



Monthly Report

July 2016

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Operations Performance Metrics Monthly Report



July 2016 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 8, 2016.

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July 2016 Operations Performance Highlights

- Peak load of 31,187 MW occurred on 07/22/2016 HB 16
- All-time summer capability period peak load of 33,956 MW occurred on 7/19/2013 HB 16
- 21 hours of Thunder Storm Alerts were declared
- 0 hours of NERC TLR level 3 curtailment
- A Major Emergency was declared on 07/27/2016 in HB07 for the loss of the Gilboa-Fraser (GF5-35) 345kV line causing the Central East interface flow to exceed the 105% Voltage Transfer Limit.
- A Major Emergency was declared on 07/30/2016 in HB08 for the loss of the Gilboa-Fraser (GF5-35) 345kV line causing the Central East interface flow to exceed the 105% Voltage Transfer Limit.
- The expanded definition of NERC Bulk Electric System facilities became effective on July 1, 2016. The NY Transmission Owners have registered as NERC Transmission Operators (TOP's) and Transmission Planners (TP's). The NYISO has an expanded role as the registered Reliability Coordinator (RC) and Planning Coordinator (PC). The NYISO and the TOs have entered into a NERC Coordinated Functional Registration (CFR) Agreement which defines compliance responsibilities.
- The following table identifies the estimated production cost savings associated with the Broader Regional Market initiatives.

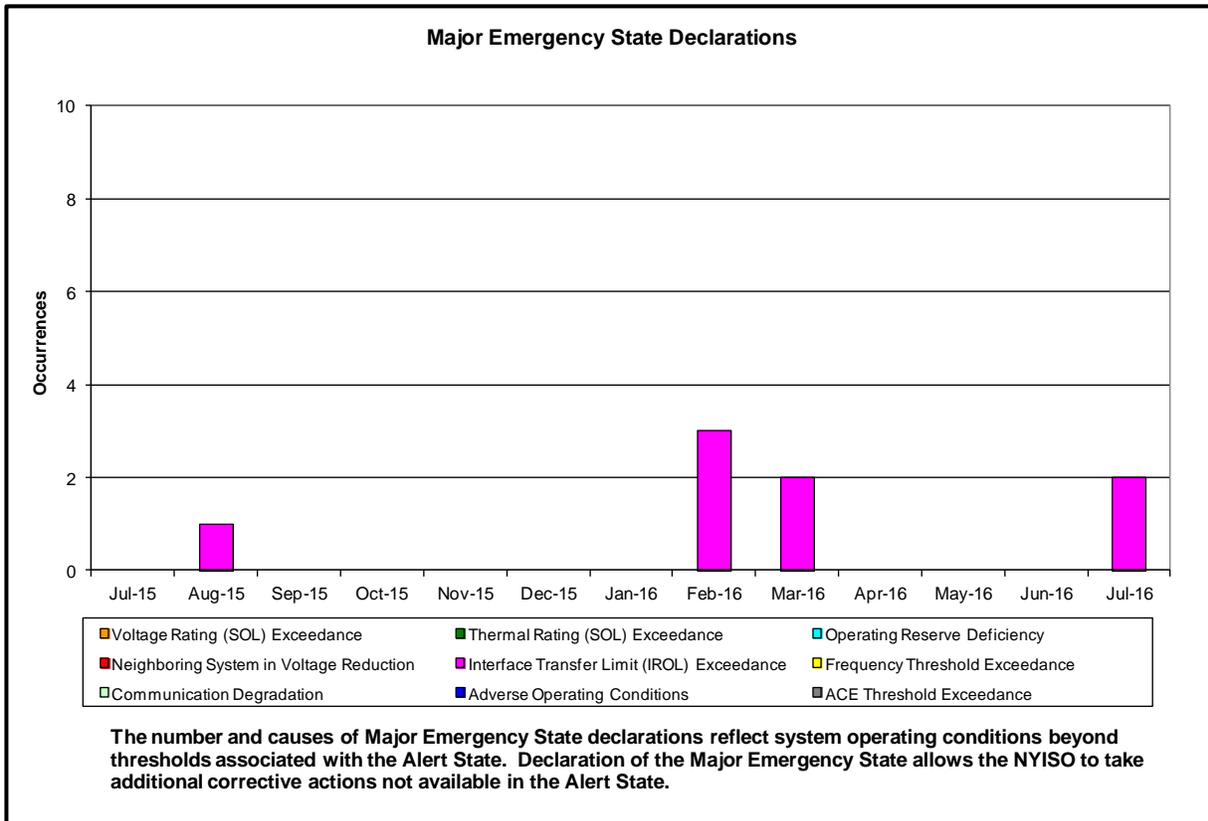
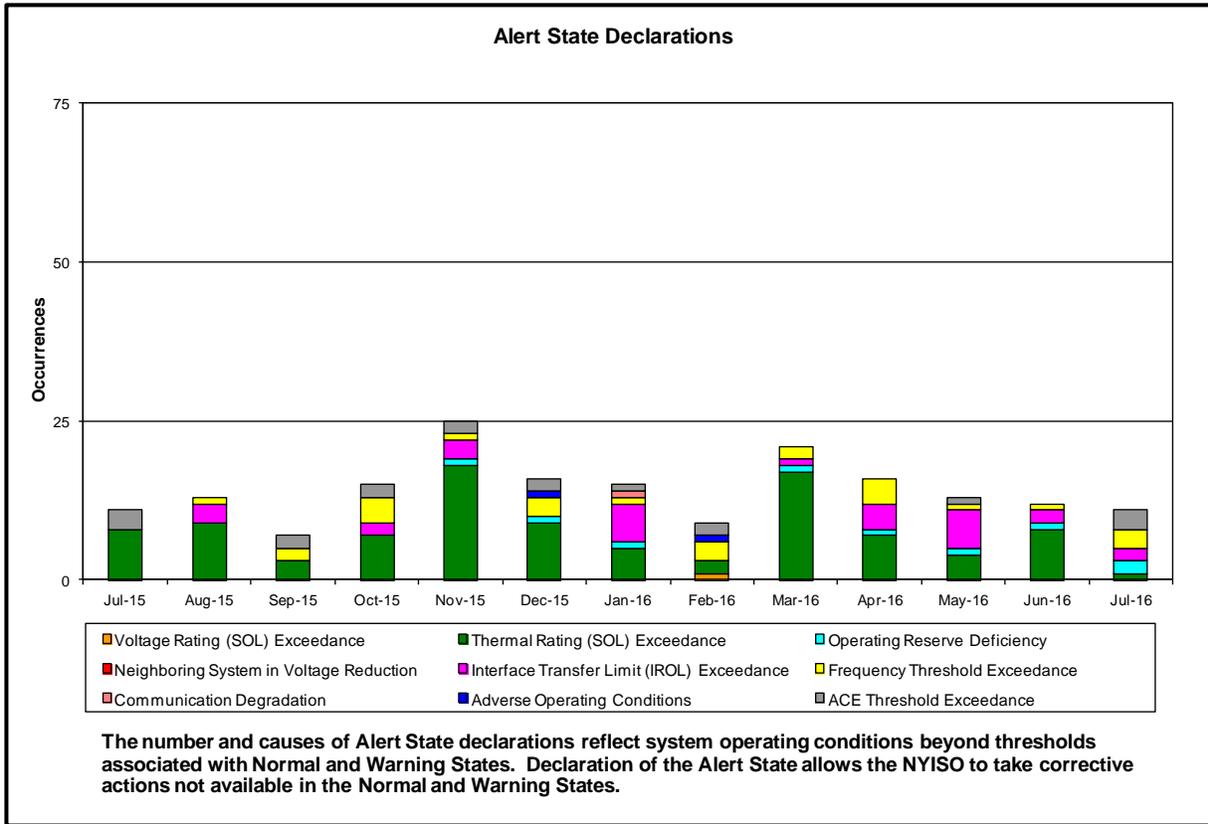
	Current Month Value (\$M)	Year-to-Date Value (\$M)
NY Savings from PJM-NY Congestion Coordination	\$0.65	\$15.07
NY Savings from PJM-NY Coordinated Transaction Scheduling	(\$0.22)	(\$0.11)
NY Savings from NE-NY Coordinated Transaction Scheduling	(\$0.28)	(\$1.28)
Total NY Savings	\$0.15	\$13.68
Regional Savings from PJM-NY Coordinated Transaction Scheduling	\$0.29	\$1.40
Regional Savings from NE-NY Coordinated Transaction Scheduling	\$0.24	\$1.02
Total Regional Savings	\$0.53	\$2.42

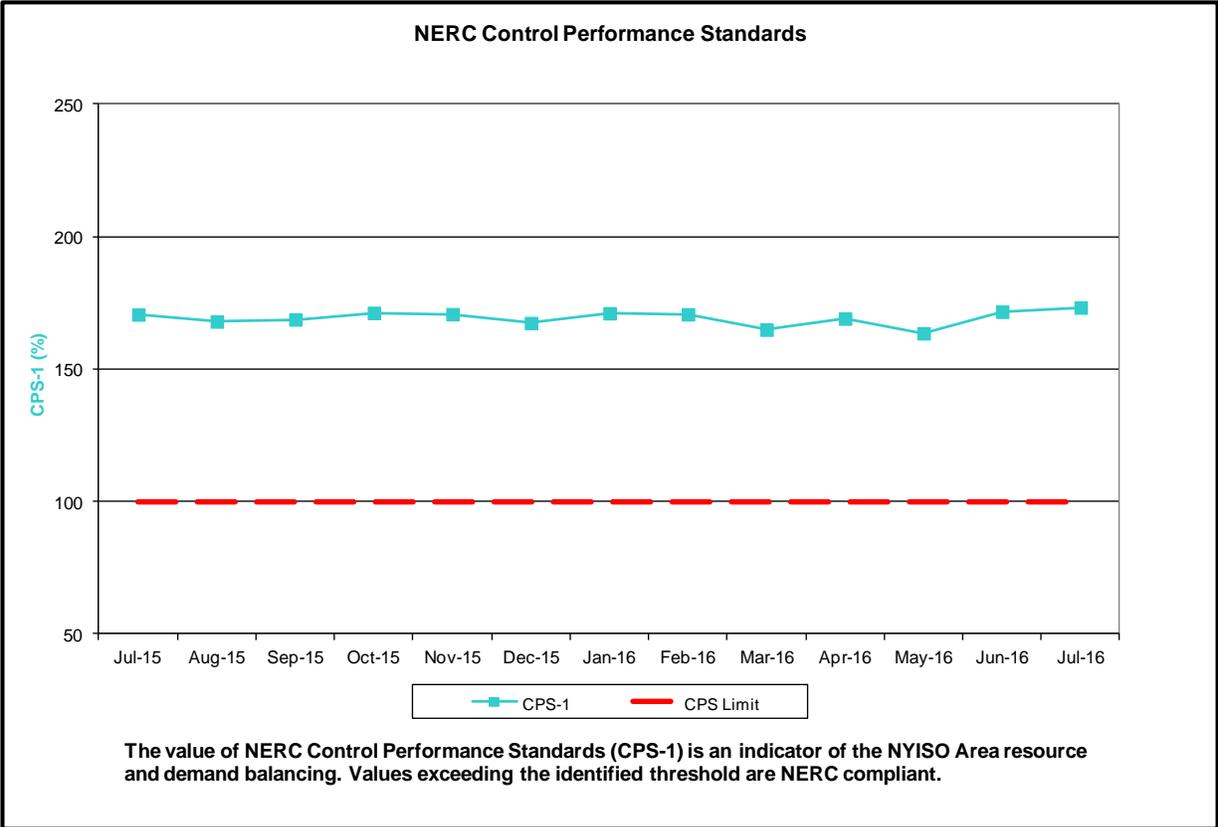
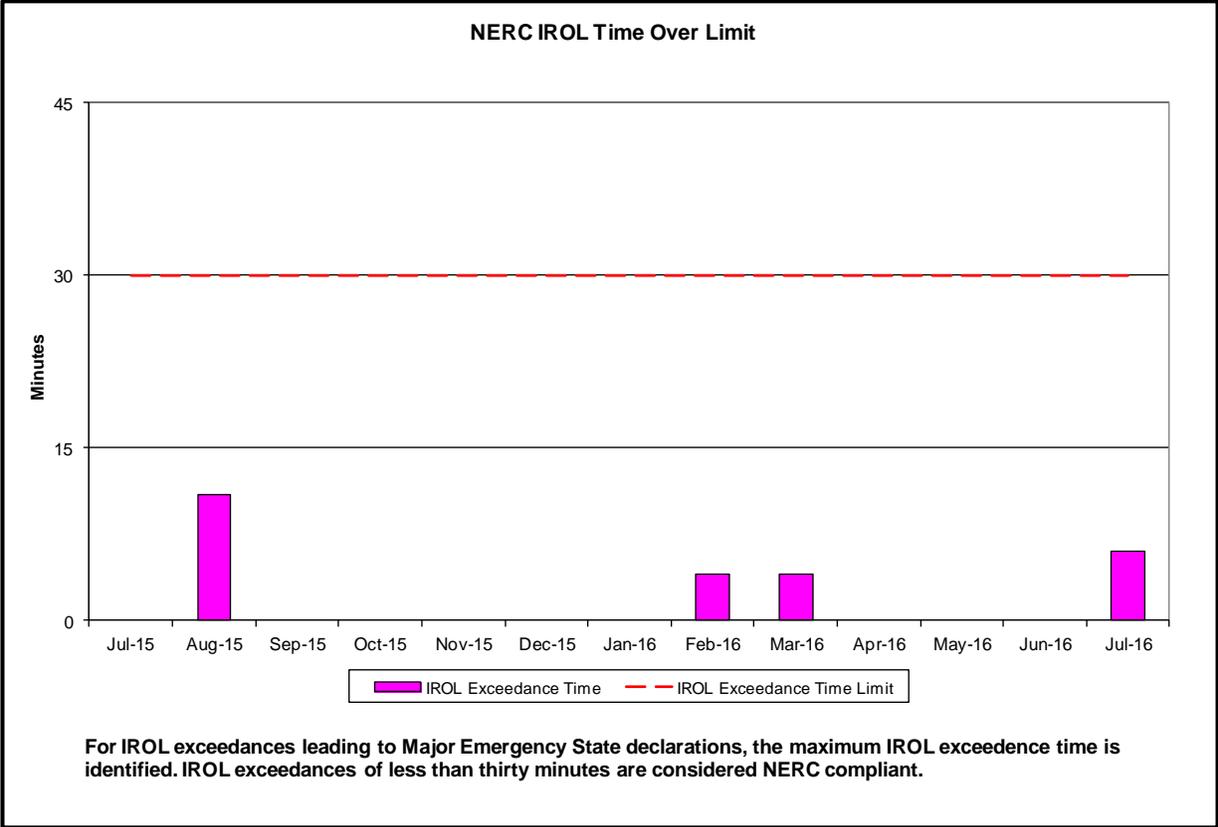
- Statewide uplift cost monthly average was (\$0.49)/MWh
- The following table identifies the Monthly ICAP spot market prices by locality and the price delta.

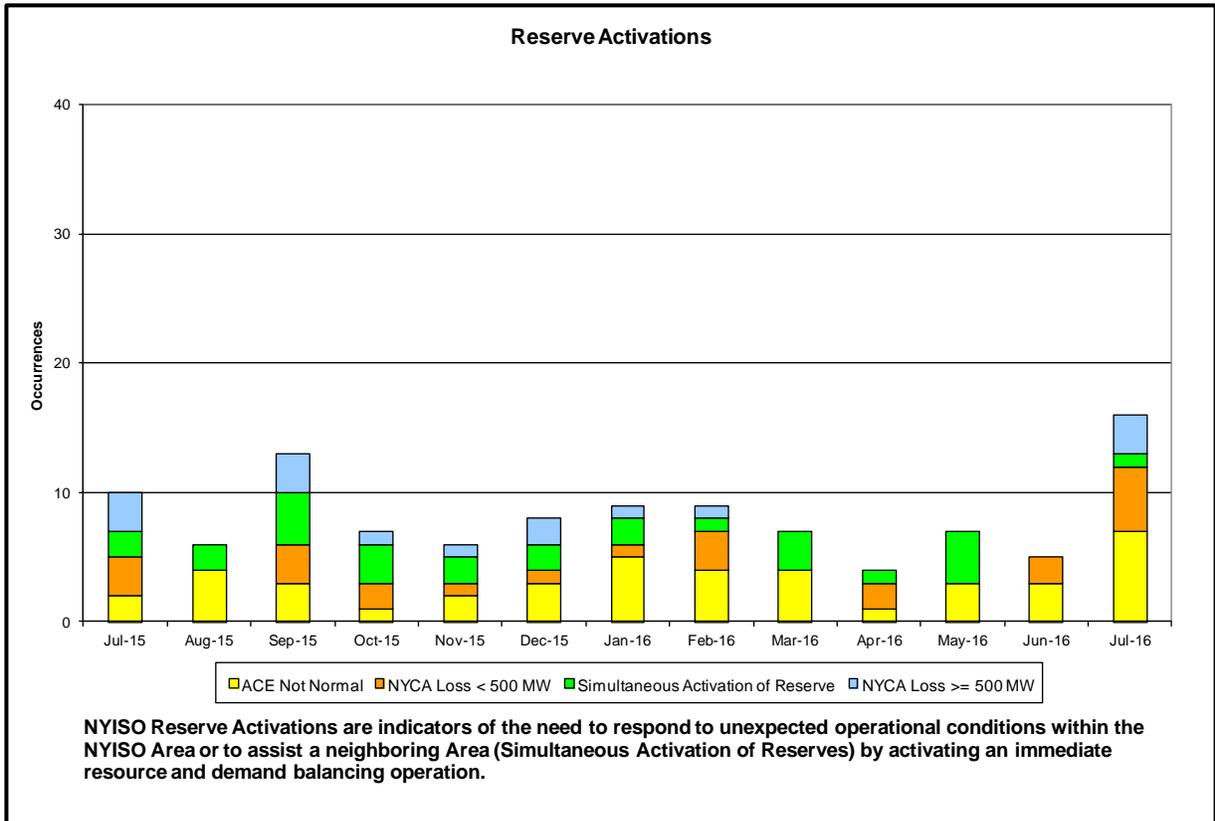
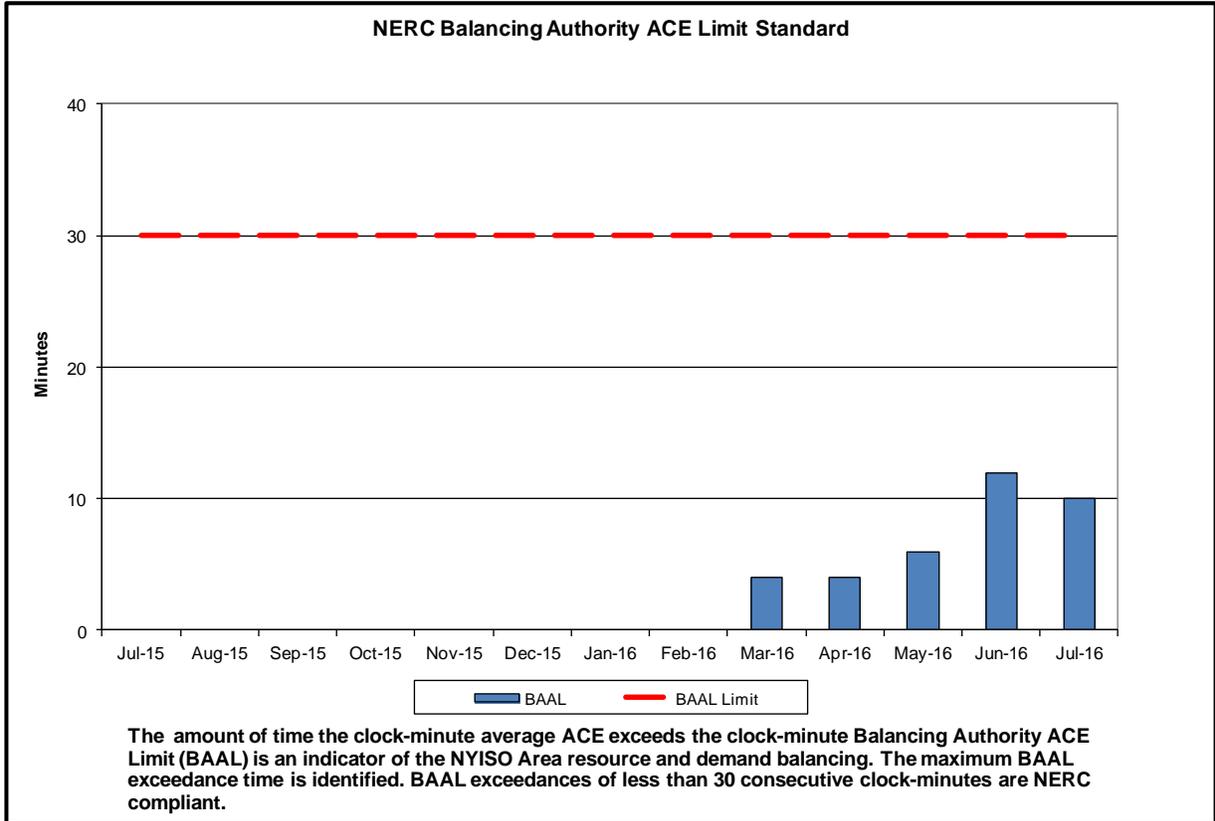
Spot Auction Price Results	NYCA	Lower Hudson Valley Zones	New York City Zone	Long Island Zone
August 2016 Spot Price	\$3.64	\$9.23	\$12.21	\$4.42
July 2016 Spot Price	\$4.27	\$9.25	\$12.22	\$4.37
Delta	(\$0.63)	(\$0.02)	(\$0.01)	\$0.05

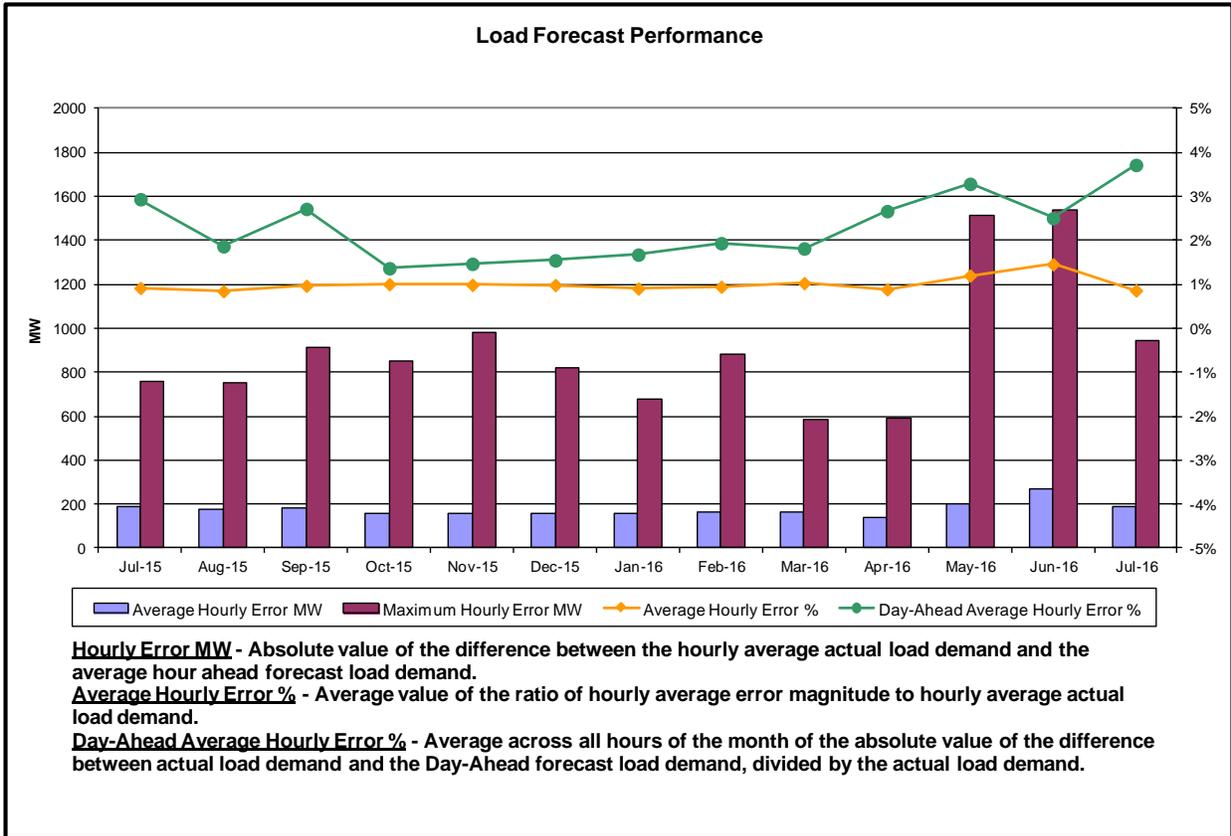
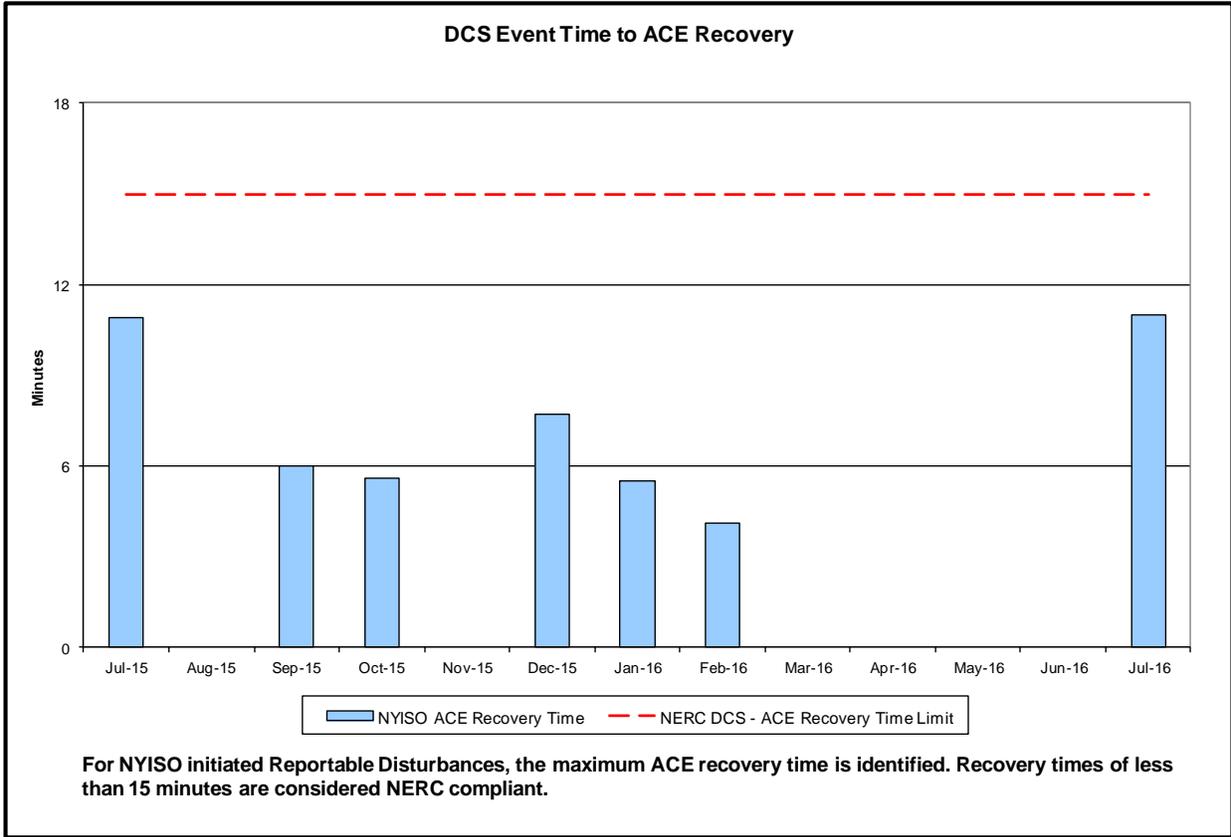
- NYCA - Price decreased by \$0.63 due to an increase in SCR and generation capacity and an increase in external resource imports.

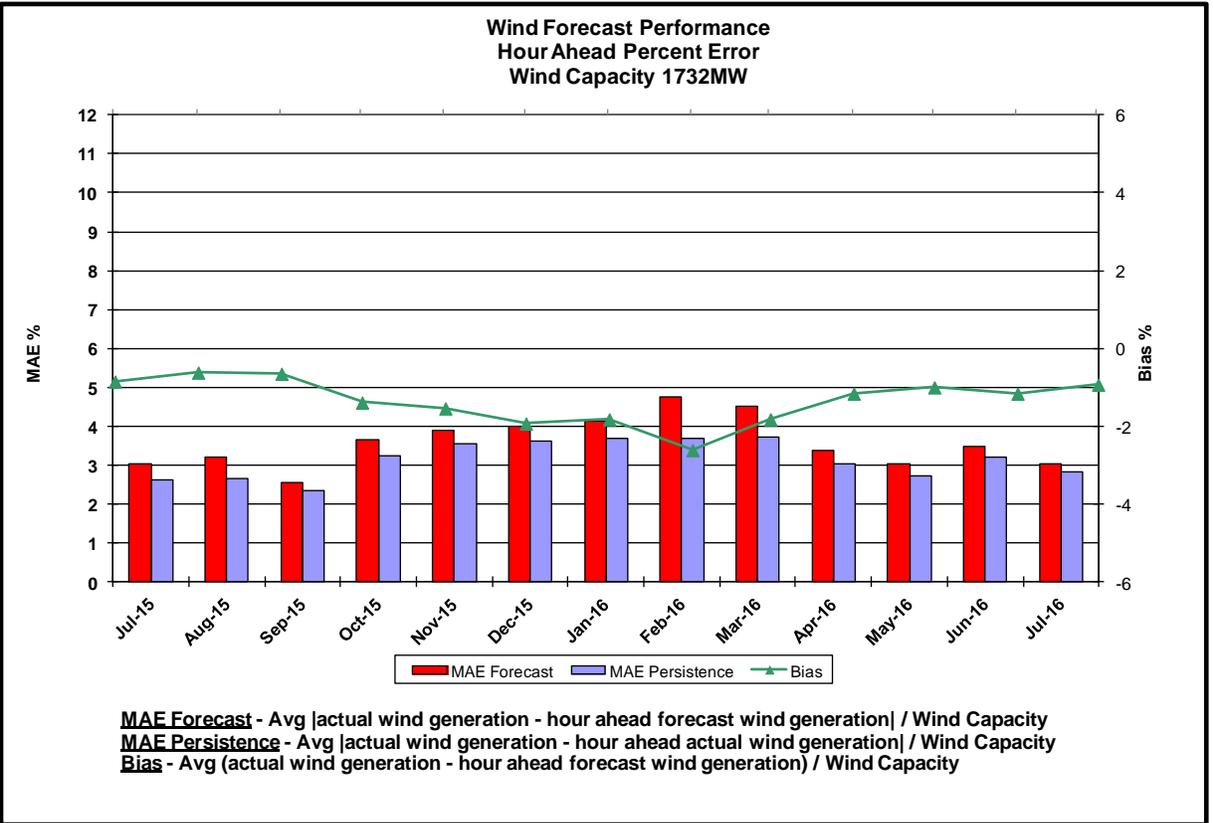
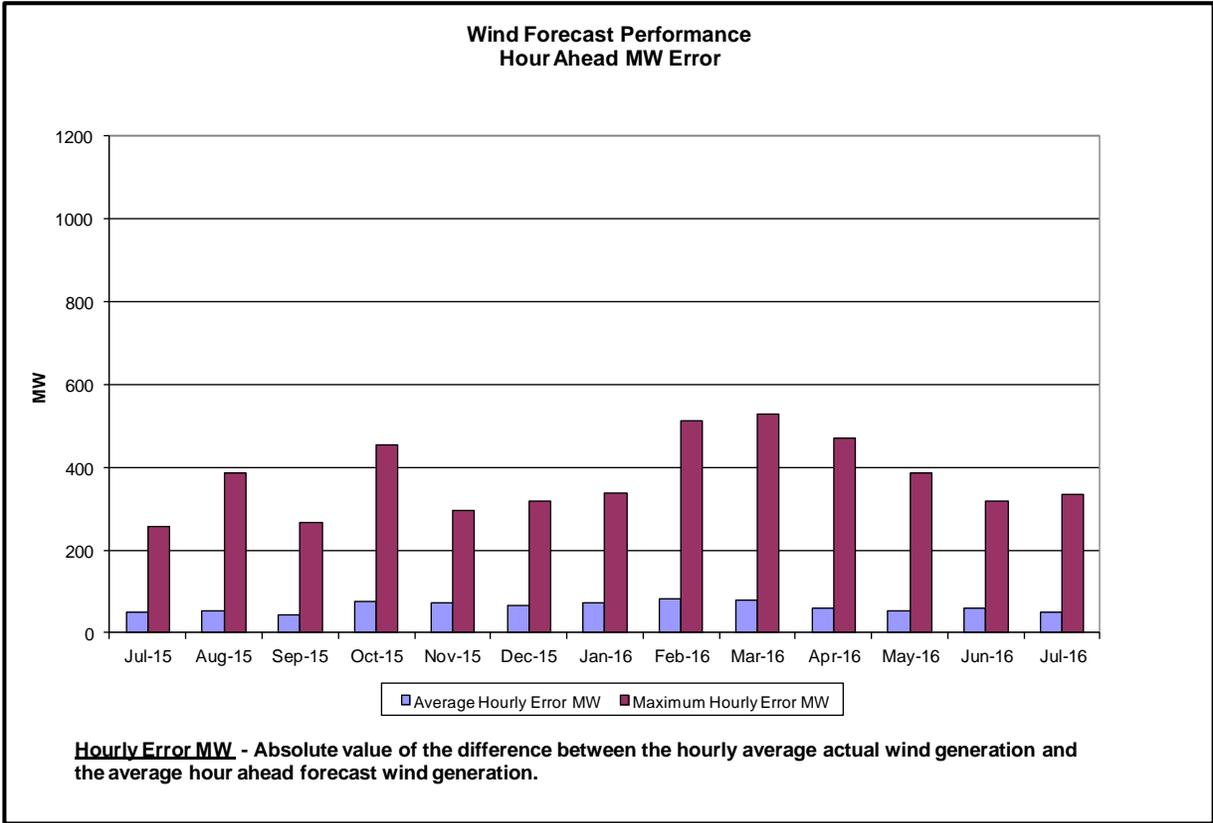
- Reliability Performance Metrics

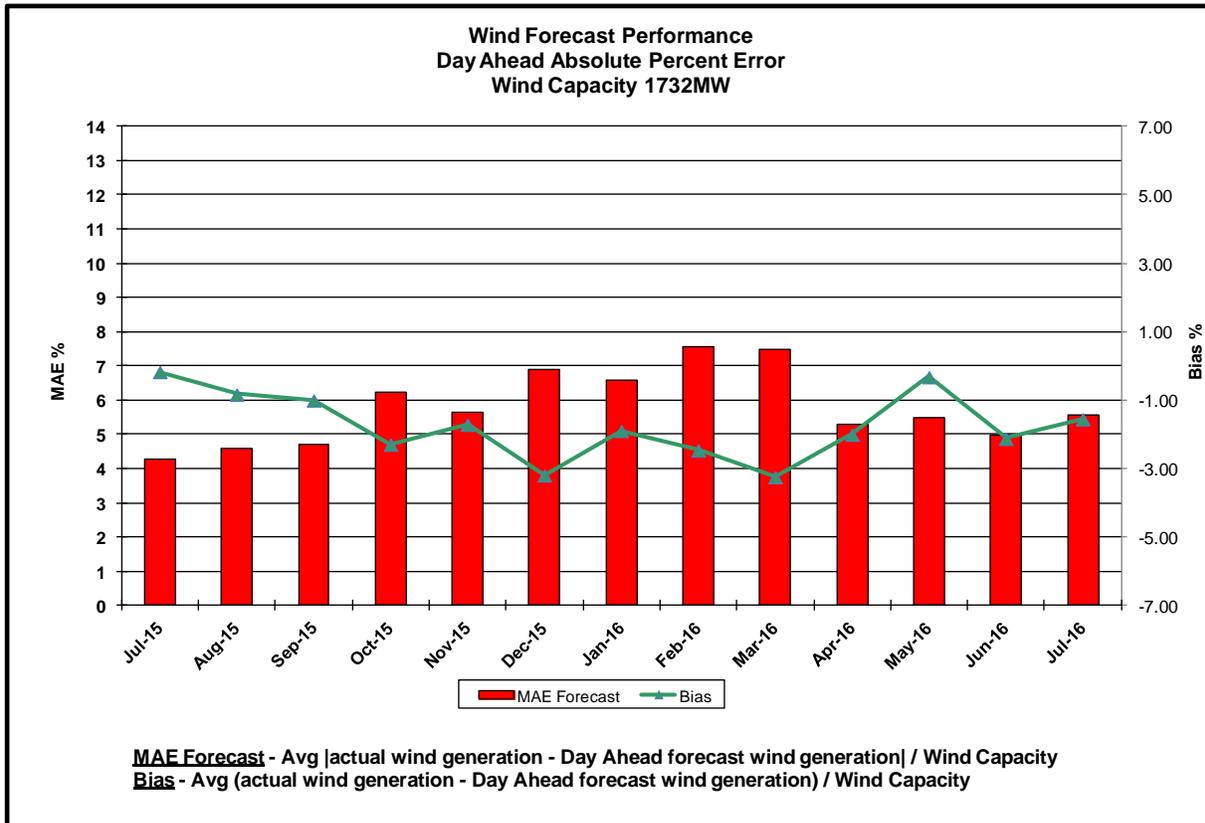
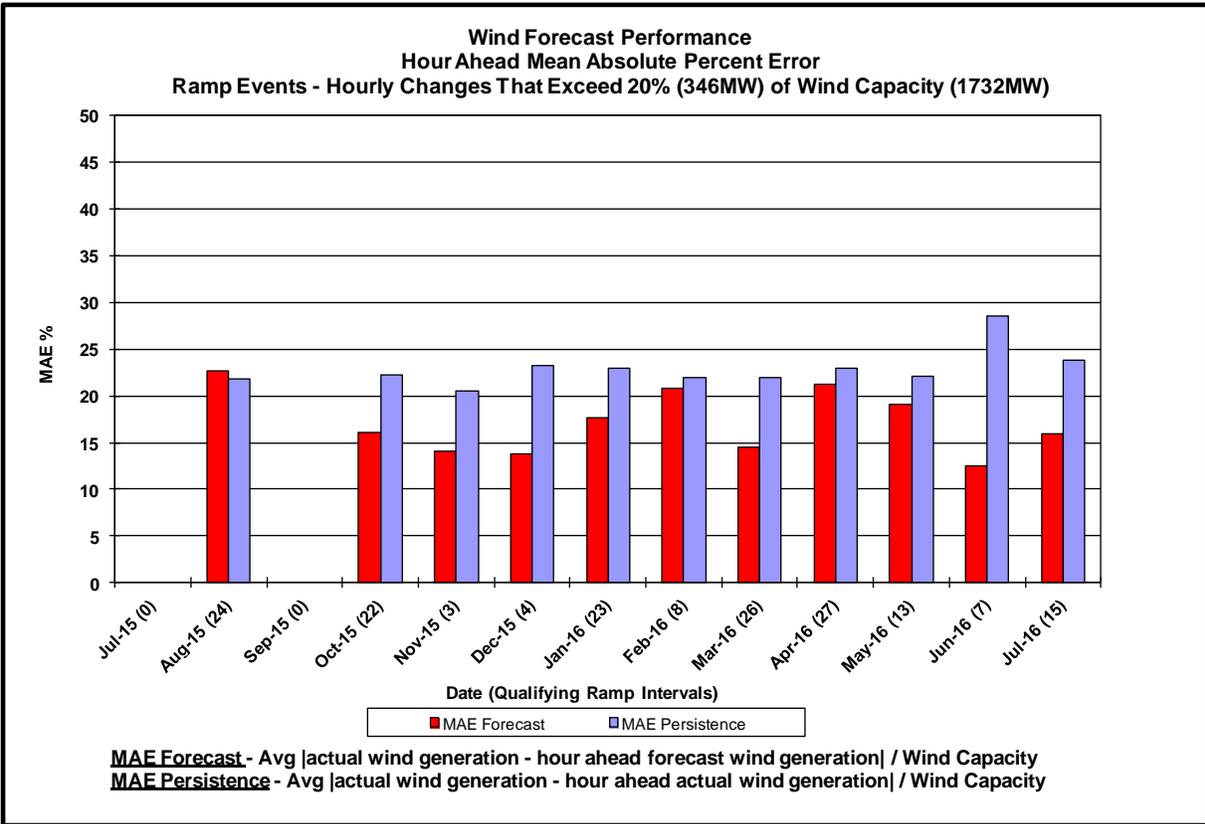


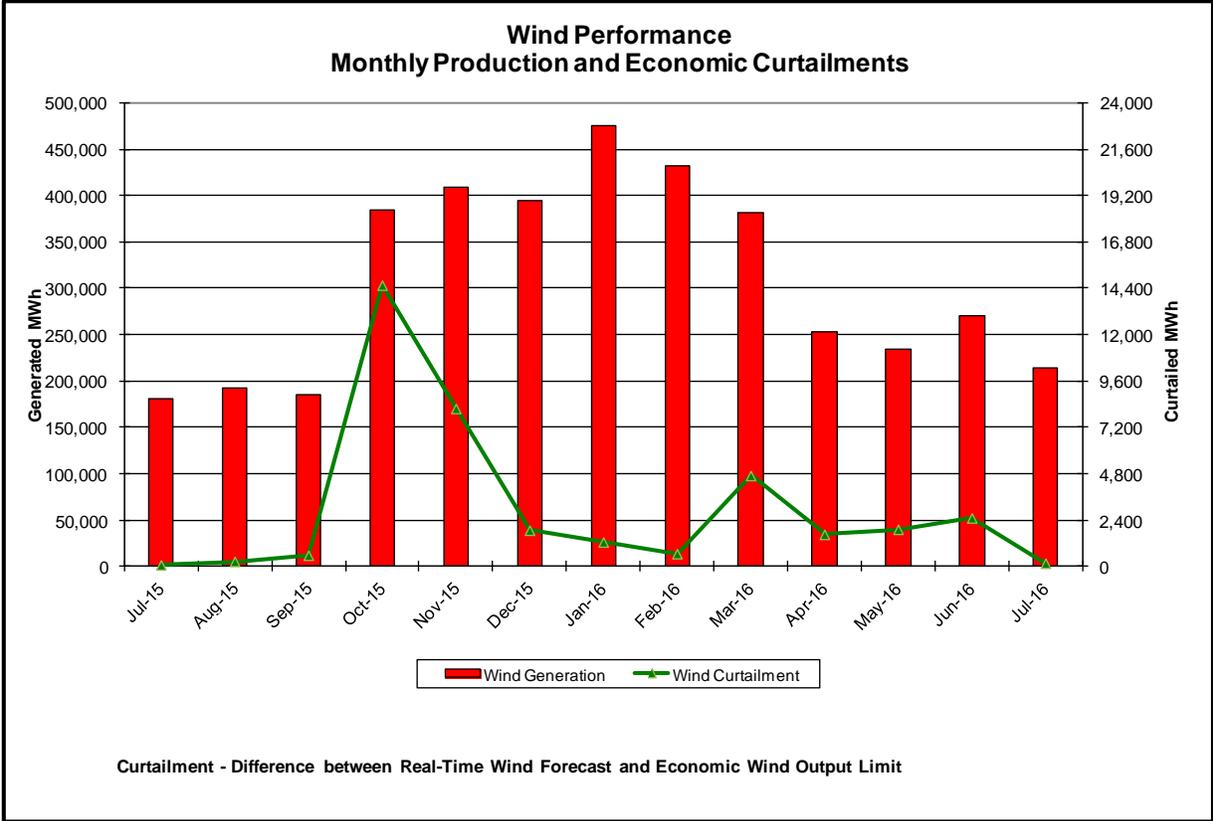


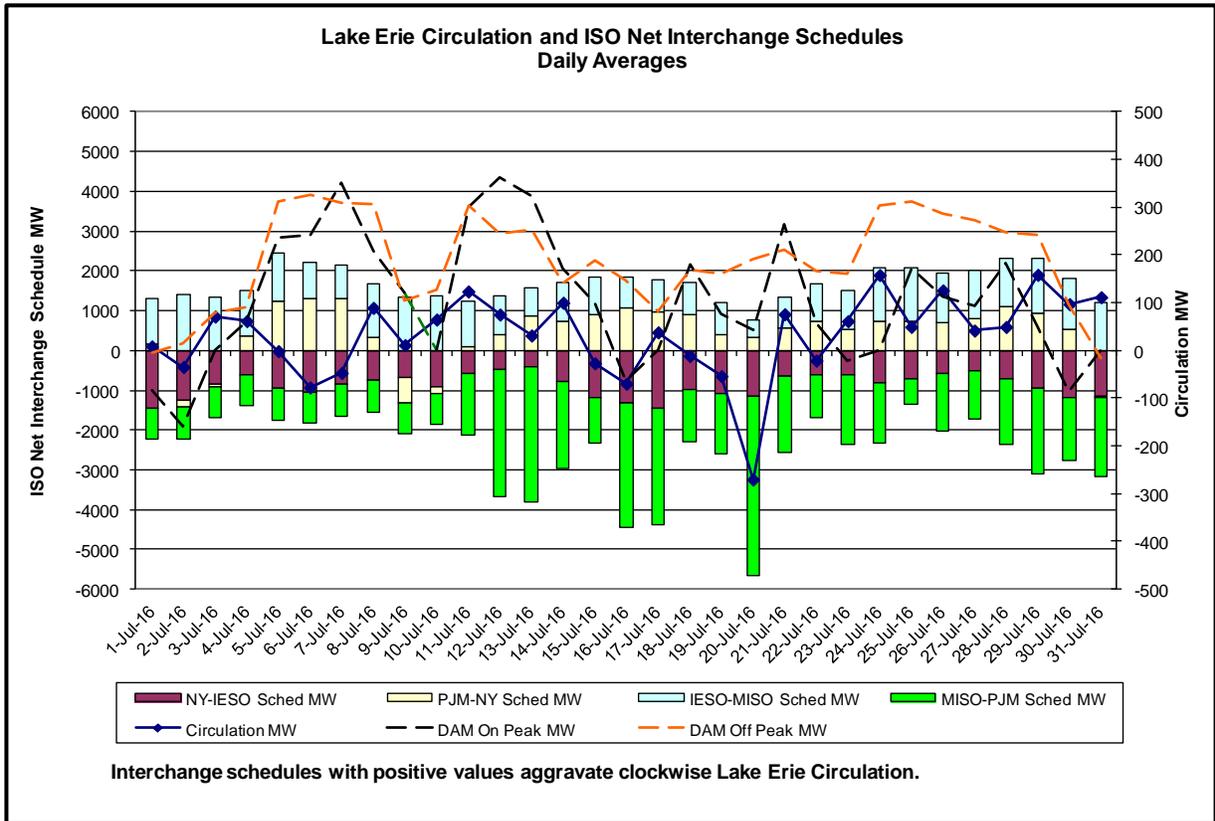
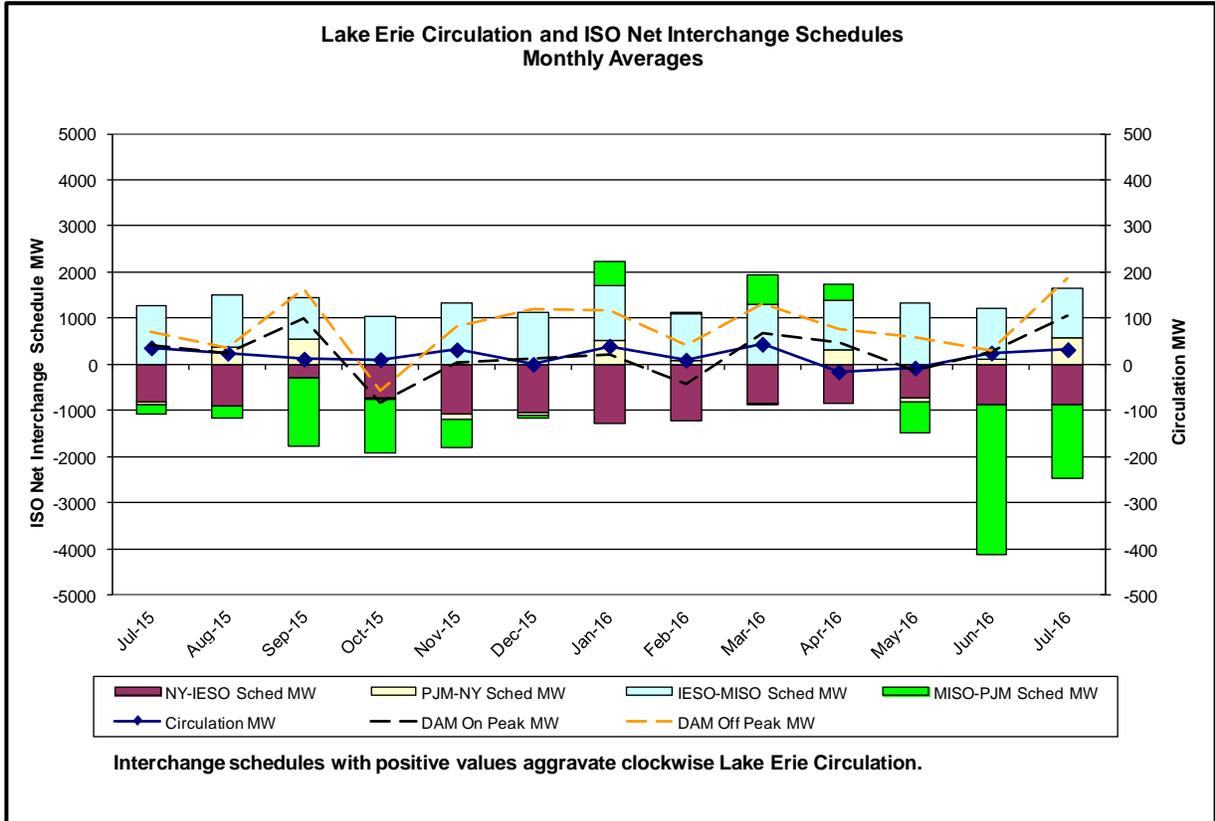




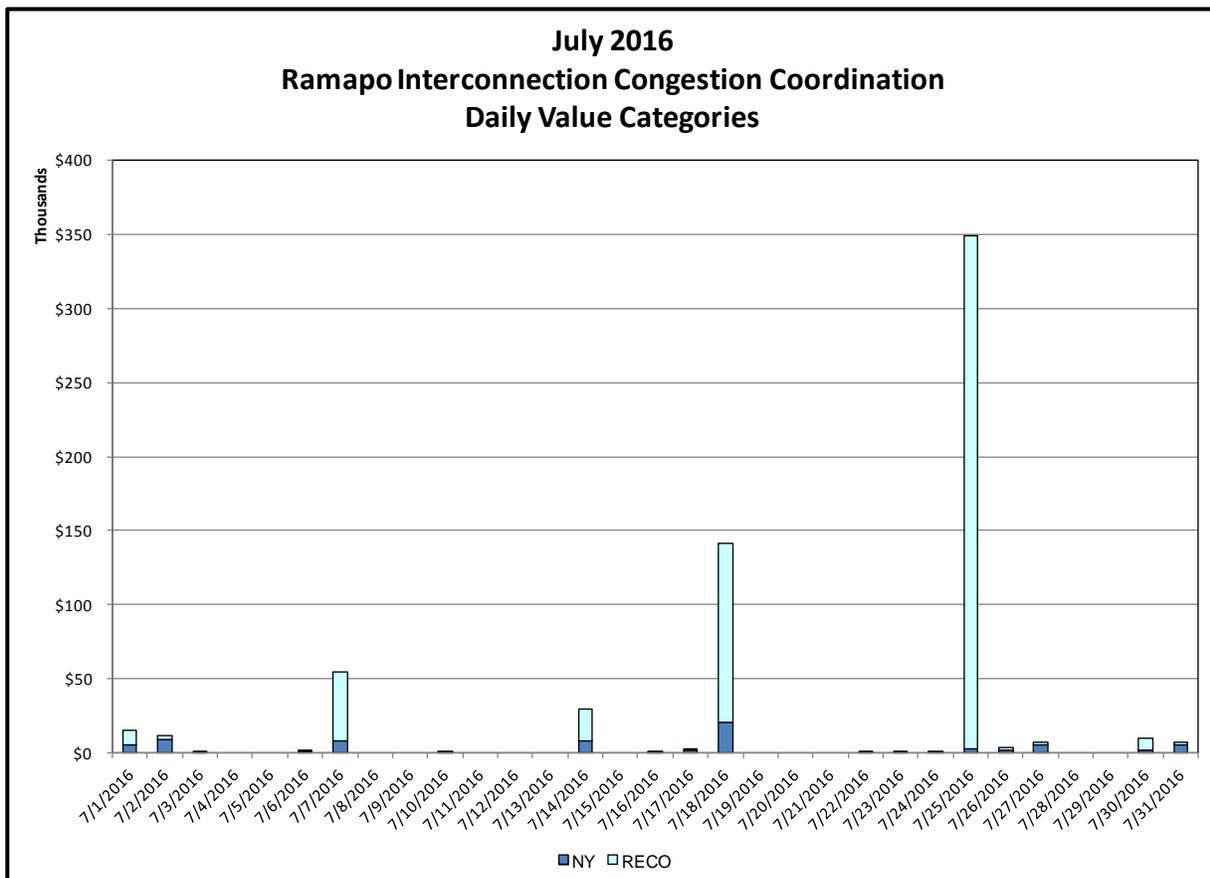
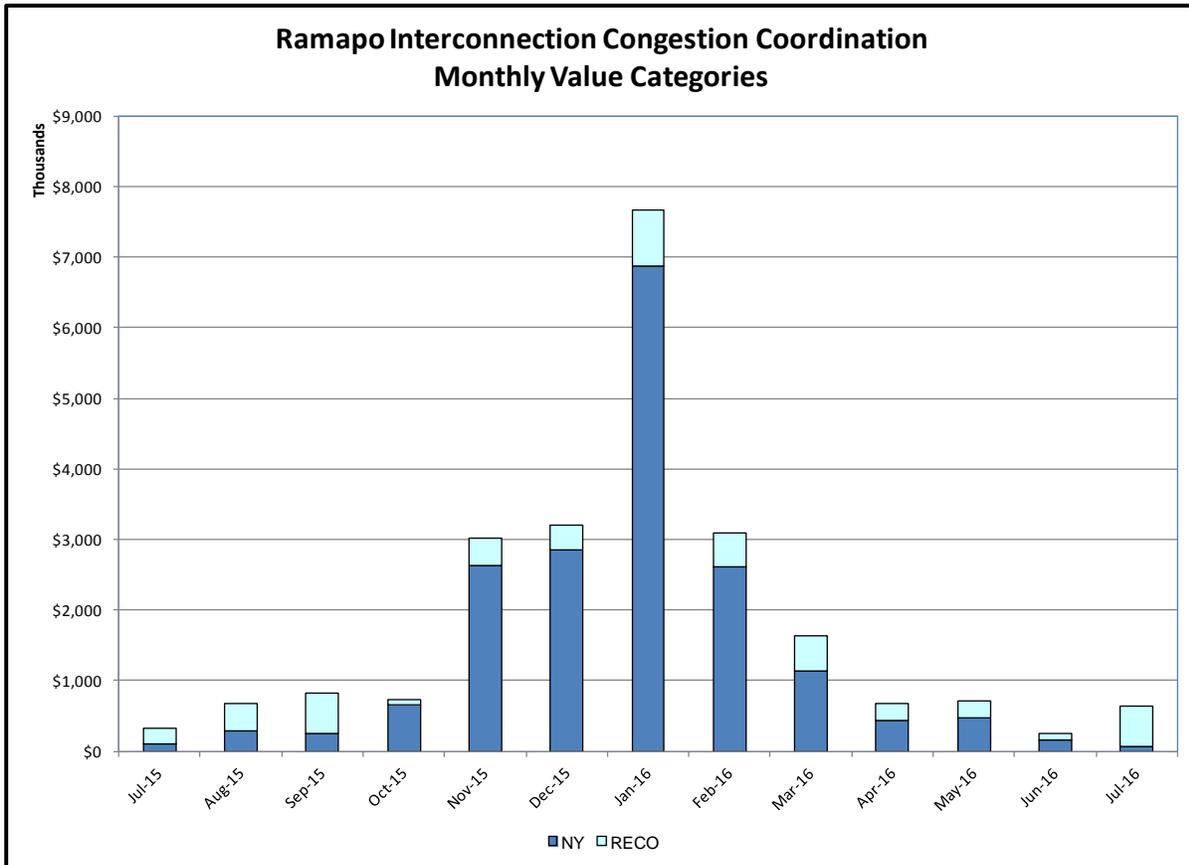






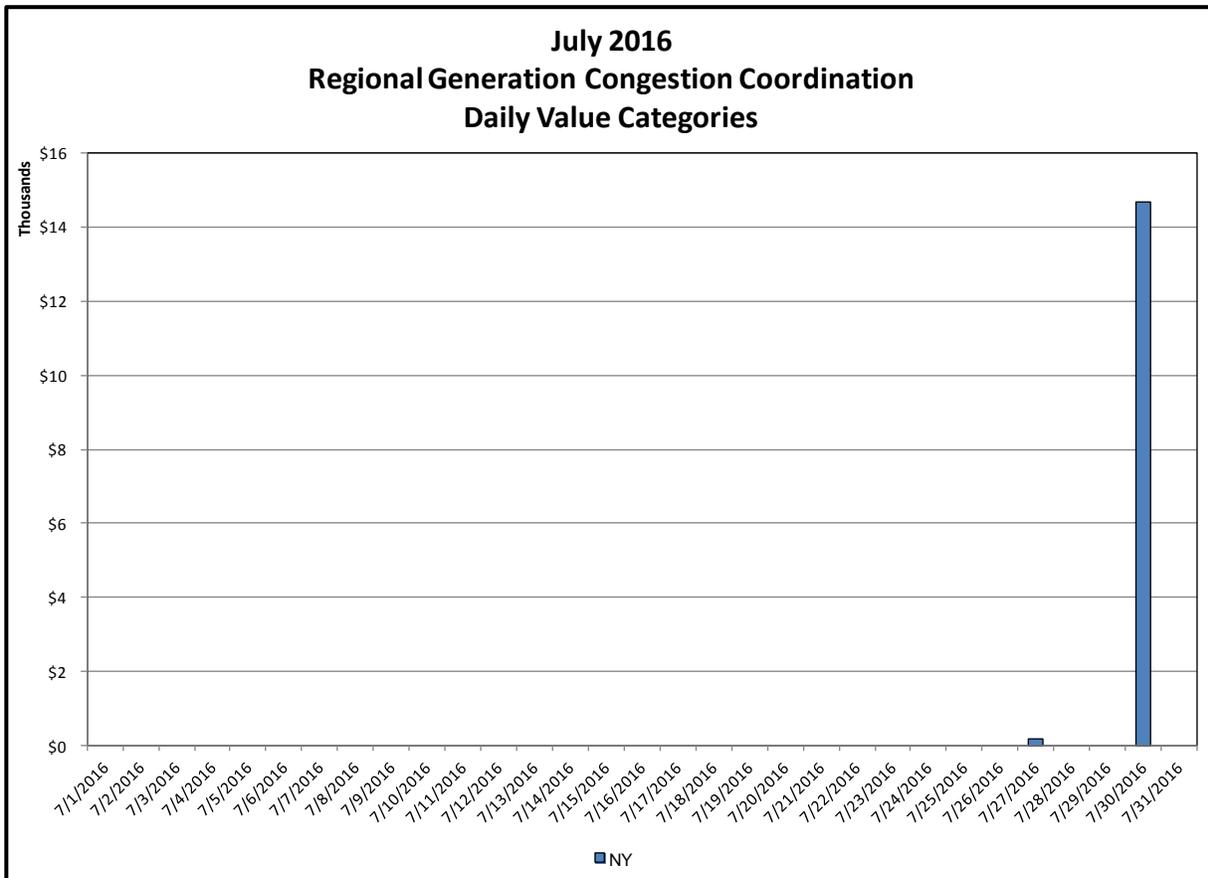
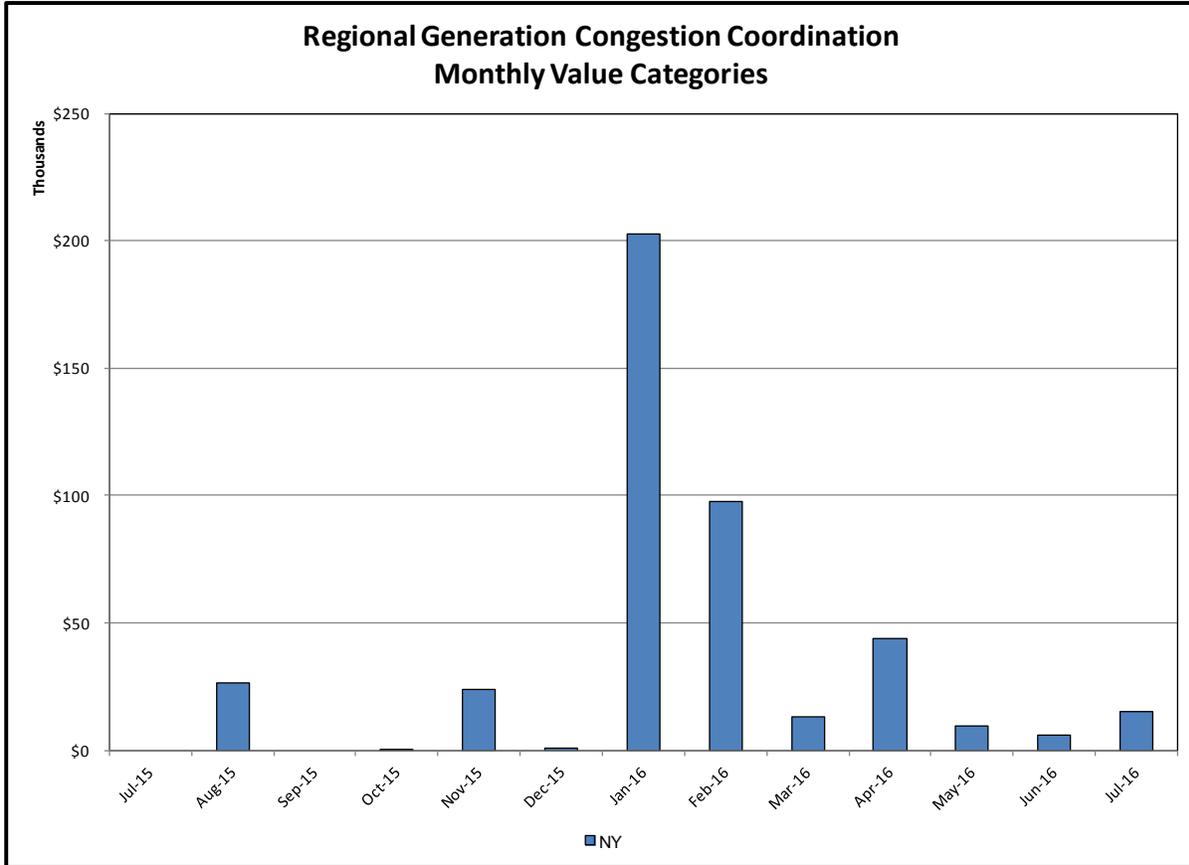


Broader Regional Market Performance Metrics



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.



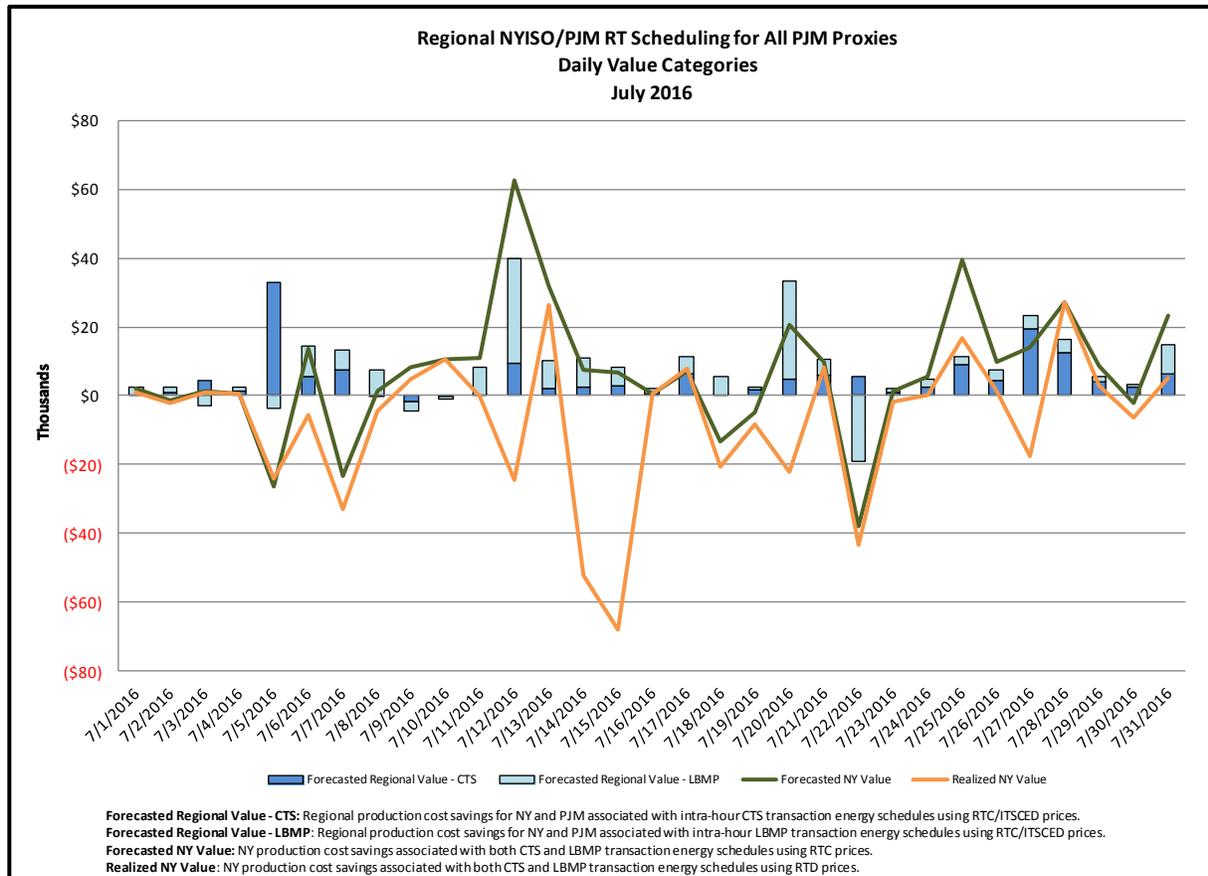
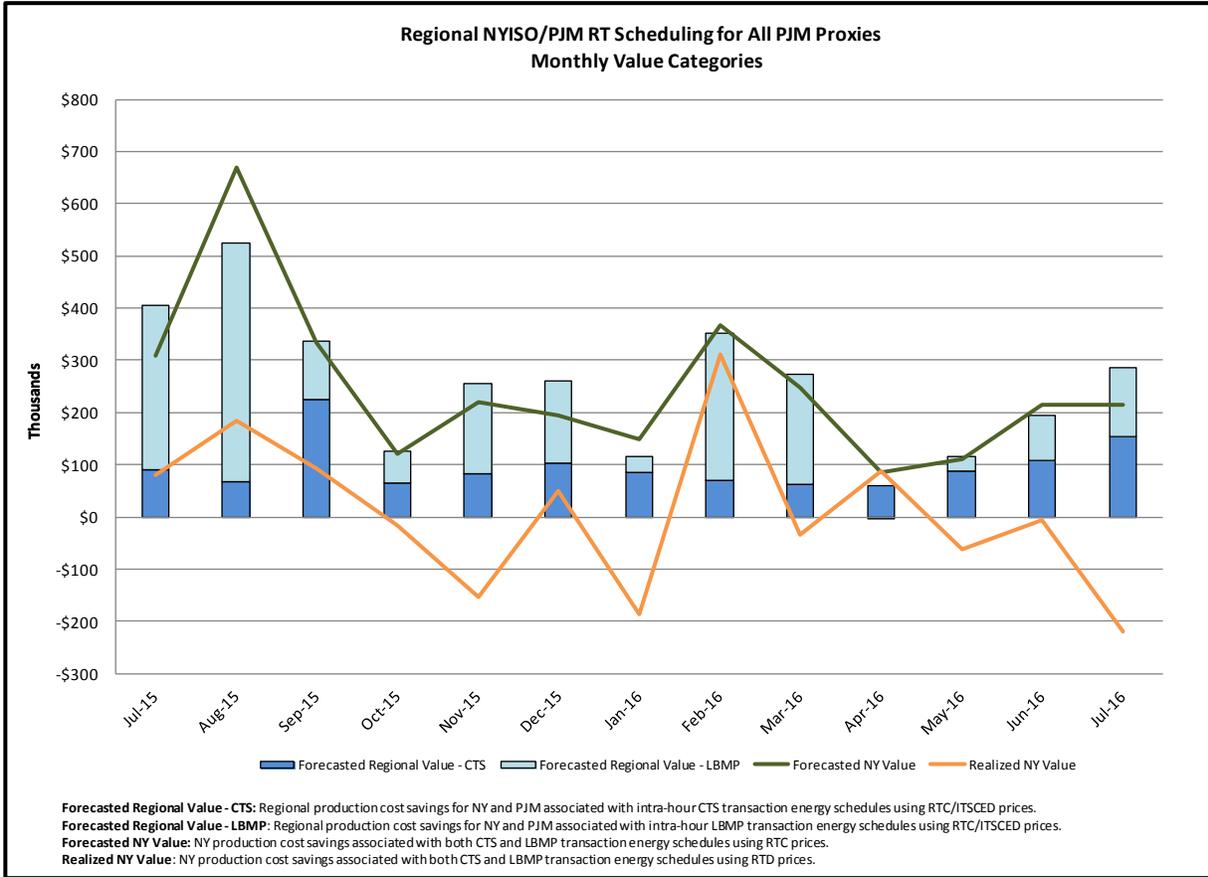
Regional Generation Congestion Coordination

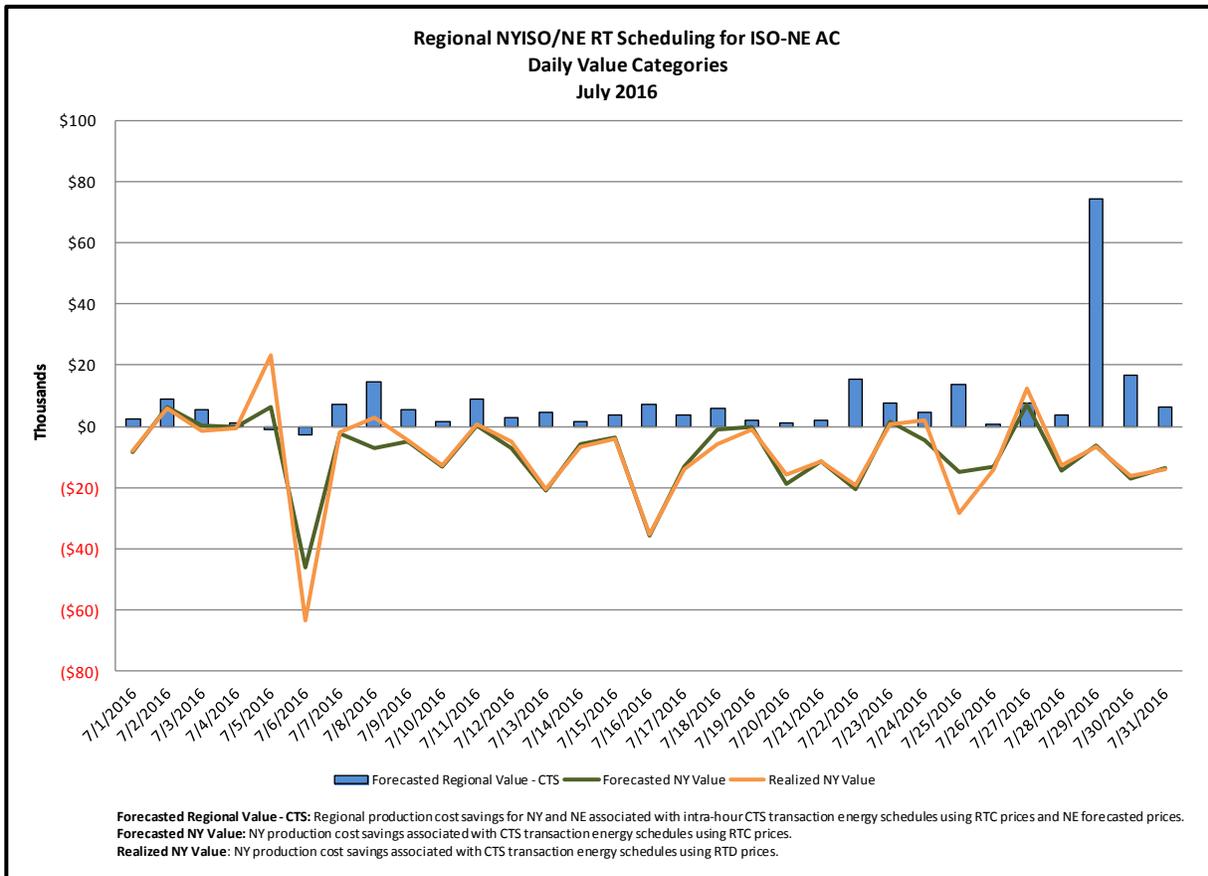
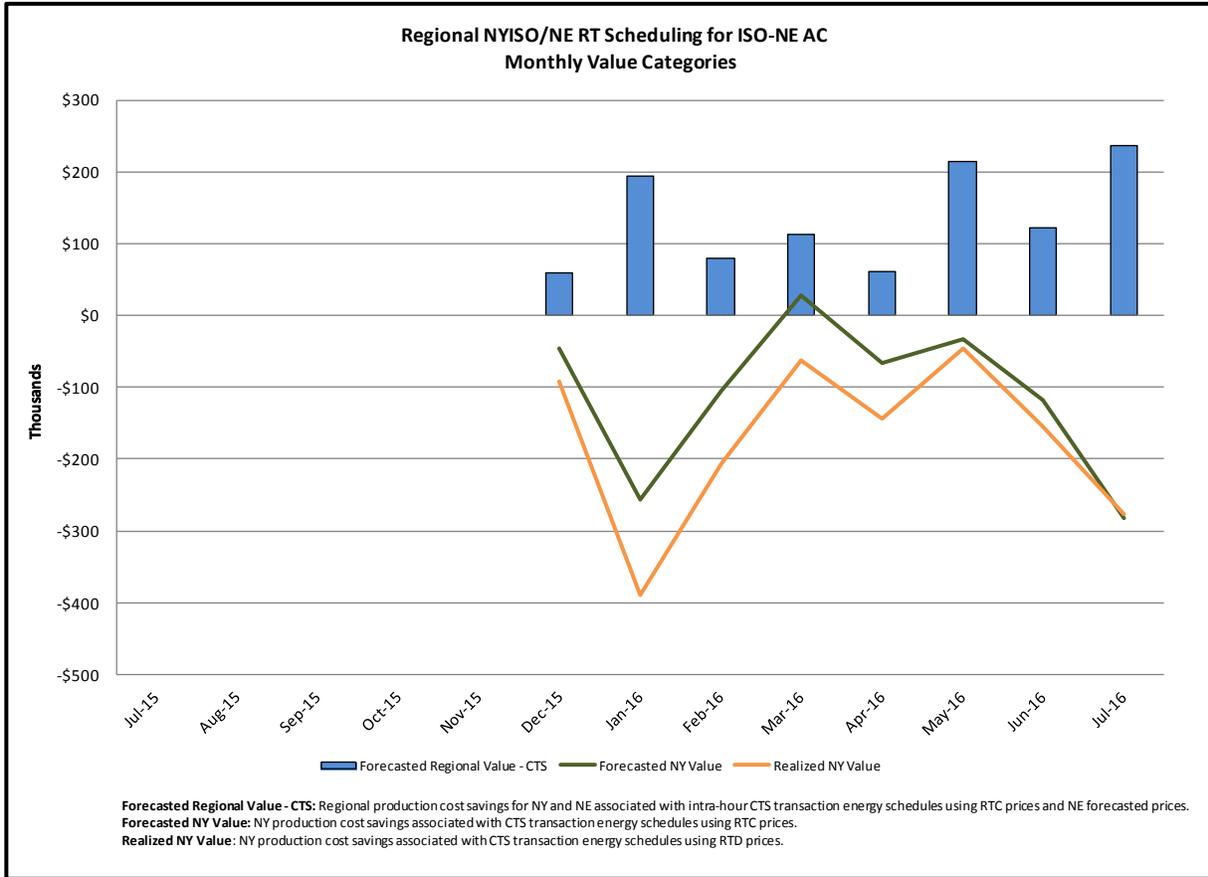
Category

NY

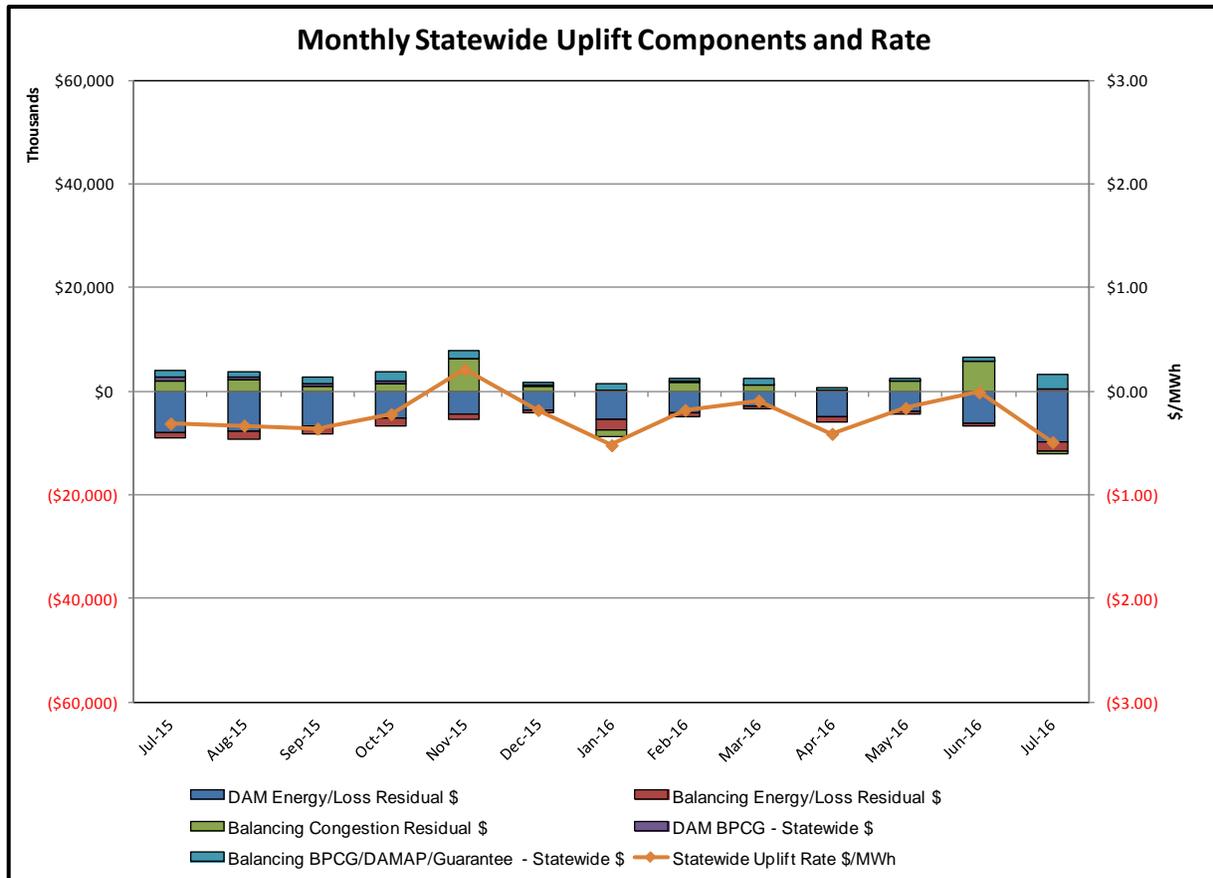
Description

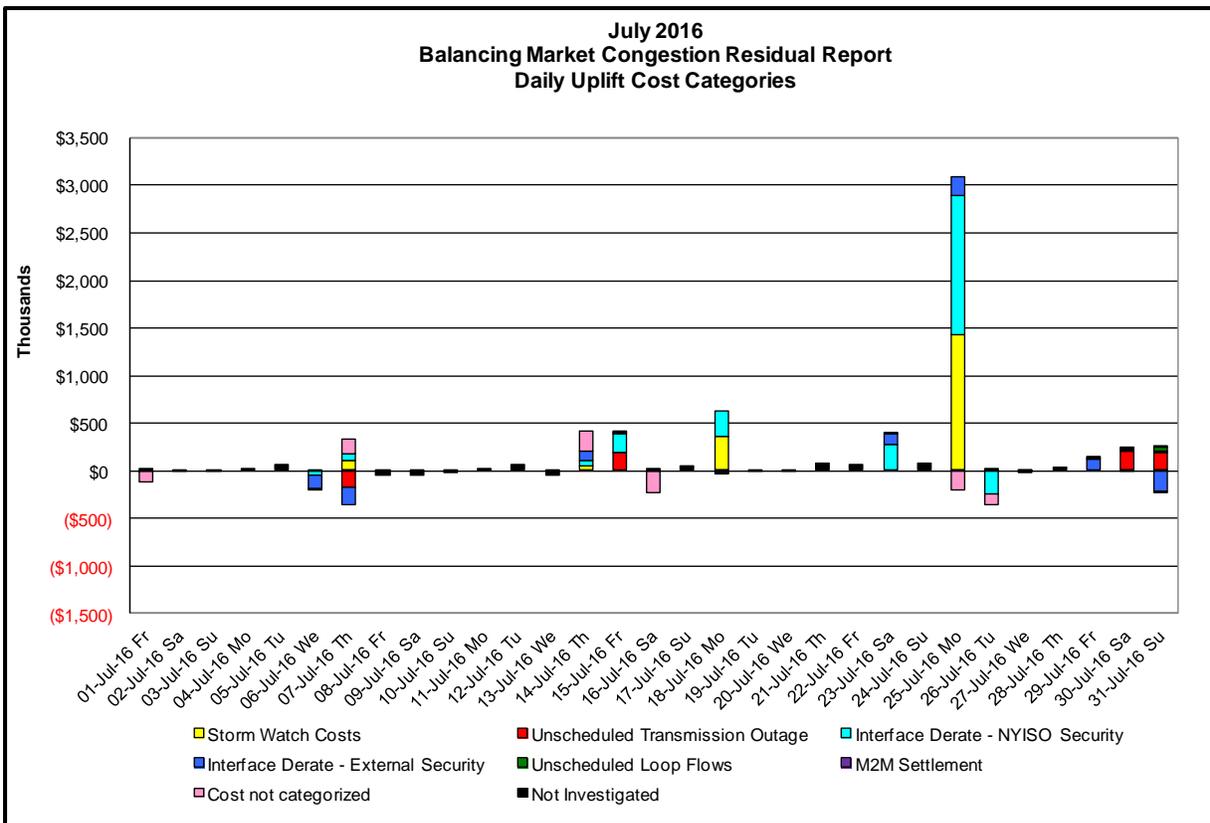
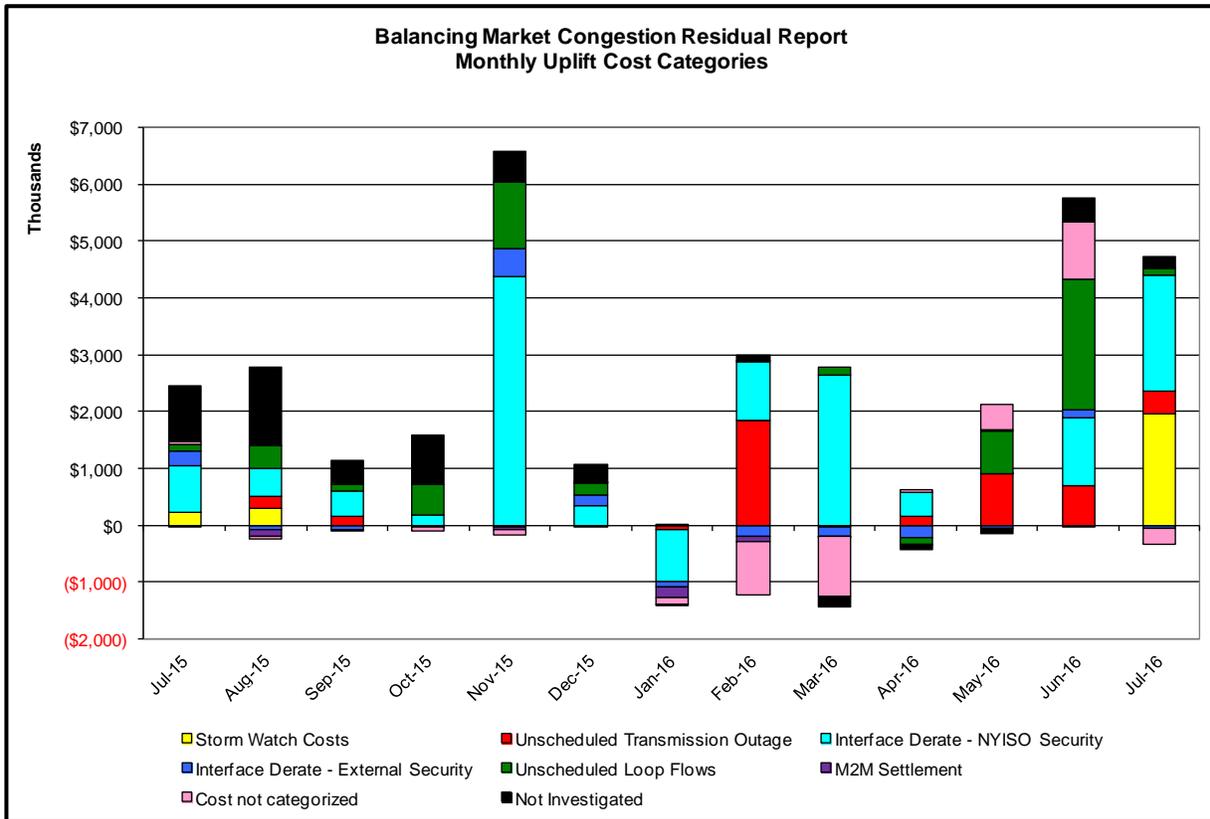
NYISO savings that result from PJM payments to NYISO when PJM's transmission use (PJM's market flow) is greater than PJM's entitlement of the NY transmission system and NYISO is incurring Western or Central NY congestion. Additionally, NYISO savings may result from the more efficient regional utilization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





Market Performance Metrics





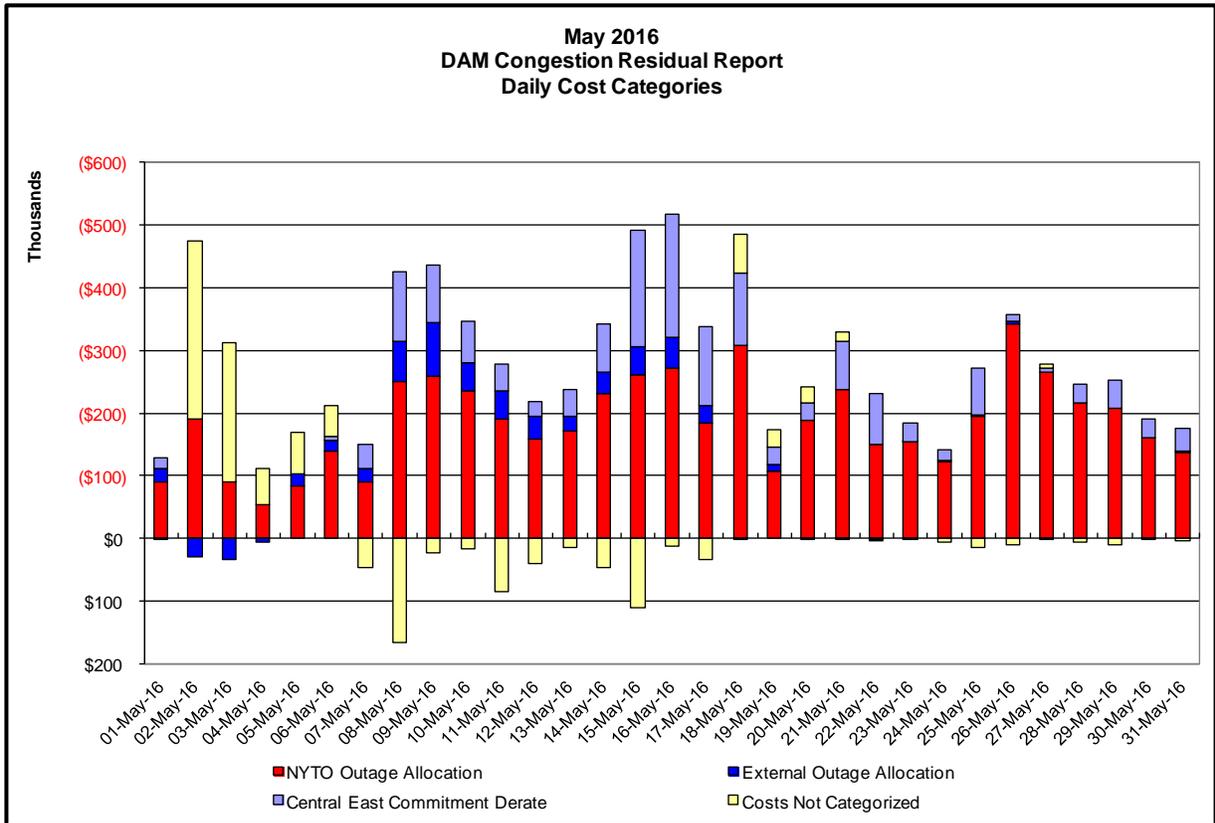
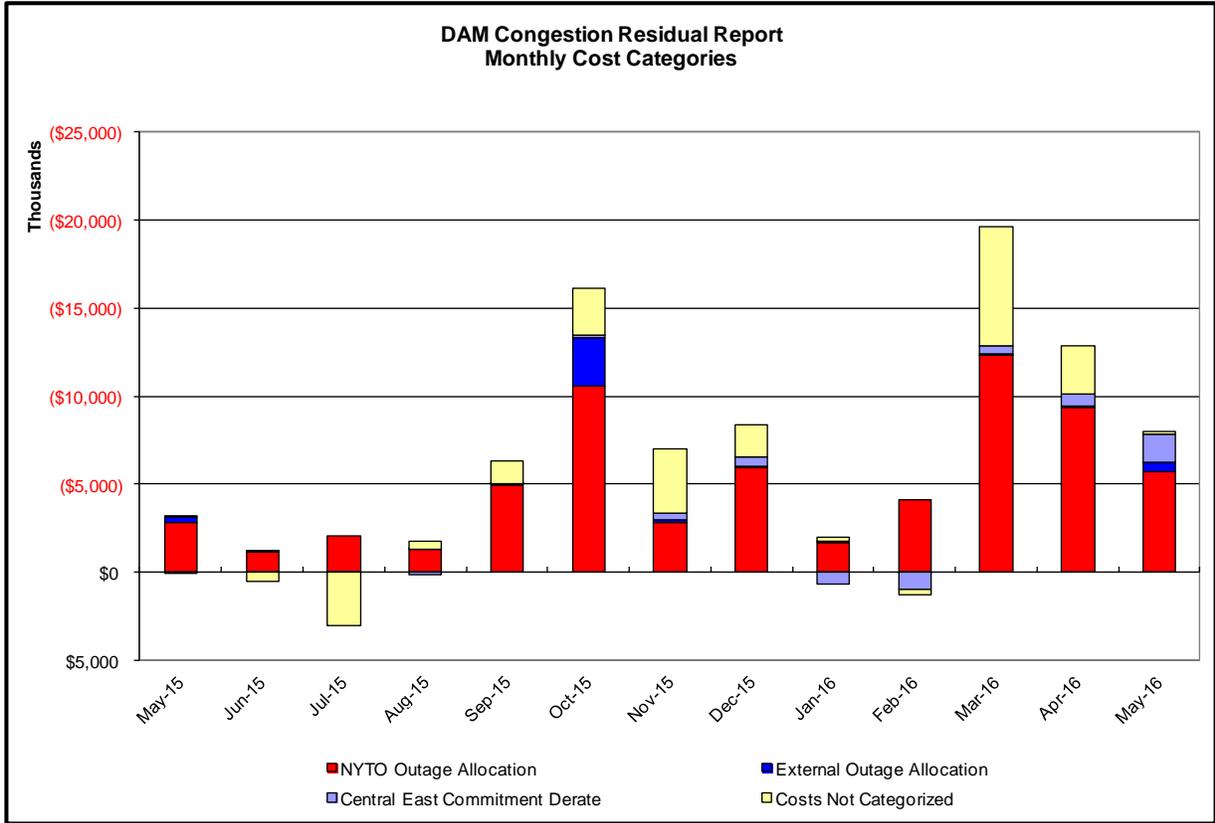
Day's investigated in July: 1, 6, 7, 14, 15, 16, 18, 23, 25, 26, 29, 30, 31		
Event	Date (yyyymmdd)	Description
	7/1/2016	15 Thunder Storm Alert
	7/1/2016	18 NE_AC-NY Scheduling Limit
	7/6/2016	10,19 NYCA DNI Ramp Limit
	7/6/2016	19,20,21 Uprate Freshkills-Willowbrook 138kV (#29211)
	7/6/2016	12,19,20,21 Uprate Gowanus-Goethals 345kV (#25)
	7/6/2016	12,19,20,21 Uprate Gowanus-Goethals 345kV (#26)
	7/6/2016	13,14,15,18 NE_NNC1385-NY Scheduling Limit
	7/6/2016	10,15,18 NE_AC DNI Ramp Limit
	7/6/2016	10,12,13,14,17,18, 19 PJM_AC-NY Scheduling Limit
	7/7/2016	13,14 Thunder Storm Alert
	7/7/2016	10-12 Early Return Sprainbrook-East Garden City 345kV(#Y49)
	7/7/2016	13,14 NYCA DNI Ramp Limit
	7/7/2016	10 Uprate Gowanus-Greenwood 138kV (#42232) for I/o SCB:GOWANUS(2):41&42231&R4
	7/7/2016	22 Uprate Gowanus-Greenwood 138kV (#42231 & 42232) for I/o TWR:GOETHALS 22 & 21
	7/7/2016	10-12 PJM_AC-NY Scheduling Limit
	7/14/2016	16,17 Thunder Storm Alert
	7/14/2016	21 NYCA DNI Ramp Limit
	7/14/2016	23 Uprate East 179th Street-Hell Gate West 138kV (#15055)
	7/14/2016	16 Derate East 179th Street-Hell Gate East 138kV (#15053)
	7/14/2016	16 Derate Northport-Pilgrim 138kV (#677)
	7/14/2016	23 IESO_AC-NY Scheduling Limit
	7/14/2016	16,17 NE_AC DNI Ramp Limit
	7/14/2016	14,16 PJM_AC DNI Ramp Limit
	7/15/2016	12,13 Forced outage Freshkills-Willowbrook 138kV (#29211)
	7/15/2016	10-19 Forced outage Northport-Pilgrim 138kV (#677)
	7/15/2016	15-19 Derate Dunwoodie-Shore Road 345kV (#Y50) for I/o SCB:SPNBK(RNS2):Y49&M29&Y49_ST
	7/15/2016	10-14 Derate Goethals-Gowanus 345kV (#25)
	7/15/2016	18 NYCA DNI Ramp Limit
	7/15/2016	12 Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Gardenville-Stolle Road 230kV (#66)
	7/16/2016	10 Derate Rainey-Vernon 138kV (#36312)
	7/16/2016	10 Derate Greenwood-Vernon 138kV (#31231) for I/o TWR:GOETHALS 22 & 21
	7/16/2016	13 PJM_AC-NY Scheduling Limit
	7/18/2016	15-19 Thunder Storm Alert
	7/18/2016	14,15,16 NYCA DNI Ramp Limit
	7/18/2016	2 Uprate Central East
	7/18/2016	16,17 Derate Dunwoodie-Shore Road 345kV (#Y50) for I/o SCB:SPNBK(RNS2):Y49&M29&Y49_ST
	7/18/2016	15-17 Derate East 179th Street-Hell Gate East 138kV (#15053)
	7/18/2016	16,17 Derate Elwood-Northport 138kV (#681) for I/o Elwood-Northport (#678)
	7/18/2016	17 Derate Elwood-Greenlawn 138kV (#673) for I/o Elwood-Northport (#681)
	7/18/2016	16,17 Derate Northport-Pilgrim 138kV (#677) for I/o BUS:NRTHPRT 679 & G1
	7/18/2016	13,14 Uprate Leeds-Pleasant Valley 345kV (#92) for I/o Athens-Pleasant Valley 345kV (#92)
	7/18/2016	11 PJM_AC-NY Scheduling Limit
	7/23/2016	13-22 Derate Dunwoodie-Shore Road 345kV (#Y50) for I/o SCB:SPNBK(RNS2):Y49&M29&Y49_ST
	7/23/2016	20 Derate Elwood-Greenlawn 138kV (#673) for I/o Elwood-Northport (#681)
	7/23/2016	0,12 Uprate Freshkills-Willowbrook 138kV (#29211)
	7/23/2016	10,13,19,22 Derate Northport-Pilgrim 138kV (#677) for I/o BUS:NPRT 672&1385&601&602&603
	7/23/2016	12 IESO_AC DNI Ramp Limit
	7/23/2016	16 NE_NNC1385-NY Scheduling Limit
	7/23/2016	18 NE_AC DNI Ramp Limit
	7/25/2016	13-17,19,20 Thunder Storm Alert
	7/25/2016	13 Derate Dunwoodie-Shore Road 345kV (#Y50) for I/o SCB:SPNBK(RNS2):Y49&M29&Y49_ST
	7/25/2016	15 Derate East 179th Street-Hell Gate East 138kV (#15053)
	7/25/2016	13 Derate Gowanus-Greenwood 138kV (#42231)
	7/25/2016	13-17 Derate Northport-Pilgrim 138kV (#677) for I/o BUS:NPRT 672&1385&601&602&603
	7/25/2016	11,12,14,16 NYCA DNI Ramp Limit
	7/25/2016	11,12 NE_AC DNI Ramp Limit
	7/25/2016	16,17 PJM_AC DNI Ramp Limit
	7/26/2016	14,18-20,22 Uprate Freshkills-Willowbrook 138kV (#29211)
	7/26/2016	18,19,22 Uprate Freshkills-Willowbrook 138kV (#29212)
	7/26/2016	18-20,22 Uprate Gowanus-Greenwood 138kV (#42231 & 42232)
	7/26/2016	20 Uprate Gowanus-Greenwood 138kV (#42231) for I/o SCB:GOWANUS(14):42&42232&R14
	7/26/2016	18-20 Uprate Gowanus-Greenwood 138kV (#42232) for I/o SCB:GOWANUS(2):41&42231&R4
	7/26/2016	14,20 Uprate Gowanus-Greenwood 138kV (#42231) for I/o TWR:GOETHALS 22 & 21
	7/26/2016	14,18-20,22 Uprate Gowanus-Greenwood 138kV (#42232) for I/o TWR:GOETHALS 22 & 21
	7/26/2016	10 Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Packard-Sawyer 230kV (#77)
	7/26/2016	10 Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Niagara-Packard 230kV (#61)
	7/29/2016	20 NE_AC DNI Ramp Limit
	7/29/2016	12 Lake Erie Circulation, DAM-RTM exceeds +/-125MW; Packard-Sawyer 230kV (#77), Niagara-Packard 230kV (#61)
	7/30/2016	13-20 Forced outage East Garden City-Sprainbrook 345kV (#Y49)
	7/30/2016	0 Uprate East 179th Street-Hell Gate West 138kV (#15055)

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 Lake Erie Loop Flows exceeding +/- 125 MW
M2M Settlement	Market-wide	Settlement result inclusive of coordinated redispatch and Ramapo flowgates	

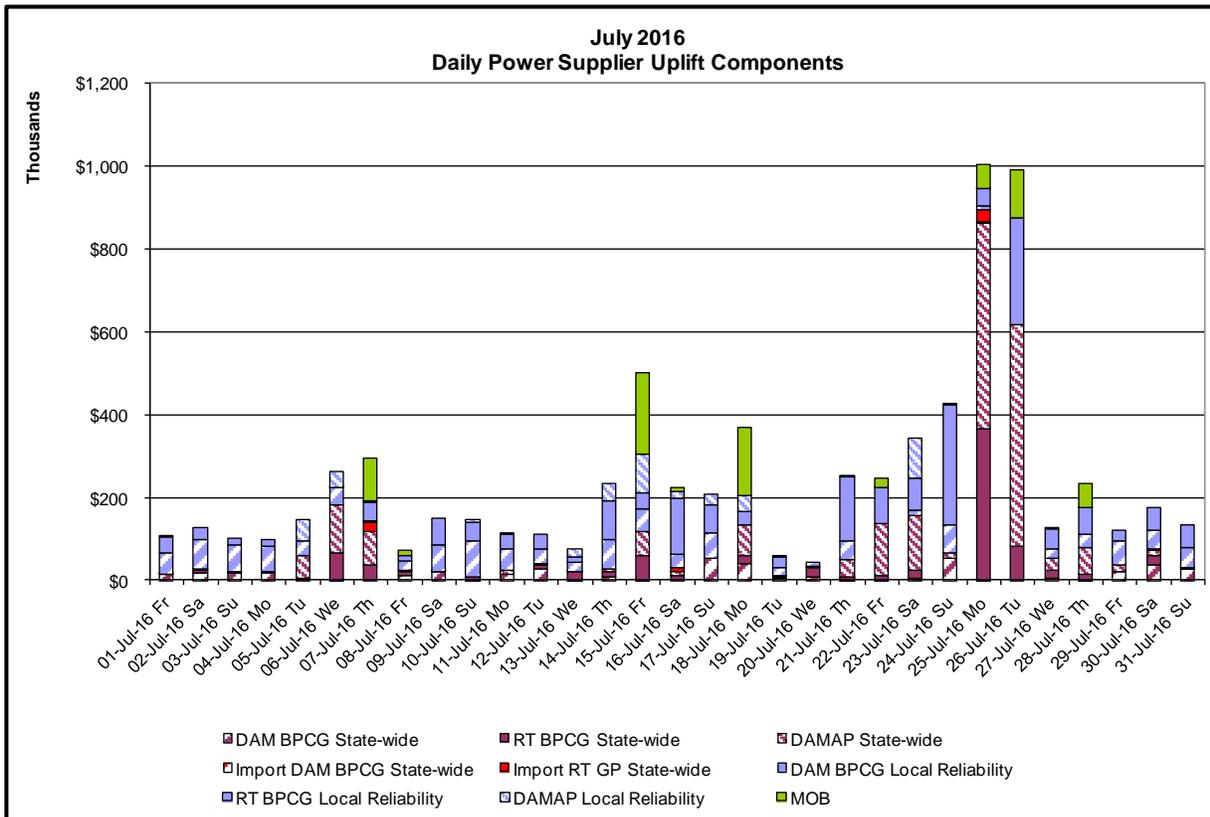
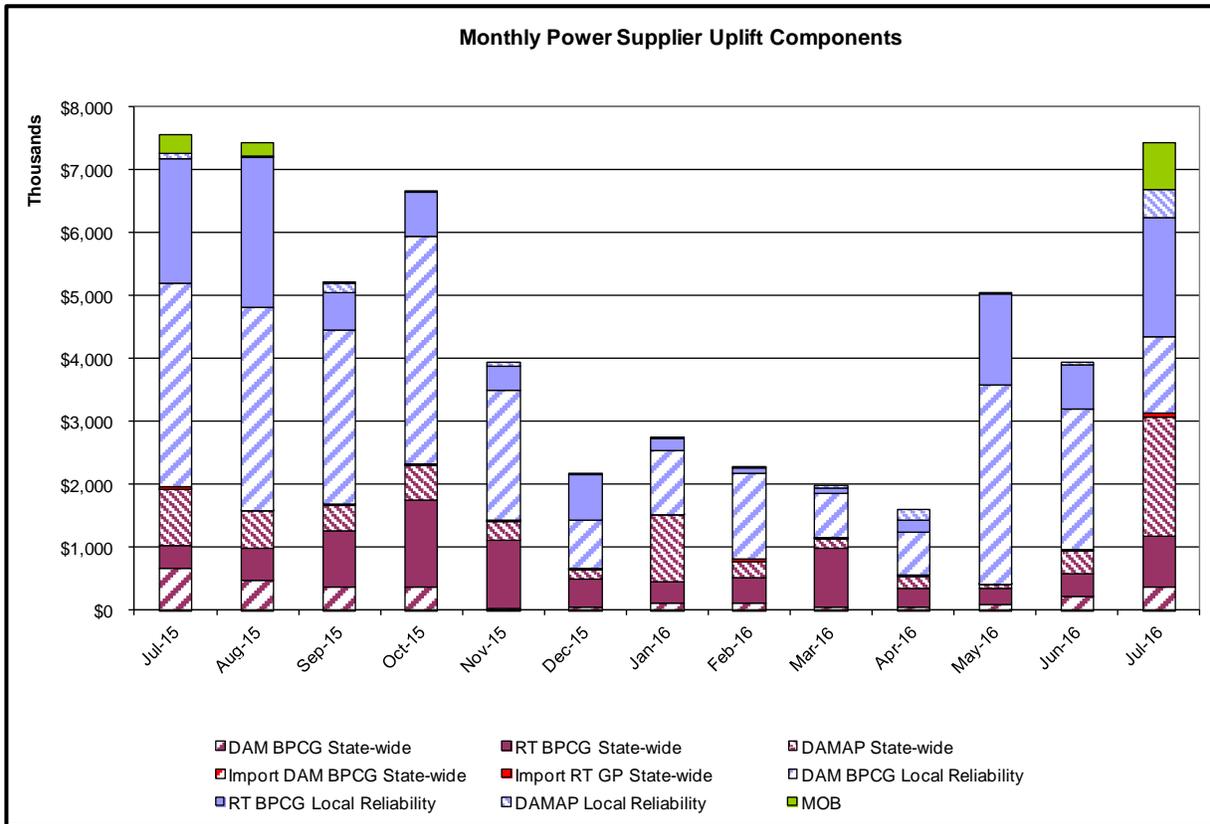
Monthly Balancing Market Congestion Report Assumptions/Notes

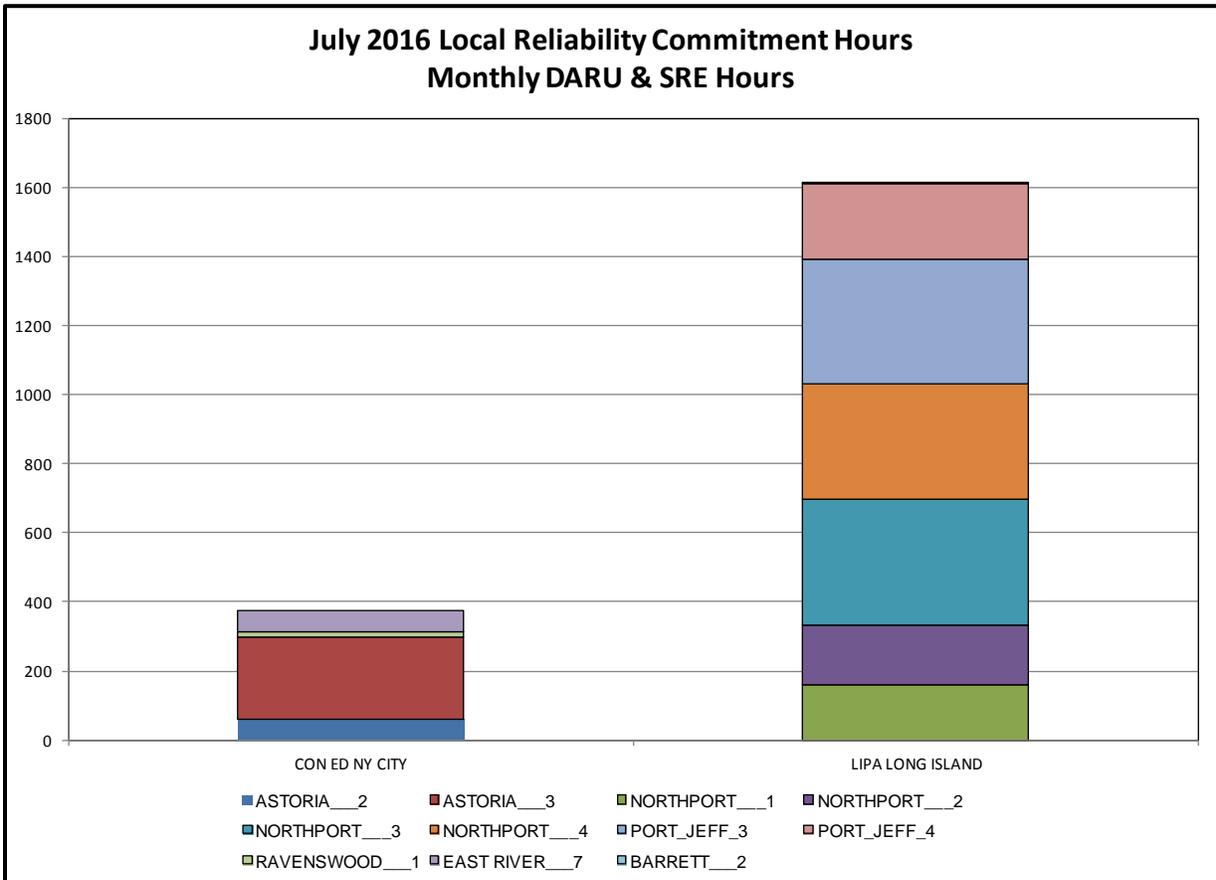
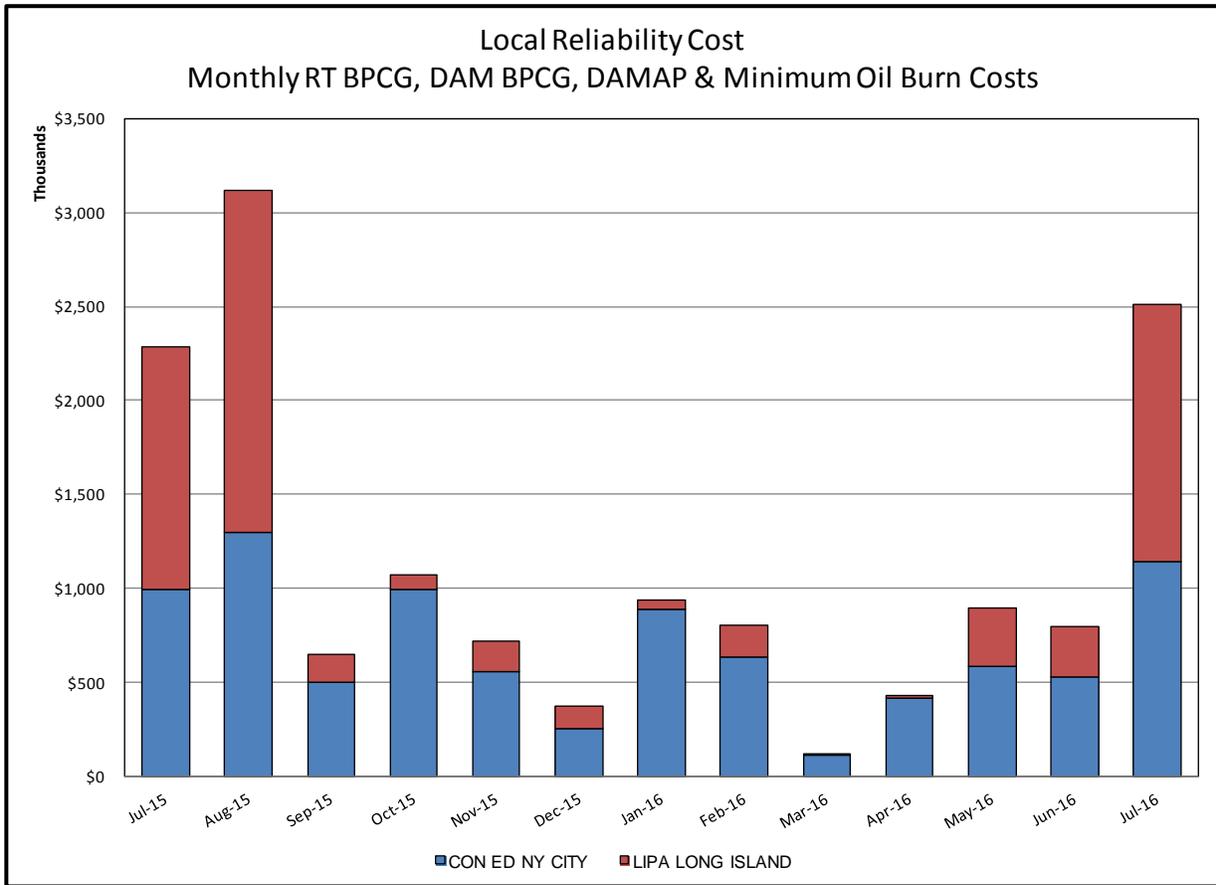
- 1) Storm Watch Costs are identified as daily total uplift costs
- 2) Days with a value of BMCR less M2M Settlement of \$100K/HR, shortfall of \$200K/Day or more, or surplus of \$100K/Day or more are investigated.
- 3) Uplift costs associated with multiple event types are apportioned equally by hour

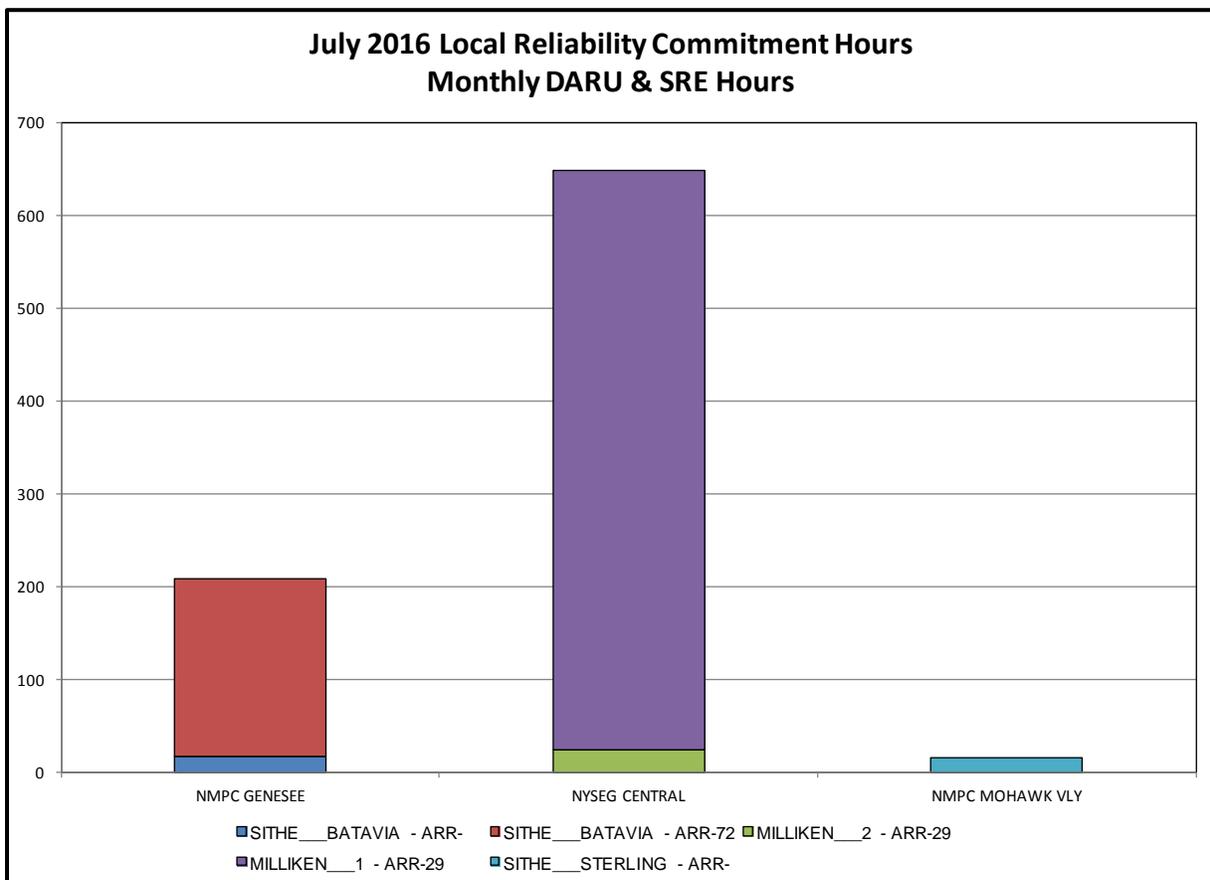
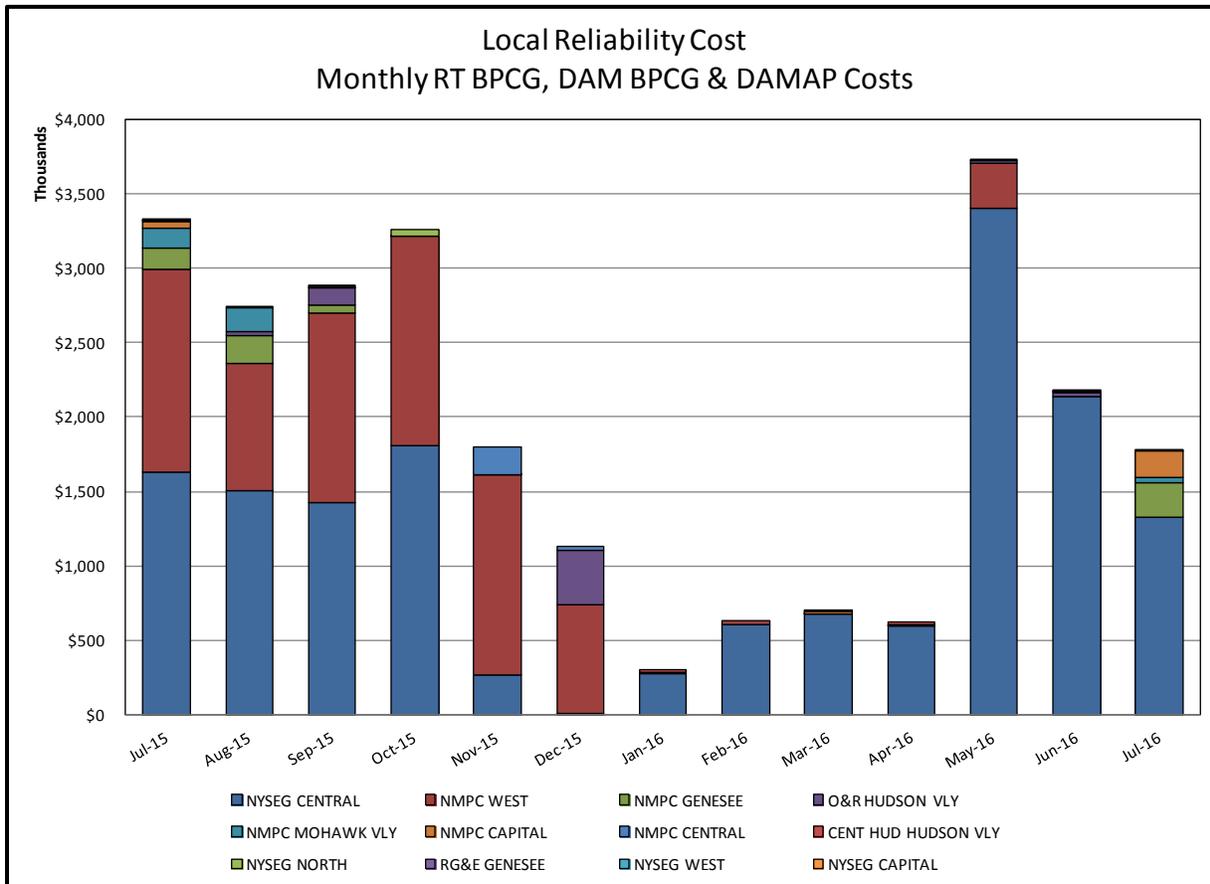


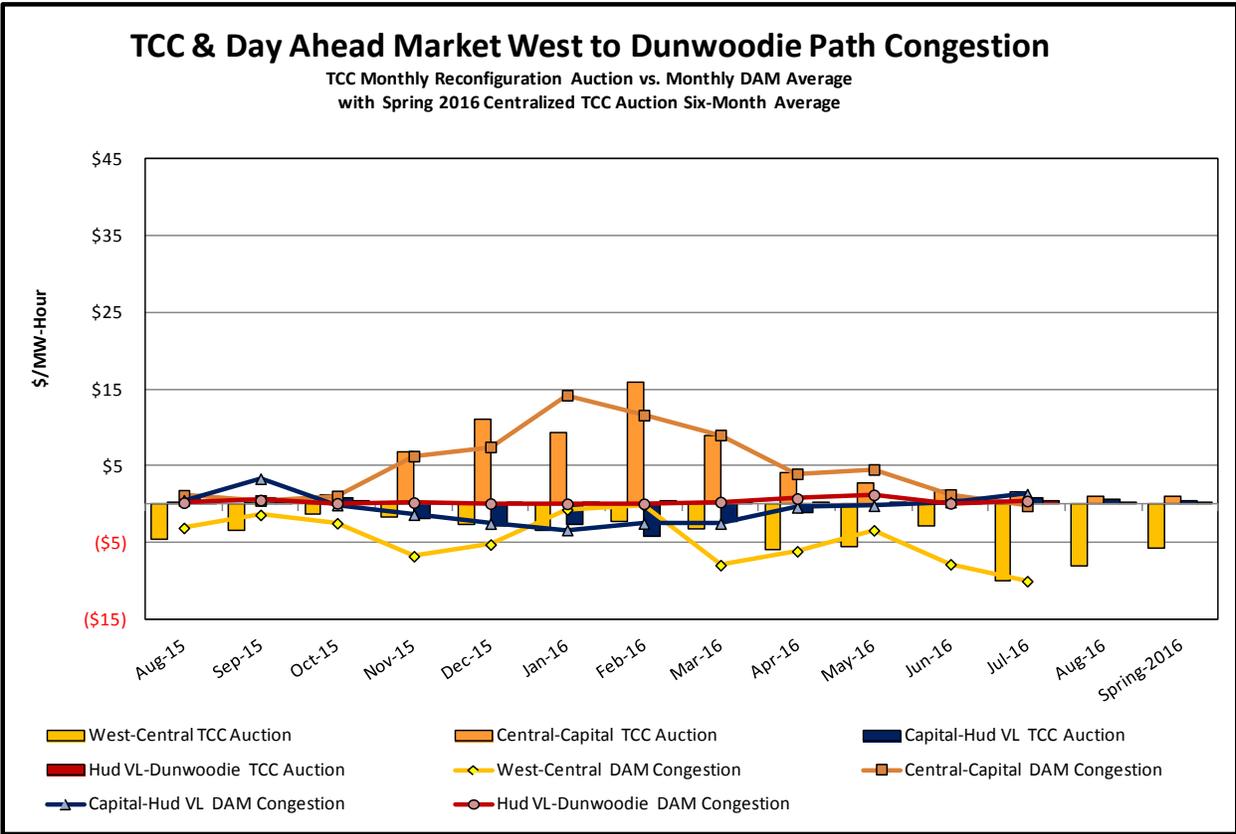
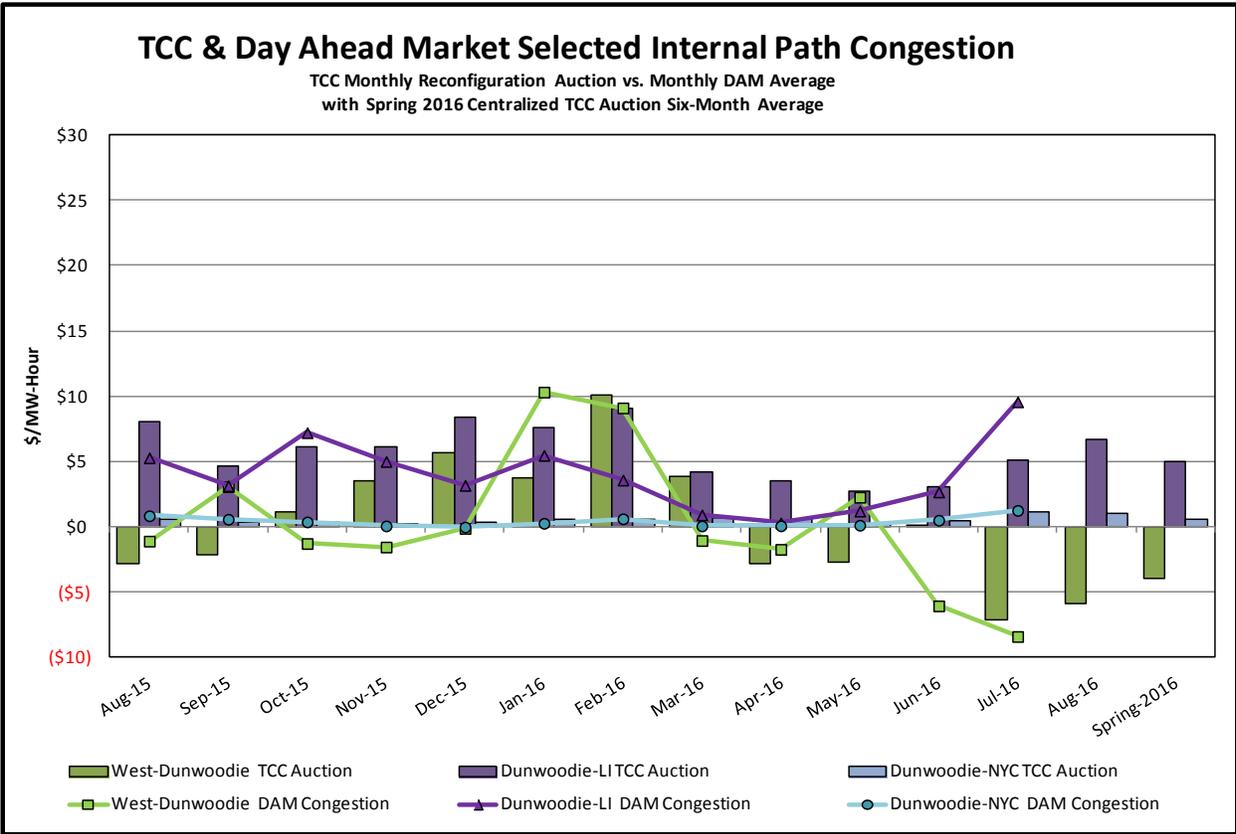
Day-Ahead Market Congestion Residual Categories

<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.	



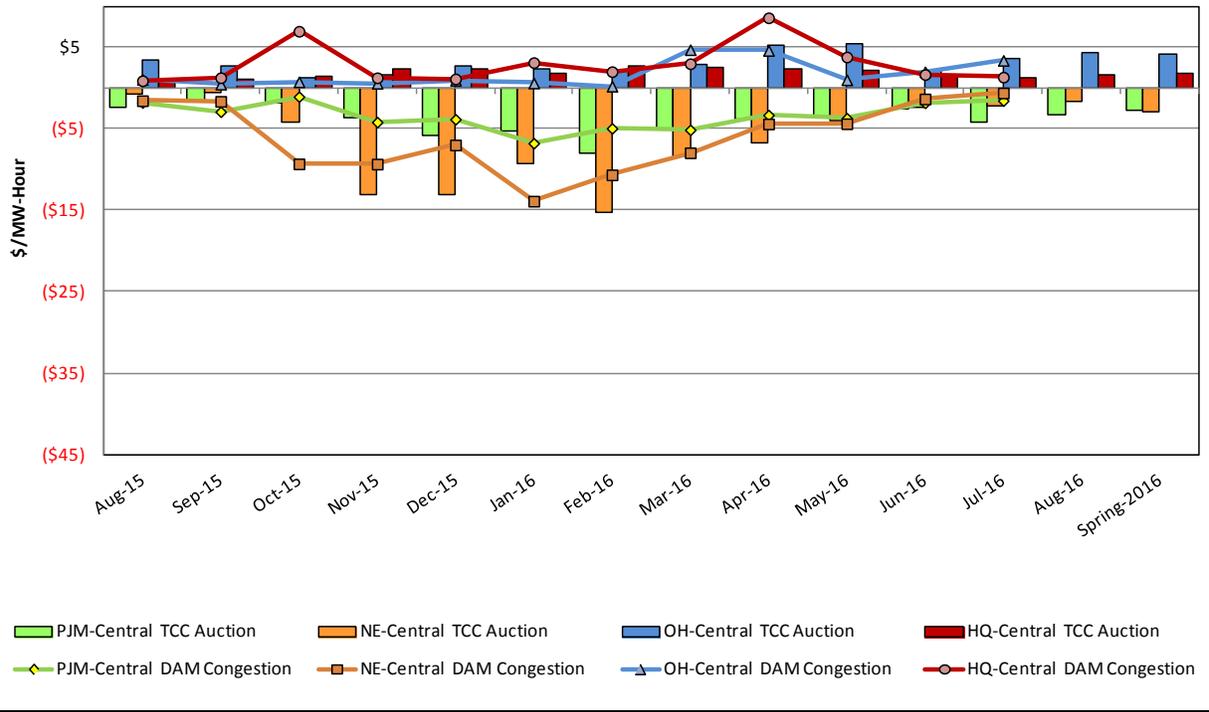


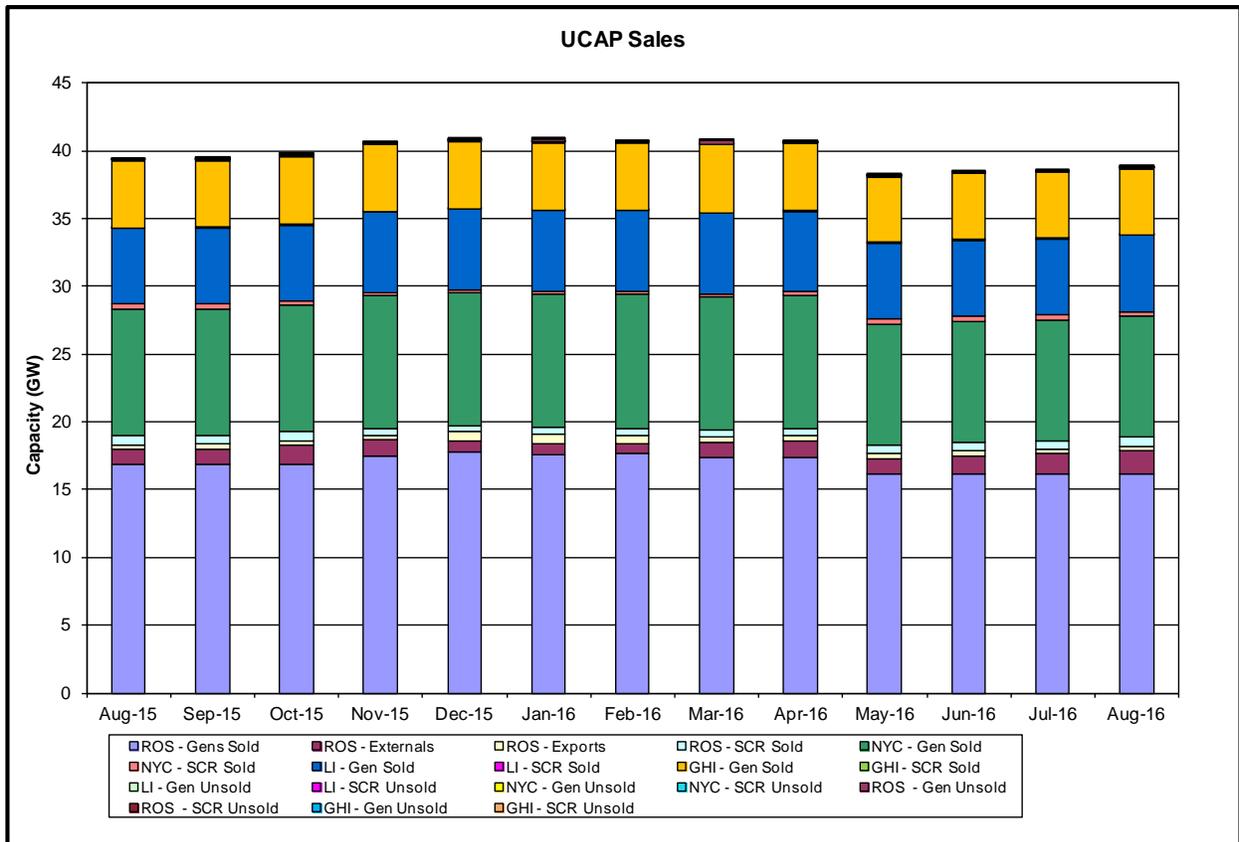
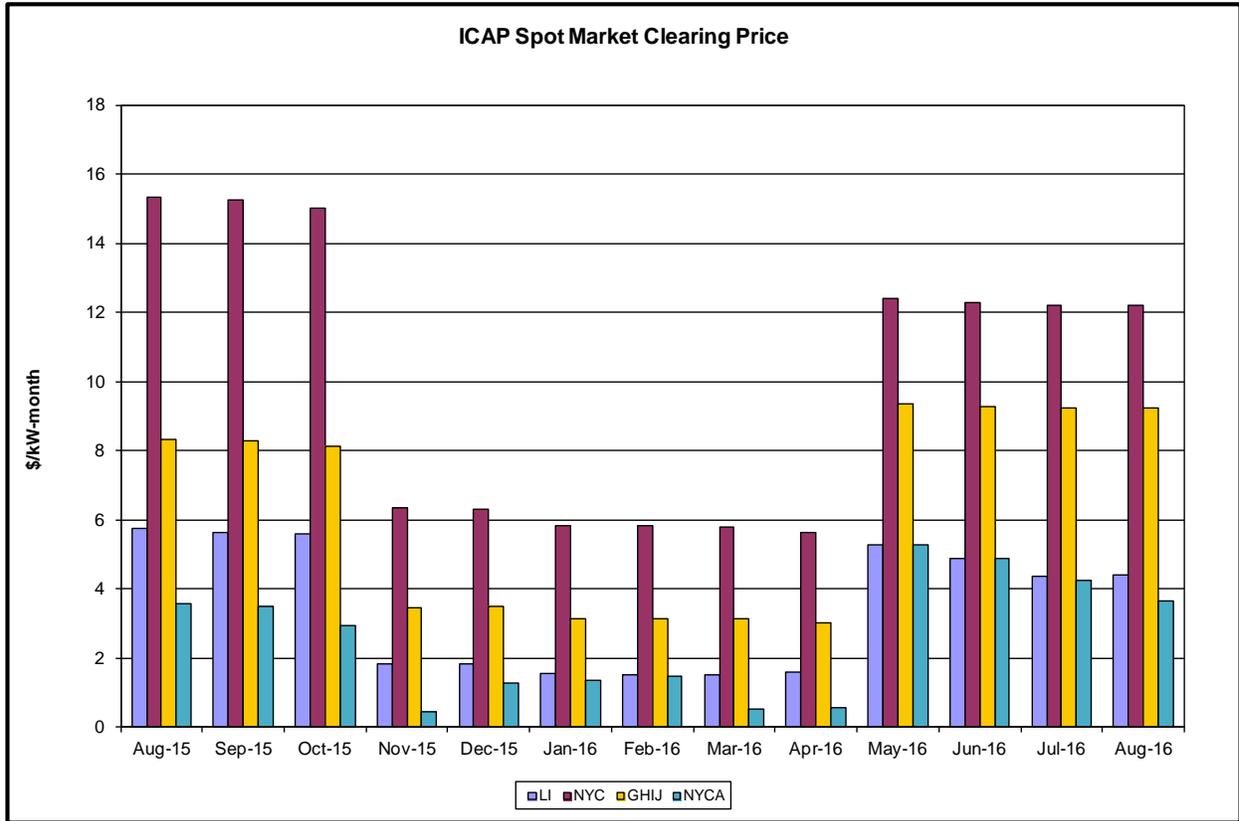




TCC & Day Ahead Market Selected External Path Congestion

TCC Monthly Reconfiguration Auction vs. Monthly DAM Average
with Spring 2016 Centralized TCC Auction Six-Month Average

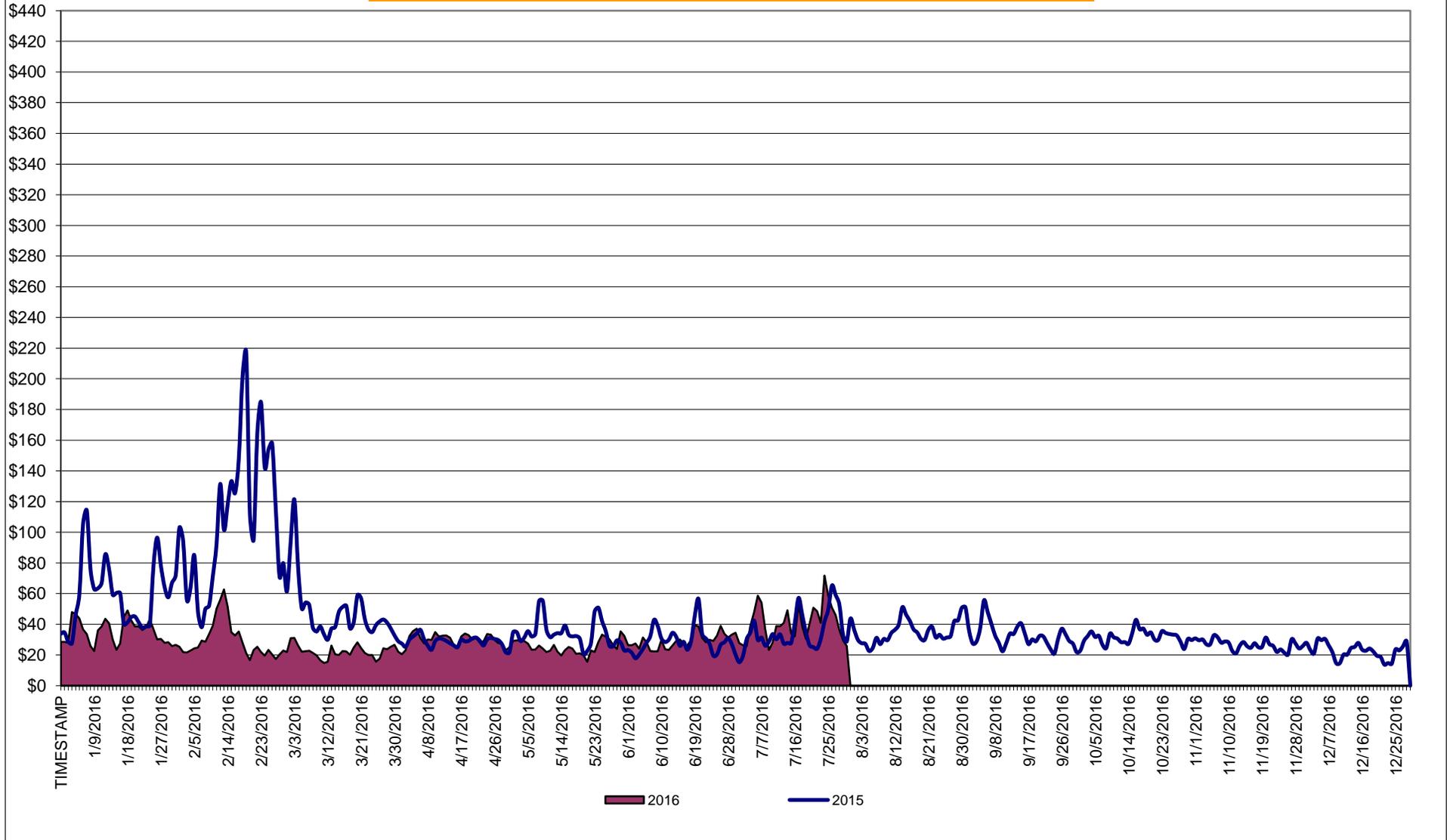




Market Performance Highlights for July 2016

- **LBMP for July is \$40.01/MWh; higher than \$27.35/MWh in June 2016 and higher than \$34.77/MWh in July 2015.**
 - Day Ahead and Real Time Load Weighted LBMPs are higher compared to June.
- **July 2016 average year-to-date monthly cost of \$32.32/MWh is a 39% decrease from \$52.77/MWh in July 2015.**
- **Average daily sendout is 532 GWh/day in July; higher than 456 GWh/day in June 2016 and higher than 512 GWh/day in July 2015.**
- **Natural gas prices and distillate prices were higher compared to the previous month.**
 - Natural Gas (Transco Z6 NY) was \$2.16/MMBtu, up from \$1.84/MMBtu in June.
 - Natural gas prices are up 8.6% year-over-year
 - Jet Kerosene Gulf Coast was \$9.42/MMBtu, down from \$10.21/MMBtu in June.
 - Ultra Low Sulfur No.2 Diesel NY Harbor was \$9.78/MMBtu, down from \$10.64/MMBtu in June.
 - Distillate prices are down 19% year-over-year
- **Uplift per MWh is lower compared to the previous month.**
 - Uplift (not including NYISO cost of operations) is (\$0.26)/MWh; lower than \$0.20/MWh in June.
 - Local Reliability Share is \$0.23/MWh, higher than \$0.21/MWh in June.
 - Statewide Share is (\$0.49)/MWh, lower than (\$0.01)/MWh in June.
 - TSA \$ per NYC MWh is \$0.84/MWh.
 - Total uplift costs (Schedule 1 components including NYISO Cost of Operations) are lower than June.

Daily NYISO Average Cost/MWh (Energy & Ancillary Services)*
2015 Annual Average \$44.10/MWh
July 2015 YTD Average \$52.77/MWh
July 2016 YTD Average \$32.32/MWh



* Excludes ICAP payments.

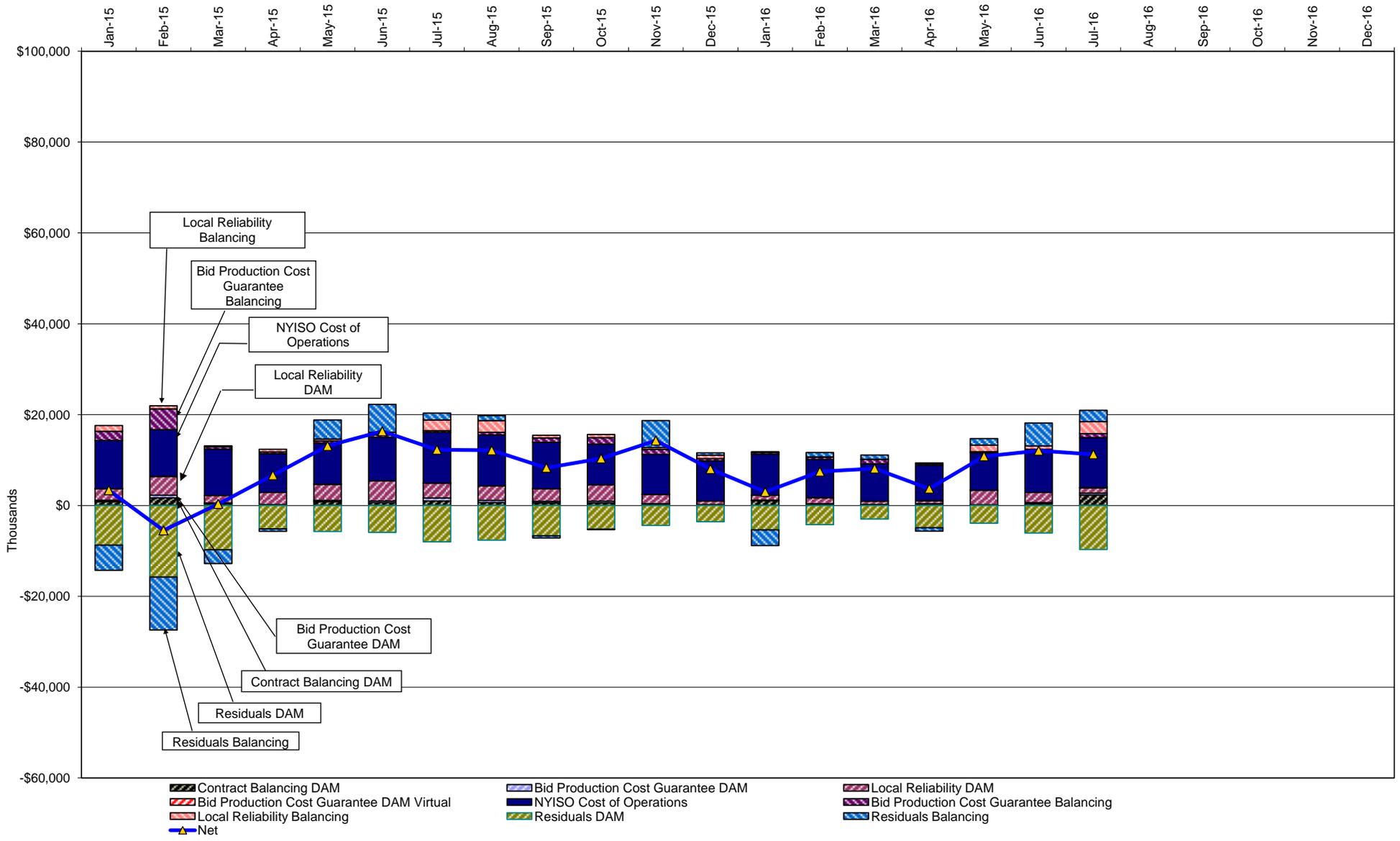
NYISO Average Cost/MWh (Energy and Ancillary Services) *
from the LBMP Customer point of view

2016	<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	34.29	28.71	20.66	27.96	23.31	27.35	40.01					
NTAC	0.59	0.78	0.62	1.14	1.10	0.93	0.78					
Reserve	0.77	0.73	0.73	0.87	0.71	0.59	0.67					
Regulation	0.12	0.12	0.12	0.12	0.11	0.12	0.10					
NYISO Cost of Operations	0.64	0.65	0.65	0.64	0.65	0.66	0.65					
FERC Fee Recovery	0.09	0.10	0.11	0.10	0.09	0.09	0.07					
Uplift	(0.43)	(0.07)	(0.03)	(0.34)	0.19	0.20	(0.26)					
Uplift: Local Reliability Share	0.09	0.11	0.06	0.07	0.35	0.21	0.23					
Uplift: Statewide Share	(0.52)	(0.18)	(0.09)	(0.41)	(0.16)	(0.01)	(0.49)					
Voltage Support and Black Start	<u>0.35</u>	<u>0.36</u>	<u>0.36</u>	<u>0.35</u>	<u>0.36</u>	<u>0.36</u>	<u>0.36</u>					
Avg Monthly Cost	36.42	31.37	23.23	30.84	26.52	30.29	42.40					
Avg YTD Cost	36.42	34.02	30.68	30.71	29.85	29.93	32.32					
TSA \$ per NYC MWh	0.00	0.00	0.05	0.00	0.00	0.02	0.84					
2015	<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	59.61	114.37	52.09	28.36	32.98	28.20	34.77	33.09	34.40	30.05	24.83	20.91
NTAC	0.32	0.35	0.41	0.64	0.56	0.80	0.54	0.60	0.63	0.53	0.68	1.05
Reserve	0.27	0.37	0.56	0.36	0.38	0.24	0.27	0.20	0.28	0.28	0.47	0.60
Regulation	0.10	0.18	0.11	0.12	0.10	0.13	0.12	0.12	0.10	0.12	0.13	0.13
NYISO Cost of Operations	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.69	0.70	0.69
Uplift	(0.48)	(1.08)	(0.68)	(0.15)	0.26	0.33	0.04	0.03	(0.15)	0.10	0.44	(0.07)
Uplift: Local Reliability Share	0.25	0.33	0.13	0.27	0.30	0.37	0.35	0.36	0.22	0.33	0.20	0.12
Uplift: Statewide Share	(0.73)	(1.41)	(0.81)	(0.42)	(0.05)	(0.04)	(0.30)	(0.33)	(0.37)	(0.23)	0.25	(0.18)
Voltage Support and Black Start	<u>0.39</u>	<u>0.39</u>	<u>0.39</u>	<u>0.39</u>	<u>0.39</u>	<u>0.39</u>	<u>0.39</u>	<u>0.39</u>	<u>0.39</u>	<u>0.39</u>	<u>0.39</u>	<u>0.38</u>
Avg Monthly Cost	60.91	115.27	53.58	30.41	35.37	30.79	36.84	35.14	36.35	32.18	27.64	23.71
Avg YTD Cost	60.91	87.74	76.64	66.82	60.96	56.02	52.77	50.20	48.59	47.17	45.66	44.10
TSA \$ per NYC MWh	0.00	0.00	0.00	0.00	0.17	0.50	0.07	0.06	0.01	0.00	0.00	0.00
2014	<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	<u>0.36</u>	<u>0.36</u>	<u>0.36</u>	<u>0.36</u>	<u>0.36</u>	<u>0.36</u>	<u>0.36</u>	<u>0.36</u>	<u>0.36</u>	<u>0.36</u>	<u>0.36</u>	<u>0.36</u>
Avg Monthly Cost	186.24	126.14	112.15	48.82	42.51	45.39	45.57	36.14	39.38	37.59	44.71	40.09
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

* Excludes ICAP payments.
Market Mitigation and Analysis
Prepared: 8/8/2016 11:51 AM

Data reflects true-ups thru December 2015.
As of Jan. 2016, the annual FERC fee is recovered separately from Cost of Ops.

NYISO Dollar Flows - Uplift - OATT Schedule 1 components - Data through July 31, 2016



NYISO Markets Transactions

2016	<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>
Day Ahead Market MWh	14,760,915	13,614,754	13,413,781	12,496,141	12,959,886	14,095,904	16,950,819					
DAM LSE Internal LBMP Energy Sales	54%	55%	55%	57%	58%	60%	64%					
DAM External TC LBMP Energy Sales	4%	2%	1%	5%	2%	1%	1%					
DAM Bilateral - Internal Bilaterals	34%	34%	35%	28%	31%	30%	28%					
DAM Bilateral - Import/Non-LBMP Market Bilaterals	5%	5%	5%	6%	5%	5%	4%					
DAM Bilateral - Export/Non-LBMP Market Bilaterals	2%	1%	2%	2%	2%	2%	1%					
DAM Bilateral - Wheel Through Bilaterals	2%	2%	2%	2%	2%	2%	2%					
Balancing Energy Market MWh	-522,919	-580,900	-741,701	-303,313	-180,848	-143,015	-86,025					
Balancing Energy LSE Internal LBMP Energy Sales	-125%	-114%	-118%	-76%	-147%	-203%	-347%					
Balancing Energy External TC LBMP Energy Sales	12%	13%	19%	-13%	55%	77%	204%					
Balancing Energy Bilateral - Internal Bilaterals	19%	9%	4%	8%	27%	47%	62%					
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	0%	0%	0%	0%	0%					
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	6%	5%	3%	5%	7%	10%	15%					
Balancing Energy Bilateral - Wheel Through Bilaterals	-12%	-12%	-8%	-24%	-42%	-32%	-34%					
Transactions Summary												
LBMP	56%	56%	54%	62%	59%	61%	65%					
Internal Bilaterals	36%	36%	37%	29%	32%	31%	28%					
Import Bilaterals	5%	5%	6%	6%	5%	5%	4%					
Export Bilaterals	2%	2%	2%	2%	2%	2%	1%					
Wheels Through	1%	1%	1%	1%	2%	2%	1%					
Market Share of Total Load												
Day Ahead Market	103.7%	104.5%	105.9%	102.5%	101.4%	101.0%	100.5%					
Balancing Energy +	-3.7%	-4.5%	-5.9%	-2.5%	-1.4%	-1.0%	-0.5%					
Total MWh	14,237,996	13,033,853	12,672,080	12,192,828	12,779,038	13,952,889	16,864,794					
Average Daily Energy Sendout/Month GWh	439	436	397	385	397	456	532					

2015	<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>
Day Ahead Market MWh	15,961,306	14,967,371	15,059,207	12,589,321	13,291,917	14,277,299	16,573,027	16,333,932	14,740,907	13,546,033	13,338,332	13,620,002
DAM LSE Internal LBMP Energy Sales	55%	54%	53%	55%	57%	57%	62%	61%	58%	53%	53%	55%
DAM External TC LBMP Energy Sales	5%	6%	6%	4%	2%	1%	1%	1%	3%	6%	5%	1%
DAM Bilateral - Internal Bilaterals	35%	33%	33%	33%	35%	33%	30%	31%	31%	34%	33%	35%
DAM Bilateral - Import/Non-LBMP Market Bilaterals	3%	5%	5%	6%	4%	5%	4%	4%	5%	5%	5%	5%
DAM Bilateral - Export/Non-LBMP Market Bilaterals	2%	2%	1%	2%	1%	1%	1%	1%	1%	2%	2%	2%
DAM Bilateral - Wheel Through Bilaterals	0%	1%	1%	1%	0%	2%	2%	2%	2%	1%	2%	2%
Balancing Energy Market MWh	-650,944	-296,616	-396,739	-409,205	-331,091	-549,794	-505,637	-228,461	-33,268	-604,600	-718,787	-642,268
Balancing Energy LSE Internal LBMP Energy Sales	-149%	-247%	-192%	-147%	-142%	-106%	-120%	-139%	-345%	-115%	-110%	-115%
Balancing Energy External TC LBMP Energy Sales	30%	113%	64%	36%	35%	16%	25%	50%	110%	12%	12%	17%
Balancing Energy Bilateral - Internal Bilaterals	13%	14%	19%	5%	6%	6%	13%	25%	239%	7%	4%	5%
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	6%	8%	12%	12%	10%	4%	3%	8%	46%	5%	5%	6%
Balancing Energy Bilateral - Wheel Through Bilaterals	0%	12%	-4%	-5%	-9%	-22%	-21%	-44%	-149%	-9%	-11%	-13%
Transactions Summary												
LBMP	58%	59%	57%	57%	58%	57%	61%	61%	61%	56%	56%	54%
Internal Bilaterals	37%	34%	35%	35%	36%	35%	32%	32%	32%	36%	35%	37%
Import Bilaterals	3%	5%	5%	6%	4%	5%	5%	5%	5%	5%	6%	6%
Export Bilaterals	2%	2%	2%	2%	2%	1%	1%	1%	1%	2%	2%	2%
Wheels Through	0%	1%	1%	0%	0%	1%	1%	1%	1%	0%	1%	1%
Market Share of Total Load												
Day Ahead Market	104.3%	102.0%	102.7%	103.4%	102.6%	104.0%	103.1%	101.4%	100.2%	104.7%	105.7%	104.9%
Balancing Energy +	-4.3%	-2.0%	-2.7%	-3.4%	-2.6%	-4.0%	-3.1%	-1.4%	-0.2%	-4.7%	-5.7%	-4.9%
Total MWh	15,310,362	14,670,755	14,662,468	12,180,116	12,960,826	13,727,505	16,067,390	16,105,471	14,707,639	12,941,433	12,619,545	12,977,734
Average Daily Energy Sendout/Month GWh	462	481	436	387	409	450	512	511	473	389	396	408

+ 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 2016 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>
<u>DAY AHEAD LBMP</u>												
Price *	\$31.01	\$25.76	\$18.63	\$26.39	\$21.07	\$24.83	\$35.24					
Standard Deviation	\$10.86	\$12.46	\$6.99	\$6.95	\$7.04	\$9.21	\$18.37					
Load Weighted Price **	\$32.13	\$26.75	\$19.37	\$27.14	\$22.12	\$26.30	\$38.29					
<u>RTC LBMP</u>												
Price *	\$26.12	\$24.10	\$16.41	\$23.41	\$19.96	\$24.29	\$36.22					
Standard Deviation	\$16.06	\$17.89	\$11.32	\$9.09	\$11.44	\$16.58	\$38.04					
Load Weighted Price **	\$27.16	\$25.29	\$17.11	\$24.10	\$21.23	\$25.73	\$39.42					
<u>REAL TIME LBMP</u>												
Price *	\$30.15	\$24.28	\$17.84	\$25.71	\$20.67	\$25.87	\$34.40					
Standard Deviation	\$60.09	\$18.19	\$15.06	\$16.59	\$12.84	\$19.27	\$38.56					
Load Weighted Price **	\$31.80	\$25.61	\$18.64	\$26.57	\$21.99	\$27.39	\$38.20					
Average Daily Energy Sendout/Month GWh	439	436	397	385	397	456	532					

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>
<u>DAY AHEAD LBMP</u>												
Price *	\$53.35	\$101.48	\$46.59	\$26.07	\$29.21	\$24.30	\$30.27	\$30.01	\$30.18	\$27.11	\$22.18	\$18.94
Standard Deviation	\$24.61	\$48.85	\$21.51	\$6.73	\$13.44	\$11.96	\$17.67	\$12.05	\$13.37	\$7.64	\$7.94	\$8.41
Load Weighted Price **	\$55.40	\$104.52	\$48.01	\$26.84	\$31.08	\$26.12	\$32.94	\$31.81	\$32.46	\$27.95	\$23.12	\$19.97
<u>RTC LBMP</u>												
Price *	\$46.98	\$95.06	\$43.43	\$25.11	\$32.85	\$24.73	\$27.51	\$31.83	\$32.39	\$23.97	\$20.07	\$19.34
Standard Deviation	\$22.84	\$47.55	\$29.42	\$12.31	\$35.40	\$24.71	\$21.84	\$23.25	\$22.99	\$10.56	\$15.66	\$14.23
Load Weighted Price **	\$48.59	\$97.62	\$45.10	\$26.00	\$35.08	\$26.73	\$29.76	\$34.04	\$34.99	\$24.79	\$21.17	\$20.46
<u>REAL TIME LBMP</u>												
Price *	\$48.51	\$98.83	\$44.38	\$25.46	\$30.39	\$23.96	\$27.71	\$31.54	\$34.82	\$25.50	\$21.33	\$20.75
Standard Deviation	\$25.99	\$52.53	\$29.07	\$12.66	\$31.69	\$31.14	\$23.42	\$26.51	\$34.85	\$12.56	\$18.76	\$19.00
Load Weighted Price **	\$50.18	\$101.34	\$46.10	\$26.28	\$32.52	\$26.86	\$30.50	\$34.05	\$38.48	\$26.29	\$22.47	\$21.86
Average Daily Energy Sendout/Month GWh	462	481	436	387	409	450	512	511	473	389	396	408

* Average zonal load weighted prices.

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

NYISO Monthly Average Internal LBMPs 2015- 2016

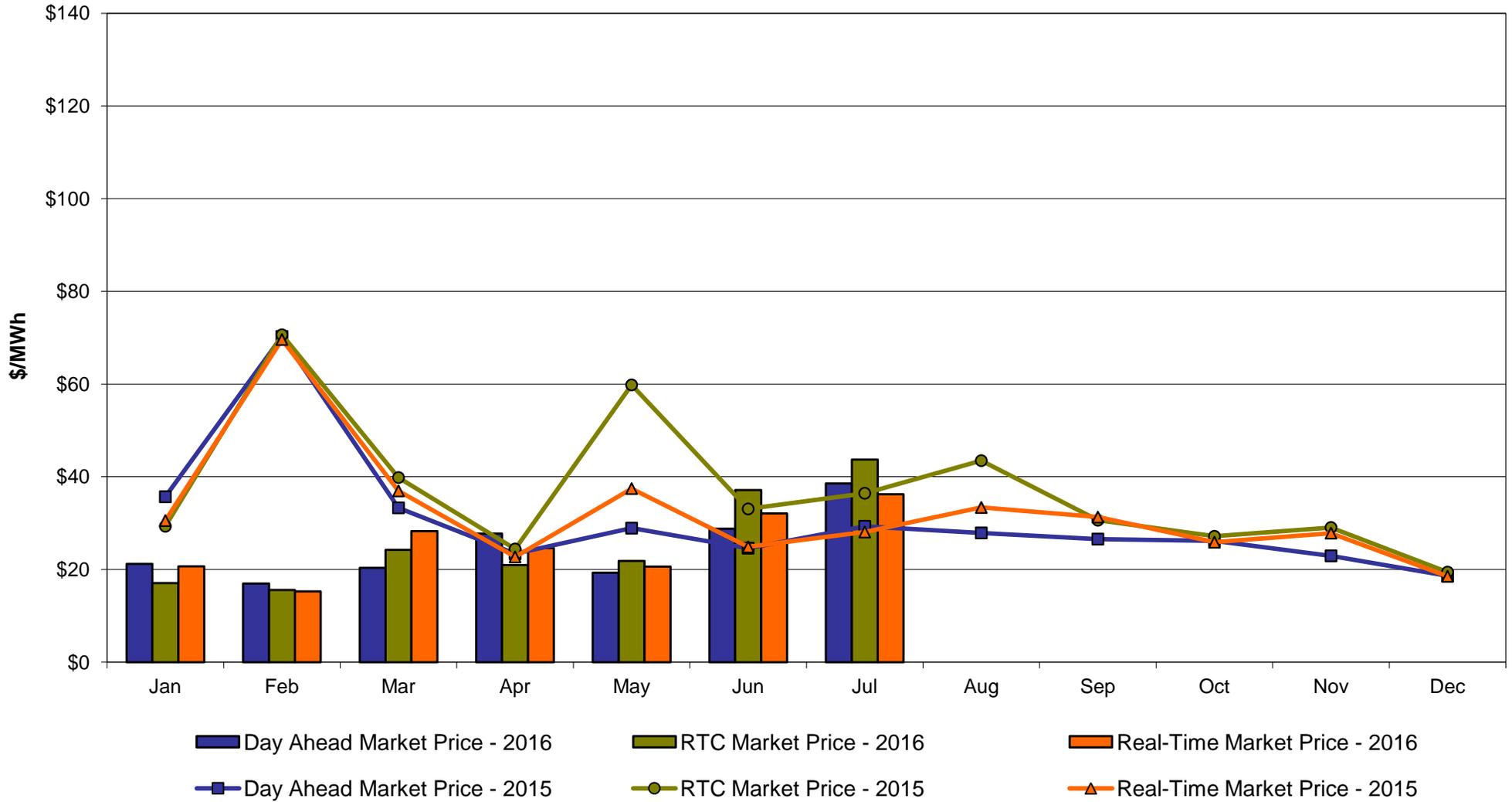


July 2016 Zonal LBMP Statistics for NYISO (\$/MWh)

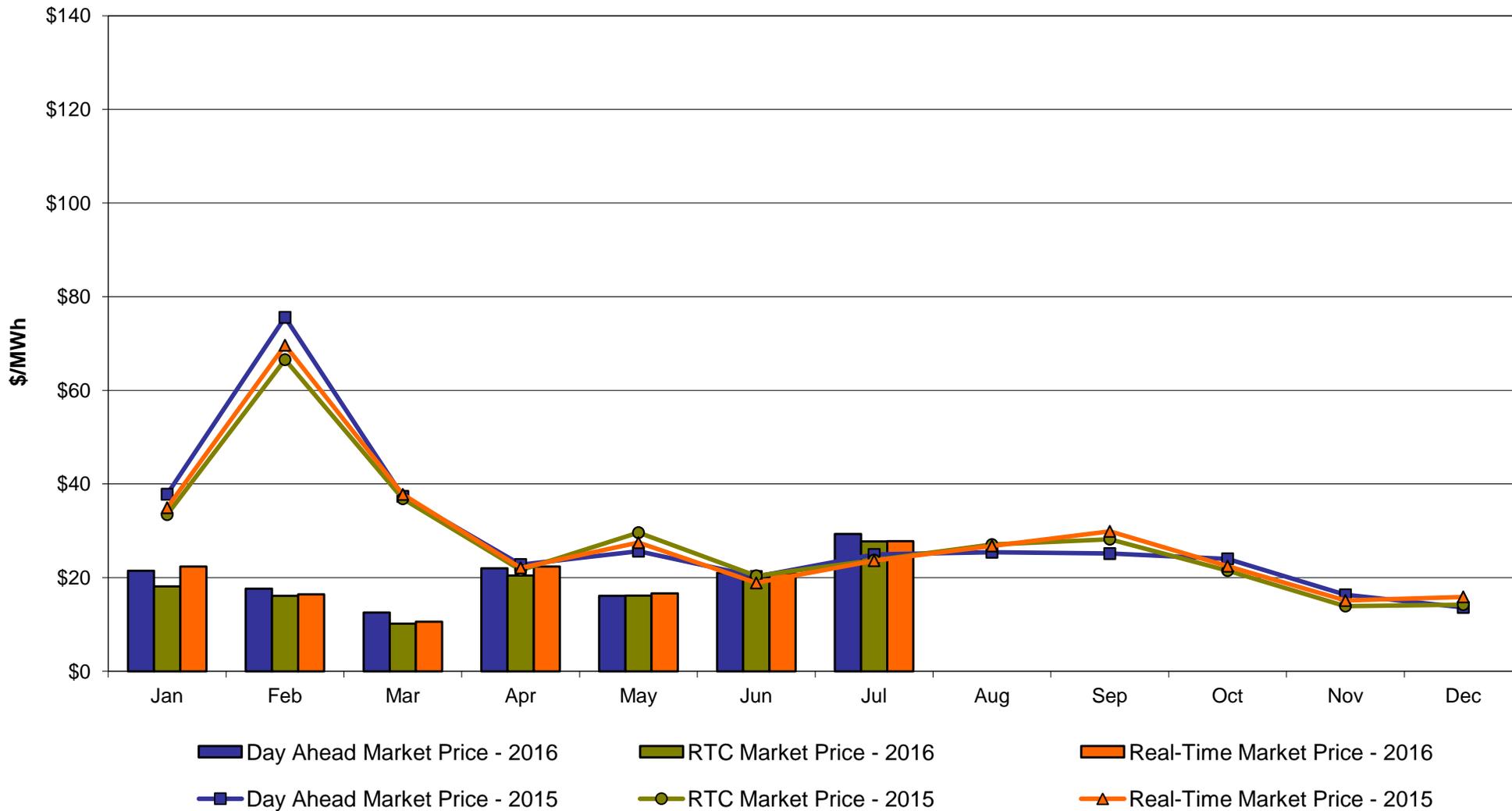
	<u>WEST Zone A</u>	<u>GENESEE Zone B</u>	<u>NORTH Zone D</u>	<u>CENTRAL Zone C</u>	<u>MOHAWK VALLEY Zone E</u>	<u>CAPITAL Zone F</u>	<u>HUDSON VALLEY Zone G</u>	<u>MILLWOOD Zone H</u>	<u>DUNWOODIE Zone I</u>	<u>NEW YORK CITY Zone J</u>	<u>LONG ISLAND Zone K</u>
<u>DAY AHEAD LBMP</u>											
Unweighted Price *	38.59	28.08	26.78	29.31	29.43	30.76	33.32	33.86	33.92	35.43	44.48
Standard Deviation	28.37	11.70	10.57	12.67	12.21	12.33	15.71	16.64	16.67	17.01	32.41
<u>RTC LBMP</u>											
Unweighted Price *	43.74	26.76	25.62	27.75	27.92	28.95	30.79	31.07	31.00	33.80	54.98
Standard Deviation	77.69	20.63	19.54	21.47	21.10	21.56	24.17	24.83	24.77	28.76	163.70
<u>REAL TIME LBMP</u>											
Unweighted Price *	36.22	27.03	26.09	27.80	28.43	29.44	32.14	32.56	32.50	35.75	42.41
Standard Deviation	66.32	26.96	25.85	27.54	27.97	28.61	39.97	42.83	43.02	46.56	63.67
	<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>
<u>DAY AHEAD LBMP</u>											
Unweighted Price *	24.48	26.63	26.63	31.59	31.84	42.87	33.98	40.77	33.08	34.11	26.42
Standard Deviation	8.00	11.27	11.27	15.20	13.88	31.30	14.40	28.83	14.52	16.69	10.46
<u>RTC LBMP</u>											
Unweighted Price *	22.11	24.13	24.13	28.33	28.88	50.79	40.12	45.86	29.35	31.11	25.21
Standard Deviation	22.40	21.05	21.05	20.03	23.77	158.74	143.35	120.85	21.54	24.86	19.55
<u>REAL TIME LBMP</u>											
Unweighted Price *	23.94	25.09	25.09	27.75	30.04	40.15	27.61	38.19	30.59	32.62	25.62
Standard Deviation	25.44	26.55	26.55	28.17	31.43	61.11	76.54	58.48	42.27	43.03	25.28

* Straight LBMP averages

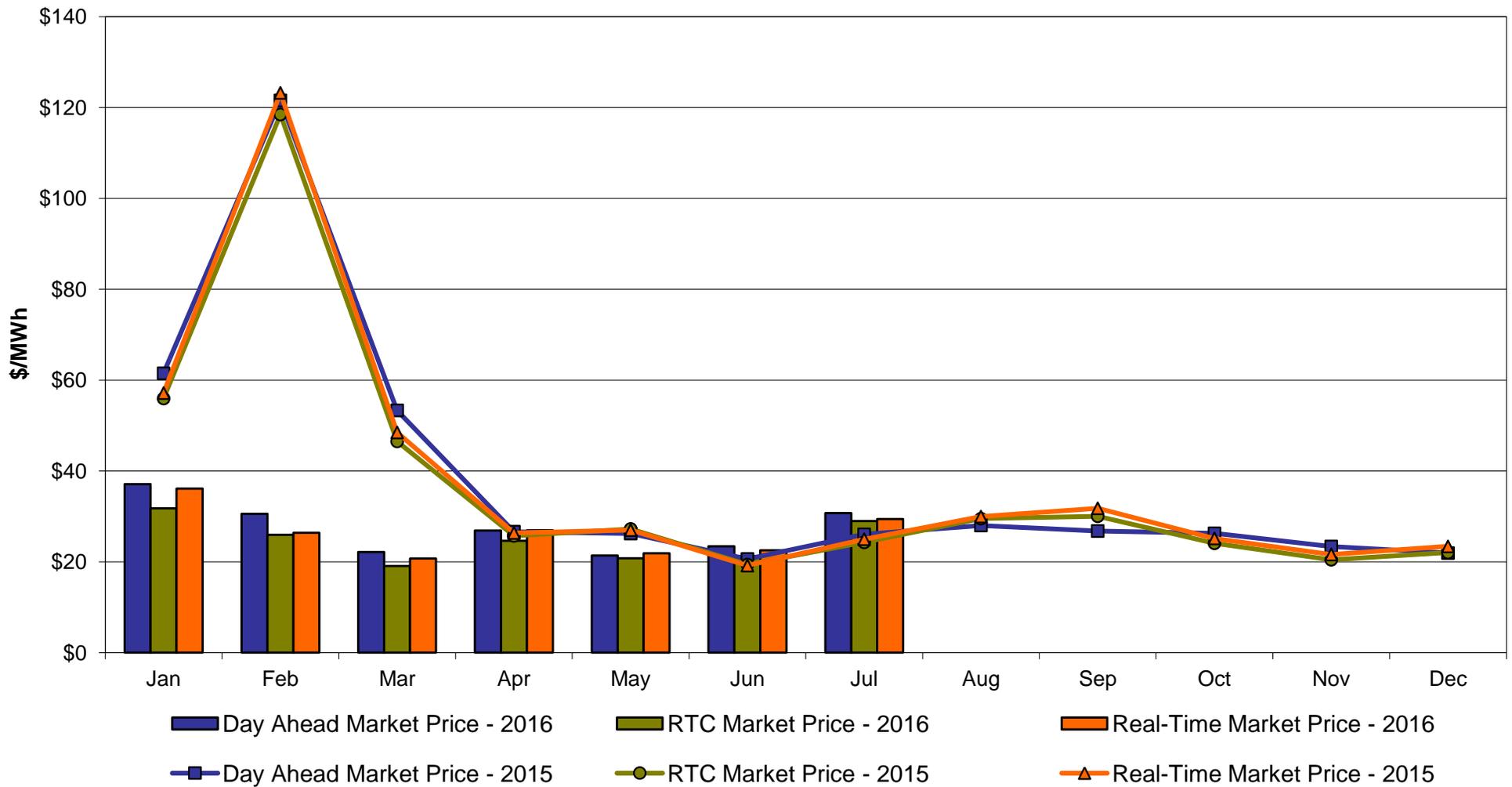
**West Zone A
Monthly Average LBMP Prices 2015 - 2016**



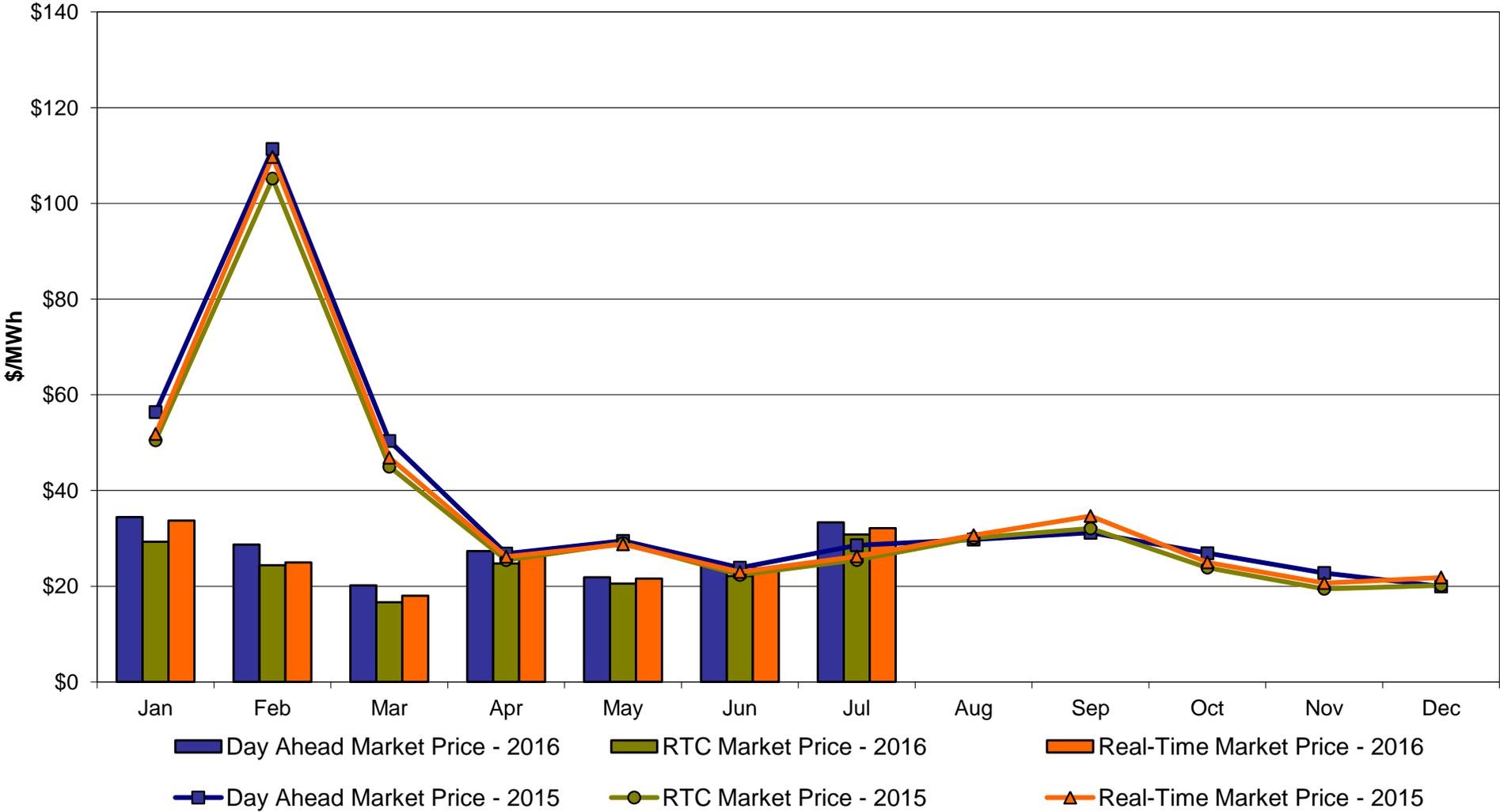
**Central Zone C
Monthly Average LBMP Prices 2015 - 2016**



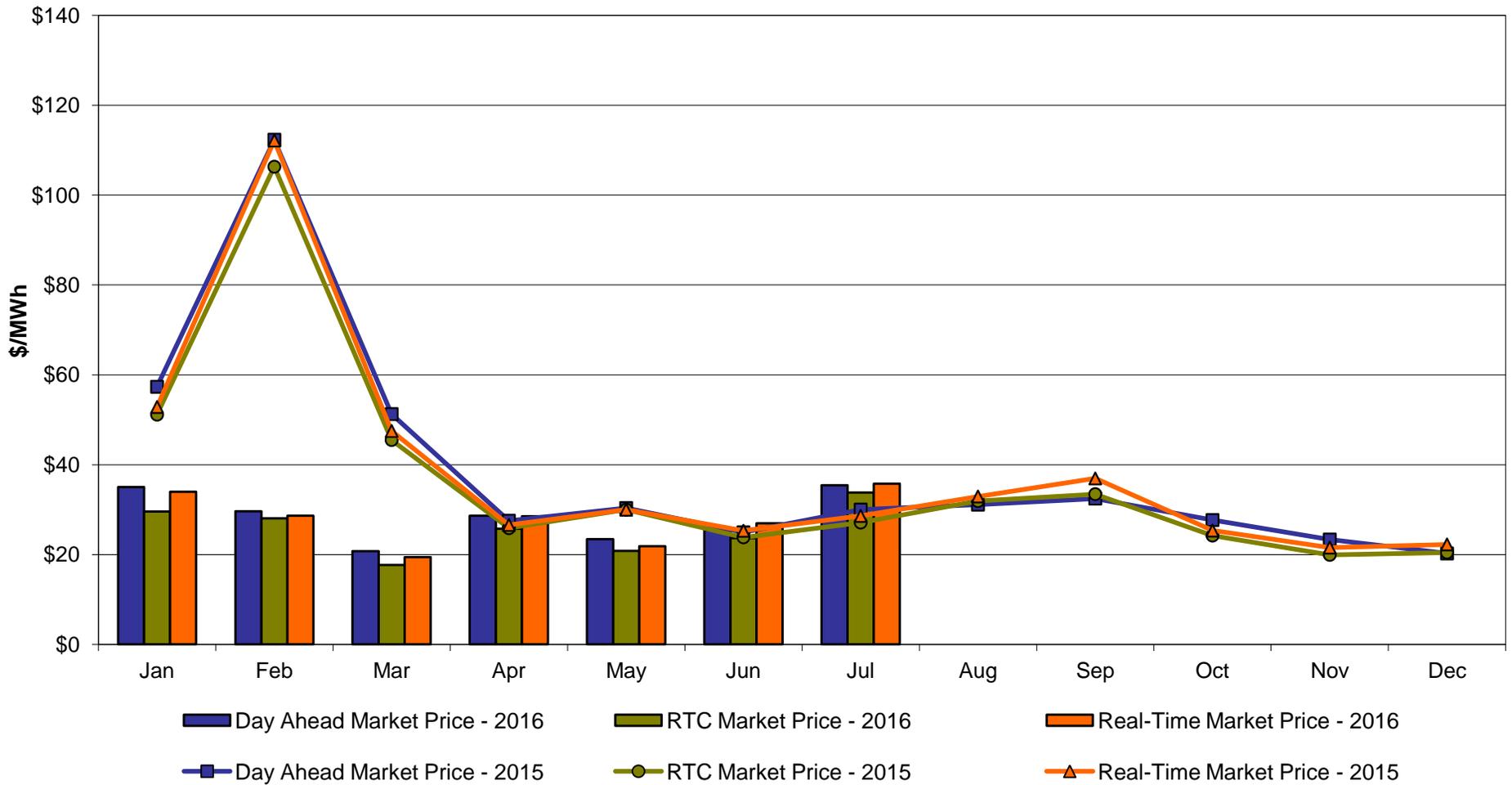
Capital Zone F Monthly Average LBMP Prices 2015 - 2016



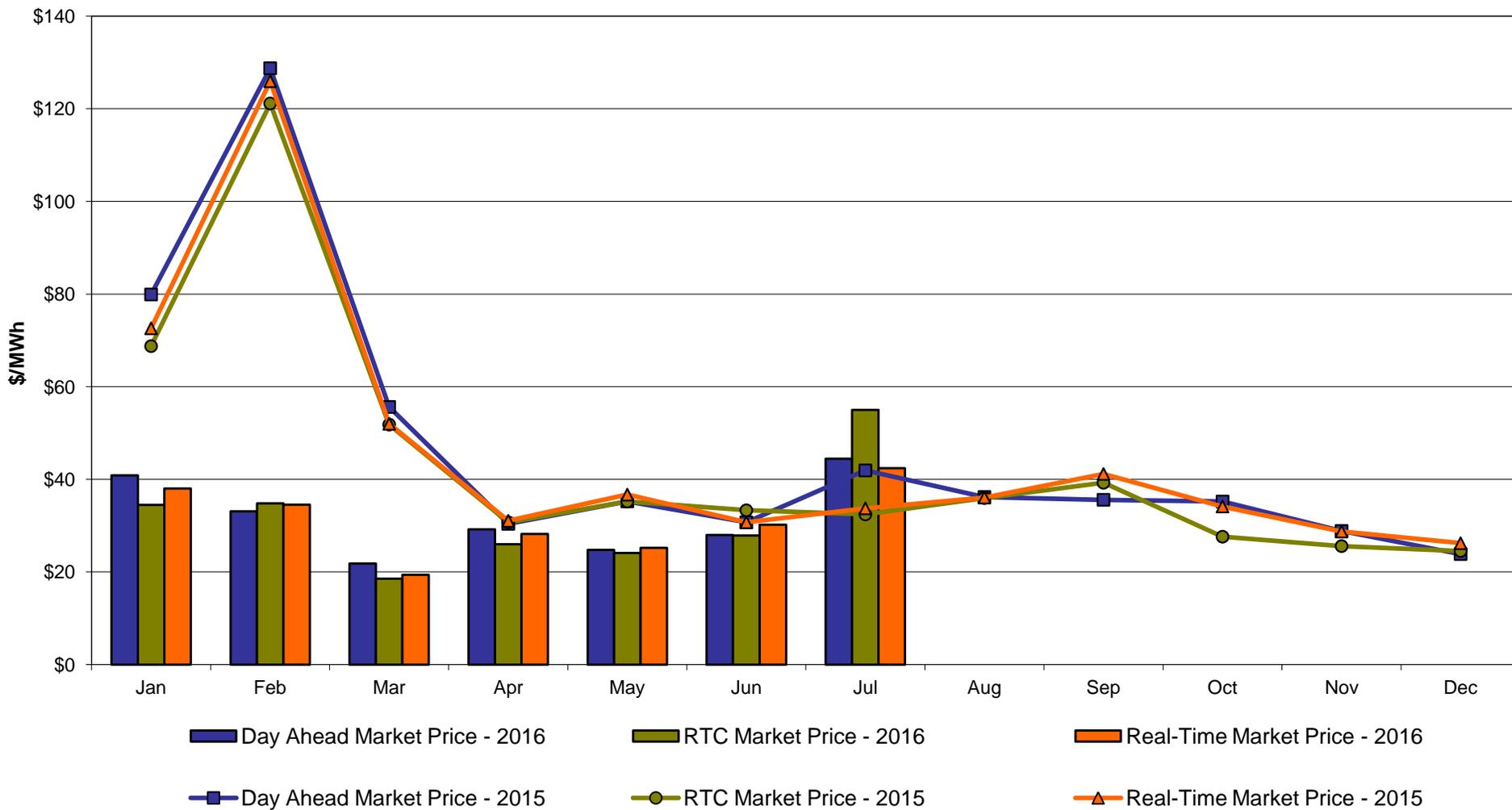
Hudson Valley Zone G Monthly Average LBMP Prices 2015 - 2016



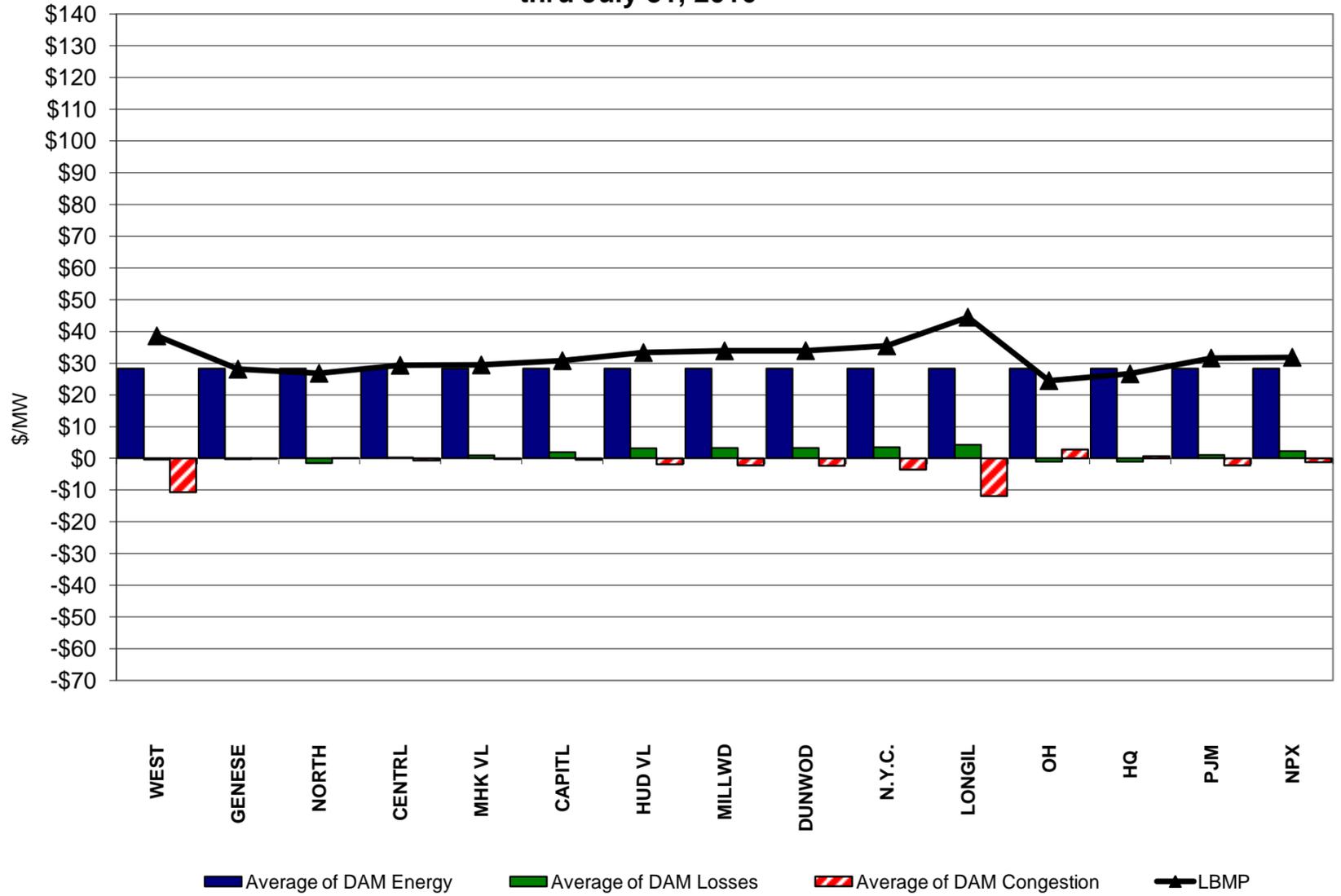
NYC Zone J Monthly Average LBMP Prices 2015 - 2016



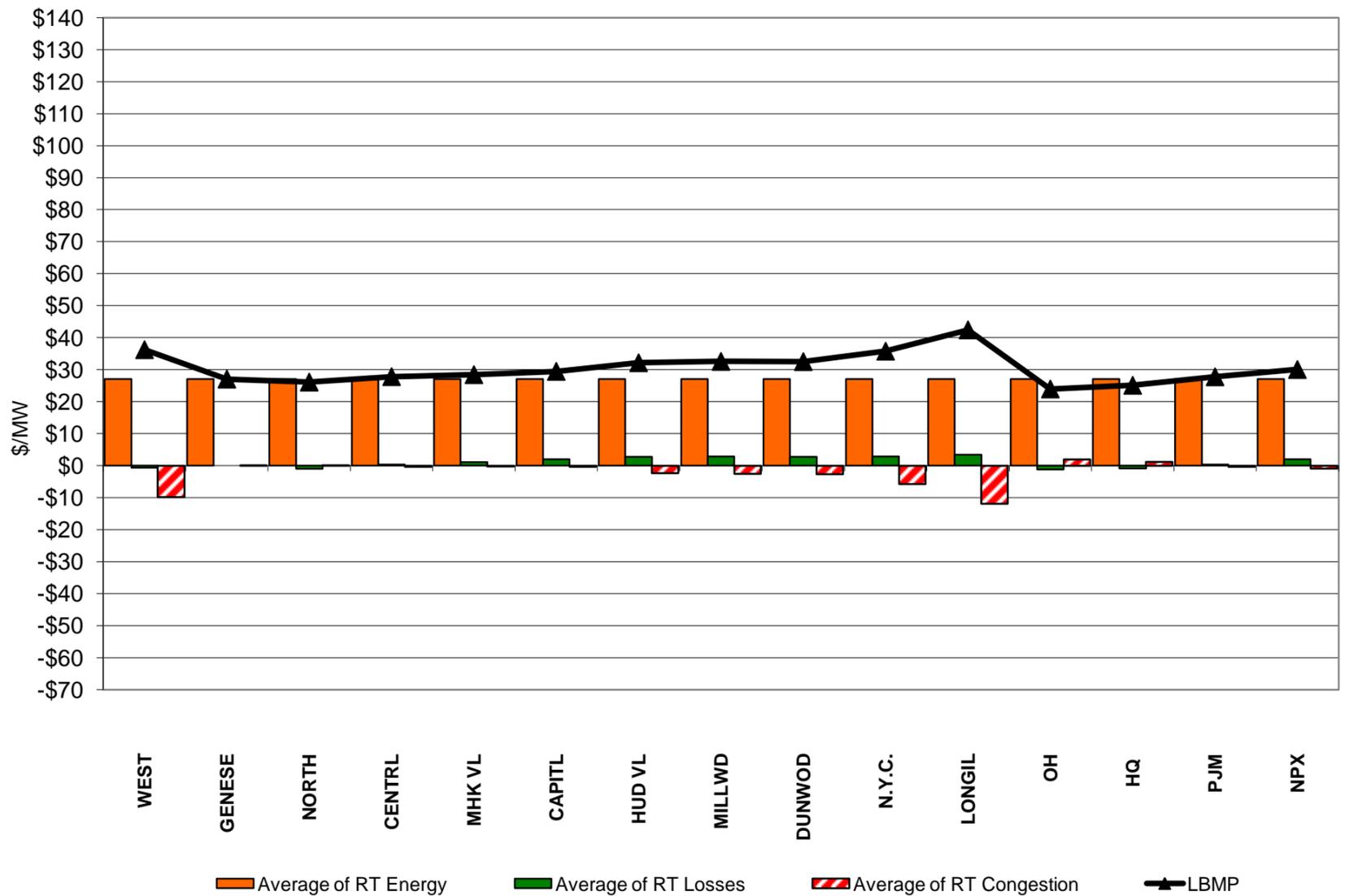
Long Island Zone K Monthly Average LBMP Prices 2015 - 2016



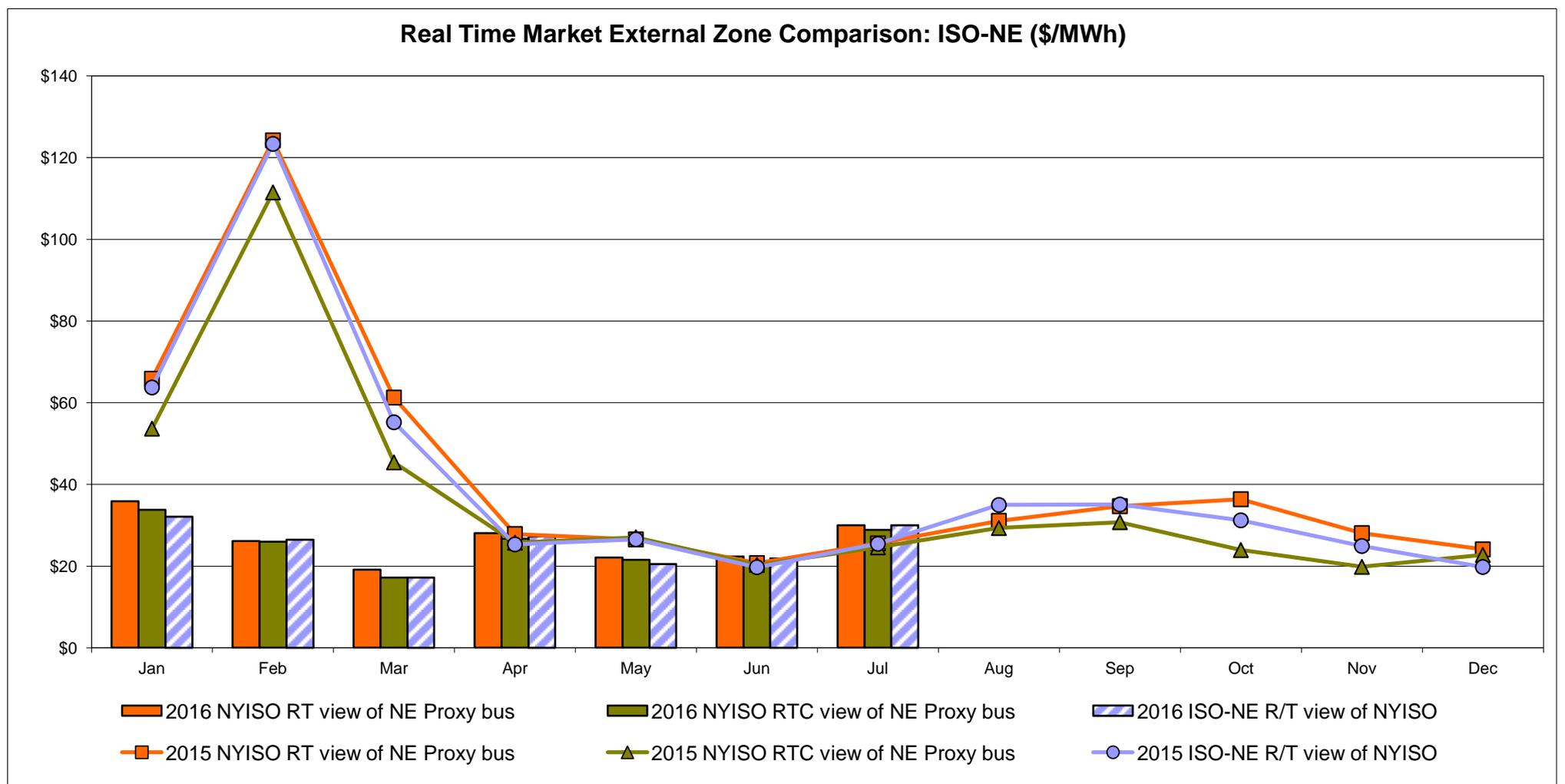
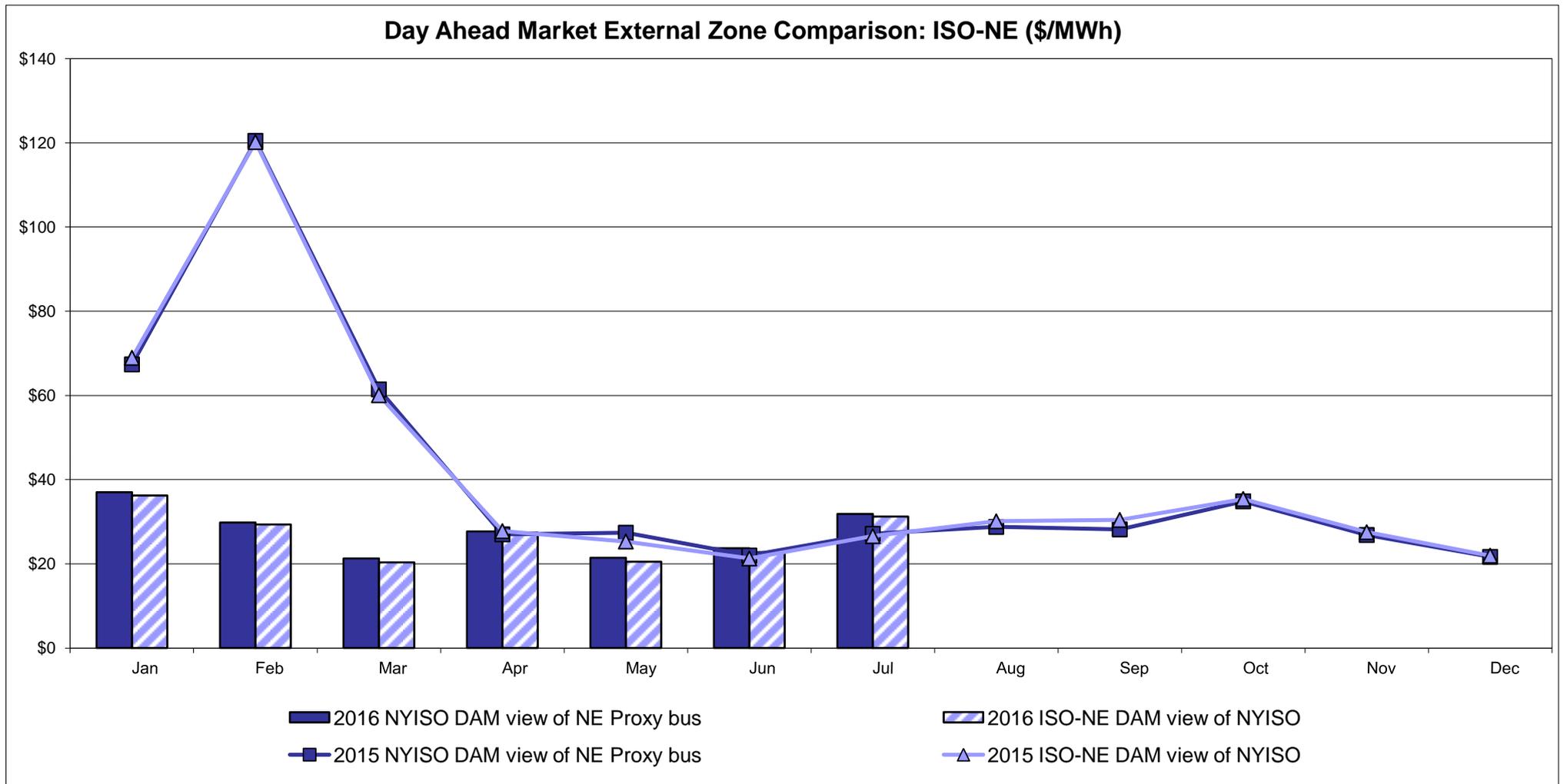
**DAM Zonal Unweighted Monthly Average LBMP Components
thru July 31, 2016**



**RT Zonal Unweighted Monthly Average LBMP Components
thru July 31, 2016**

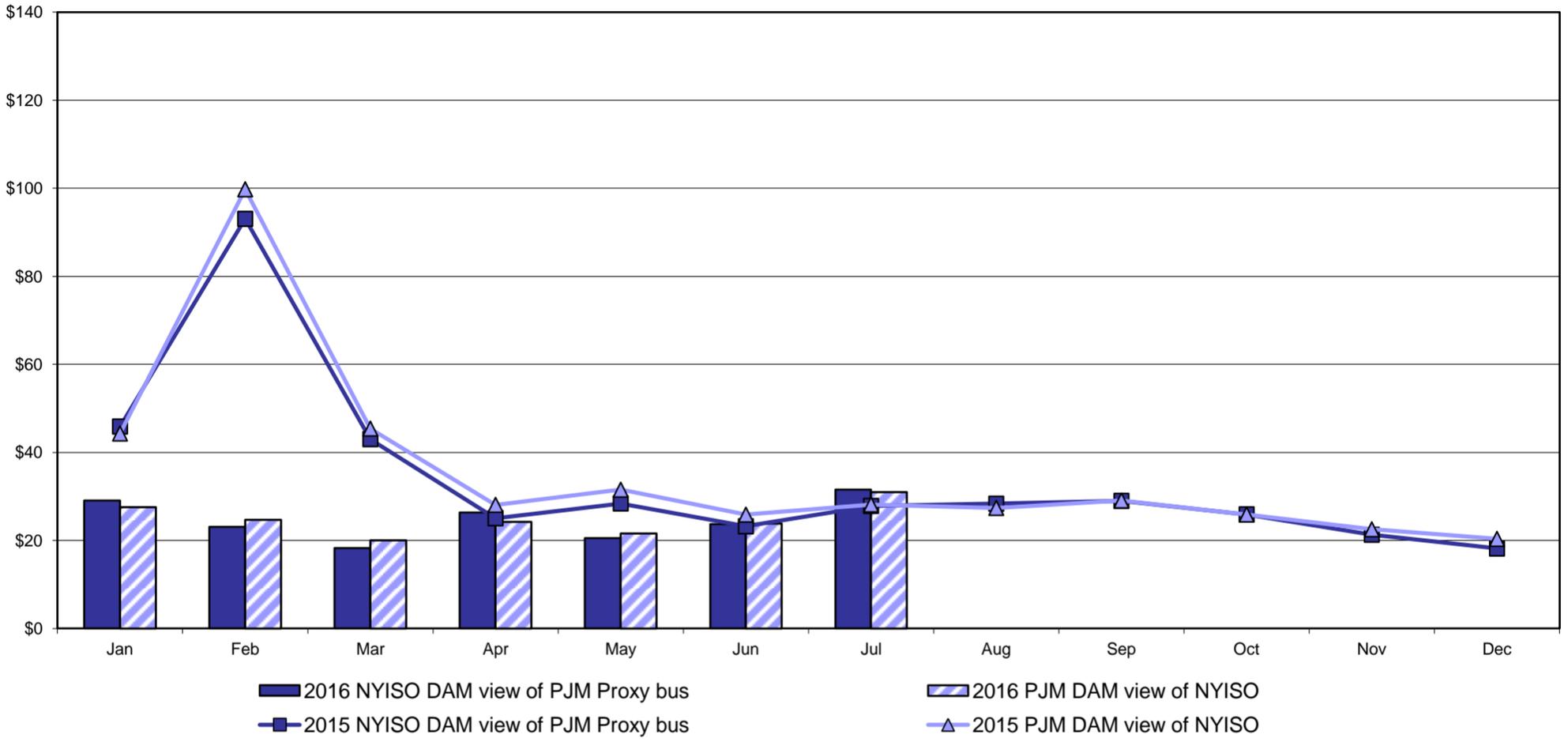


External Comparison ISO-New England

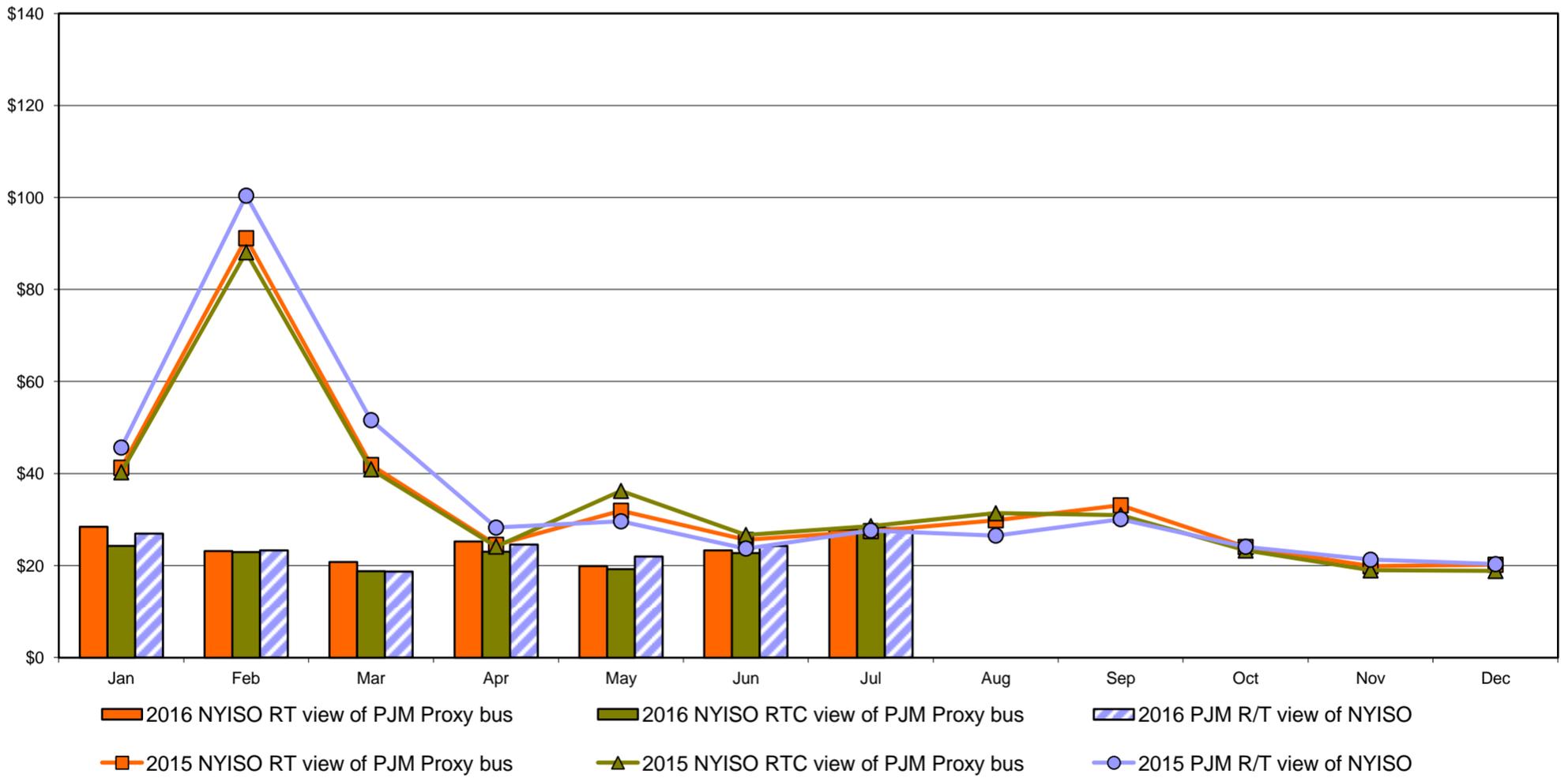


External Comparison PJM

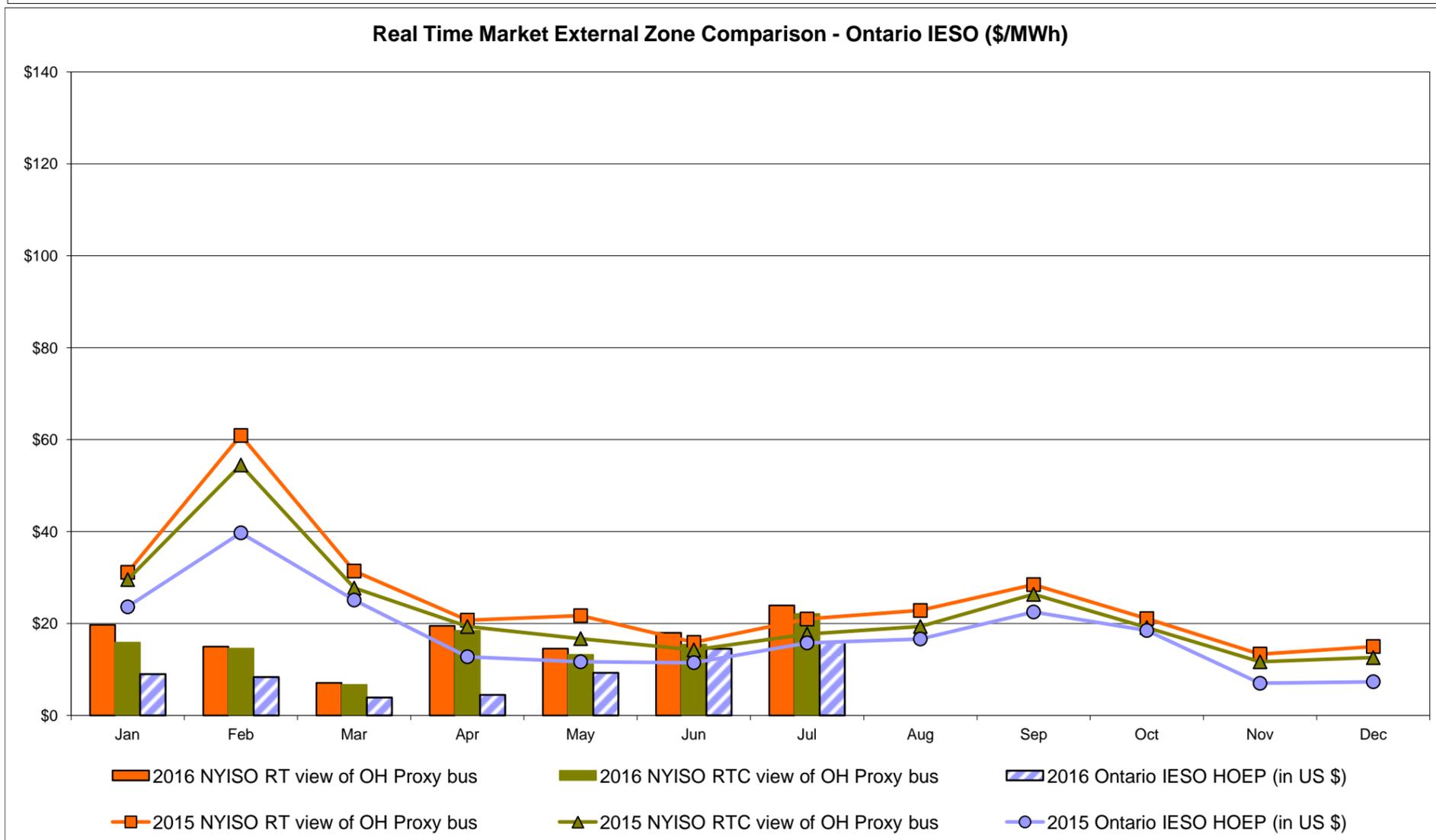
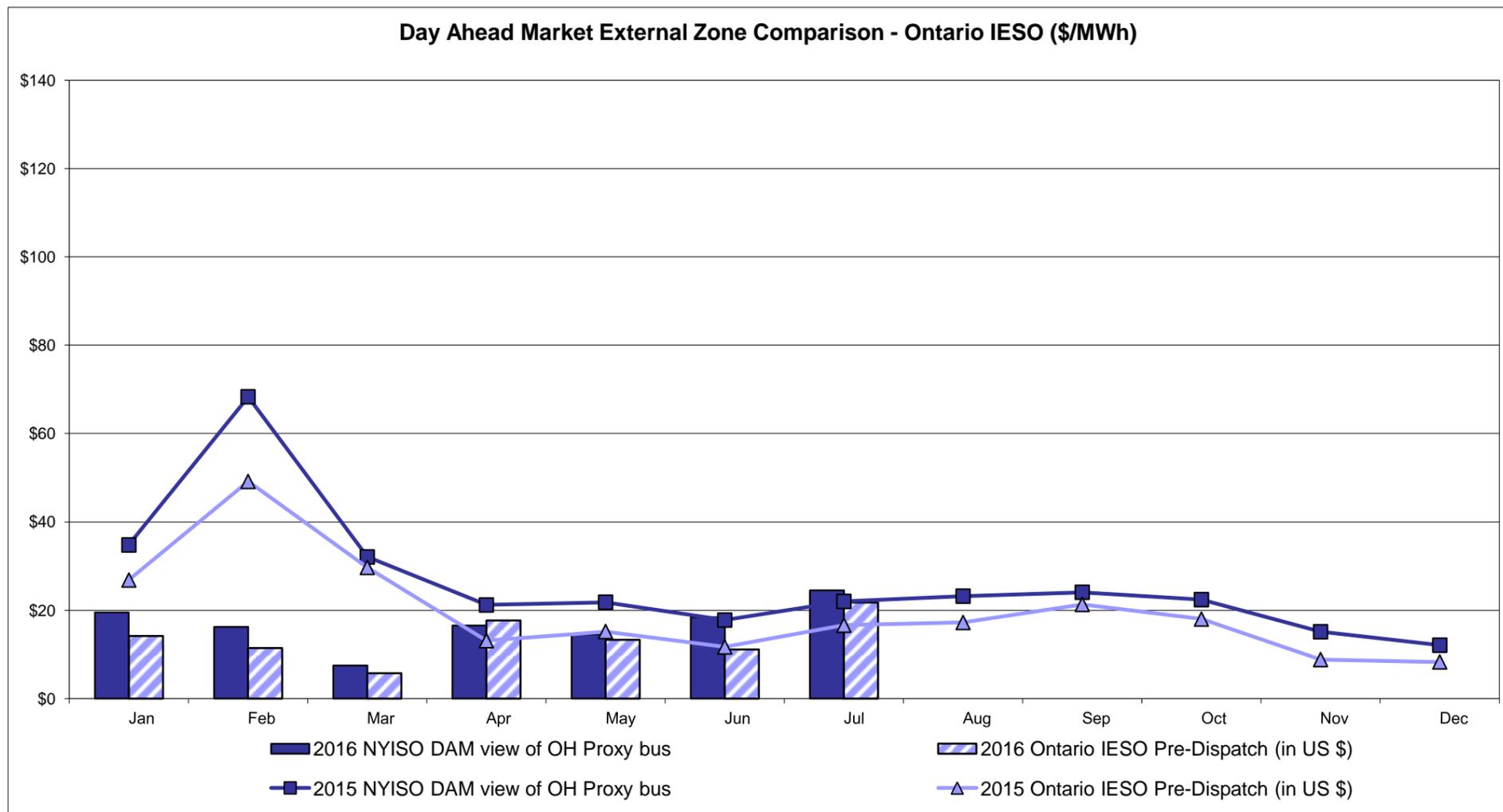
Day Ahead Market External Zone Comparison - PJM (\$/MWh)



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

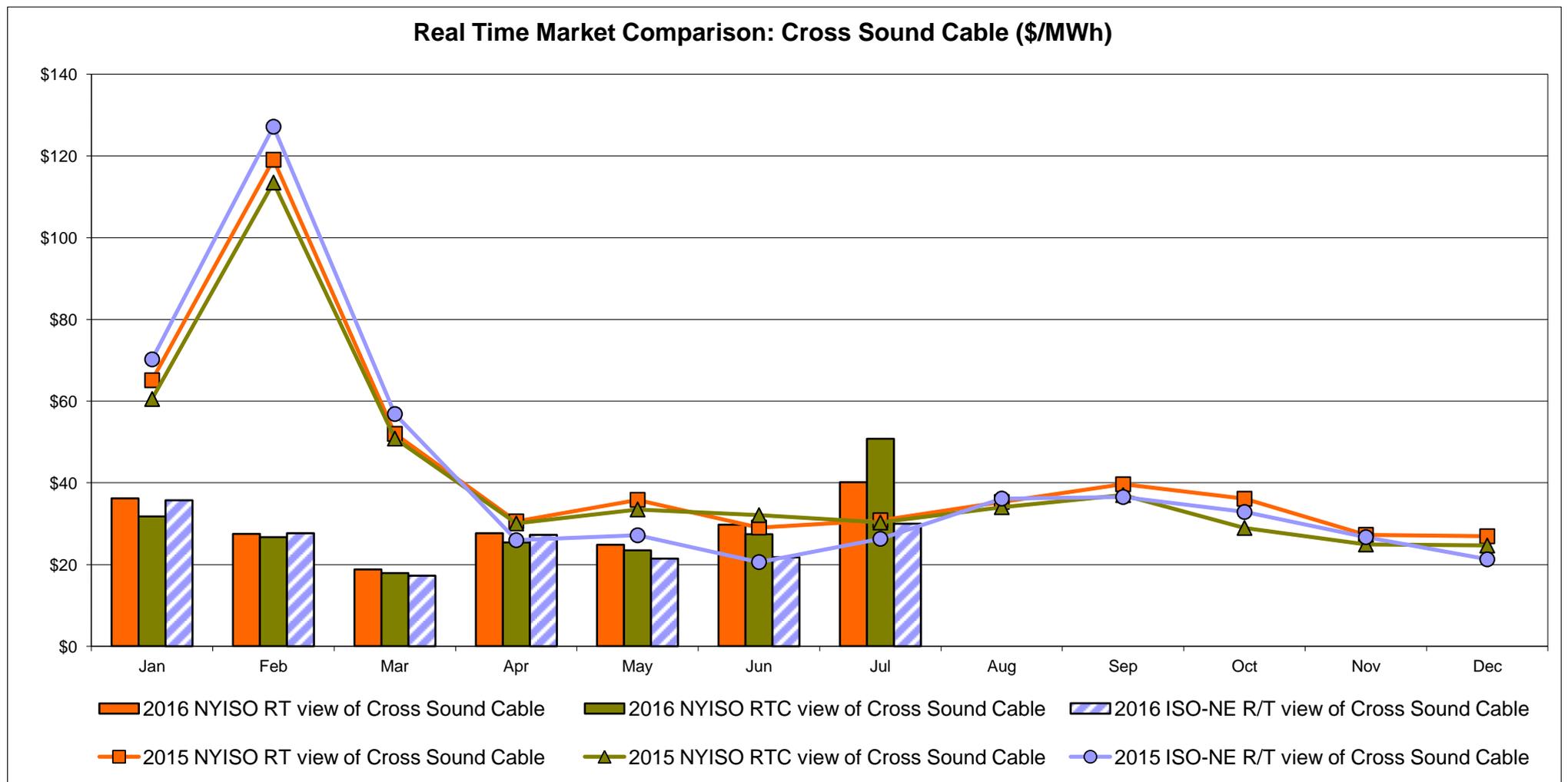
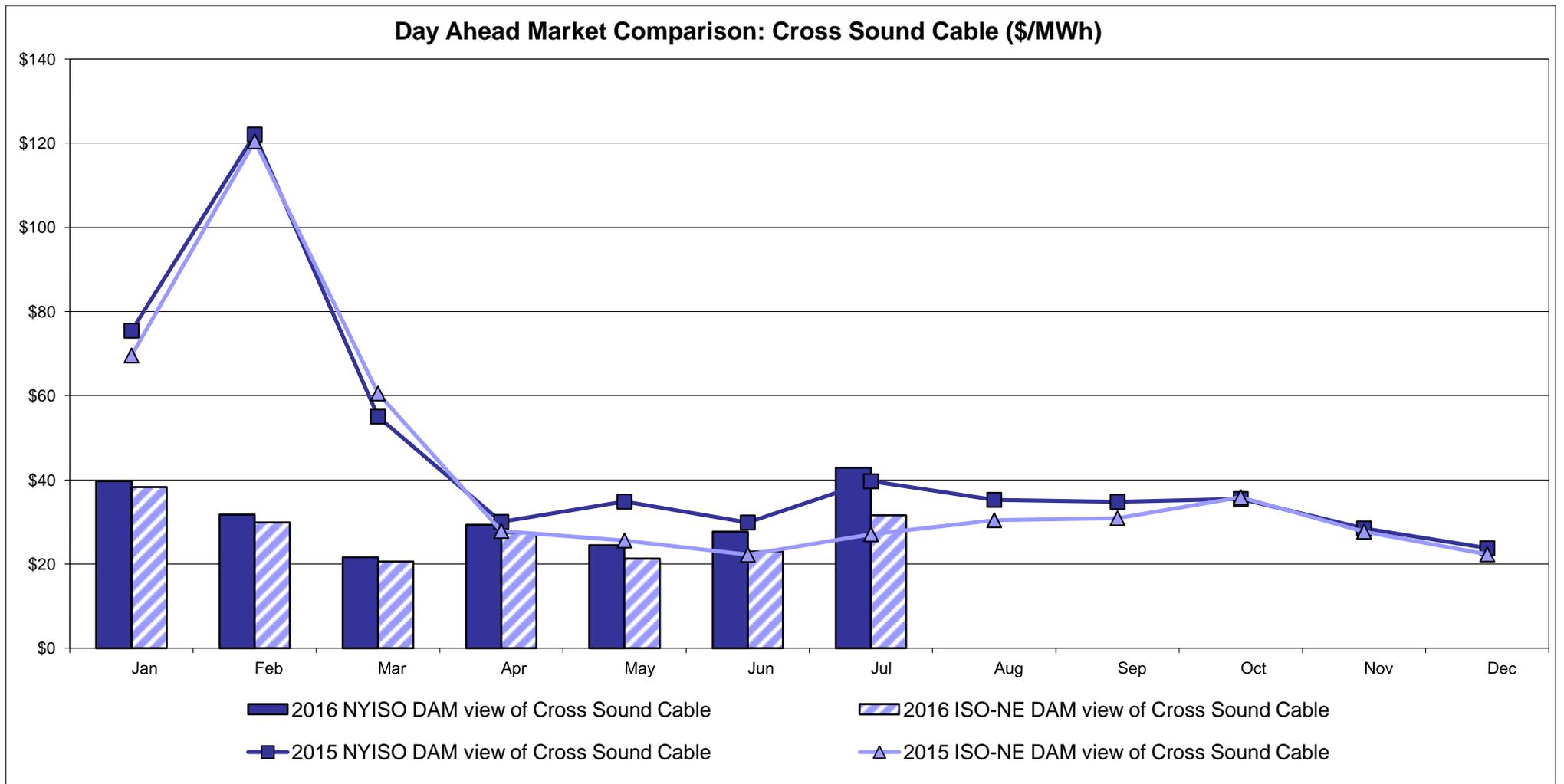


External Comparison Ontario IESO



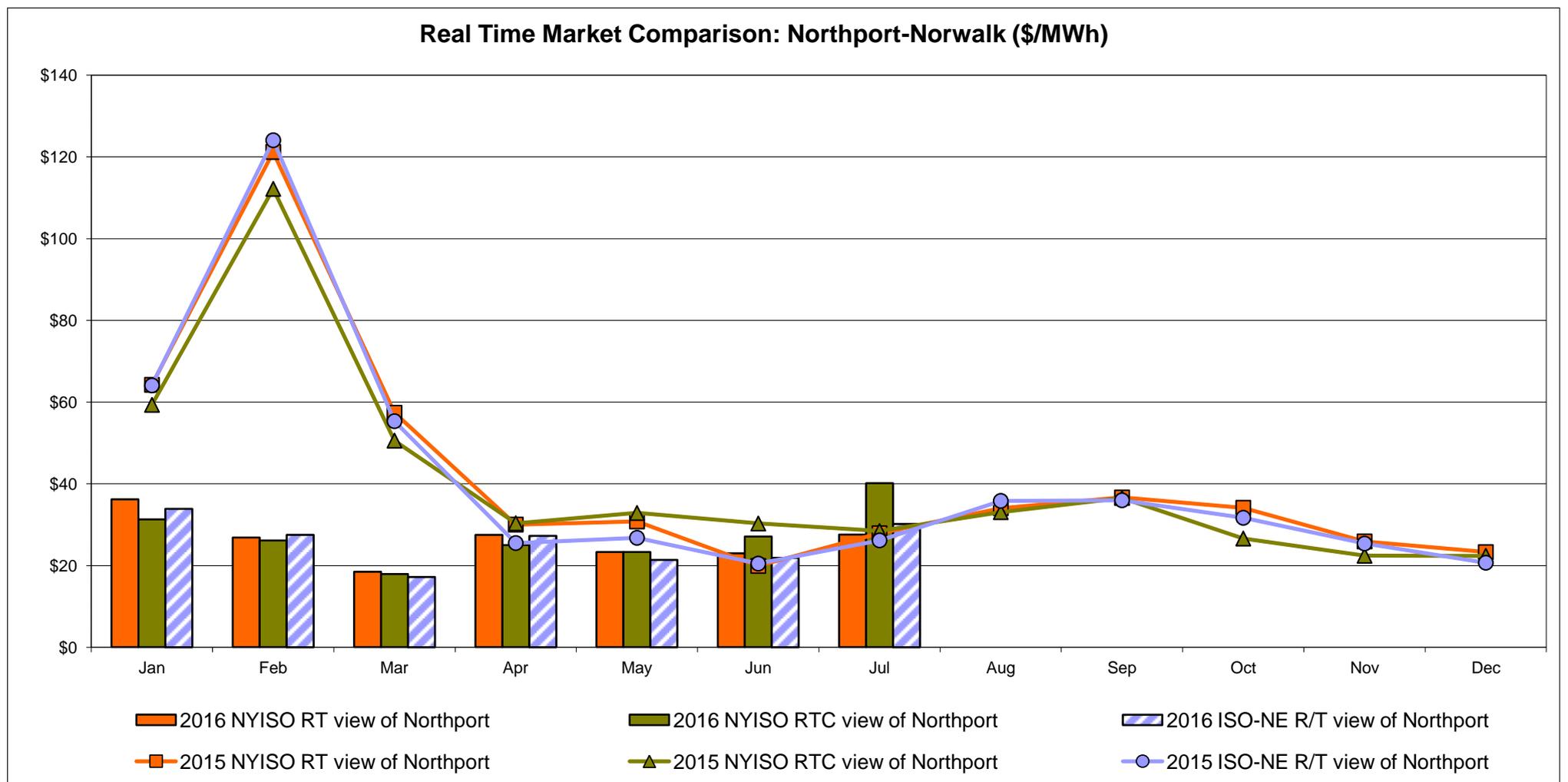
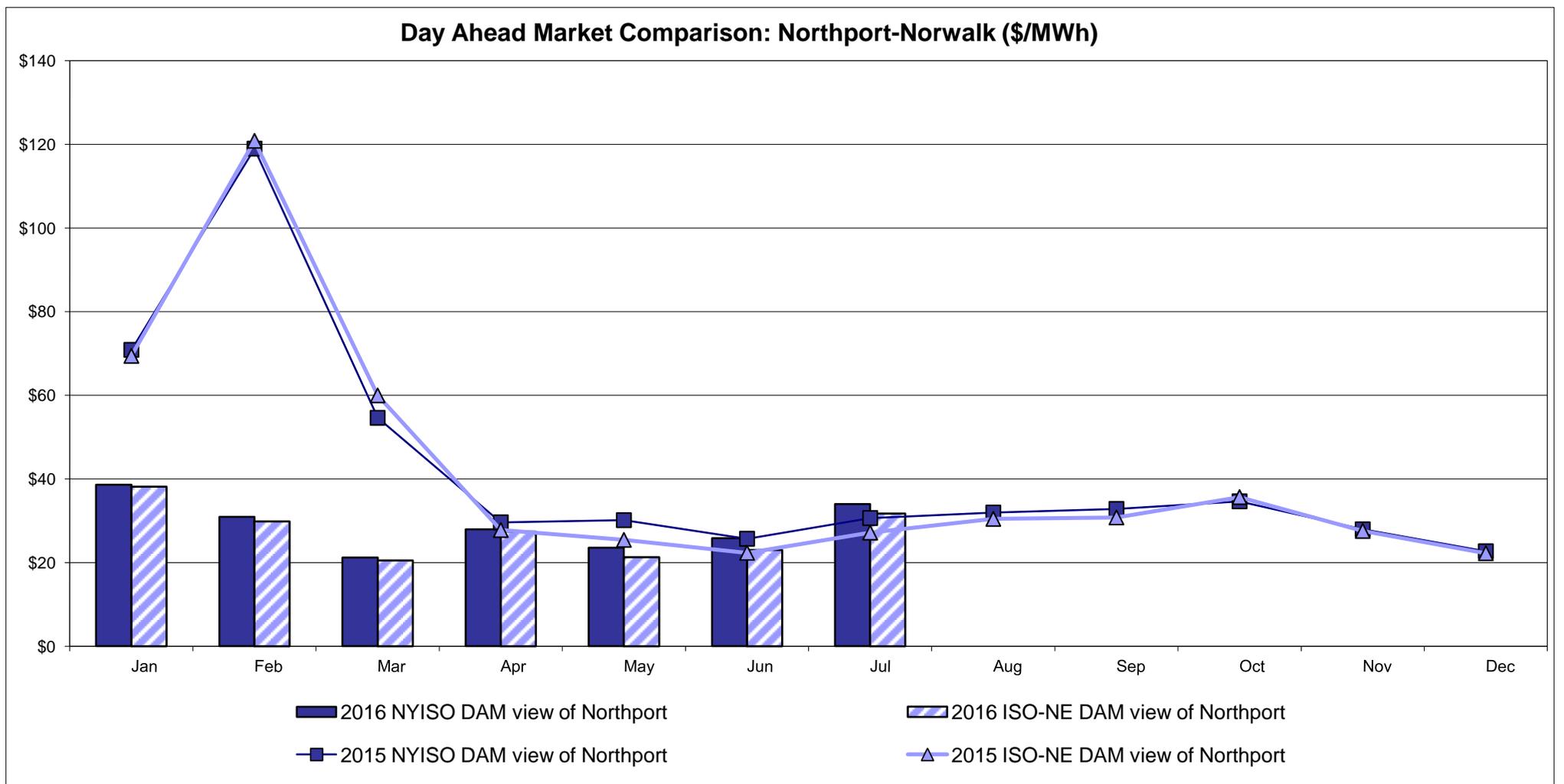
Notes: Exchange factor used for July 2016 was 0.766166104 to US
 HOEP: Hourly Ontario Energy Price
 Pre-Dispatch: Projected Energy Price

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.

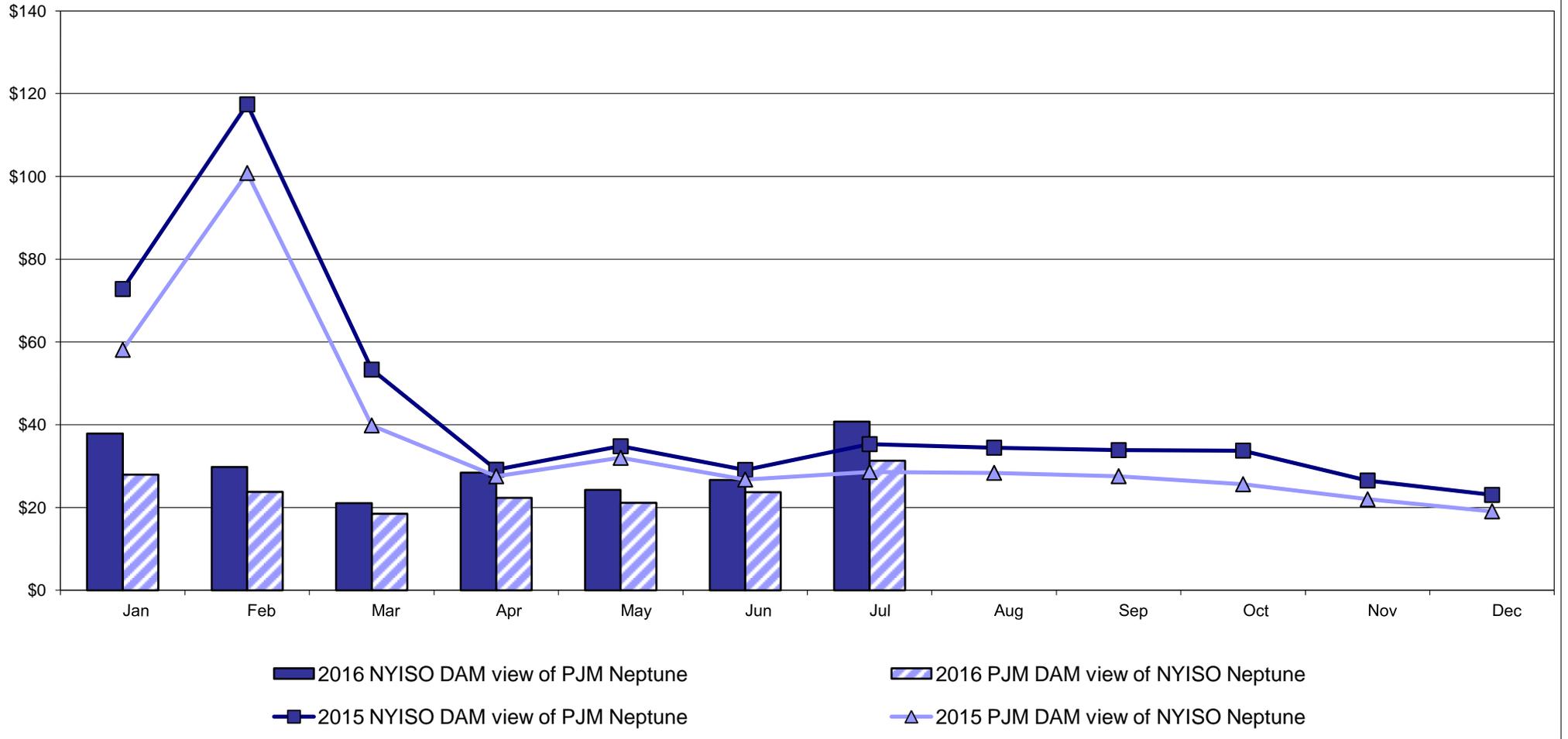
External Controllable Line: Northport - Norwalk (New England)



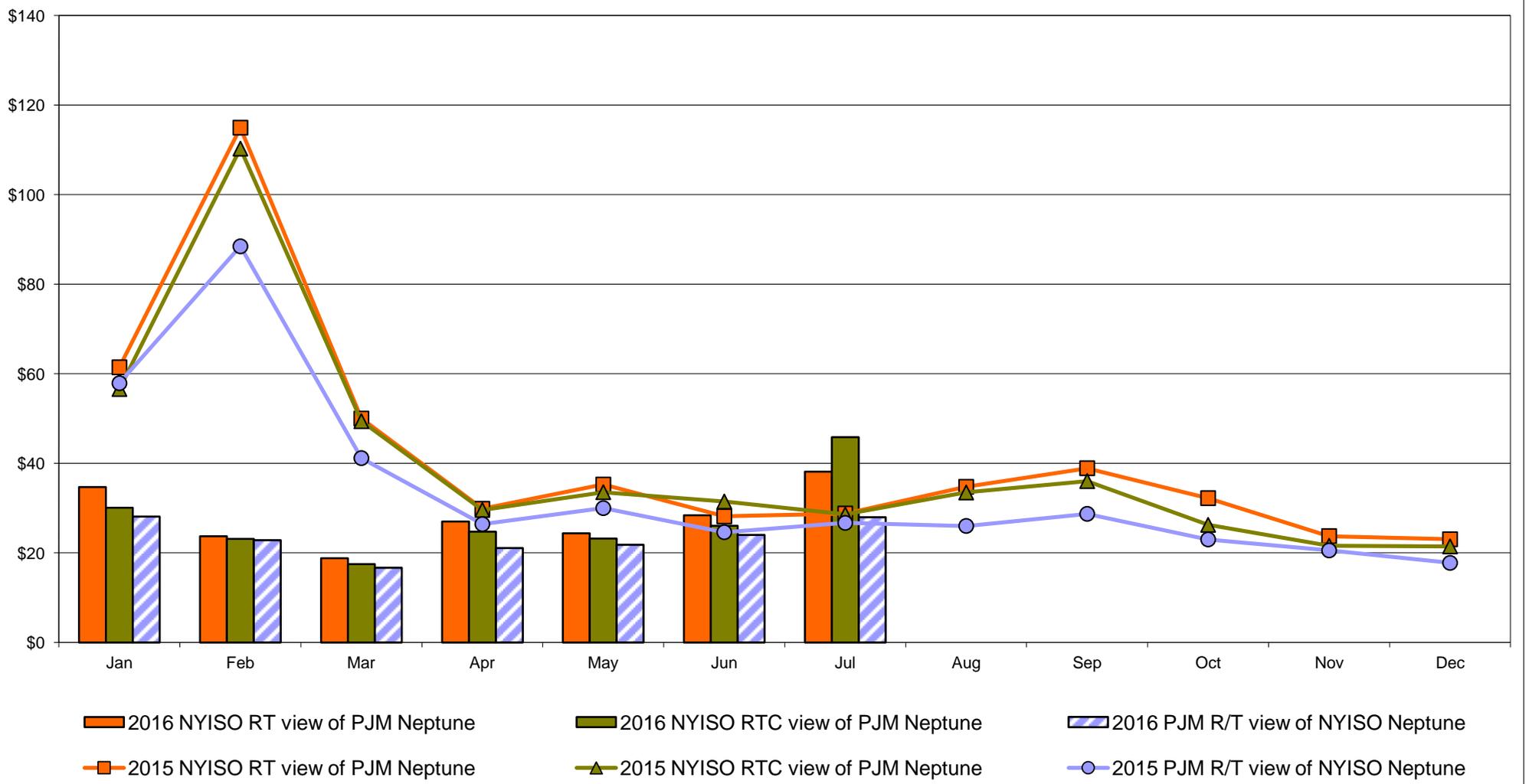
Note:
 ISO-NE Forecast is an advisory posting @ 18:00 day before.
 The DAM and R/T prices at the Northport 138 interface are used for ISO-NE.
 The DAM and R/T prices at the 1385 interface are used for NYISO.

External Controllable Line: Neptune (PJM)

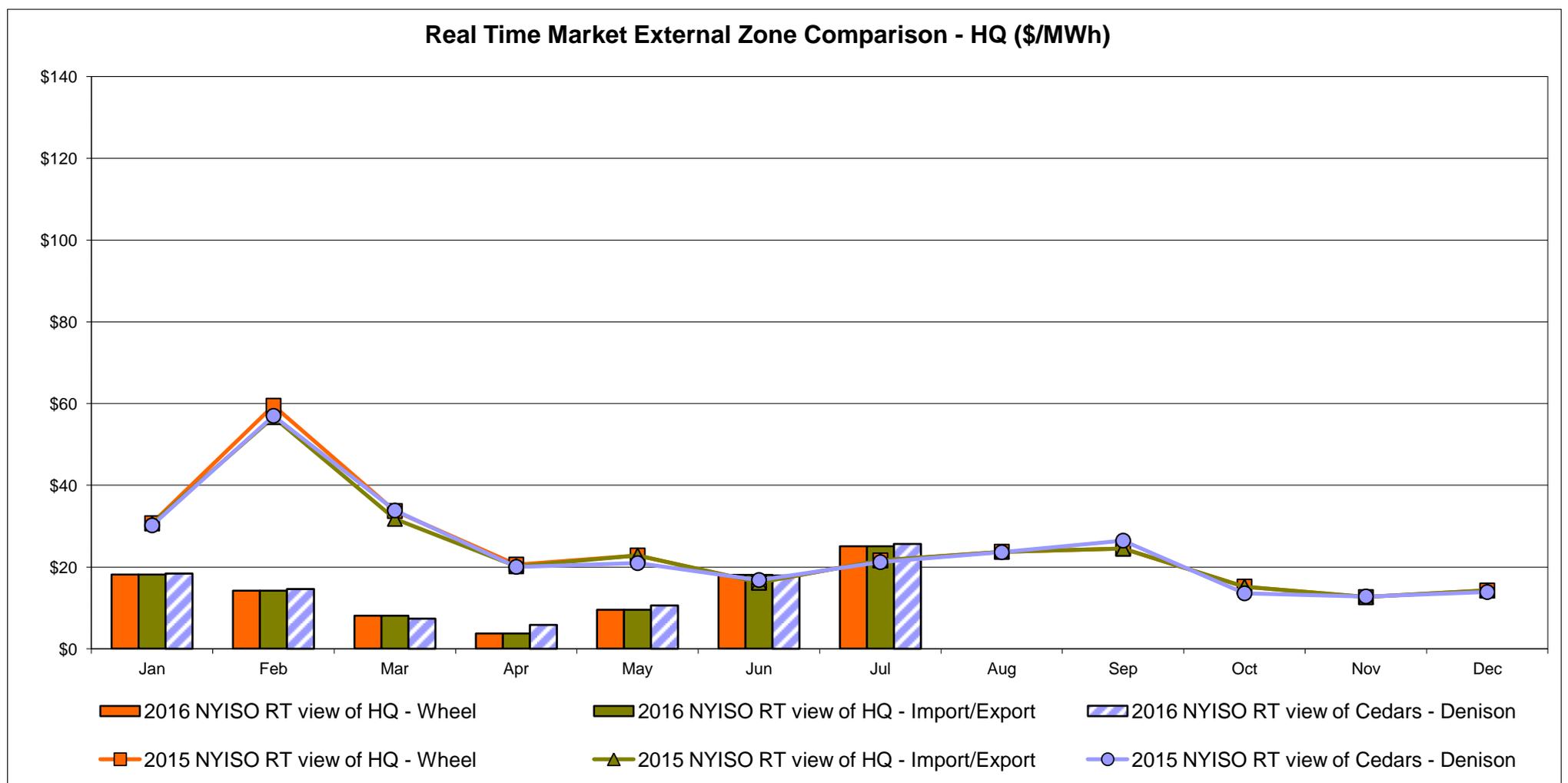
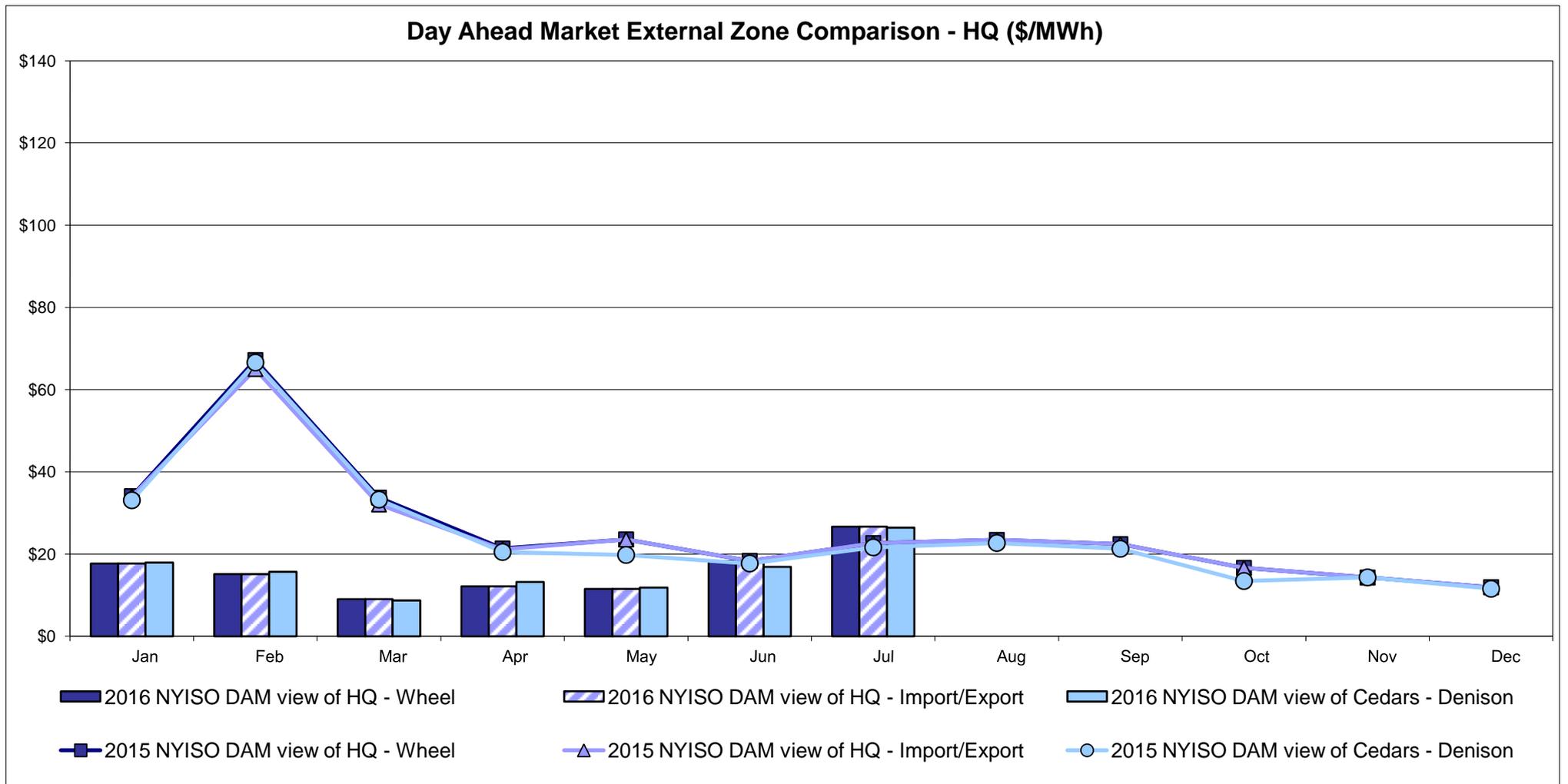
Day Ahead Market Comparison: Neptune (\$/MWh)



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

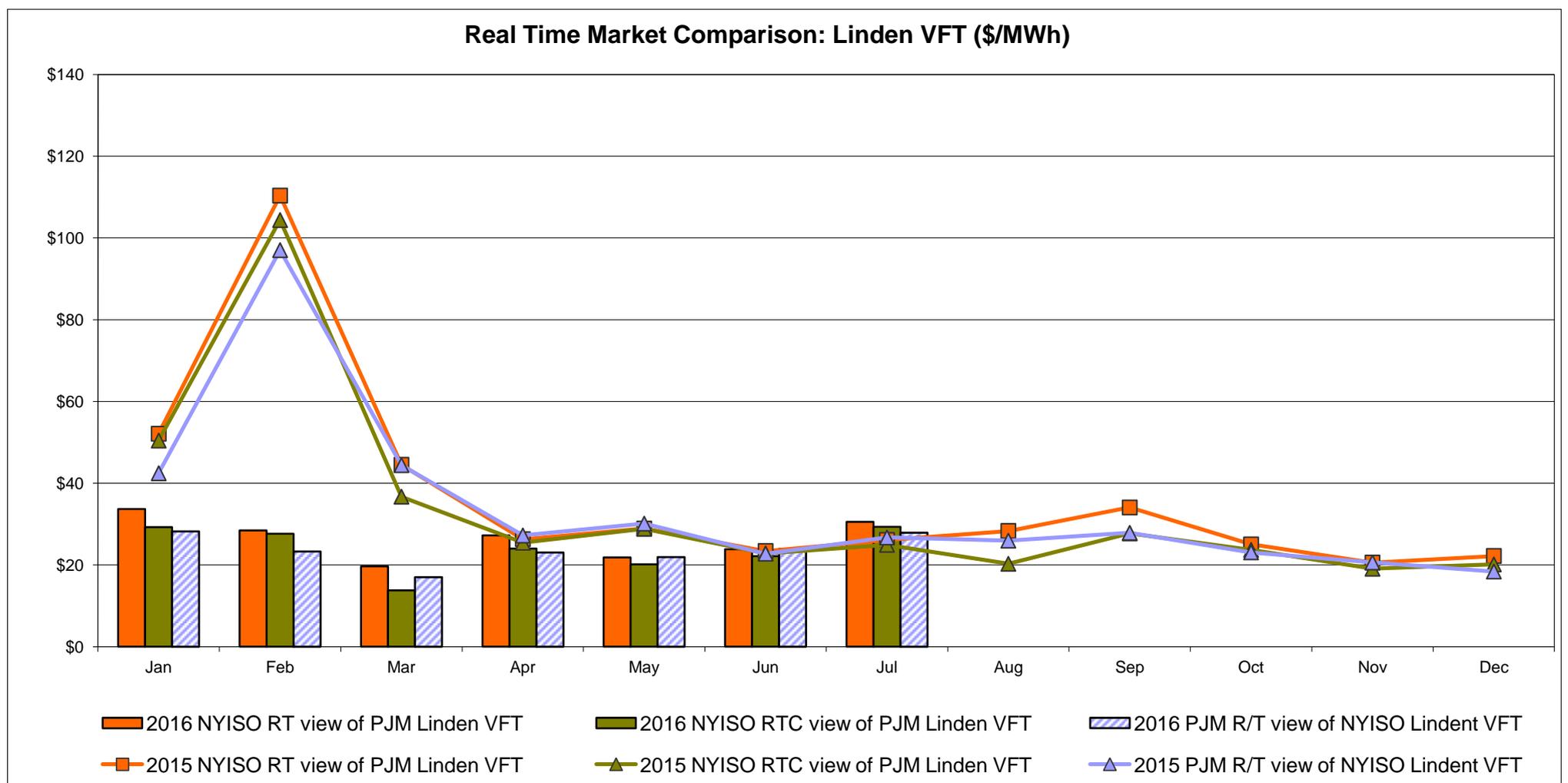
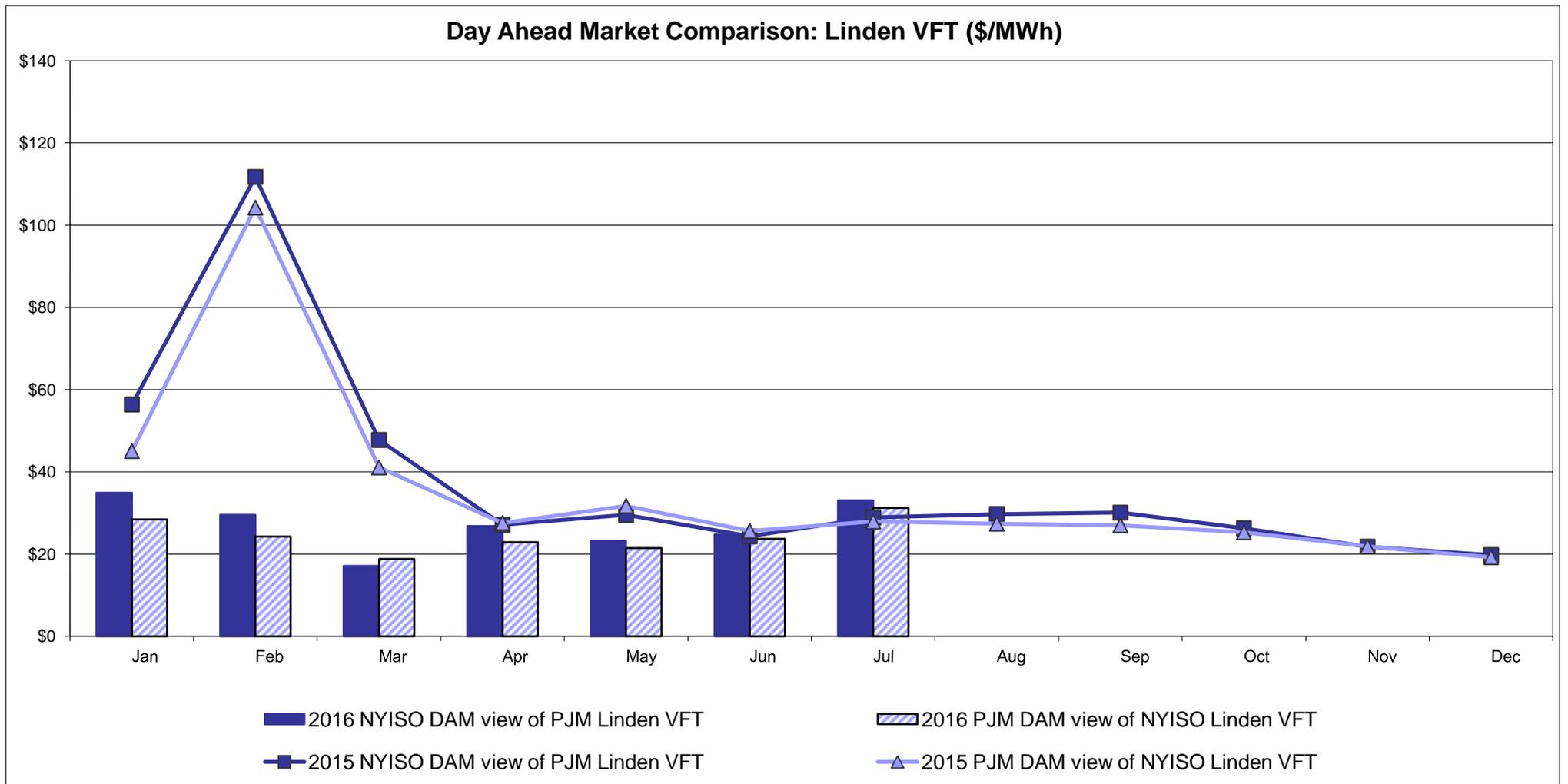


External Comparison Hydro-Quebec

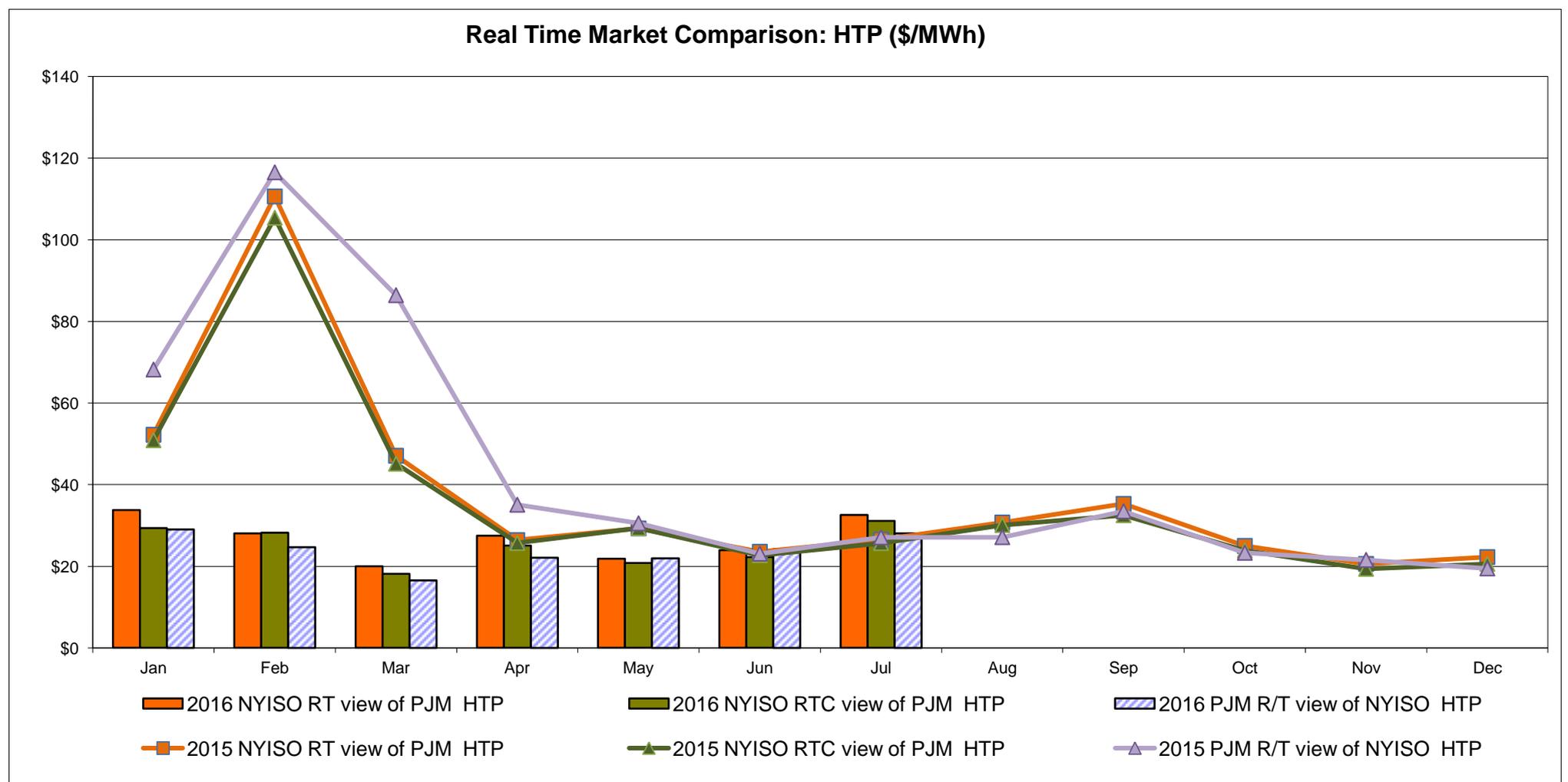
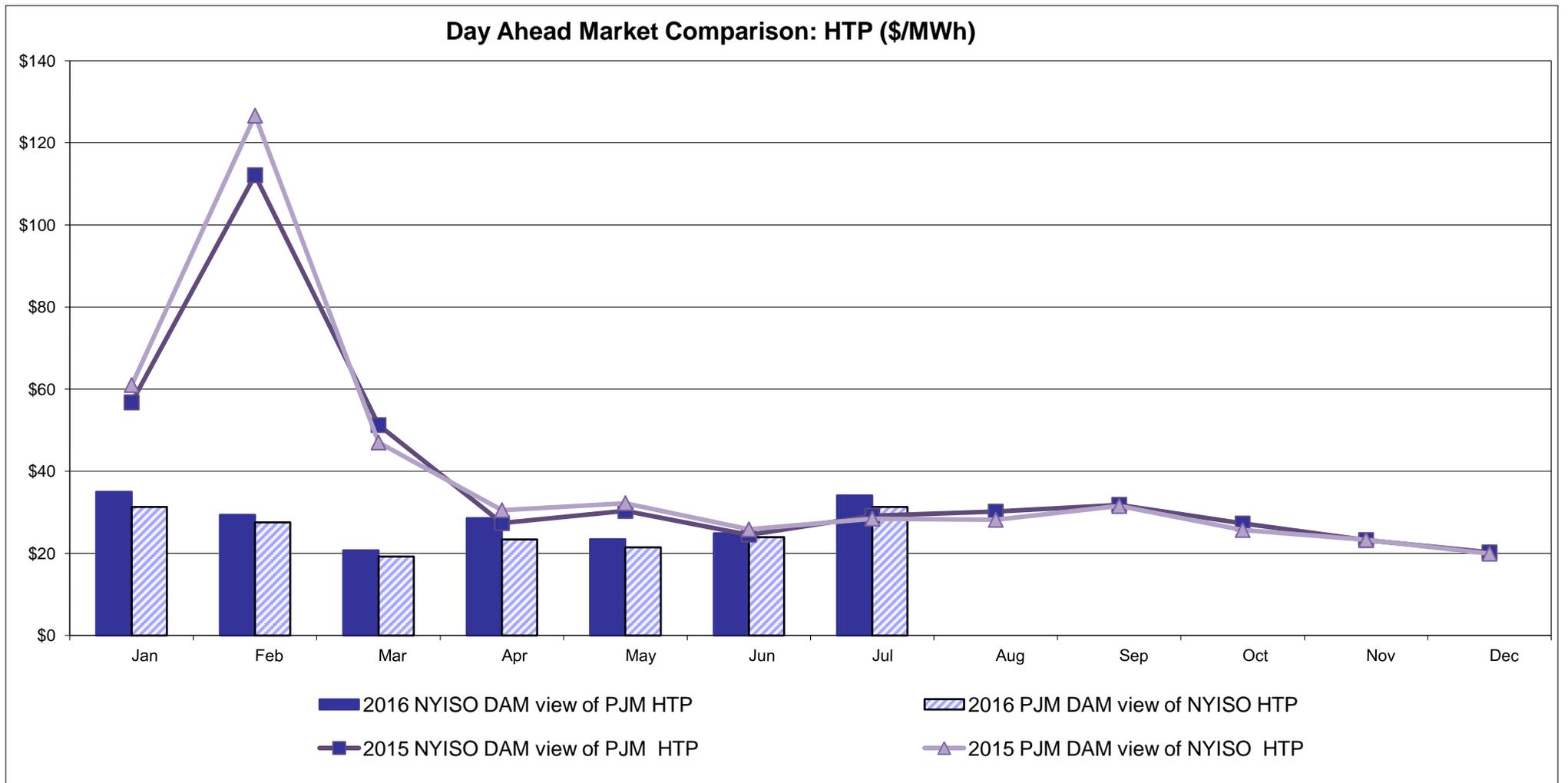


Note:
Hydro-Quebec Prices are unavailable.

External Controllable Line: Linden VFT (PJM)



External Controllable Line: Hudson (PJM)

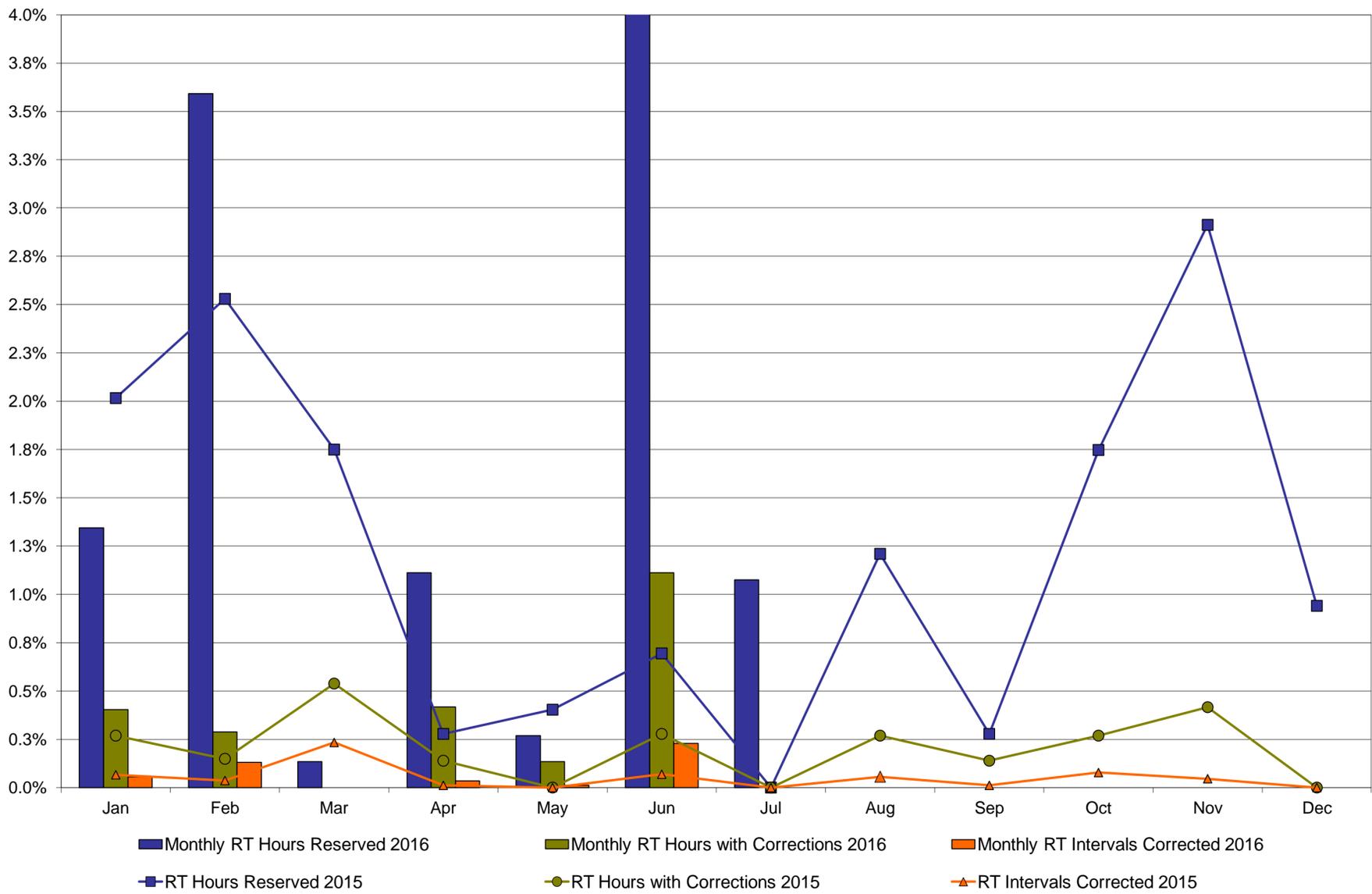


NYISO Real Time Price Correction Statistics

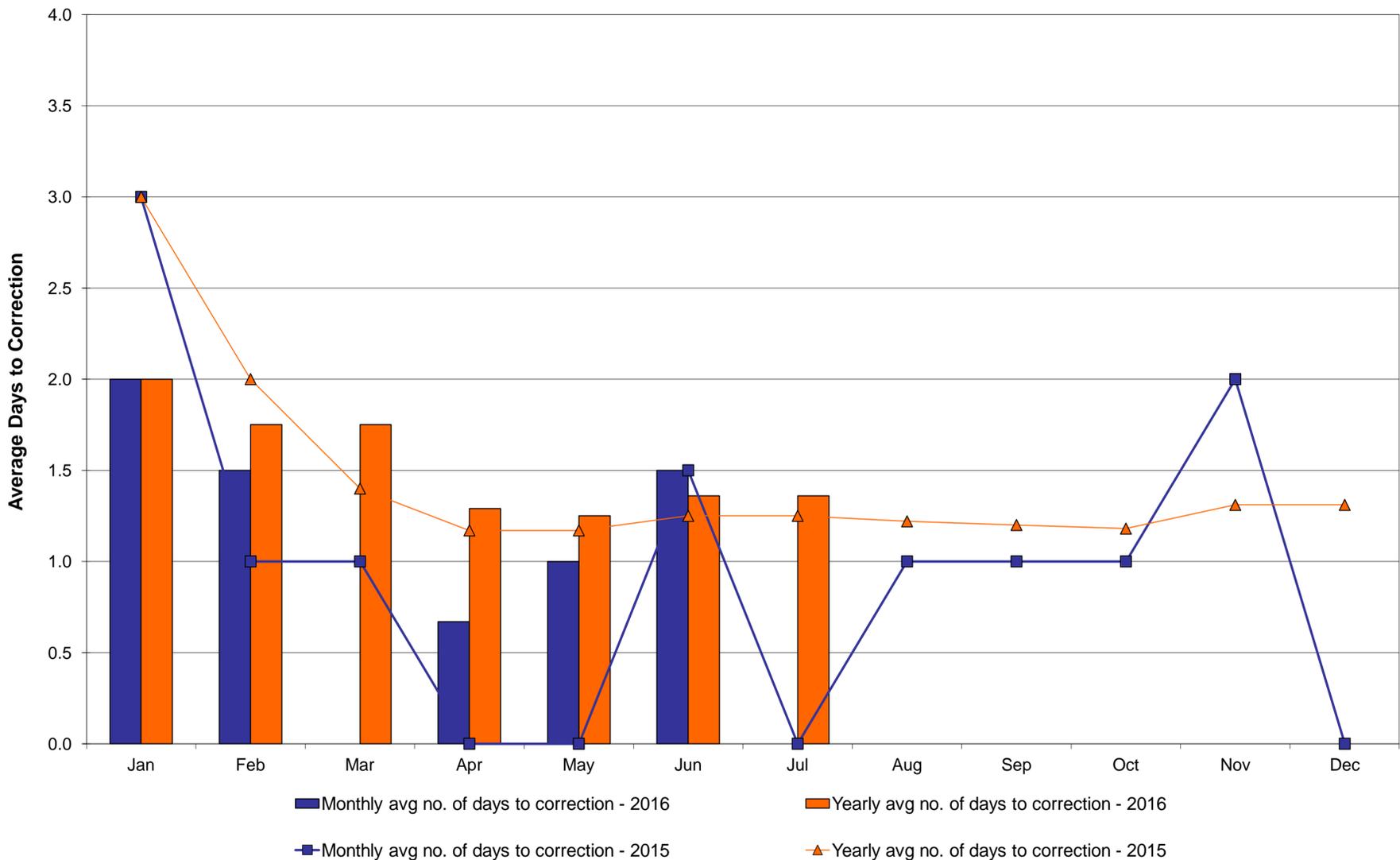
2016		January	February	March	April	May	June	July	August	September	October	November	December
Hour Corrections													
Number of hours with corrections	in the month	3	2	0	3	1	8	0					
Number of hours	in the month	744	696	743	720	744	720	744					
% of hours with corrections	in the month	0.40%	0.29%	0.00%	0.42%	0.13%	1.11%	0.00%					
% of hours with corrections	year-to-date	0.40%	0.35%	0.23%	0.28%	0.25%	0.39%	0.33%					
Interval Corrections													
Number of intervals corrected	in the month	5	11	0	3	1	20	0					
Number of intervals	in the month	9,000	8,440	8,995	8,724	8,987	8,725	9,038					
% of intervals corrected	in the month	0.06%	0.13%	0.00%	0.03%	0.01%	0.23%	0.00%					
% of intervals corrected	year-to-date	0.06%	0.09%	0.06%	0.05%	0.05%	0.08%	0.06%					
Hours Reserved													
Number of hours reserved	in the month	10	25	1	8	2	32	8					
Number of hours	in the month	744	696	743	720	744	720	744					
% of hours reserved	in the month	1.34%	3.59%	0.13%	1.11%	0.27%	4.44%	1.08%					
% of hours reserved	year-to-date	1.34%	2.43%	1.65%	1.52%	1.26%	1.79%	1.68%					
Days to Correction *													
Avg. number of days to correction	in the month	2.00	1.50	0.00	0.67	1.00	1.50	0.00					
Avg. number of days to correction	year-to-date	2.00	1.75	1.75	1.29	1.25	1.36	1.36					
Days Without Corrections													
Days without corrections	in the month	29	27	31	27	30	24	31					
Days without corrections	year-to-date	29	56	87	114	144	168	199					
2015		January	February	March	April	May	June	July	August	September	October	November	December
Hour Corrections													
Number of hours with corrections	in the month	2	1	4	1	0	2	0	2	1	2	3	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	0.27%	0.15%	0.54%	0.14%	0.00%	0.28%	0.00%	0.27%	0.14%	0.27%	0.42%	0.00%
% of hours with corrections	year-to-date	0.27%	0.21%	0.32%	0.28%	0.22%	0.23%	0.20%	0.21%	0.20%	0.21%	0.22%	0.21%
Interval Corrections													
Number of intervals corrected	in the month	6	3	21	1	0	6	0	5	1	7	4	0
Number of intervals	in the month	9,066	8,231	9,005	8,696	9,032	8,731	9,025	8,987	8,728	9,008	8,743	8,975
% of intervals corrected	in the month	0.07%	0.04%	0.23%	0.01%	0.00%	0.07%	0.00%	0.06%	0.01%	0.08%	0.05%	0.00%
% of intervals corrected	year-to-date	0.07%	0.05%	0.11%	0.09%	0.07%	0.07%	0.06%	0.06%	0.05%	0.06%	0.06%	0.05%
Hours Reserved													
Number of hours reserved	in the month	15	17	13	2	3	5	0	9	2	13	21	7
Number of hours	in the month	744	672	743	720	744	720	744	744	720	744	721	744
% of hours reserved	in the month	2.02%	2.53%	1.75%	0.28%	0.40%	0.69%	0.00%	1.21%	0.28%	1.75%	2.91%	0.94%
% of hours reserved	year-to-date	2.02%	2.26%	2.08%	1.63%	1.38%	1.27%	1.08%	1.10%	1.01%	1.08%	1.25%	1.22%
Days to Correction *													
Avg. number of days to correction	in the month	3.00	1.00	1.00	0.00	0.00	1.50	0.00	1.00	1.00	1.00	2.00	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	1.22	1.20	1.18	1.31	1.31
Days Without Corrections													
Days without corrections	in the month	30	27	28	29	31	28	31	30	29	30	28	31
Days without corrections	year-to-date	30	57	85	114	145	173	204	234	263	293	321	352

* Calendar days from reservation date.

Percentage of Real-Time Corrections

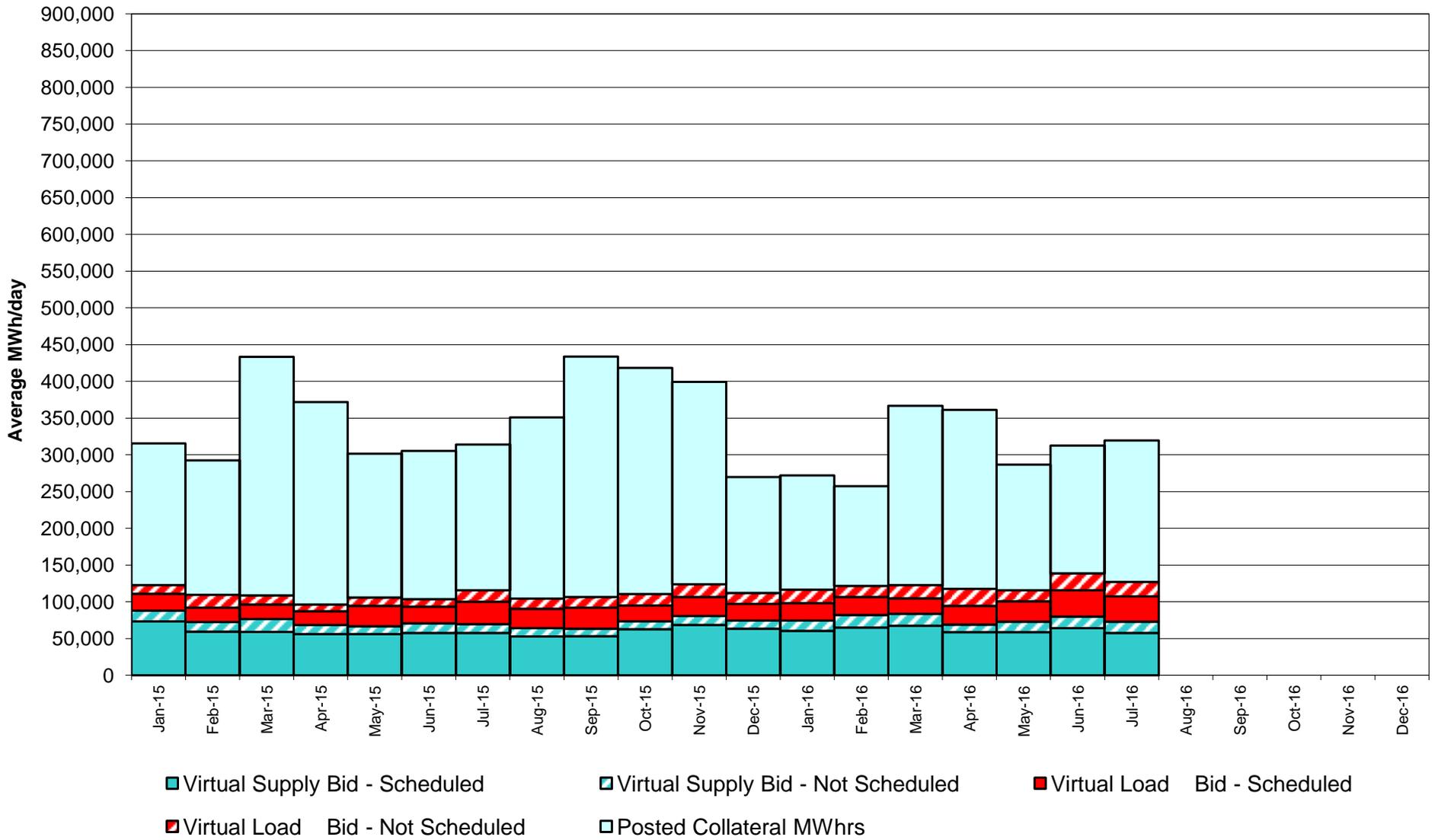


Annual average time period for making Price Corrections (from reservation date) *

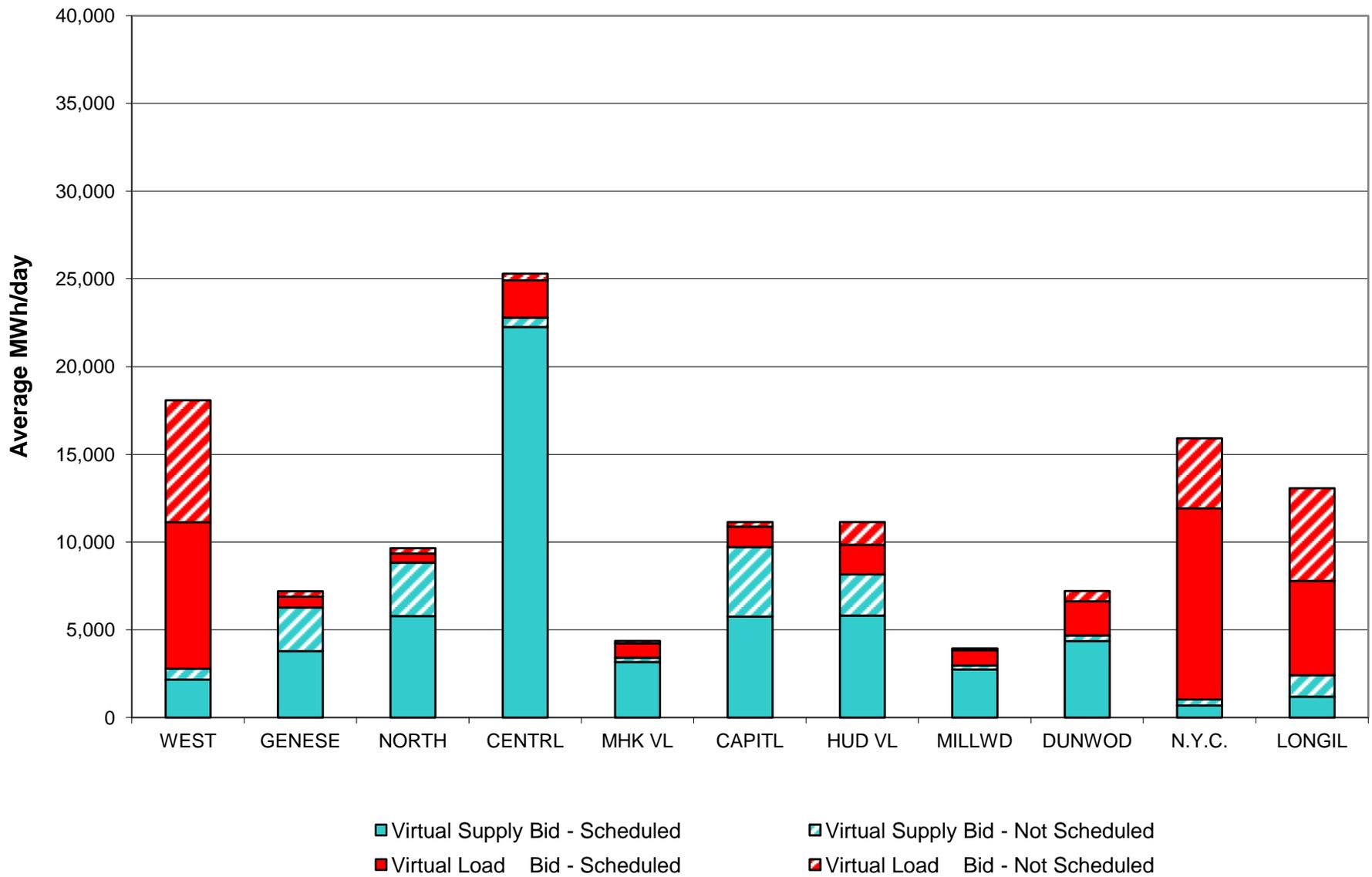


* Calendar days from reservation date.

NYISO Virtual Trading Average MWh per day



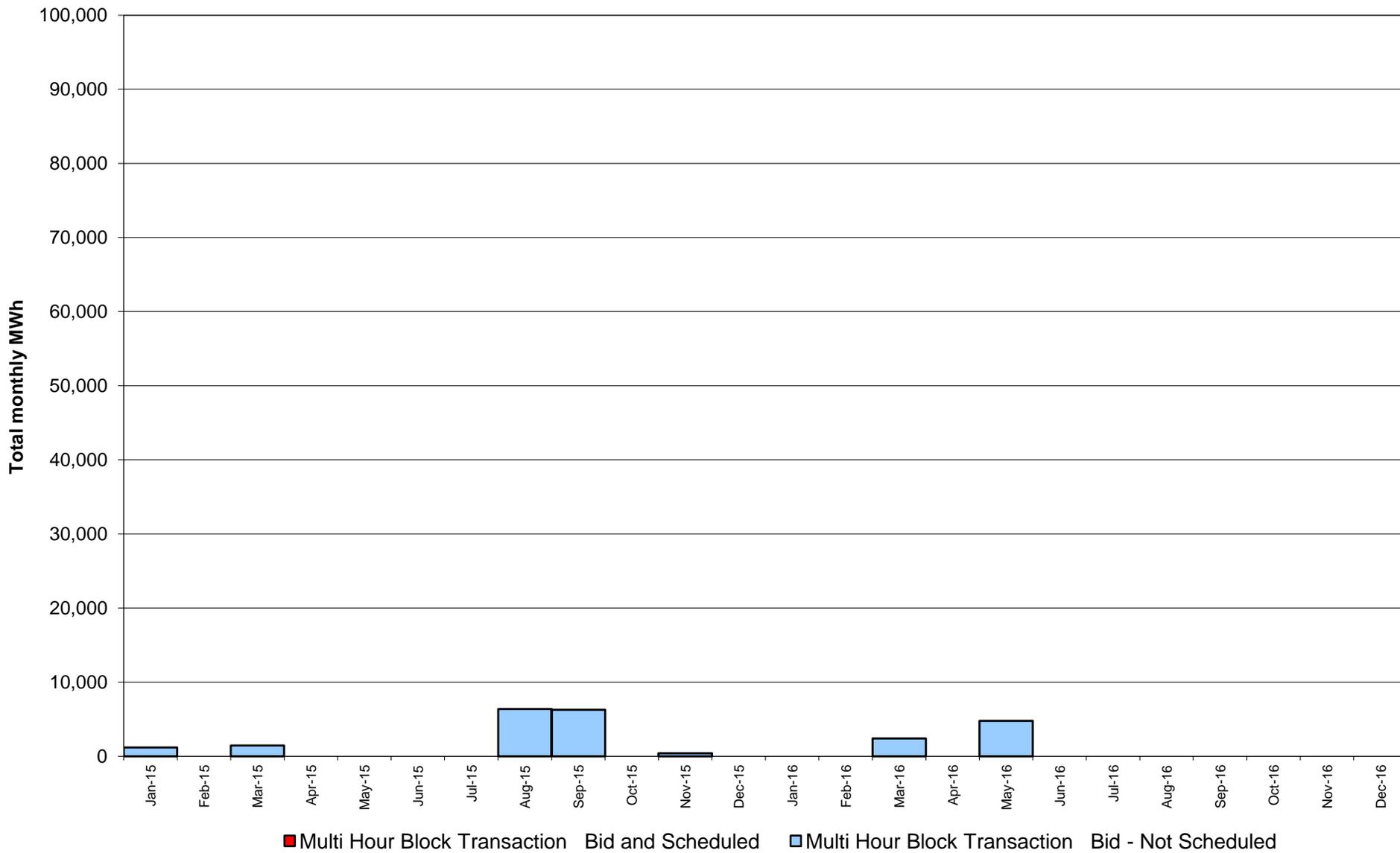
Virtual Load and Supply Zonal Statistics through July 31, 2016



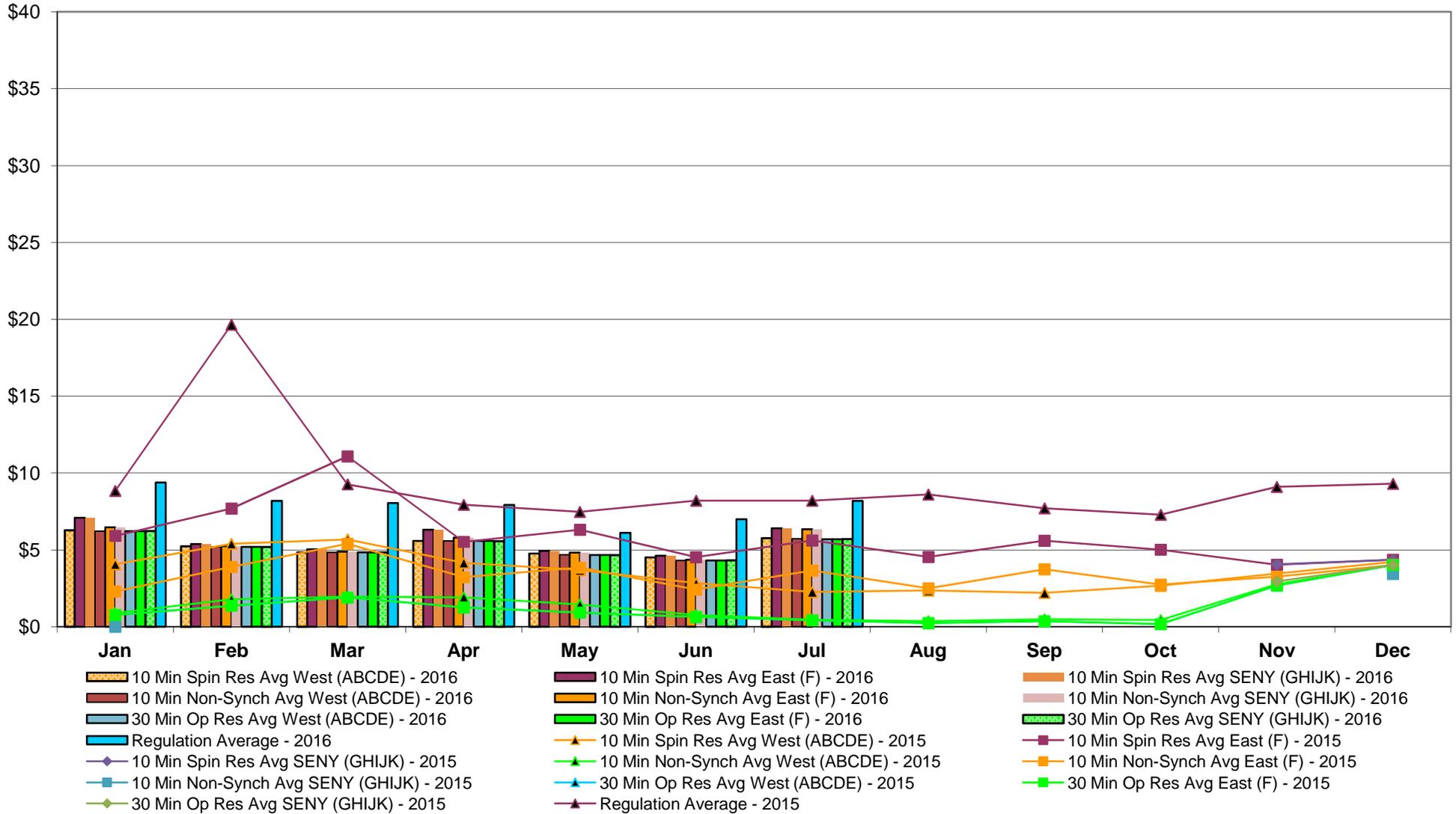
Virtual Load and Supply Zonal Statistics (Average MWh/day) - 2016

		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
WEST	Jan-16	8,416	4,440	2,862	419	MHK VL	Jan-16	463	92	2,024	146	DUNWOD	Jan-16	402	216	3,262	61
	Feb-16	7,967	3,554	2,706	521		Feb-16	544	80	2,329	611		Feb-16	803	185	3,555	269
	Mar-16	7,947	7,233	2,564	720		Mar-16	440	49	2,695	931		Mar-16	460	100	4,207	304
	Apr-16	11,544	10,793	1,645	263		Apr-16	735	55	2,236	317		Apr-16	277	48	4,840	190
	May-16	8,896	4,966	2,511	678		May-16	673	33	2,036	588		May-16	660	435	6,261	431
	Jun-16	13,365	10,864	1,364	609		Jun-16	605	139	2,887	447		Jun-16	996	208	4,433	347
	Jul-16	8,357	6,943	2,167	612		Jul-16	830	123	3,170	244		Jul-16	1,953	578	4,363	313
	Aug-16						Aug-16						Aug-16				
	Sep-16						Sep-16						Sep-16				
	Oct-16						Oct-16						Oct-16				
	Nov-16						Nov-16						Nov-16				
	Dec-16						Dec-16						Dec-16				
GENESE	Jan-16	1,030	638	3,868	2,421	CAPITL	Jan-16	2,195	1,472	4,568	3,470	N.Y.C.	Jan-16	2,862	4,976	2,531	648
	Feb-16	795	923	3,461	3,707		Feb-16	1,593	684	5,140	3,581		Feb-16	3,281	4,752	2,390	403
	Mar-16	824	1,113	5,340	3,764		Mar-16	960	238	5,023	2,071		Mar-16	1,838	4,229	1,239	748
	Apr-16	448	1,398	6,028	1,718		Apr-16	1,410	198	6,433	1,645		Apr-16	3,263	4,302	1,221	336
	May-16	411	125	3,793	2,664		May-16	1,885	251	5,843	2,876		May-16	4,517	3,352	1,425	472
	Jun-16	501	323	4,945	2,340		Jun-16	959	119	6,428	4,625		Jun-16	7,465	3,847	930	245
	Jul-16	615	312	3,785	2,492		Jul-16	1,152	271	5,755	3,969		Jul-16	10,899	3,980	692	341
	Aug-16						Aug-16						Aug-16				
	Sep-16						Sep-16						Sep-16				
	Oct-16						Oct-16						Oct-16				
	Nov-16						Nov-16						Nov-16				
	Dec-16						Dec-16						Dec-16				
NORTH	Jan-16	274	312	7,038	3,010	HUD VL	Jan-16	1,036	1,609	6,763	2,202	LONGIL	Jan-16	6,153	3,761	700	985
	Feb-16	499	215	7,169	3,894		Feb-16	1,008	1,135	9,550	3,078		Feb-16	6,539	3,211	814	869
	Mar-16	338	107	6,127	4,874		Mar-16	964	510	10,835	1,568		Mar-16	6,305	3,906	1,090	411
	Apr-16	666	332	8,237	3,363		Apr-16	821	1,176	9,231	1,566		Apr-16	5,087	4,696	1,511	215
	May-16	556	157	6,029	4,034		May-16	1,488	911	6,686	1,490		May-16	5,837	4,419	1,331	431
	Jun-16	519	445	7,892	4,126		Jun-16	1,392	1,684	7,583	1,398		Jun-16	7,178	4,811	1,377	786
	Jul-16	517	310	5,791	3,043		Jul-16	1,699	1,290	5,809	2,344		Jul-16	5,383	5,288	1,195	1,215
	Aug-16						Aug-16						Aug-16				
	Sep-16						Sep-16						Sep-16				
	Oct-16						Oct-16						Oct-16				
	Nov-16						Nov-16						Nov-16				
	Dec-16						Dec-16						Dec-16				
CENTRL	Jan-16	954	502	25,792	259	MILLWD	Jan-16	304	114	1,211	60	NYISO	Jan-16	24,086	18,132	60,619	13,680
	Feb-16	975	212	26,176	301		Feb-16	403	145	1,477	100		Feb-16	24,407	15,096	64,766	17,335
	Mar-16	1,076	70	26,818	564		Mar-16	182	60	1,462	239		Mar-16	21,332	17,615	67,399	16,195
	Apr-16	1,124	159	15,555	284		Apr-16	186	26	1,913	101		Apr-16	25,563	23,182	58,849	9,998
	May-16	2,369	250	21,046	367		May-16	471	121	1,743	264		May-16	27,763	15,021	58,704	14,296
	Jun-16	2,285	469	23,910	277		Jun-16	489	121	2,582	449		Jun-16	35,754	23,031	64,331	15,648
	Jul-16	2,117	385	22,271	529		Jul-16	868	103	2,732	238		Jul-16	34,388	19,583	57,728	15,341
	Aug-16						Aug-16						Aug-16				
	Sep-16						Sep-16						Sep-16				
	Oct-16						Oct-16						Oct-16				
	Nov-16						Nov-16						Nov-16				
	Dec-16						Dec-16						Dec-16				

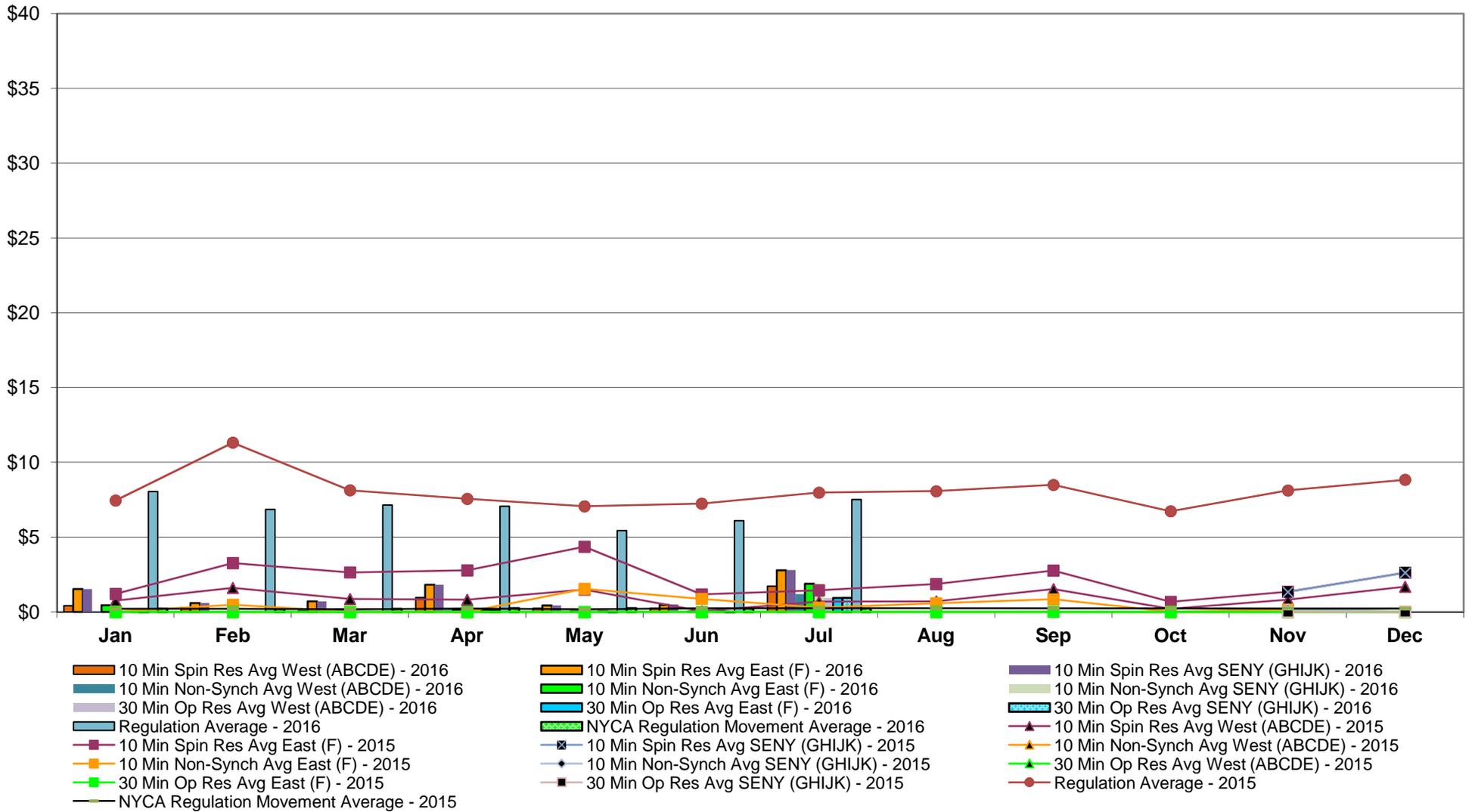
NYISO Multi Hour Block Transactions Monthly Total MWh



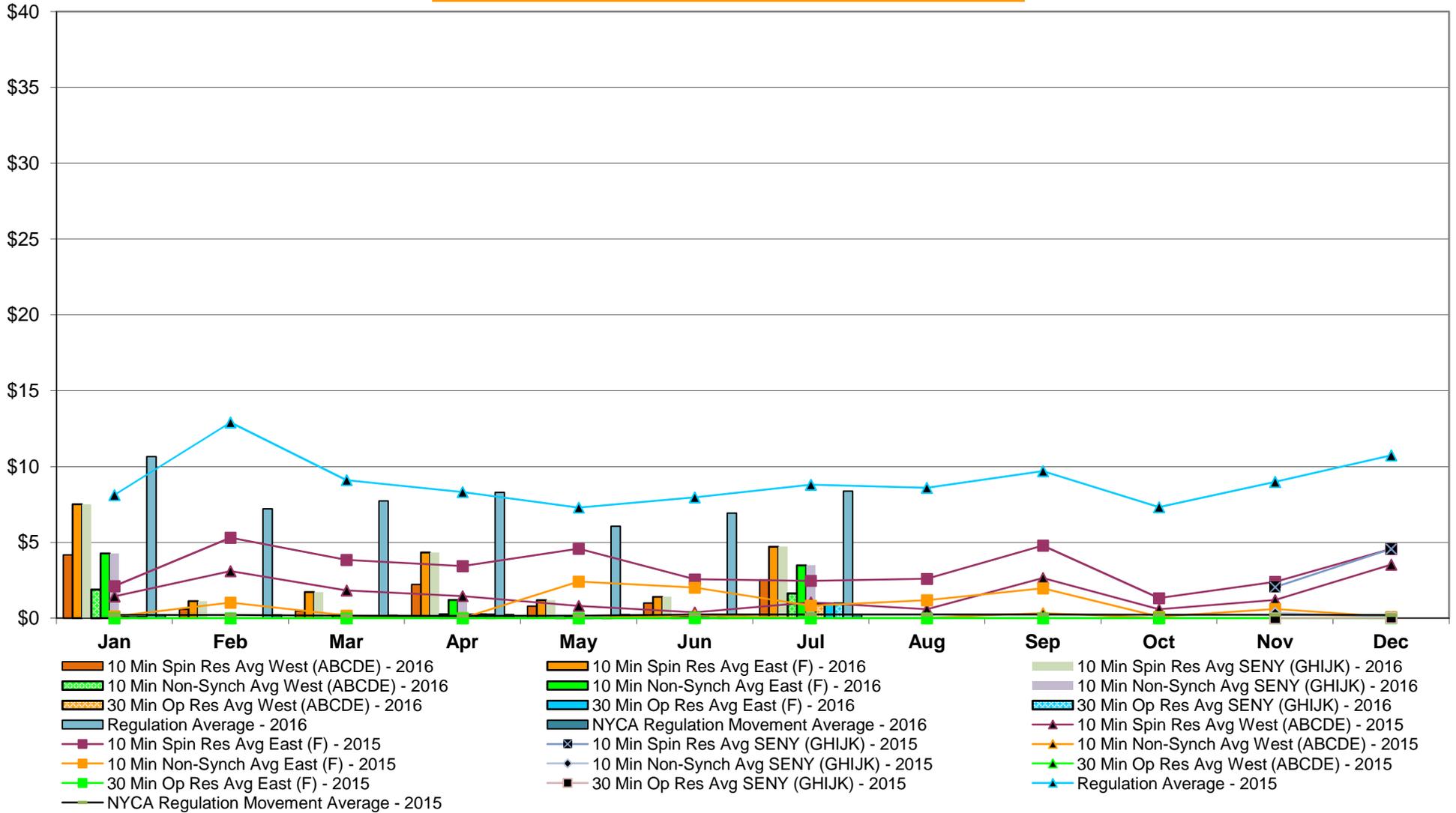
NYISO Monthly Average Ancillary Service Prices Day Ahead Market 2015 - 2016



NYISO Monthly Average Ancillary Service Prices RTC Market 2015 - 2016



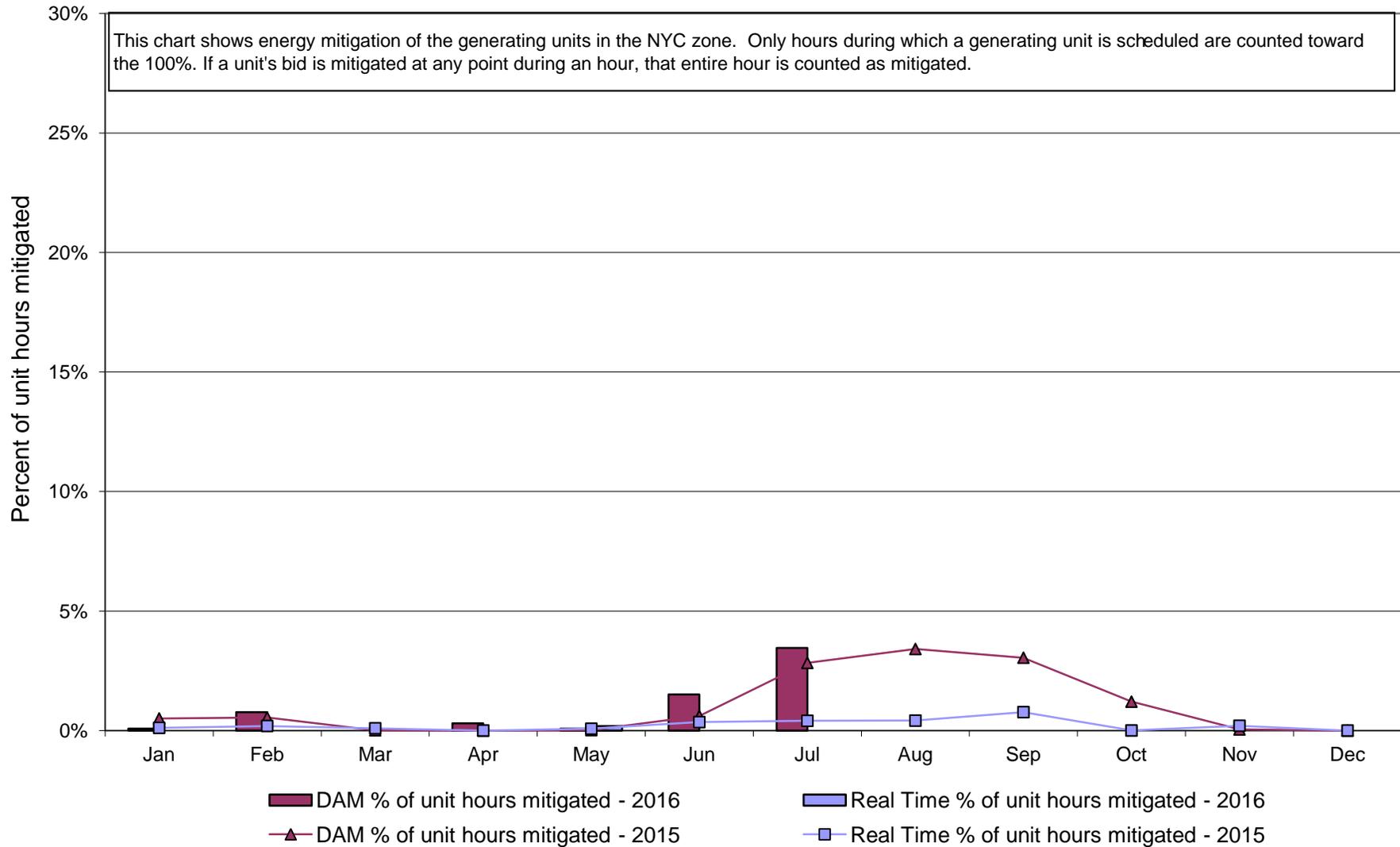
NYISO Monthly Average Ancillary Service Prices Real Time Market 2015 - 2016



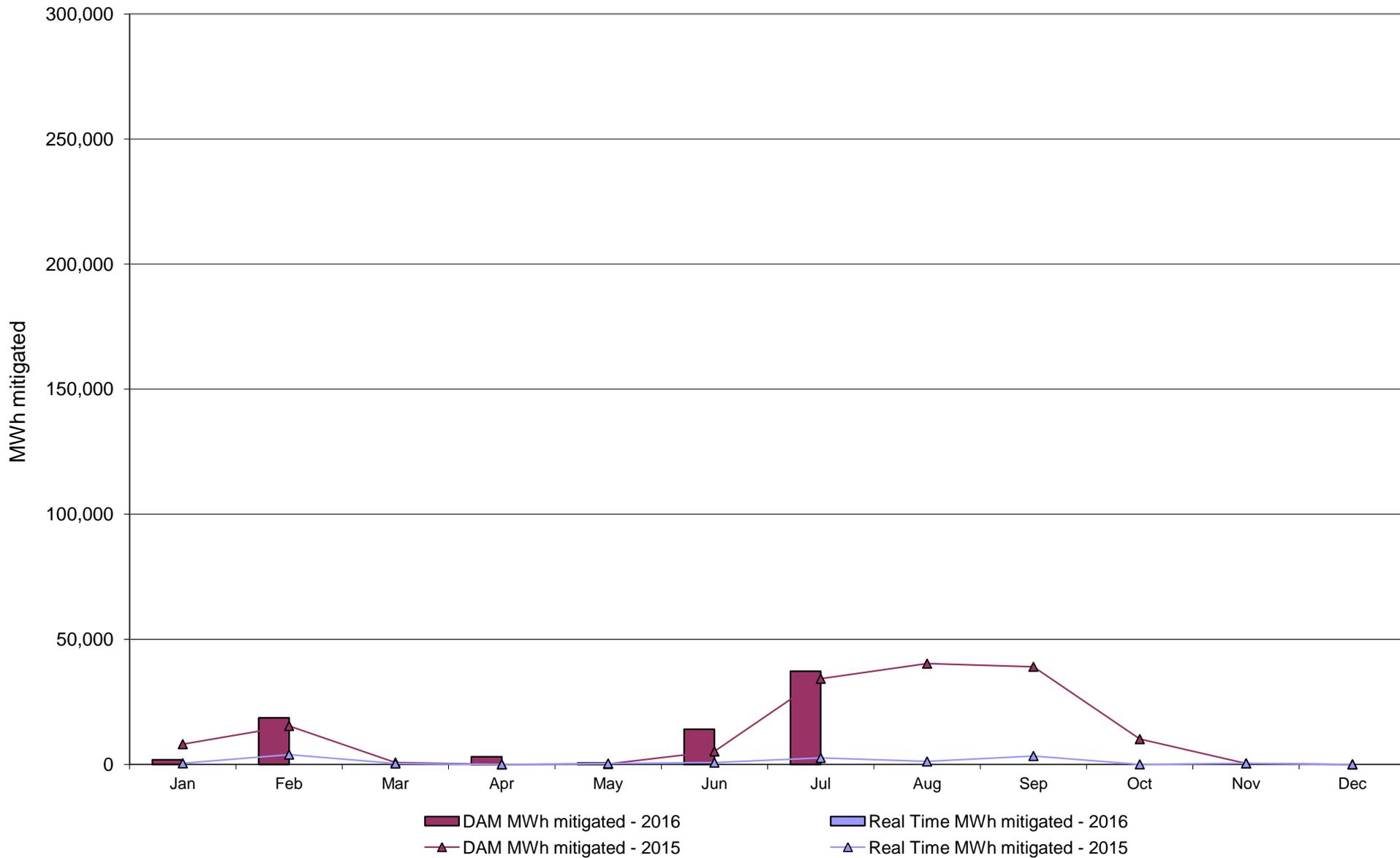
NYISO Markets Ancillary Services Statistics - Unweighted Price (\$/MWH)

2016	<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>
Day Ahead Market												
10 Min Spin SENEY (GHIJK)	7.09	5.38	5.04	6.31	4.93	4.62	6.41					
10 Min Spin East (F)	7.09	5.38	5.04	6.31	4.93	4.62	6.41					
10 Min Spin West (ABCDE)	6.28	5.25	4.84	5.60	4.77	4.52	5.78					
10 Min Non Synch SENEY (GHIJK)	6.47	5.25	4.88	5.80	4.83	4.36	6.34					
10 Min Non Synch East (F)	6.47	5.25	4.88	5.80	4.83	4.36	6.34					
10 Min Non Synch West (ABCDE)	6.23	5.20	4.84	5.58	4.68	4.32	5.72					
30 Min SENEY (GHIJK)	6.23	5.20	4.84	5.58	4.67	4.32	5.70					
30 Min East (F)	6.23	5.20	4.84	5.58	4.67	4.32	5.70					
30 Min West (ABCDE)	6.23	5.20	4.84	5.58	4.67	4.32	5.70					
Regulation	9.39	8.19	8.05	7.93	6.11	7.00	8.19					
RTC Market												
10 Min Spin SENEY (GHIJK)	1.53	0.59	0.71	1.81	0.43	0.49	2.79					
10 Min Spin East (F)	1.53	0.59	0.71	1.81	0.43	0.46	2.77					
10 Min Spin West (ABCDE)	0.42	0.26	0.08	0.95	0.23	0.24	1.72					
10 Min Non Synch SENEY (GHIJK)	0.45	0.00	0.17	0.14	0.05	0.05	1.89					
10 Min Non Synch East (F)	0.45	0.00	0.17	0.14	0.05	0.02	1.87					
10 Min Non Synch West (ABCDE)	0.04	0.00	0.00	0.14	0.04	0.02	1.18					
30 Min SENEY (GHIJK)	0.01	0.00	0.00	0.14	0.04	0.04	0.94					
30 Min East (F)	0.01	0.00	0.00	0.14	0.04	0.02	0.93					
30 Min West (ABCDE)	0.01	0.00	0.00	0.14	0.04	0.02	0.93					
Regulation	8.04	6.86	7.15	7.07	5.43	6.09	7.51					
NYCA Regulation Movement	0.23	0.21	0.20	0.25	0.25	0.23	0.23					
Real Time Market												
10 Min Spin SENEY (GHIJK)	7.51	1.12	1.73	4.34	1.19	1.43	4.73					
10 Min Spin East (F)	7.51	1.12	1.73	4.34	1.19	1.40	4.72					
10 Min Spin West (ABCDE)	4.17	0.58	0.48	2.23	0.79	1.00	2.51					
10 Min Non Synch SENEY (GHIJK)	4.26	0.00	0.22	1.20	0.06	0.15	3.49					
10 Min Non Synch East (F)	4.26	0.00	0.22	1.20	0.06	0.11	3.48					
10 Min Non Synch West (ABCDE)	1.89	0.00	0.00	0.26	0.03	0.04	1.65					
30 Min SENEY (GHIJK)	0.06	0.00	0.00	0.25	0.03	0.07	0.98					
30 Min East (F)	0.06	0.00	0.00	0.25	0.03	0.04	0.97					
30 Min West (ABCDE)	0.06	0.00	0.00	0.25	0.03	0.04	0.97					
Regulation	10.66	7.21	7.73	8.30	6.06	6.92	8.37					
NYCA Regulation Movement	0.23	0.22	0.20	0.25	0.25	0.23	0.23					
2015												
	<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>
Day Ahead Market												
10 Min Spin SENEY (GHIJK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.06	4.36
10 Min Spin East (F)	5.92	7.69	11.09	5.53	6.31	4.53	5.62	4.54	5.60	5.02	4.03	4.36
10 Min Spin West (ABCDE)	4.07	5.40	5.68	4.16	3.69	2.84	2.26	2.36	2.20	2.68	3.47	4.22
10 Min Non Synch SENEY (GHIJK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.44	4.03
10 Min Non Synch East (F)	2.30	3.89	5.40	3.22	3.84	2.42	3.66	2.51	3.74	2.75	3.27	4.03
10 Min Non Synch West (ABCDE)	0.90	1.79	1.97	1.91	1.45	0.77	0.45	0.36	0.49	0.45	2.77	4.02
30 Min SENEY (GHIJK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.95	4.02
30 Min East (F)	0.77	1.38	1.91	1.26	0.93	0.64	0.43	0.24	0.37	0.18	2.69	4.02
30 Min West (ABCDE)	0.77	1.38	1.91	1.26	0.93	0.64	0.43	0.24	0.37	0.18	2.69	4.02
Regulation	8.84	19.65	9.27	7.94	7.48	8.20	8.20	8.61	7.71	7.29	9.10	9.30
RTC Market												
10 Min Spin SENEY (GHIJK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.33	2.62
10 Min Spin East (F)	1.20	3.27	2.64	2.77	4.36	1.18	1.44	1.86	2.76	0.67	1.35	2.62
10 Min Spin West (ABCDE)	0.74	1.61	0.86	0.81	1.48	0.04	0.69	0.70	1.53	0.20	0.81	1.68
10 Min Non Synch SENEY (GHIJK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.17	0.01
10 Min Non Synch East (F)	0.01	0.48	0.01	0.00	1.54	0.87	0.28	0.57	0.84	0.01	0.16	0.01
10 Min Non Synch West (ABCDE)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
30 Min SENEY (GHIJK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	0.00
30 Min East (F)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
30 Min West (ABCDE)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
Regulation	7.45	11.32	8.13	7.56	7.06	7.24	7.97	8.07	8.49	6.73	8.12	8.83
NYCA Regulation Movement	0.21	0.21	0.16	0.22	0.16	0.24	0.25	0.23	0.24	0.23	0.22	0.22
Real Time Market												
10 Min Spin SENEY (GHIJK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.06	4.57
10 Min Spin East (F)	2.12	5.31	3.84	3.44	4.59	2.56	2.47	2.59	4.79	1.32	2.40	4.57
10 Min Spin West (ABCDE)	1.44	3.11	1.83	1.46	0.81	0.38	1.04	0.59	2.65	0.59	1.20	3.53
10 Min Non Synch SENEY (GHIJK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.35	0.09
10 Min Non Synch East (F)	0.12	1.03	0.17	0.01	2.41	2.01	0.83	1.19	1.97	0.09	0.61	0.09
10 Min Non Synch West (ABCDE)	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.02	0.33	0.00	0.00	0.05
30 Min SENEY (GHIJK)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	0.03
30 Min East (F)	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.03
30 Min West (ABCDE)	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.03
Regulation	8.12	12.91	9.11	8.32	7.30	7.97	8.80	8.60	9.69	7.32	8.98	10.73
NYCA Regulation Movement	0.20	0.21	0.17	0.15	0.16	0.24	0.24	0.24	0.24	0.23	0.22	0.21

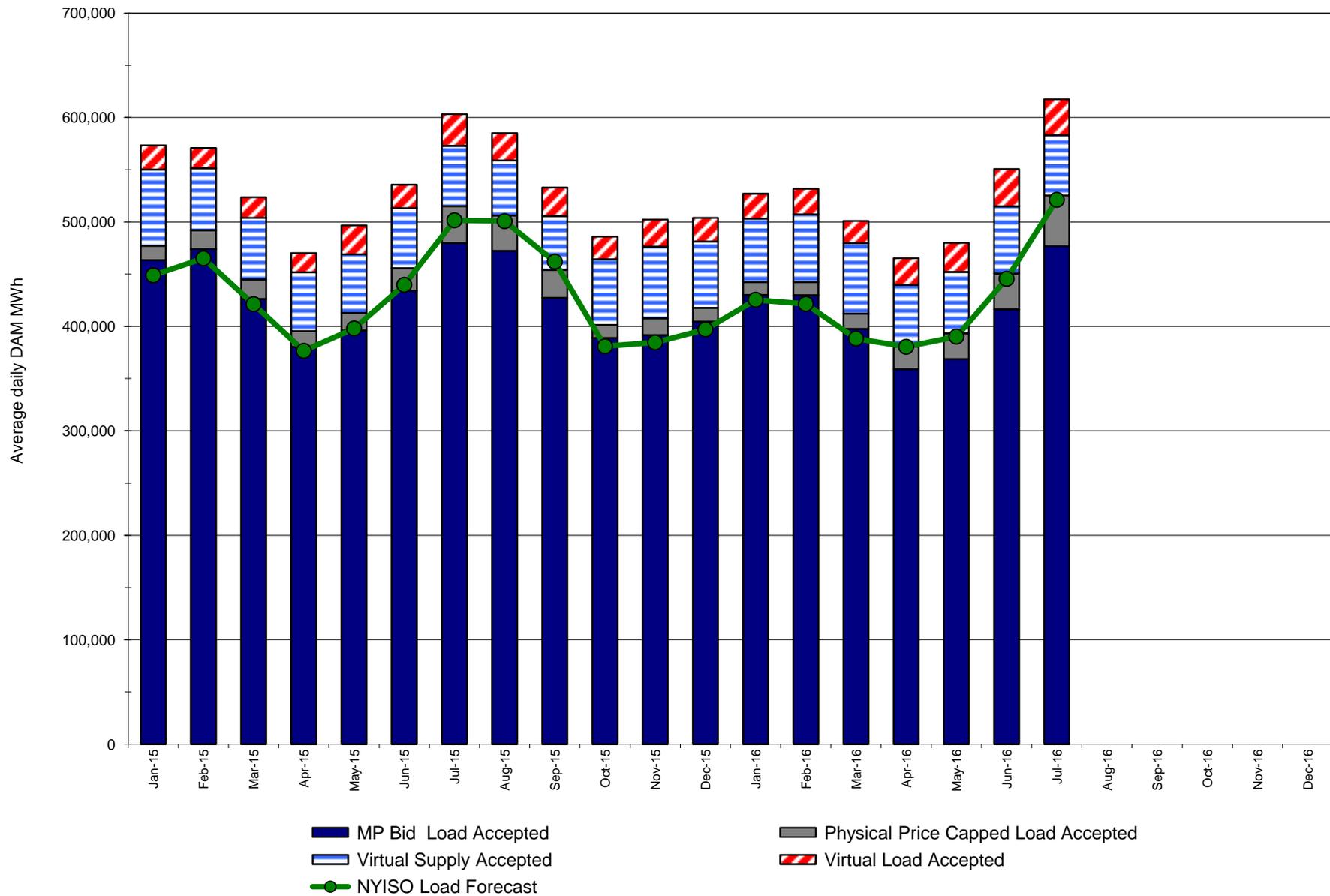
NYISO In City Energy Mitigation - AMP (NYC Zone) 2015 - 2016 Percentage of committed unit-hours mitigated



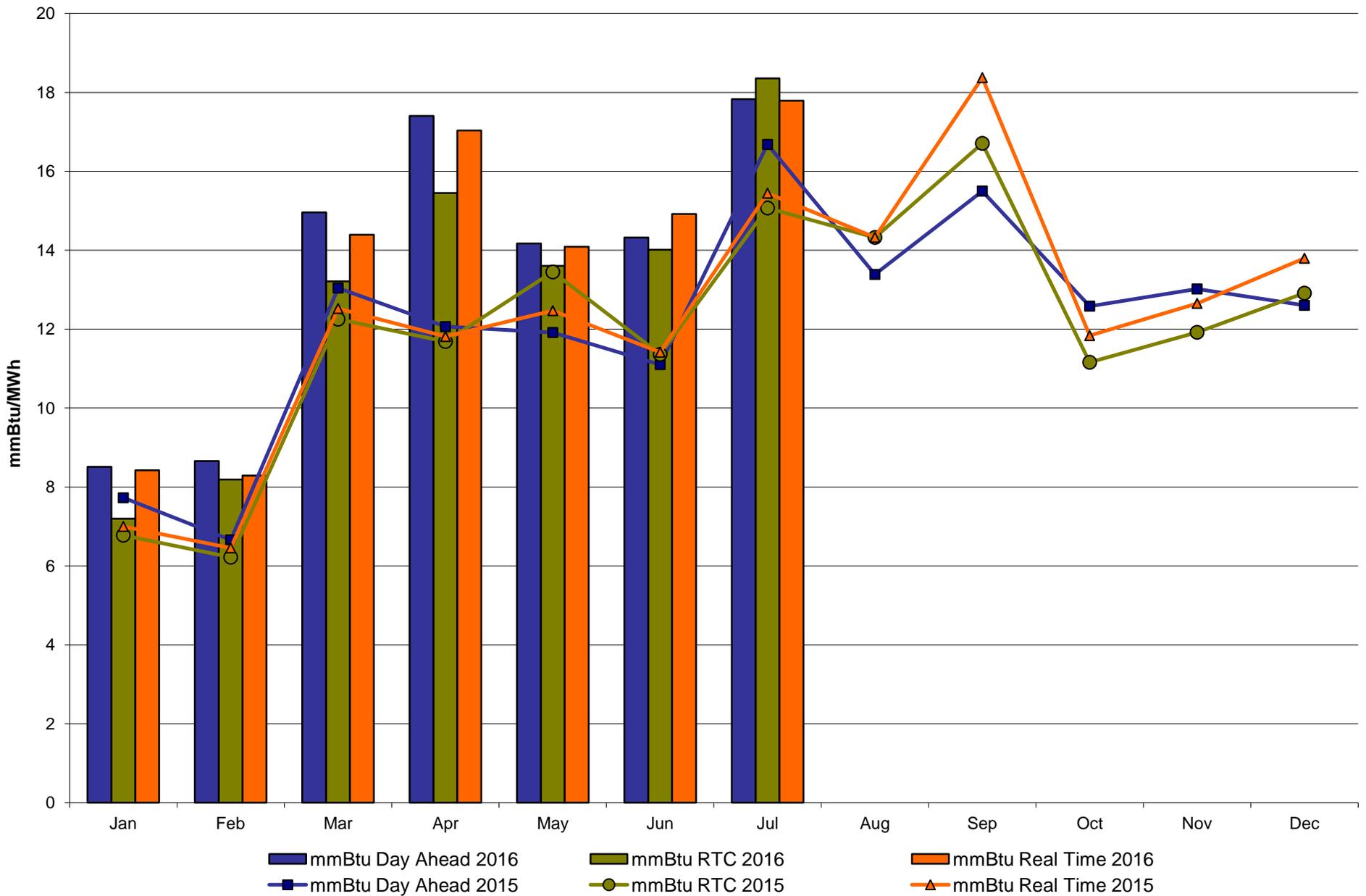
NYISO In City Energy Mitigation (NYC Zone) 2015 - 2016
Monthly megawatt hours mitigated



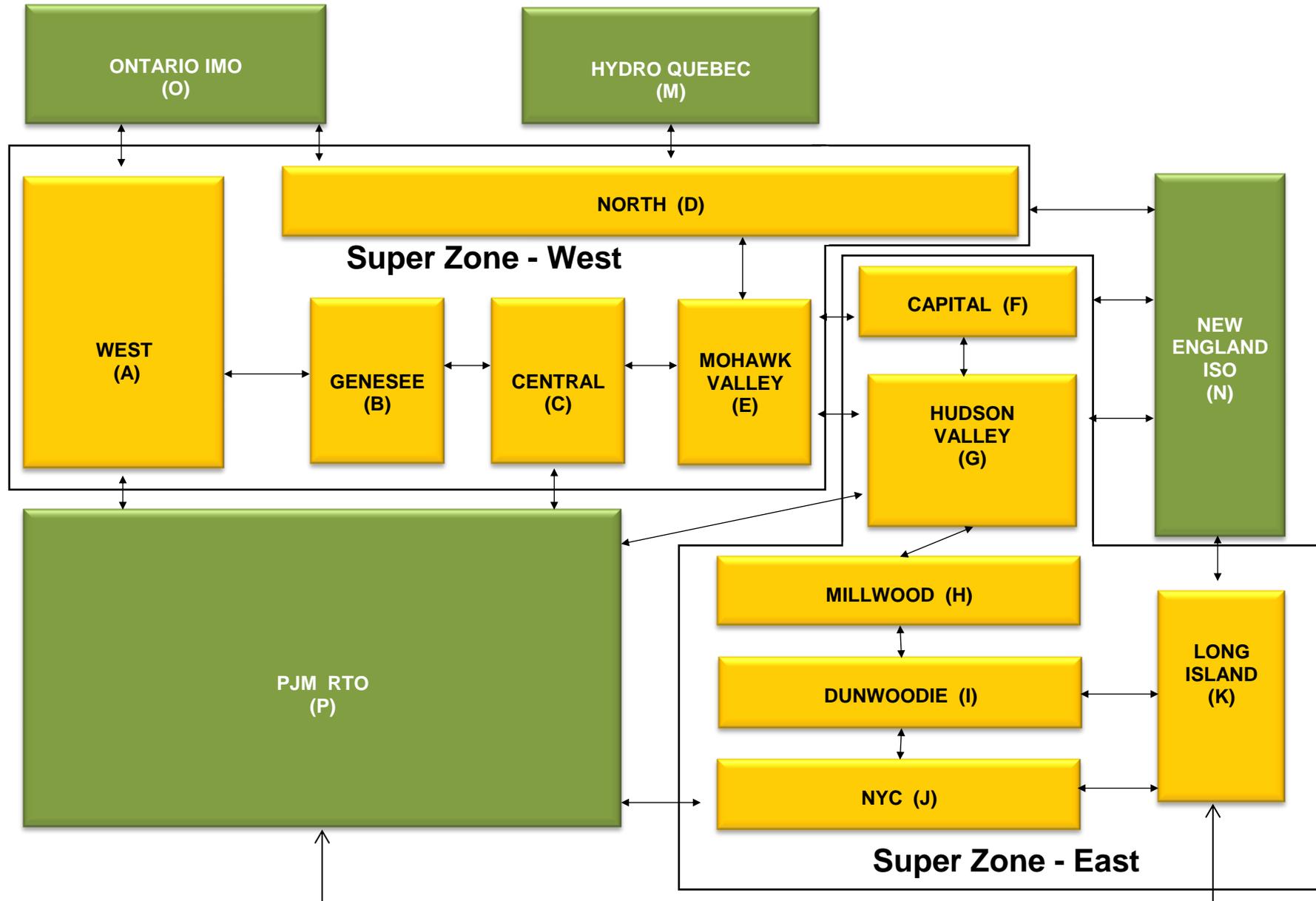
NYISO Average Daily DAM Load Bid Summary



Monthly Implied Heat Rate 2015-2016



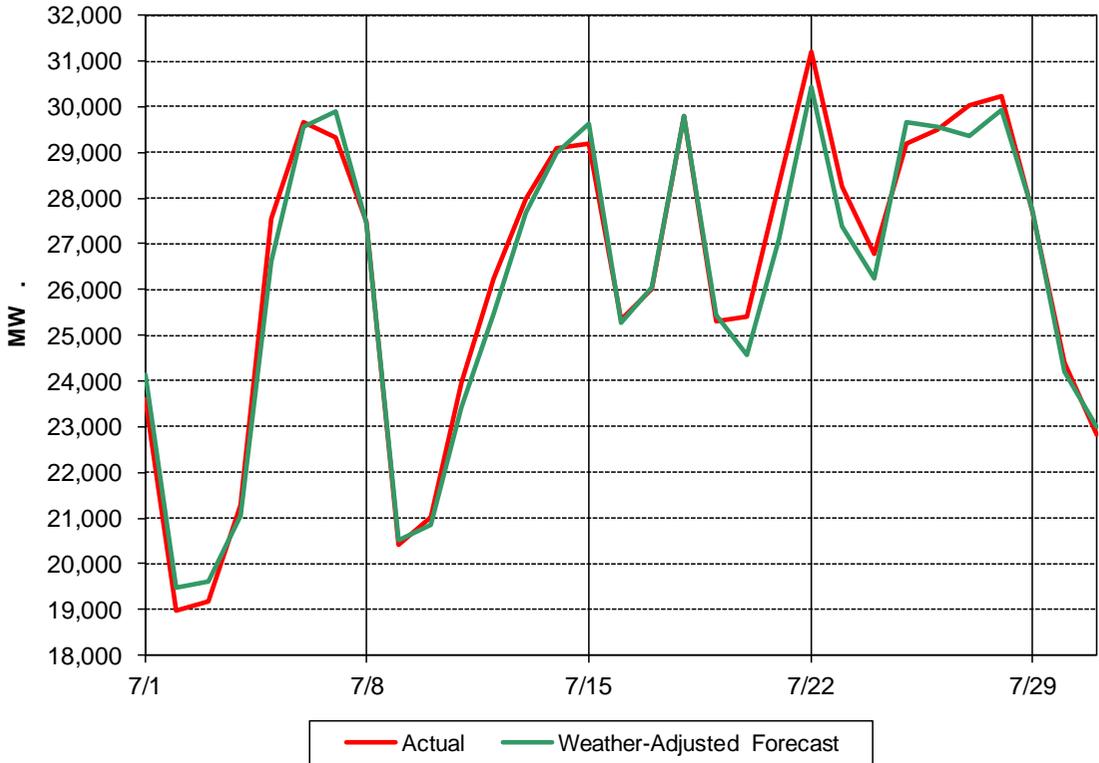
NYISO LBMP ZONES



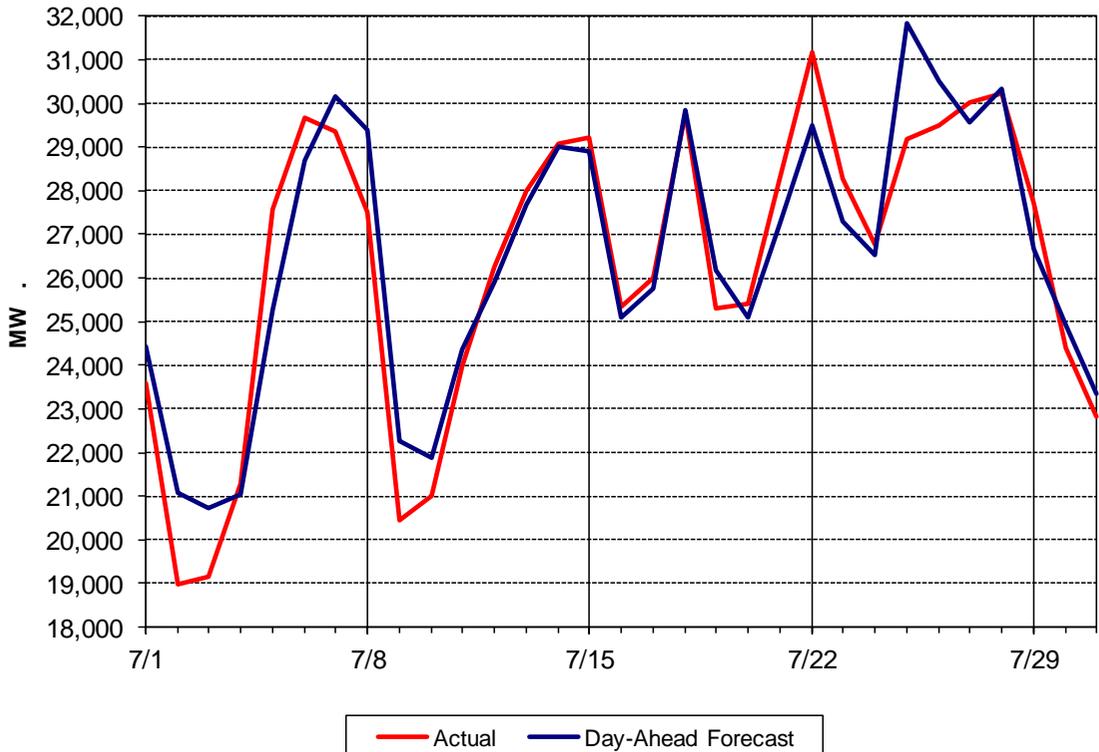
Billing Codes for Chart C

Chart - C Category Name	Billing Code	Billing Category Name
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

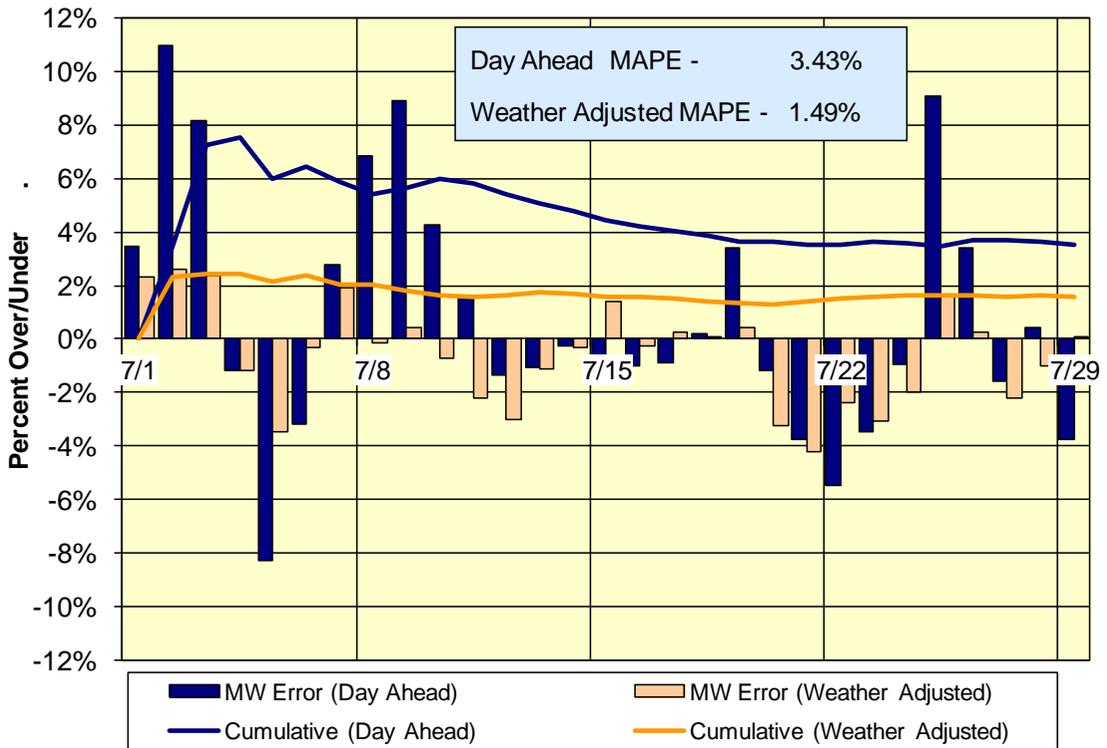
**NYISO Daily Peak Load - July 2016
Actual vs. Weather-Adjusted Forecast**



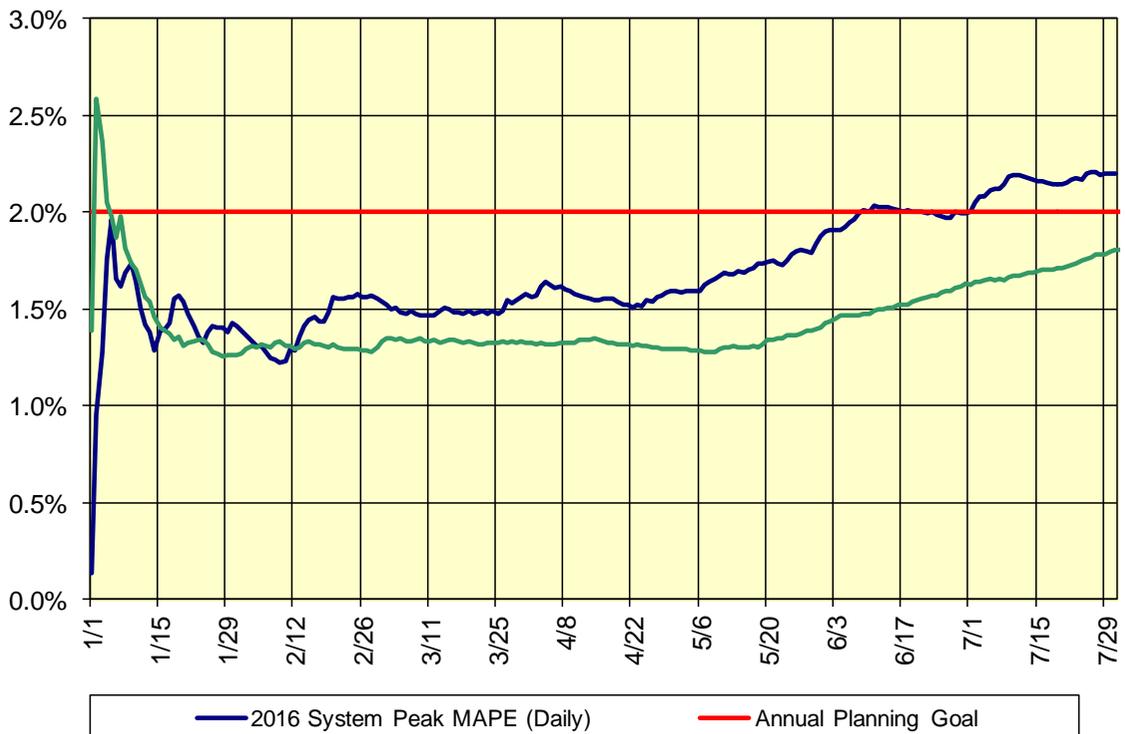
**NYISO Daily Peak Load - July 2016
Actual vs. Forecast**



Day Ahead Peak Forecast - July 2016 Percent Error - Actual & Weather Adjusted



Day-Ahead Forecast Accuracy - Cumulative Performance 2016 Year-to-Date



Summary Description of Regulatory Filings, Investigations, Rulemakings and Related Orders in NYISO Matters – July 2016

Filing Date	Filing Summary	Docket	Order Date	Order Summary
03/24/2015	NYISO motion filing re: request to discontinue the current semiannual informational filing obligation in Docket No. ER10-2220-000 regarding RMR compensation	ER10-2220-000	07/08/2016	FERC Letter Order accepted NYISO motion to terminate reporting obligation
05/02/2016	NYISO compliance filing re: remove certain rejected tariff language from Section 31.4 of the OATT and correct the tariff language in Section 6.1.6 of the OATT	ER13-1942-003	07/15/2016	FERC Letter Order accepted compliance filing with requested effective dates of 08/28/2015 and 01/15/2013, respectively
05/20/2016	NYISO 205 filing re: tariff revisions to implement certain enhancements to the process for conducting periodic reviews of the ICAP Demand Curves	ER16-1751-000	07/19/2016	FERC Order accepted revisions subject to NYISO filing a two week advance notice of the effective date
05/25/2016 05/26/2016	NYISO 205 and errata filing re: Operating Agreement between NYISO and New York Transco, LLC	ER16-1785-000 ER16-1785-001	07/19/2016	FERC Letter Order accepted Operating Agreement effective 05/23/2016, as requested
06/07/2016	NYISO compliance filing re: remove language from the OATT that was rejected by FERC in a 04/21/2016 order concerning NYISO's RMR compliance filing	ER16-120-002	07/01/2016	FERC Letter Order accepted the tariff revisions effective on the three requested dates (<i>i.e.</i> , 10/20/2015, 02/19/2016, and 04/01/2016)
06/07/2016	NYISO filing re: two week notice of a 06/21/2016 effective date for certain comprehensive scarcity pricing tariff revisions	ER16-425-002	07/01/2016	FERC Letter Order accepted the tariff revisions effective 06/22/2016
06/16/2016	NYISO compliance filing re: two week advance notice setting an effective date of 06/30/2016 for the supplemental scarcity pricing tariff revisions accepted by the Commission's 06/10/2016 order	ER16-425-003	07/01/2016	FERC Letter Order accepted the tariff revisions effective 06/22/2016, as requested
06/21/2016	NYISO filing re: notice of a delay in the effective date for implementation of comprehensive scarcity pricing tariff provisions	ER16-425-004	07/01/2016	FERC Letter Order accepted the tariff revisions effective 06/22/2016, as requested
06/22/2016	NYISO filing re: notice setting an effective date for implementation of certain comprehensive scarcity pricing tariff provisions	ER16-425-005	07/01/2016	FERC Letter Order accepted the tariff revisions effective 06/22/2016, as requested

07/01/2016	NYISO filing with the NYS Appellate Division re: motion to dismiss the Boundless Energy NE, LLC petition v. NYPSC, NYISO, et. al. seeking to annul 2 PSC orders concerning transmission needs driven by public policy requirements	Docket No. 522738		
07/08/2016	NYISO filing with the NYPSC re: supplemental comments on the Clean Energy Standard	PSC Case No. 15-E-0302		
07/12/2016	NYISO and NYPA joint filing re: executed Large Generator Interconnection Agreement (SA 2276) among NYISO, NYPA and Jericho Rise Wind Farm	ER16-2183-000		
07/12/2016	NYISO filing re: second quarter 2016 Electric Quarterly Report (EQR)	ER02-2001-000		
07/13/2016	NYISO confidential filing with the NYPSC re: three-month reliability commitment data report for the period ending 06/30/2016	PSC Matter No. 10-02007		
07/15/2016	NYISO filing re: Bimonthly Lobbying report to the NY Joint Committee on Public Ethics	No Case or Docket No.		
07/15/2016	NYISO filing re: Client Semi-Annual Report to the NY Joint Committee on Public Ethics	No Case or Docket No.		
07/15/2016	NYISO filing, with the NYS Appellate Division, of a reply memorandum of law in further support of its 07/01/2016 motion to dismiss the Boundless Energy NE, LLC petition v. NYPSC, NYISO, et. al.	Docket No. 522738		
07/18/2016	NYISO, ISO-NE, ERCOT, MISO, and SPP filing, with the US Energy Information Administration, of joint comments on proposed revisions to Form EIA-930, Balancing Authority Operations Report	No Case or Docket No.		
07/20/2016	NYISO confidential filing with the NYPSC re: project tracking report of nuclear generator output data	PSC Matter No. 10-02007		
07/21/2016	NYISO filing re: answer to complaint filed by the NYPSC, et.al. v. NYISO concerning the buyer-side market power mitigation rules for Special Case Resources	EL16-92-000 EL07-39-000 ER10-2371-000		
07/22/2016	NYISO filing with the NYPSC re: response to the request for comments on the NYPSC Staff's Responsive Proposal for Preserving Zero-Emissions	PSC Case No. 15-E-0302		
07/26/2016	NYISO filing on behalf of NMPC re: small generator interconnection agreement (SA 2293) between NMPC and Innovative/Colonie	ER16-2287-000		

07/27/2016	NYISO refiling on behalf of NMPC re: corrected small generator interconnection agreement (SA 2293) between NMPC and Innovative/Colonie	ER16-2287-001		
07/27/2016	NYISO filing re: Major Emergency Report notifying FERC that an Emergency State existed in the NYCA on 07/27/2016	EY16-5-000		
07/28/2016	NYISO filing re :post workshop comments concerning reactive supply (voltage support service) compensation in markets operated by RTOs and ISOs	AD16-17-000		
07/30/2016	NYISO filing re: Major Emergency Report notifying FERC that an Emergency State existed in the NYCA on 07/30/2016	EY16-6-000		