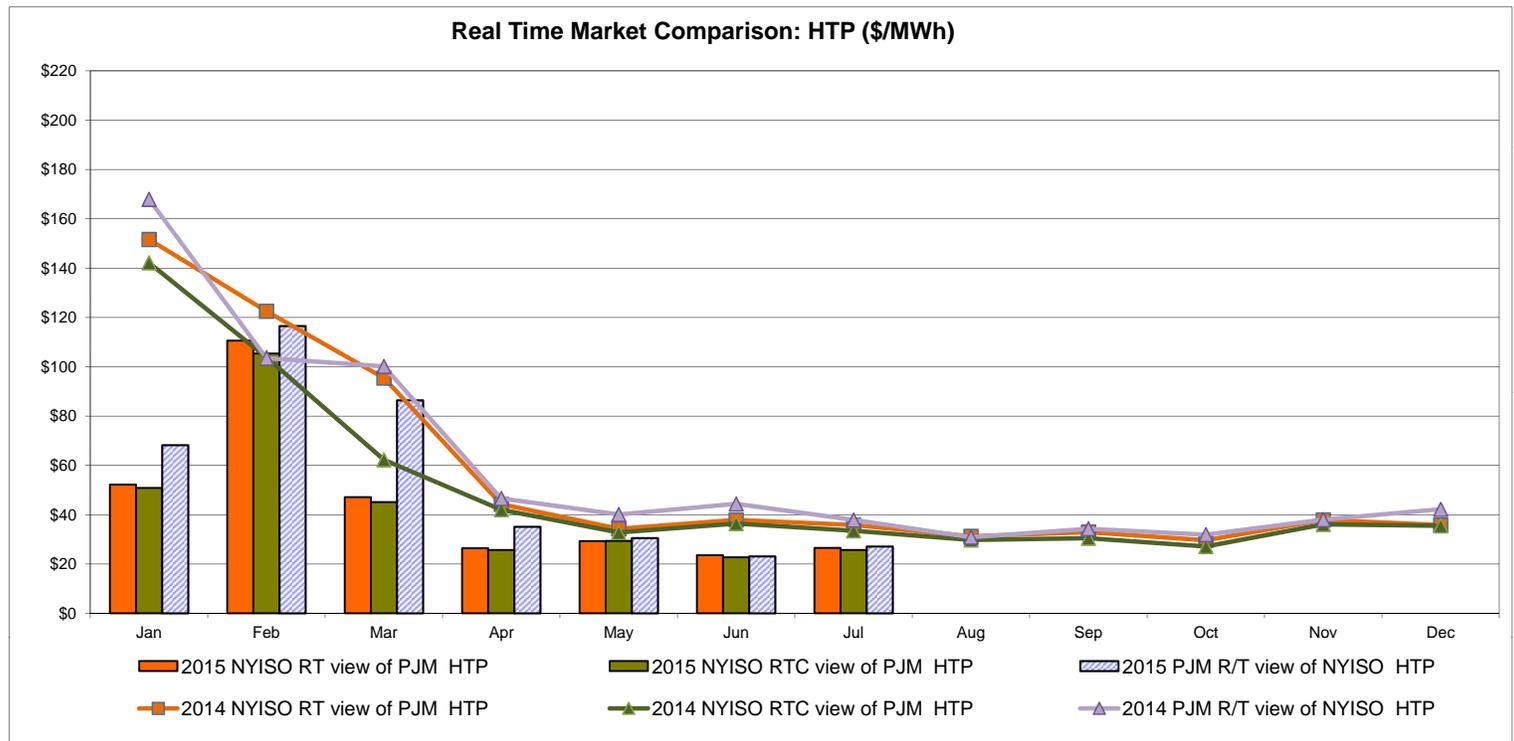
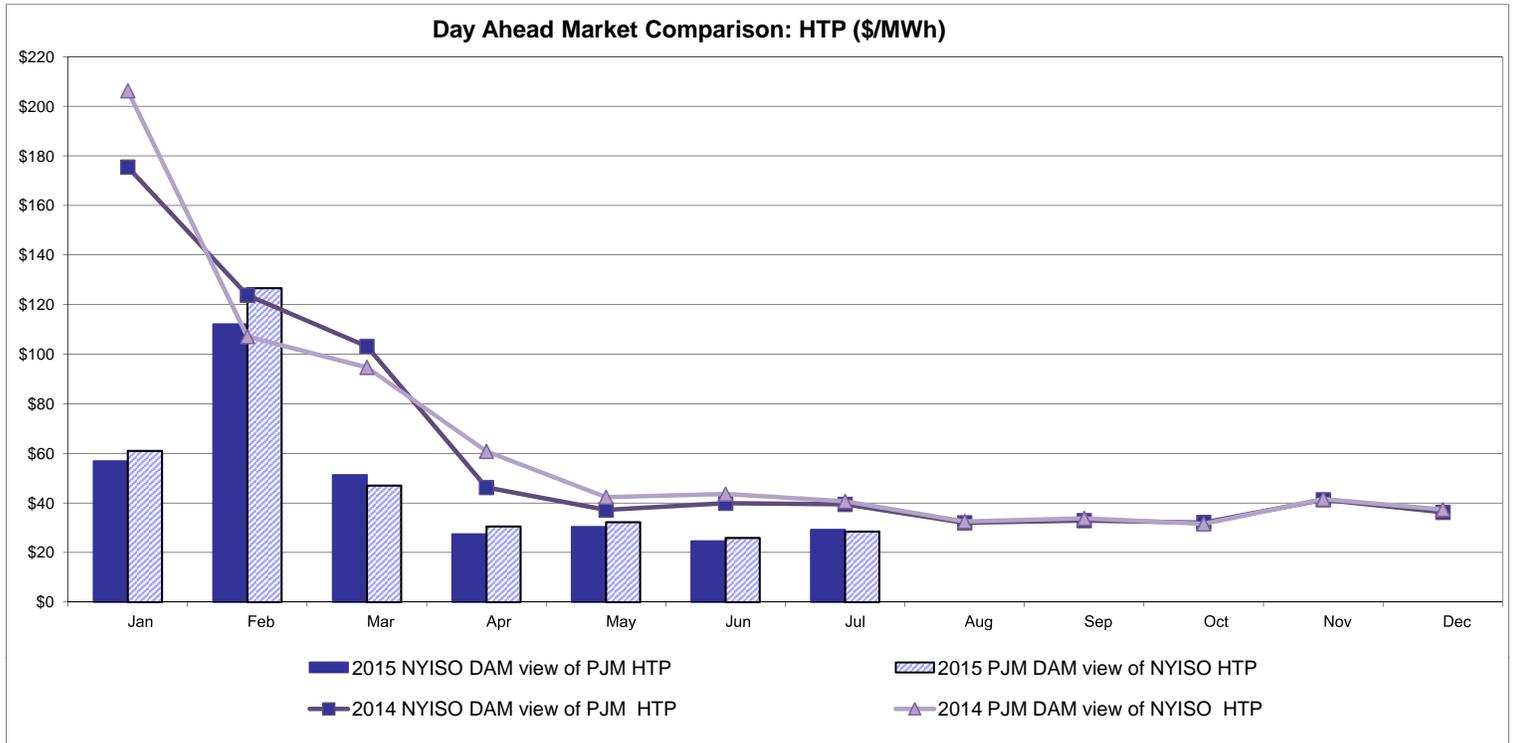


Note:  
Hydro-Quebec Prices are unavailable.

## External Controllable Line: Linden VFT (PJM)



## External Controllable Line: Hudson (PJM)

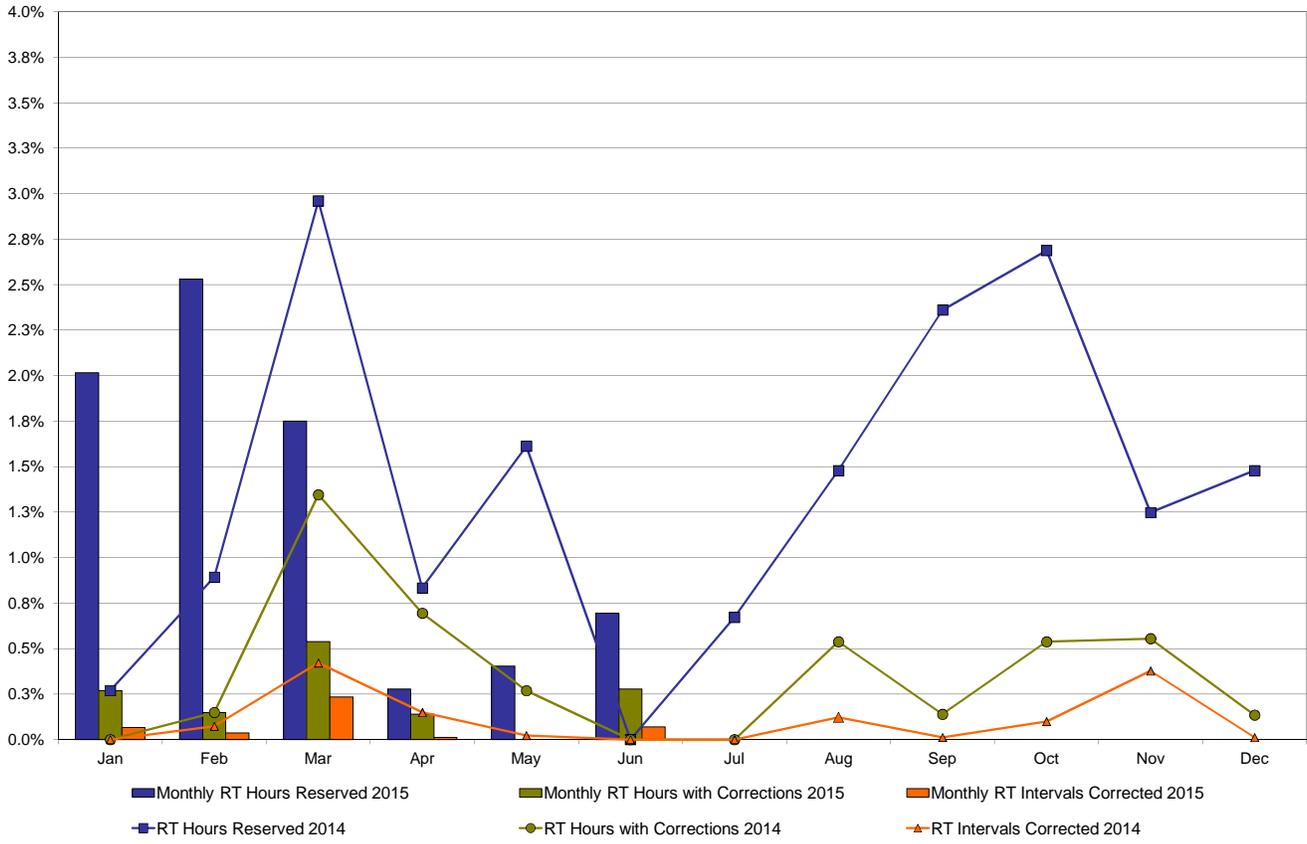


**NYISO Real Time Price Correction Statistics**

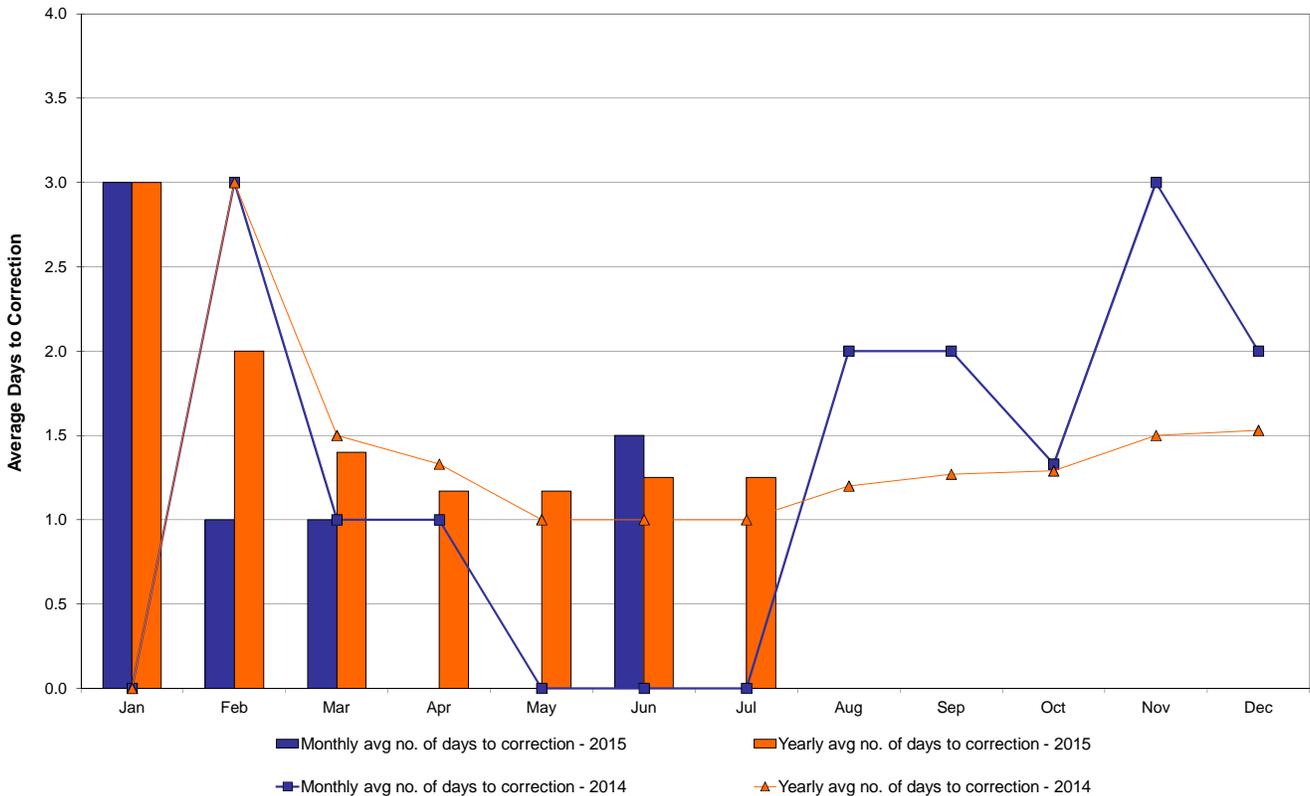
<b>2015</b>		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b>Hour Corrections</b>													
Number of hours with corrections	in the month	2	1	4	1	0	2	0					
Number of hours	in the month	744	672	743	720	744	720	744					
% of hours with corrections	in the month	0.27%	0.15%	0.54%	0.14%	0.00%	0.28%	0.00%					
% of hours with corrections	year-to-date	0.27%	0.21%	0.32%	0.28%	0.22%	0.23%	0.20%					
<b>Interval Corrections</b>													
Number of intervals corrected	in the month	6	3	21	1	0	6	0					
Number of intervals	in the month	9,066	8,231	9,005	8,696	9,032	8,731	9,025					
% of intervals corrected	in the month	0.07%	0.04%	0.23%	0.01%	0.00%	0.07%	0.00%					
% of intervals corrected	year-to-date	0.07%	0.05%	0.11%	0.09%	0.07%	0.07%	0.06%					
<b>Hours Reserved</b>													
Number of hours reserved	in the month	15	17	13	2	3	5	0					
Number of hours	in the month	744	672	743	720	744	720	744					
% of hours reserved	in the month	2.02%	2.53%	1.75%	0.28%	0.40%	0.69%	0.00%					
% of hours reserved	year-to-date	2.02%	2.26%	2.08%	1.63%	1.38%	1.27%	1.08%					
<b>Days to Correction *</b>													
Avg. number of days to correction	in the month	3.00	1.00	1.00	0.00	0.00	1.50	0.00					
Avg. number of days to correction	year-to-date	3.00	2.00	1.40	1.17	1.17	1.25	1.25					
<b>Days Without Corrections</b>													
Days without corrections	in the month	30	27	28	29	31	28	31					
Days without corrections	year-to-date	30	57	85	114	145	173	204					
<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	1	4	4	1
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	0.00%	0.15%	1.35%	0.69%	0.27%	0.00%	0.00%	0.54%	0.14%	0.54%	0.55%	0.13%
% of hours with corrections	year-to-date	0.00%	0.07%	0.51%	0.56%	0.50%	0.41%	0.35%	0.38%	0.35%	0.37%	0.39%	0.37%
<b>Interval Corrections</b>													
Number of intervals corrected	in the month	0	6	38	13	2	0	0	11	1	9	33	1
Number of intervals	in the month	9,232	8,205	9,023	8,720	9,030	8,729	8,999	8,975	8,779	9,026	8,763	9,030
% of intervals corrected	in the month	0.00%	0.07%	0.42%	0.15%	0.02%	0.00%	0.00%	0.12%	0.01%	0.10%	0.38%	0.01%
% of intervals corrected	year-to-date	0.00%	0.03%	0.17%	0.16%	0.13%	0.11%	0.10%	0.10%	0.09%	0.09%	0.12%	0.11%
<b>Hours Reserved</b>													
Number of hours reserved	in the month	2	6	22	6	12	0	5	11	17	20	9	11
Number of hours	in the month	744	672	743	720	744	720	744	744	720	744	721	744
% of hours reserved	in the month	0.27%	0.89%	2.96%	0.83%	1.61%	0.00%	0.67%	1.48%	2.36%	2.69%	1.25%	1.48%
% of hours reserved	year-to-date	0.27%	0.56%	1.39%	1.25%	1.32%	1.11%	1.04%	1.10%	1.24%	1.38%	1.37%	1.38%
<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	2.00	1.33	3.00	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	1.27	1.29	1.50	1.53
<b>Days Without Corrections</b>													
Days without corrections	in the month	31	27	28	28	29	30	31	29	29	28	28	30
Days without corrections	year-to-date	31	58	86	114	143	173	204	233	262	290	318	348

\* Calendar days from reservation date.

### Percentage of Real-Time Corrections

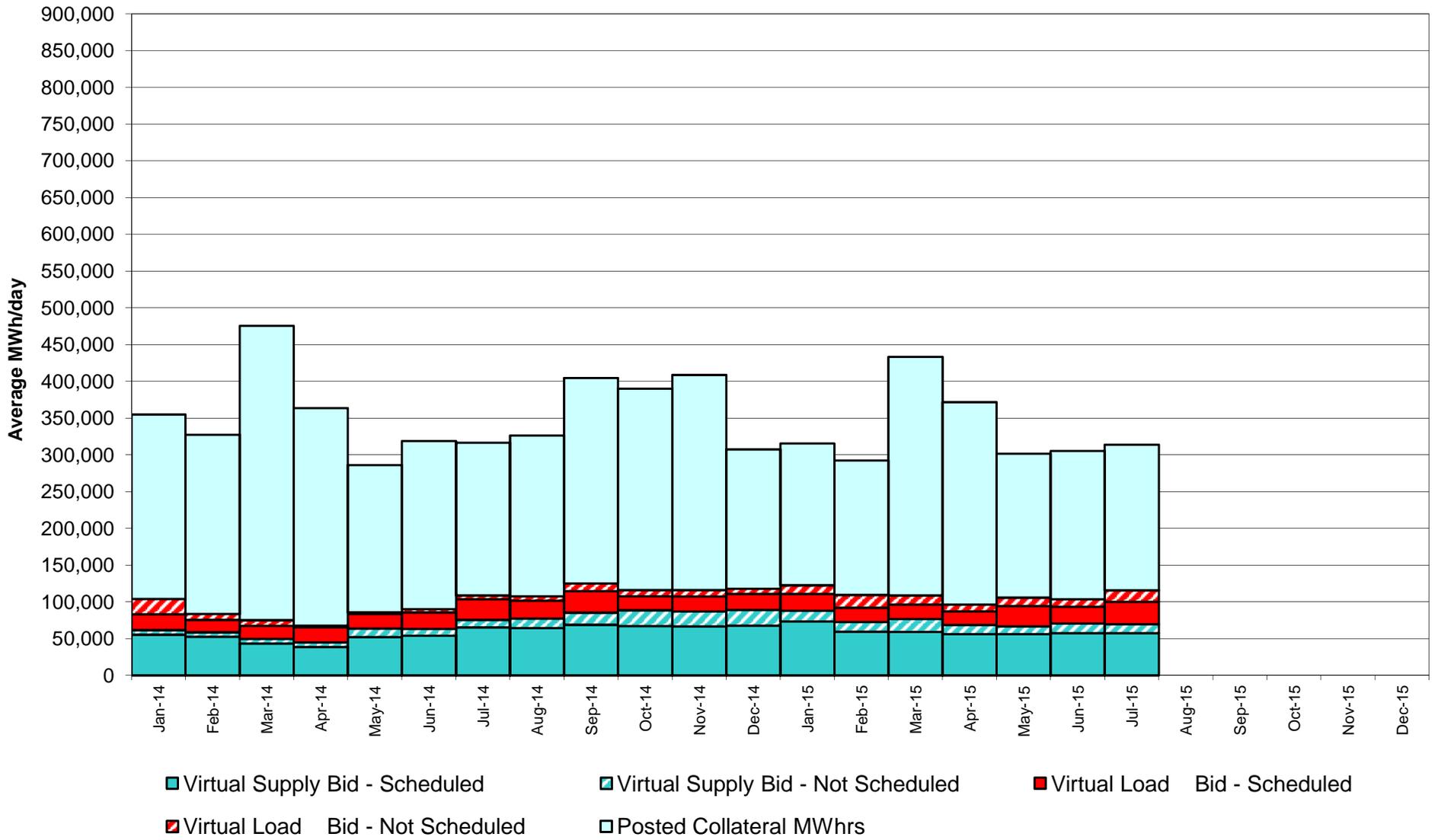


### Annual average time period for making Price Corrections (from reservation date) \*

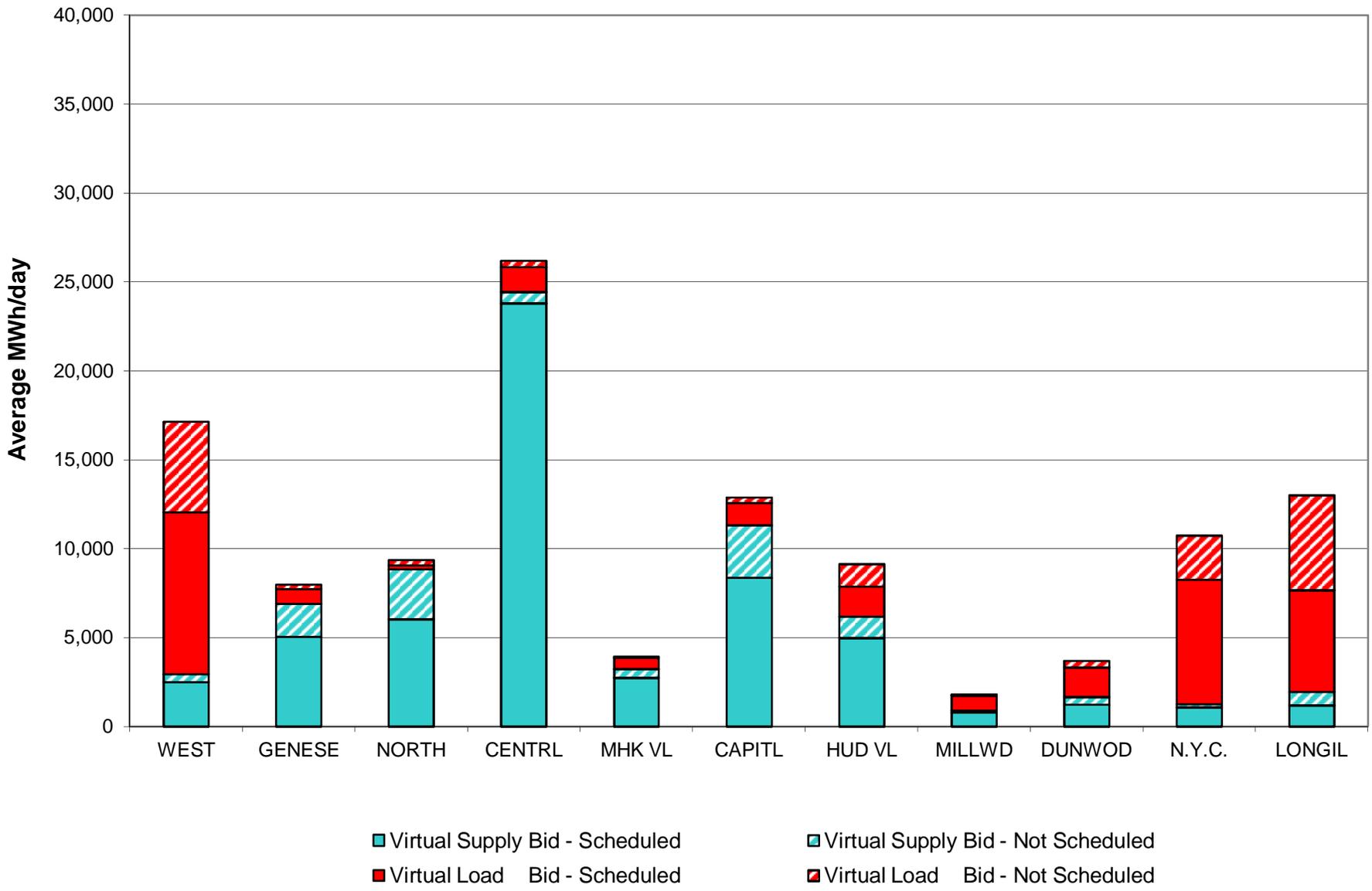


\* Calendar days from reservation date.

## NYISO Virtual Trading Average MWh per day



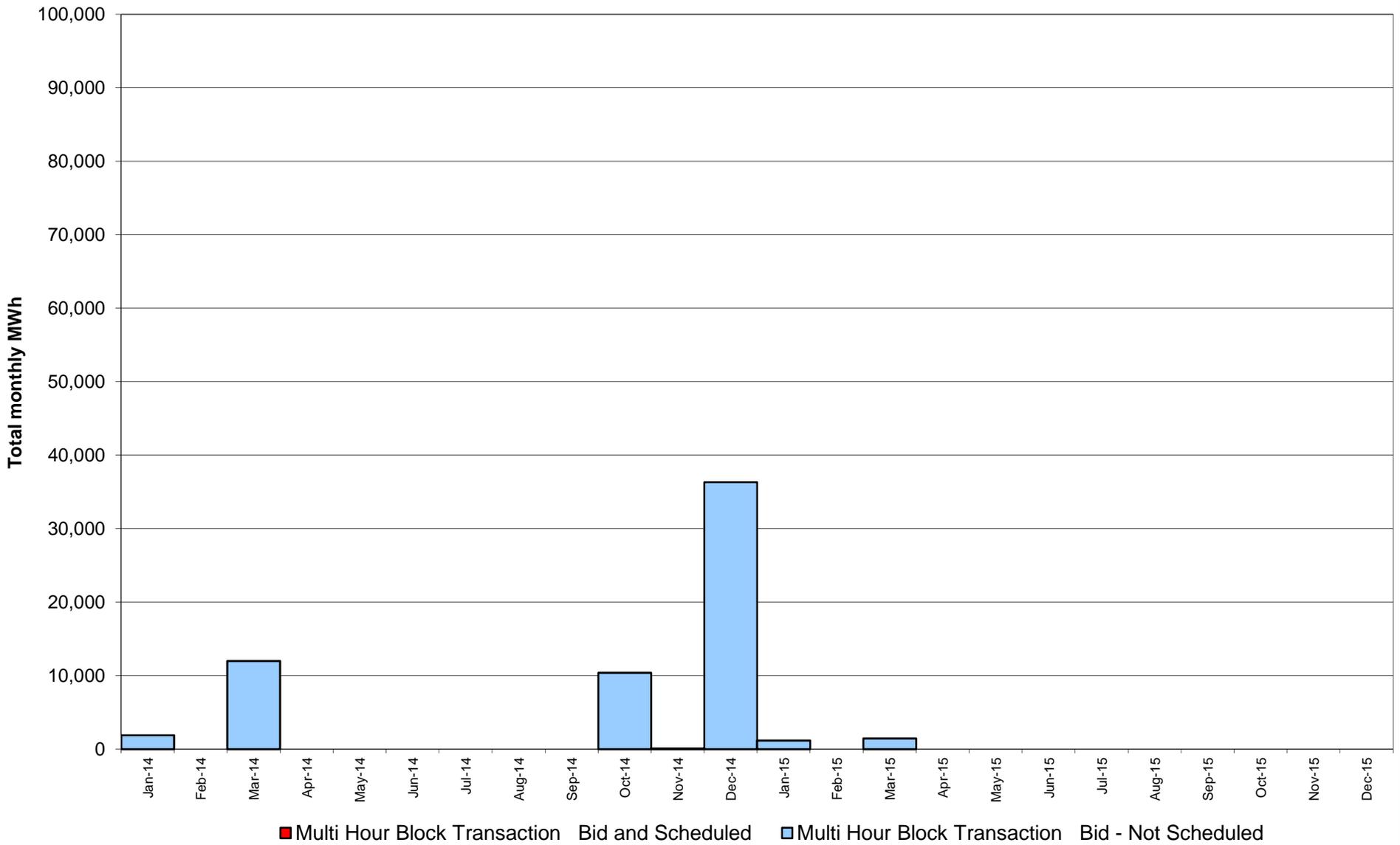
### Virtual Load and Supply Zonal Statistics through July 31, 2015



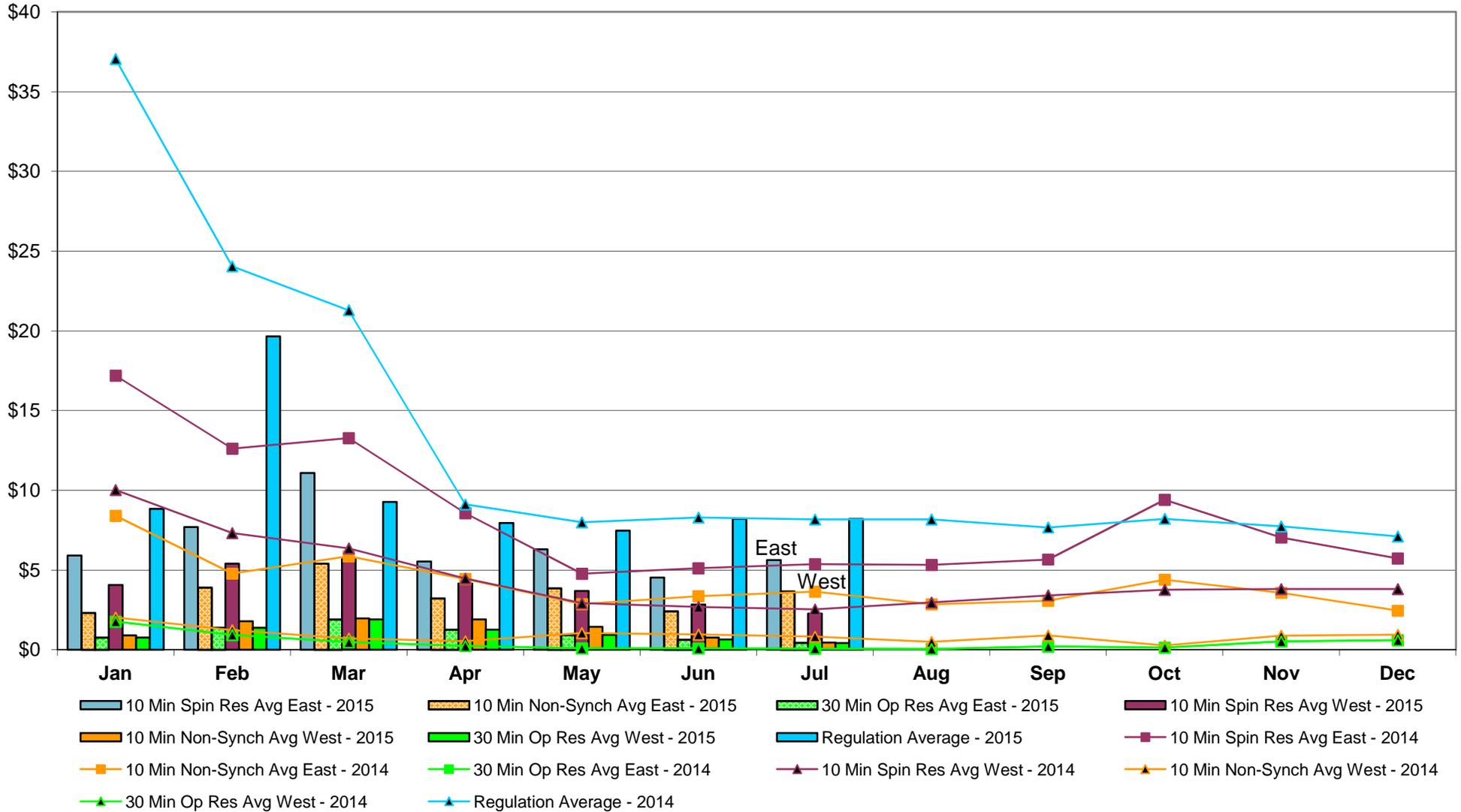
### Virtual Load and Supply Zonal Statistics (Average MWh/day) - 2015

		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-15	6,244	977	3,837	688	<b>MHK VL</b>	Jan-15	534	185	1,757	1,021	<b>DUNWOD</b>	Jan-15	669	444	831	166
	Feb-15	3,180	1,570	3,288	936		Feb-15	901	790	1,446	812		Feb-15	647	663	725	156
	Mar-15	5,796	1,992	3,185	1,223		Mar-15	626	458	2,120	718		Mar-15	621	566	1,224	536
	Apr-15	6,734	1,797	1,790	419		Apr-15	293	226	3,094	867		Apr-15	433	299	1,517	366
	May-15	9,778	3,320	1,381	465		May-15	248	102	1,746	482		May-15	1,385	308	904	400
	Jun-15	8,135	3,156	1,800	584		Jun-15	151	24	2,252	734		Jun-15	1,107	434	1,435	462
	Jul-15	9,099	5,102	2,521	434		Jul-15	632	70	2,726	521		Jul-15	1,674	375	1,220	427
	Aug-15						Aug-15						Aug-15				
	Sep-15						Sep-15						Sep-15				
	Oct-15						Oct-15						Oct-15				
	Nov-15						Nov-15						Nov-15				
	Dec-15						Dec-15						Dec-15				
	<b>GENESE</b>	Jan-15	444	147	9,467		1,422	<b>CAPITL</b>	Jan-15	1,816	1,292		9,400	1,563	<b>N.Y.C.</b>	Jan-15	3,367
Feb-15		229	347	7,477	1,425	Feb-15	3,192		3,267	6,354	2,035	Feb-15	2,944	2,375		658	690
Mar-15		452	350	7,559	2,735	Mar-15	2,234		2,029	6,772	2,411	Mar-15	2,687	1,133		894	1,593
Apr-15		161	254	4,771	1,991	Apr-15	1,558		991	7,368	2,215	Apr-15	2,470	377		808	500
May-15		349	167	4,831	1,643	May-15	1,518		201	7,032	1,751	May-15	5,397	1,487		918	367
Jun-15		188	229	4,911	2,115	Jun-15	563		230	8,840	2,709	Jun-15	3,683	1,091		864	494
Jul-15		820	256	5,043	1,871	Jul-15	1,268		320	8,358	2,958	Jul-15	7,008	2,468		1,081	174
Aug-15						Aug-15						Aug-15					
Sep-15						Sep-15						Sep-15					
Oct-15						Oct-15						Oct-15					
Nov-15						Nov-15						Nov-15					
Dec-15						Dec-15						Dec-15					
<b>NORTH</b>		Jan-15	537	300	7,590	2,868	<b>HUD VL</b>		Jan-15	1,006	1,747	4,703	2,133	<b>LONGIL</b>		Jan-15	5,510
	Feb-15	274	423	7,361	1,898	Feb-15		769	2,147	2,841	2,800	Feb-15	4,383		3,985	613	1,722
	Mar-15	422	572	6,213	2,540	Mar-15		747	1,578	5,045	3,272	Mar-15	4,639		2,844	464	1,719
	Apr-15	223	366	8,249	3,243	Apr-15		1,180	1,056	6,875	1,292	Apr-15	4,399		3,064	760	678
	May-15	263	255	7,237	3,146	May-15		1,267	1,372	5,580	1,488	May-15	6,102		3,728	936	394
	Jun-15	169	196	6,060	2,977	Jun-15		825	914	5,600	1,251	Jun-15	6,015		3,918	768	792
	Jul-15	233	291	6,047	2,798	Jul-15		1,700	1,241	4,983	1,200	Jul-15	5,715		5,340	1,191	766
	Aug-15					Aug-15						Aug-15					
	Sep-15					Sep-15						Sep-15					
	Oct-15					Oct-15						Oct-15					
	Nov-15					Nov-15						Nov-15					
	Dec-15					Dec-15						Dec-15					
	<b>CENTRL</b>	Jan-15	2,414	939	33,426	776		<b>MILLWD</b>	Jan-15	418	244	716	192		<b>NYISO</b>	Jan-15	22,958
Feb-15		2,306	1,265	28,050	579	Feb-15	562		674	627	186	Feb-15	19,386	17,506		59,440	13,238
Mar-15		1,168	538	24,644	587	Mar-15	377		389	947	287	Mar-15	19,769	12,449		59,066	17,619
Apr-15		927	311	20,024	588	Apr-15	174		239	979	298	Apr-15	18,550	8,979		56,234	12,458
May-15		908	249	24,901	400	May-15	497		126	668	200	May-15	27,711	11,315		56,132	10,736
Jun-15		1,104	194	24,287	791	Jun-15	588		24	790	277	Jun-15	22,528	10,411		57,608	13,186
Jul-15		1,401	358	23,806	636	Jul-15	866		45	776	121	Jul-15	30,416	15,865		57,752	11,905
Aug-15						Aug-15						Aug-15					
Sep-15						Sep-15						Sep-15					
Oct-15						Oct-15						Oct-15					
Nov-15						Nov-15						Nov-15					
Dec-15						Dec-15						Dec-15					

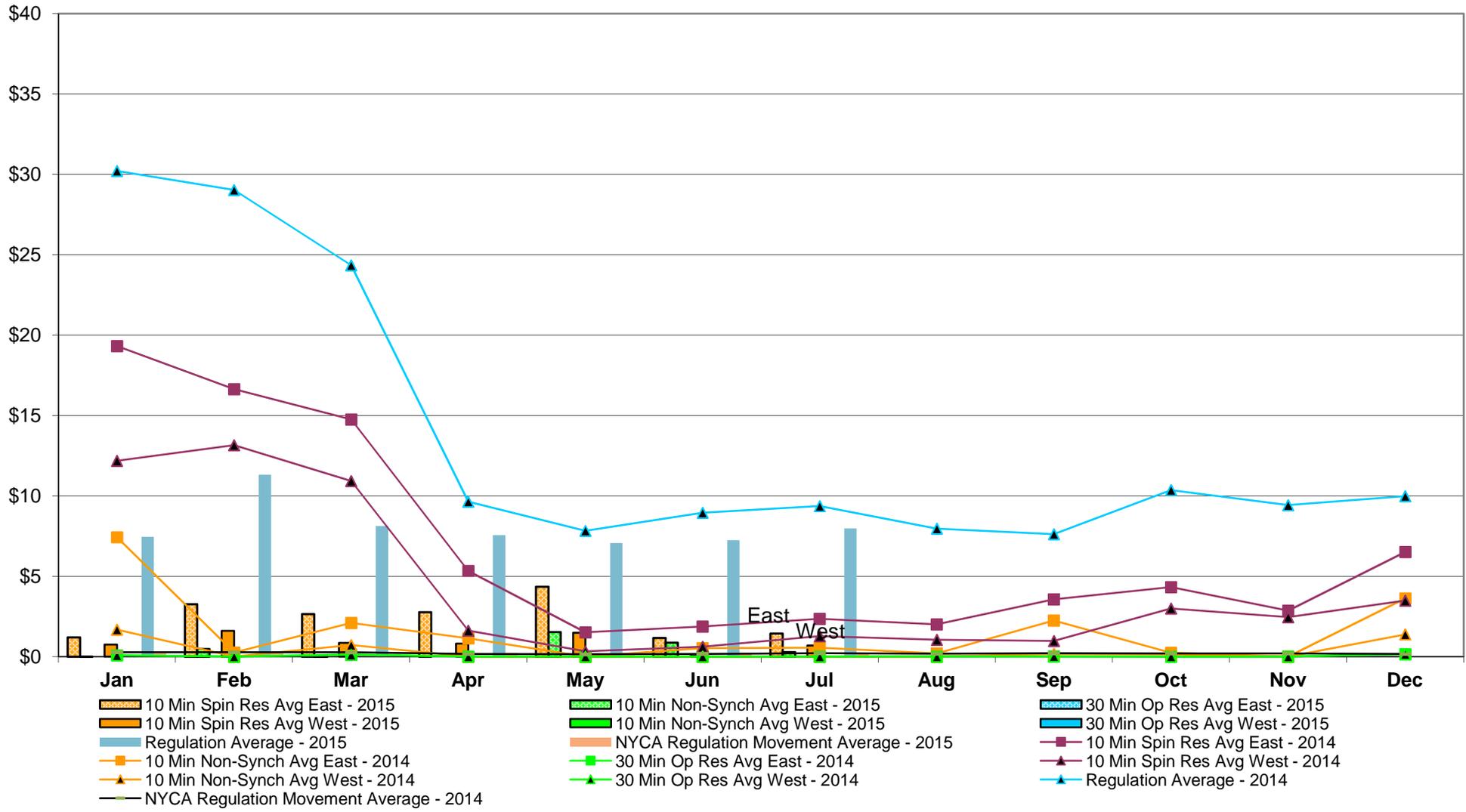
## NYISO Multi Hour Block Transactions Monthly Total MWh



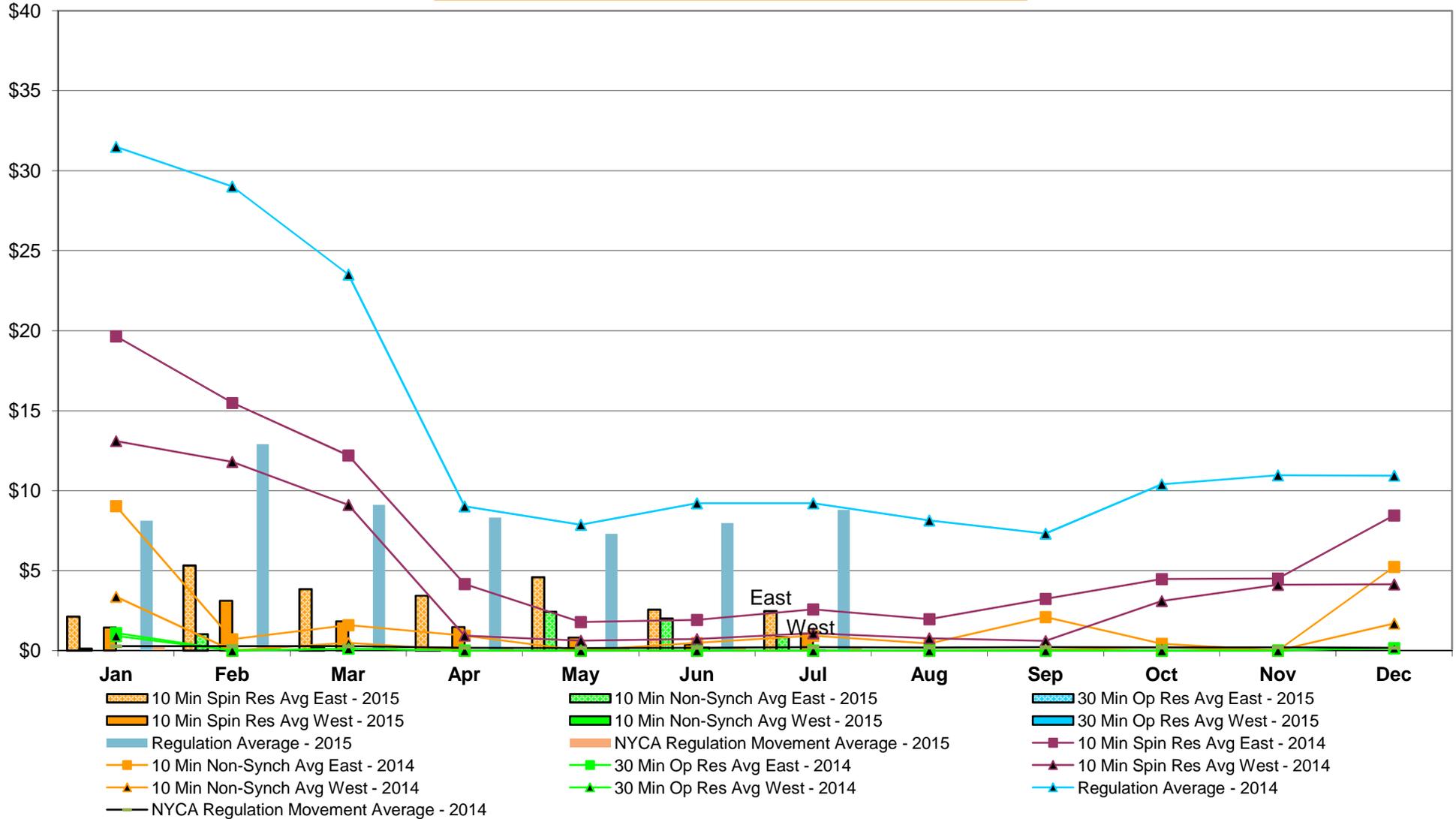
## NYISO Monthly Average Ancillary Service Prices Day Ahead Market 2014 - 2015



## NYISO Monthly Average Ancillary Service Prices RTC Market 2014 - 2015



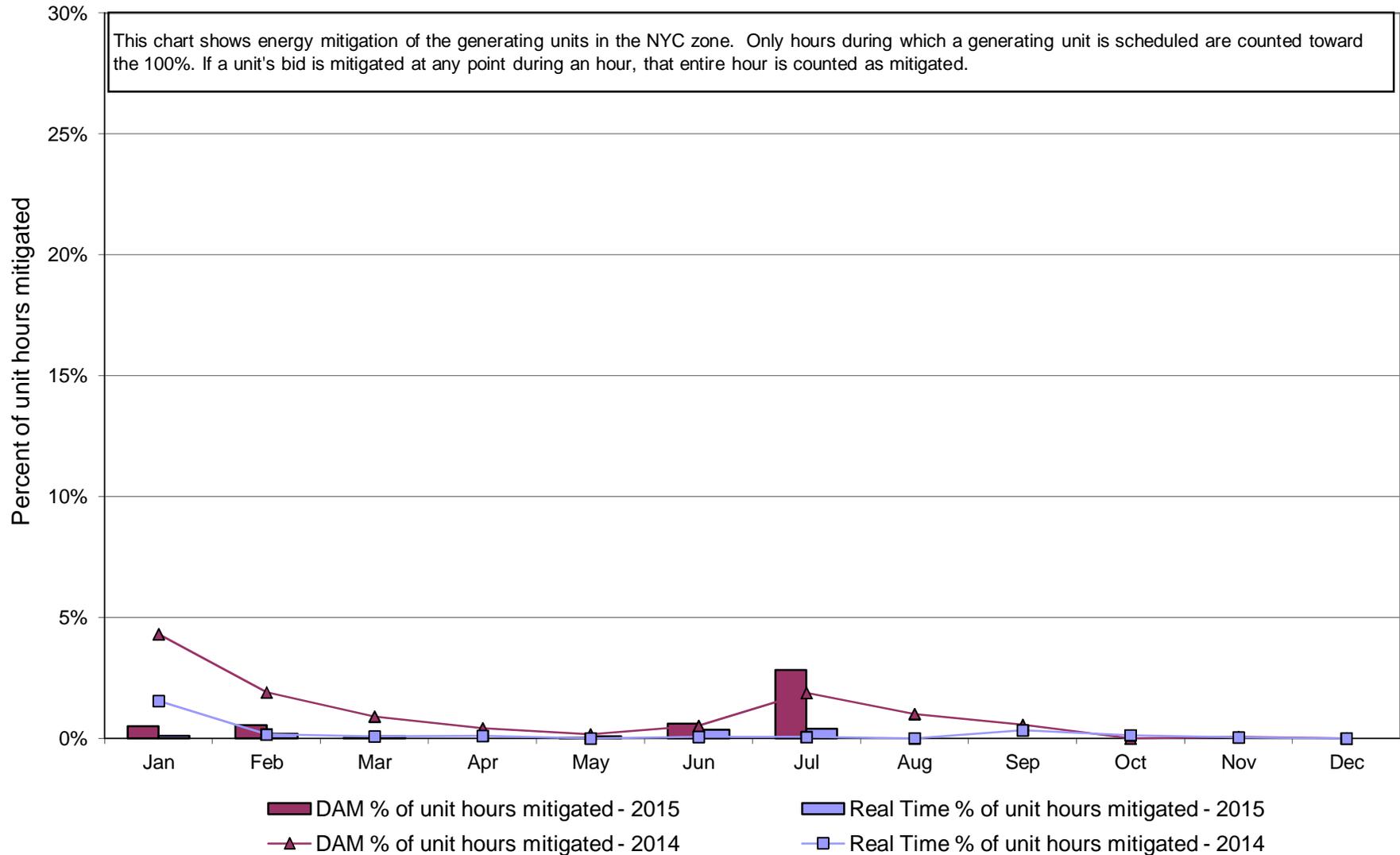
## NYISO Monthly Average Ancillary Service Prices Real Time Market 2014 - 2015



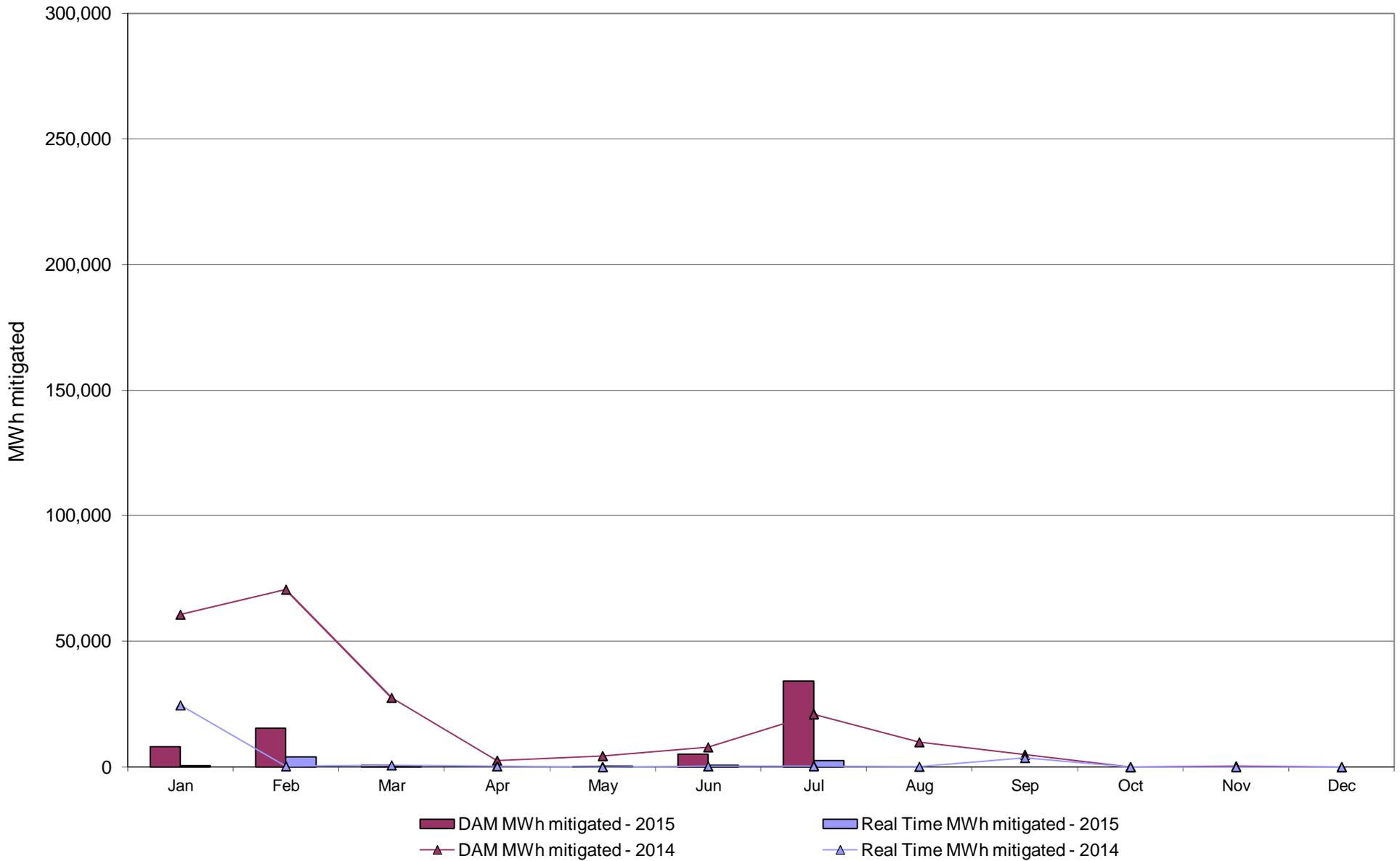
**NYISO Markets Ancillary Services Statistics - Unweighted Price (\$/MWH)**

<b>2015</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	5.92	7.69	11.09	5.53	6.31	4.53	5.62					
10 Min Spin West	4.07	5.40	5.68	4.16	3.69	2.84	2.26					
10 Min Non Synch East	2.30	3.89	5.40	3.22	3.84	2.42	3.66					
10 Min Non Synch West	0.90	1.79	1.97	1.91	1.45	0.77	0.45					
30 Min East	0.77	1.38	1.91	1.26	0.93	0.64	0.43					
30 Min West	0.77	1.38	1.91	1.26	0.93	0.64	0.43					
Regulation	8.84	19.65	9.27	7.94	7.48	8.20	8.20					
<b>RTC Market</b>												
10 Min Spin East	1.20	3.27	2.64	2.77	4.36	1.18	1.44					
10 Min Spin West	0.74	1.61	0.86	0.81	1.48	0.04	0.69					
10 Min Non Synch East	0.01	0.48	0.01	0.00	1.54	0.87	0.28					
10 Min Non Synch West	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
30 Min East	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
30 Min West	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Regulation	7.45	11.32	8.13	7.56	7.06	7.24	7.97					
NYCA Regulation Movement	0.21	0.21	0.16	0.22	0.16	0.24	0.25					
<b>Real Time Market</b>												
10 Min Spin East	2.12	5.31	3.84	3.44	4.59	2.56	2.47					
10 Min Spin West	1.44	3.11	1.83	1.46	0.81	0.38	1.04					
10 Min Non Synch East	0.12	1.03	0.17	0.01	2.41	2.01	0.83					
10 Min Non Synch West	0.00	0.00	0.00	0.00	0.00	0.19	0.00					
30 Min East	0.00	0.00	0.00	0.00	0.00	0.02	0.00					
30 Min West	0.00	0.00	0.00	0.00	0.00	0.02	0.00					
Regulation	8.12	12.91	9.11	8.32	7.30	7.97	8.80					
NYCA Regulation Movement	0.20	0.21	0.17	0.15	0.16	0.24	0.24					
<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	5.66	9.41	7.04	5.73
10 Min Spin West	10.02	7.32	6.36	4.47	2.92	2.69	2.54	2.96	3.41	3.76	3.82	3.82
10 Min Non Synch East	8.40	4.78	5.86	4.44	2.86	3.37	3.65	2.85	3.08	4.40	3.58	2.45
10 Min Non Synch West	2.02	1.23	0.70	0.55	1.06	0.96	0.83	0.49	0.91	0.27	0.89	0.95
30 Min East	1.77	0.93	0.47	0.24	0.09	0.08	0.08	0.04	0.21	0.14	0.53	0.60
30 Min West	1.77	0.93	0.47	0.24	0.09	0.08	0.08	0.04	0.21	0.14	0.53	0.60
Regulation	37.05	24.05	21.29	9.12	7.99	8.30	8.18	8.18	7.67	8.21	7.74	7.12
<b>RTC Market</b>												
10 Min Spin East	19.32	16.64	14.76	5.34	1.52	1.87	2.35	2.00	3.57	4.32	2.86	6.51
10 Min Spin West	12.18	13.16	10.93	1.61	0.33	0.61	1.27	1.04	0.98	2.99	2.46	3.48
10 Min Non Synch East	7.43	0.26	2.10	1.14	0.00	0.52	0.55	0.20	2.25	0.25	0.00	3.62
10 Min Non Synch West	1.68	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.17	0.13	0.00	1.39
30 Min East	0.08	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.15
30 Min West	0.08	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.15
Regulation	30.21	29.03	24.35	9.64	7.83	8.95	9.36	7.97	7.62	10.36	9.42	9.99
NYCA Regulation Movement	0.28	0.27	0.26	0.17	0.15	0.17	0.21	0.18	0.21	0.20	0.20	0.17
<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	3.23	4.47	4.51	8.45
10 Min Spin West	13.10	11.80	9.11	0.94	0.61	0.72	1.08	0.76	0.60	3.10	4.12	4.14
10 Min Non Synch East	9.03	0.70	1.59	0.93	0.00	0.48	0.92	0.44	2.09	0.42	0.00	5.23
10 Min Non Synch West	3.37	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.05	0.20	0.00	1.69
30 Min East	1.10	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
30 Min West	0.92	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
Regulation	31.50	29.02	23.52	9.02	7.87	9.21	9.21	8.13	7.31	10.39	10.96	10.94
NYCA Regulation Movement	0.27	0.27	0.27	0.17	0.15	0.18	0.21	0.19	0.21	0.19	0.20	0.17

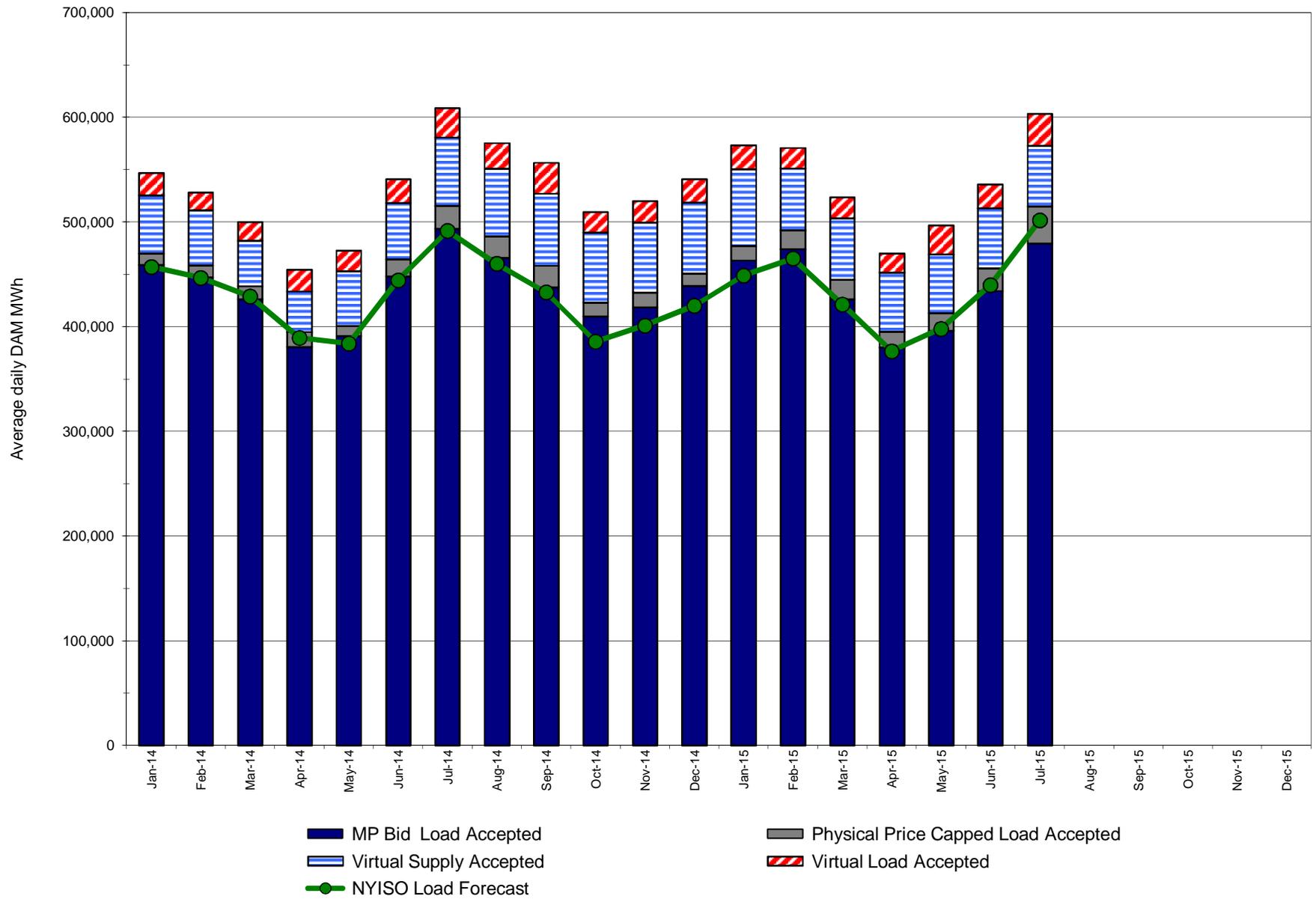
## NYISO In City Energy Mitigation - AMP (NYC Zone) 2014 - 2015 Percentage of committed unit-hours mitigated



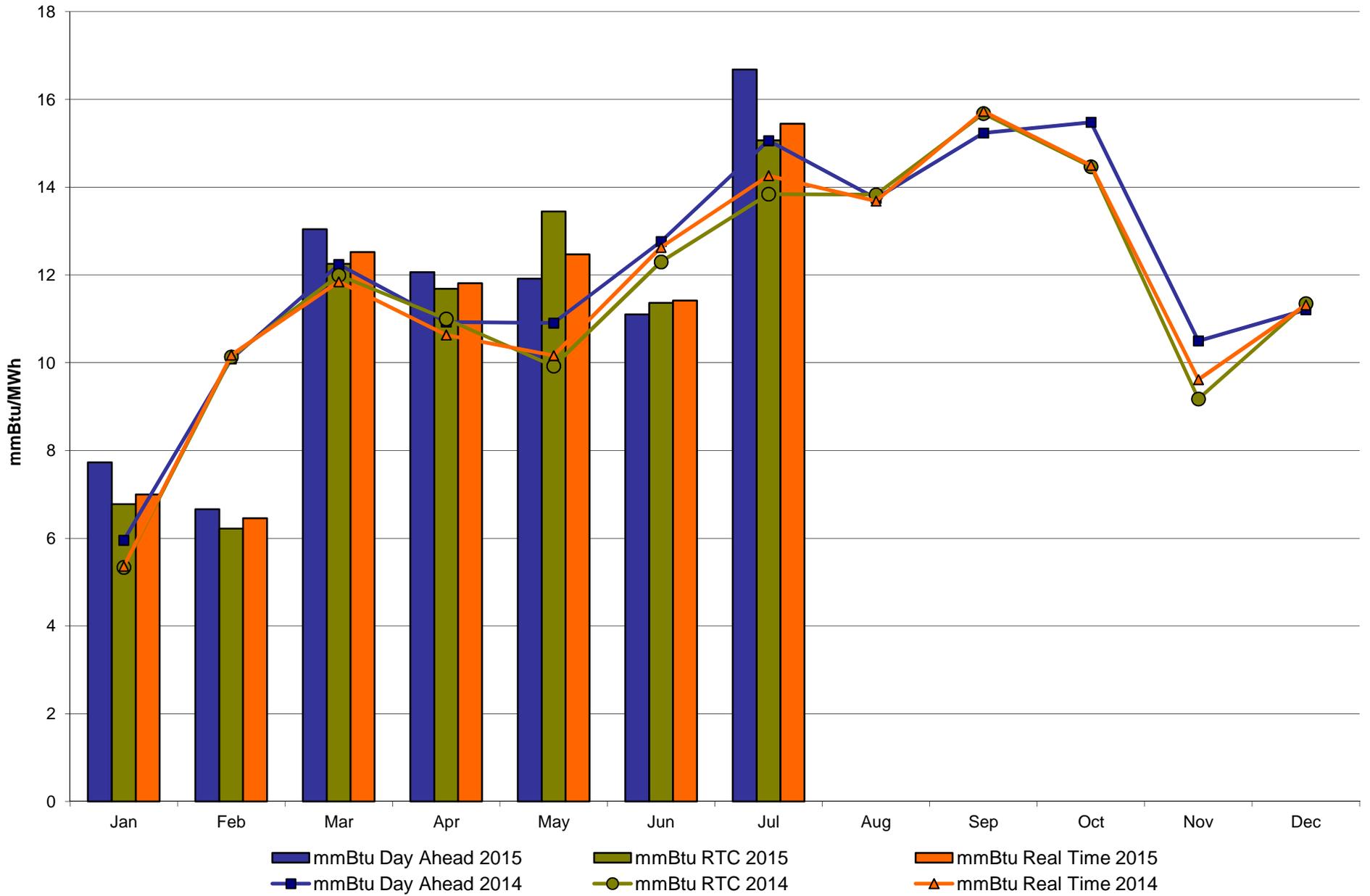
**NYISO In City Energy Mitigation (NYC Zone) 2014 - 2015**  
**Monthly megawatt hours mitigated**



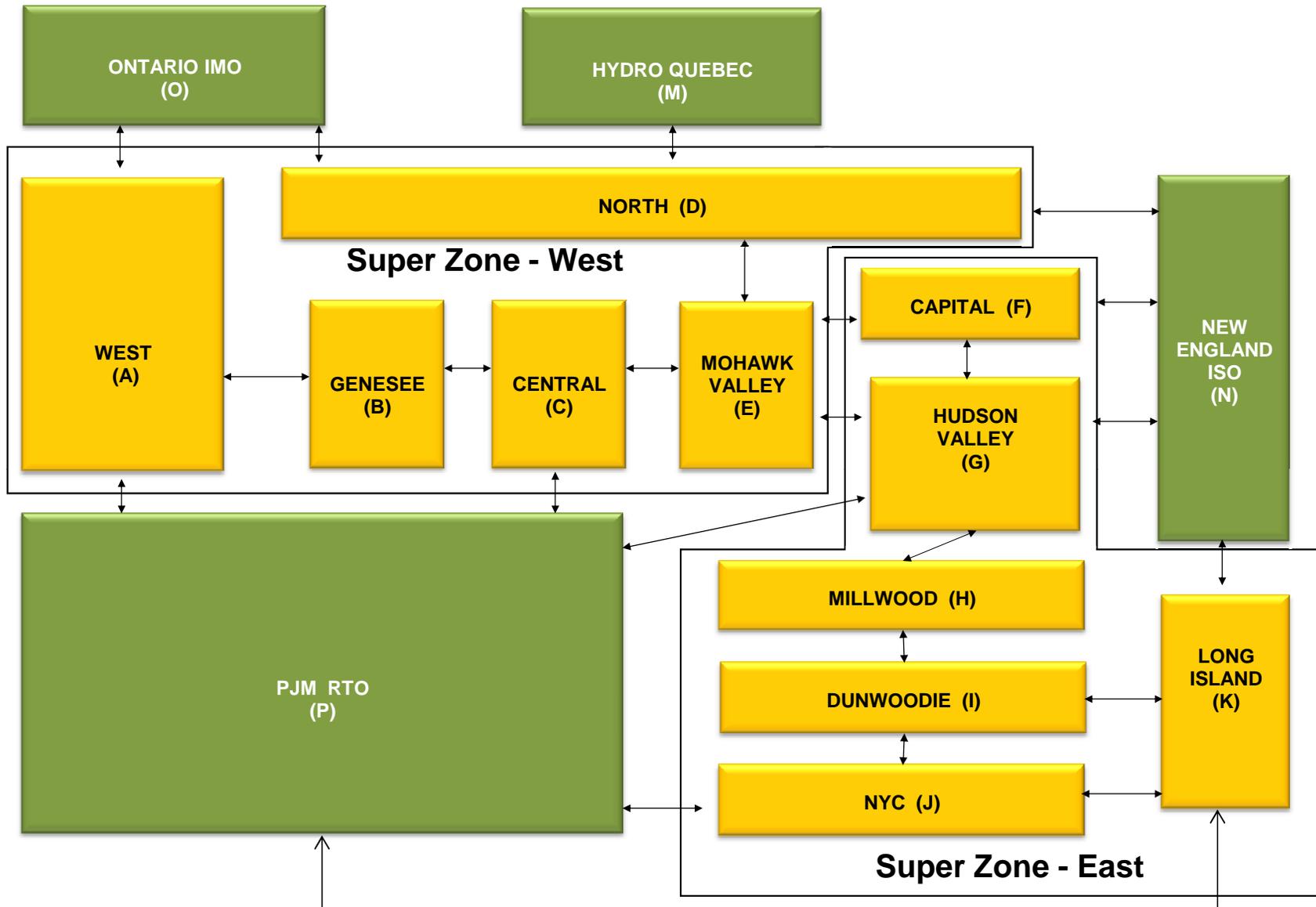
### NYISO Average Daily DAM Load Bid Summary



## Monthly Implied Heat Rate 2014-2015



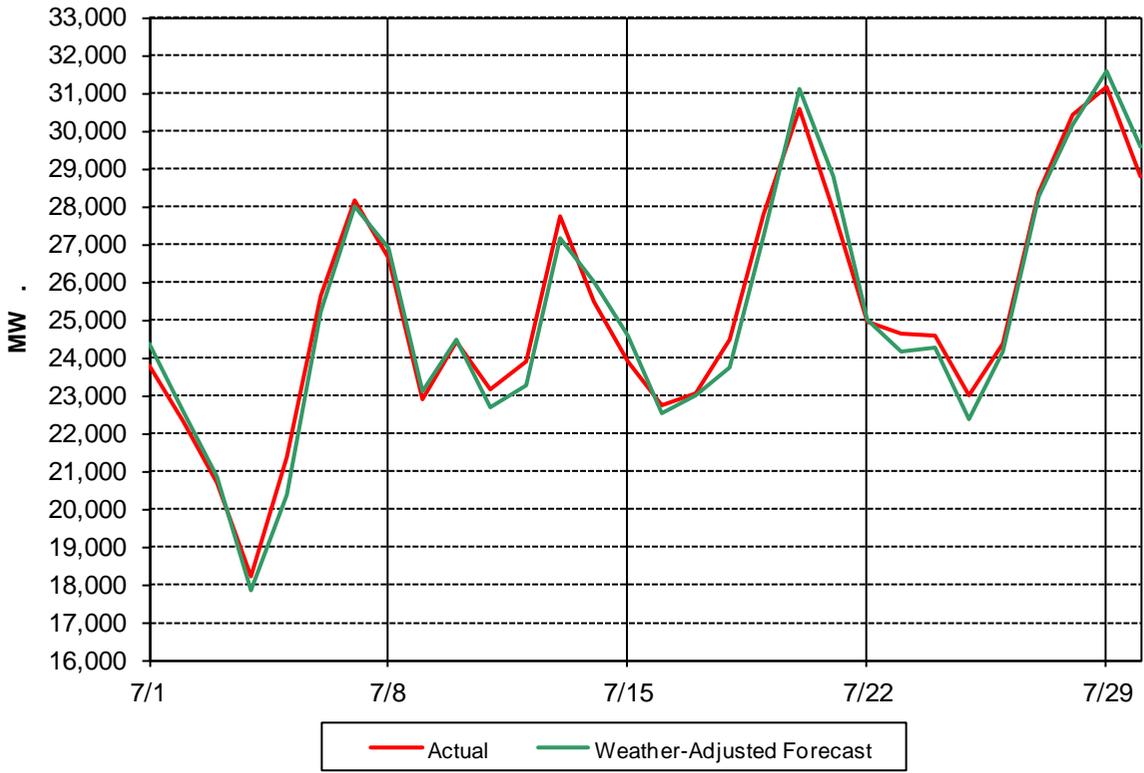
# NYISO LBMP ZONES



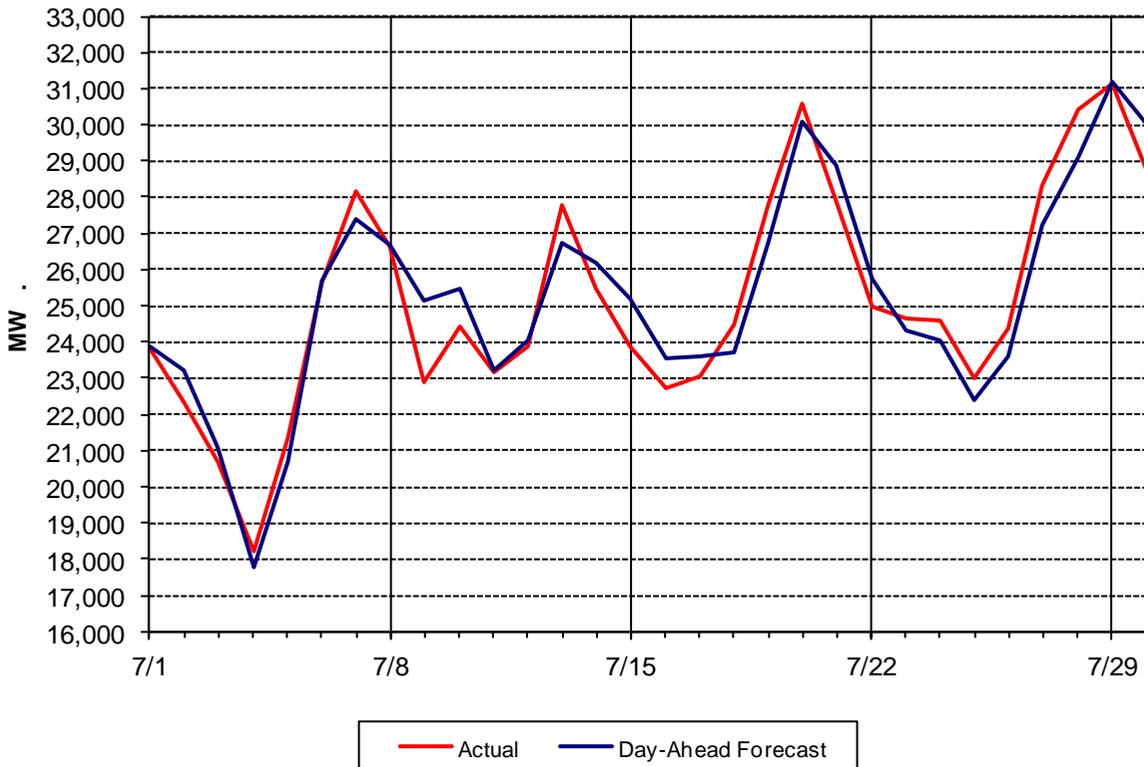
**Billing Codes for Chart 4-C**

<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

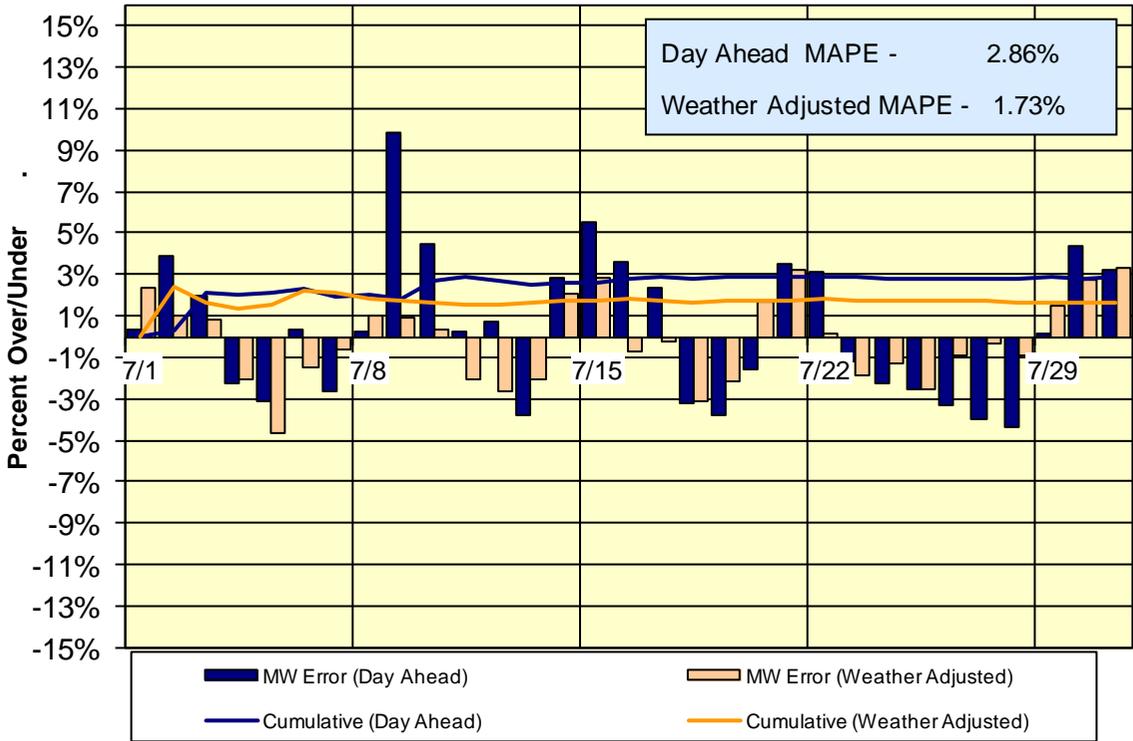
**NYISO Daily Peak Load - July 2015  
Actual vs. Weather-Adjusted Forecast**



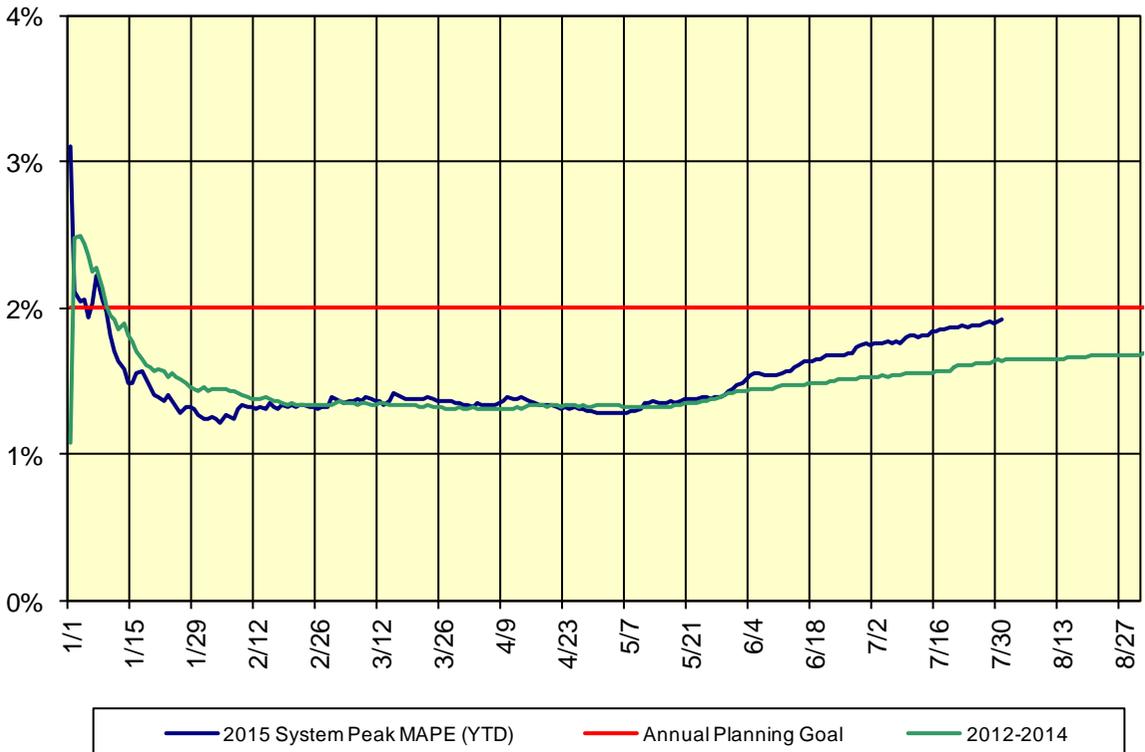
**NYISO Daily Peak Load - July 2015  
Actual vs. Forecast**



### Day Ahead Peak Forecast - July 2015 Percent Error - Actual & Weather Adjusted



### Day-Ahead Forecast Accuracy - Cumulative Performance 2015 Year-to-Date



## Summary Description of Regulatory Filings, Investigations, Rulemakings and Related Orders in NYISO Matters – July 2015

<b>Filing Date</b>	<b>Filing Summary</b>	<b>Docket</b>	<b>Order Date</b>	<b>Order Summary</b>
06/10/2015	NYISO filing re: executed LGIA (SA No. 2214) among NYISO, NYPA and CPV Valley	ER15-1895-000	07/16/2015	FERC letter order accepted the LGIA effective 05/28/2015, as requested
07/02/2015	NYISO filing on behalf of NYPA re: a transmission formula rate template and implementation protocols to determine NYPA's annual transmission revenue requirement in order to recover NYPA's costs for transmission services provided under the NYISO OATT	ER15-2102-000		
07/08/2015	NYISO filing, on behalf of National Grid, re: an amended and restated large generator interconnection agreement (SA 1160) between National Grid and Sithe Independence Power partners	ER15-2127-000		
07/08/2015	NYISO filing, on behalf of National Grid re: cost reimbursement agreement (SA 2223) between National Grid and RG&E	ER15-2128-000		
07/10/2015	NYISO compliance filing re: submission of a copy of the Consolidated Edison System Restoration Plan	ER12-2568-000		
07/13/2015	NYISO/NYTO joint compliance filing re: Order No. 1000 interregional tariff revisions	ER13-1942-001		
07/13/2015	NYISO filing Re: designation of ISO New England as the filing party for the Northeastern Planning Protocol	ER13-1046-001		
07/17/2015	NYISO errata filing, on behalf of National Grid, re: an amended and restated LGIA between National Grid and Sithe/Independence Power Partners	ER15-2127-001		
07/20/2015	NYISO compliance filing re: waiver of certain NAESB WEQ Version 003 Business Practice Standards	ER15-2226-000		
07/23/2015	NYISO compliance filing re: explanation of how the NYISO's Day-Ahead scheduling practices satisfy the timing requirements of Order 809 regarding the coordination of scheduling processes of interstate natural gas pipelines and public utilities	EL14-26-000		
07/23/2015	NYISO filing to the PSC re: copy of its 07/20/2015 technical conference presentation entitled "AC Transmission Cases Powerflow Analysis"	PSC Case No. 112-T-0502		

07/27/2015	NYISO filing re: small generator interconnection agreement among NYISO, NMPC and Monroe County	ER15-2285-000		
07/27/2015	NYISO, MISO, ISO-NE, and PJM joint filing re: comments concerning the NOPR proposing approval of reliability standard TPL-007-1 - Transmission System Planned Performance for Geomagnetic Disturbance Events	RM15-11-000		
07/29/2015	NYISO filing re: response to letter filed by Boundless Energy to the NYDPS staff	PSC Case No. 13-E-0488, et al		
07/30/2015	NYISO filing re: motion to intervene and comment concerning the Erie Power tariff waiver request of Class Year eligibility requirements	ER15-2225-000		
07/30/2015	NYISO filing re: 2 <sup>nd</sup> Quarter 2015 EQR	ER02-2001-000		
07/31/2015	NYISO 205 filing re: change to the timeframe for requiring credit support for External Transactions	ER15-2344-000		
07/31/2015	NYISO 205 filing re: to create an independent mechanism for recovery of the annual FERC fee	ER15-2345-000		
07/31/2015	NYISO 205 filing re: change to the ICAP Spot Market Auction credit requirement to more accurately reflect the NYISO's credit exposure	ER15-2349-000		