

# Monthly Report

February 2014

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# Operations Performance Metrics Monthly Report



# February 2014 Report

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



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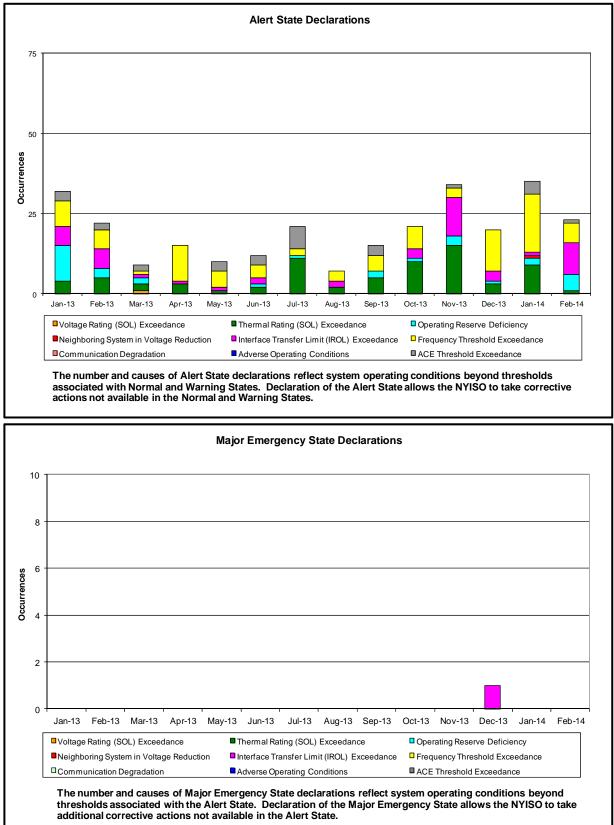


# February 2014 Operations Performance Highlights

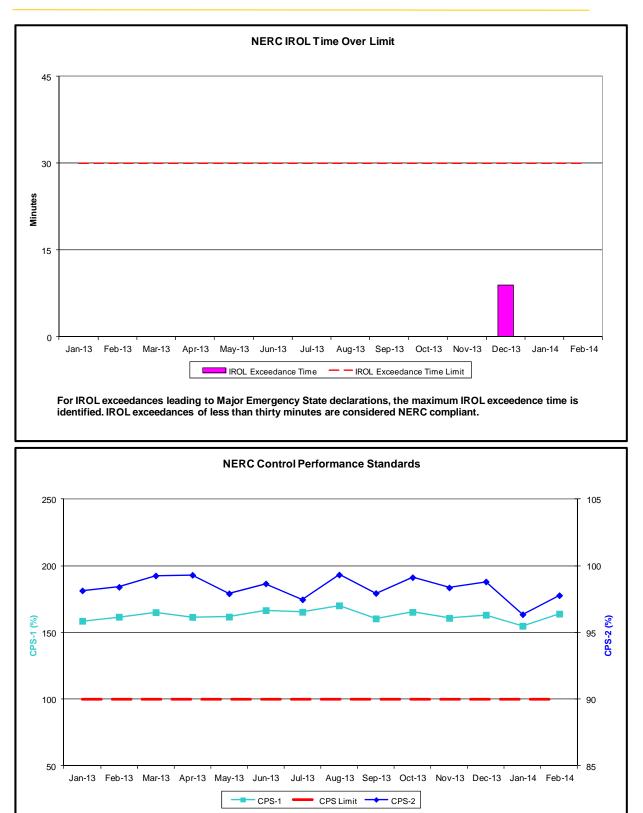
- Peak load of 23,487 MW occurred on 2/11/2014 HB 18
- All-time winter capability period peak load of 25,738 MW occurred on 1/7/2014 HB 18
- 3 hours of Thunder Storm Alerts were declared
- 7 hours of NERC TLR level 3 curtailment
- Broader Regional Market Coordination monthly value was \$1.72M
  - Branchburg-Ramapo 500kV (#5018) circuit out-of-service 2/7 2/23
- Broader Regional Market Coordination year-to-date value was \$5.30M
- Statewide uplift cost monthly average was \$(0.49)/MWh
- Local reliability uplift cost monthly average was \$0.73/MWh
- NYPA completed project to separate the Moses-Willis MW-1 and MW-2 circuits on 2/13. NYISO will no longer evaluate the MW-1 and MW-2 common tower contingency, as reflected in the Emergency Operations Manual.



## • Reliability Performance Metrics

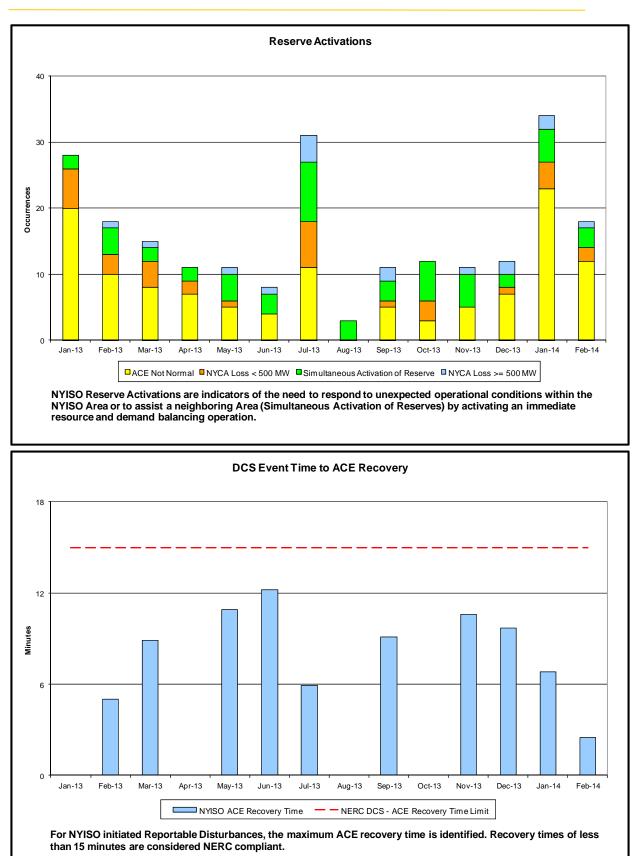




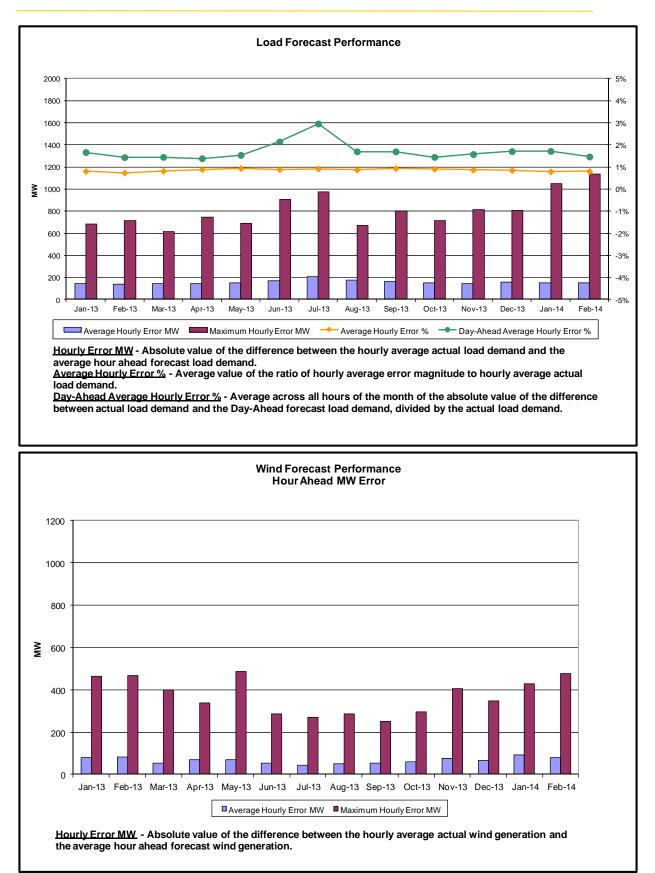


The values of NERC Control Performance Standards (CPS-1 and CPS-2) are indicators of the NYISO Area resource and demand balancing. Values exceeding the identified thresholds are NERC compliant.

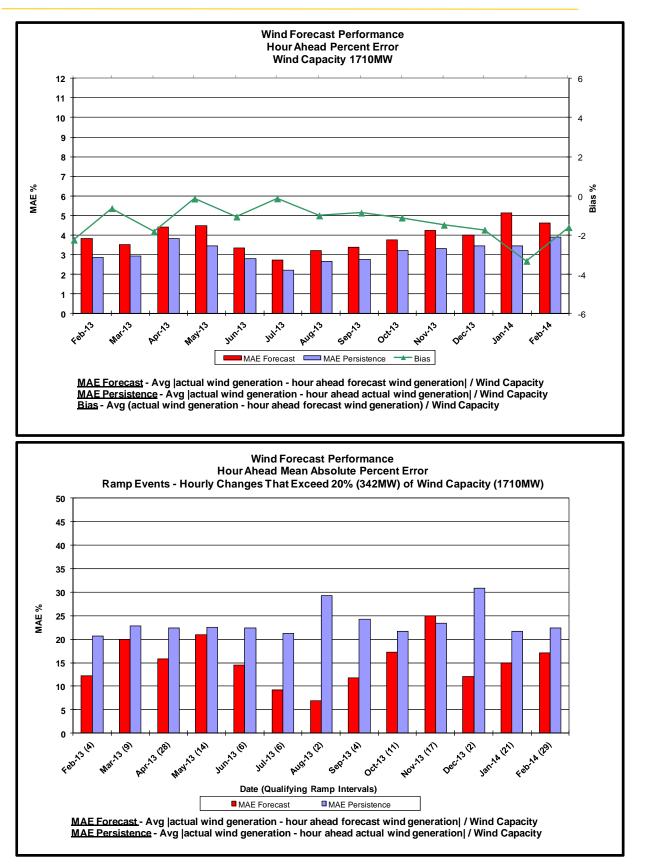




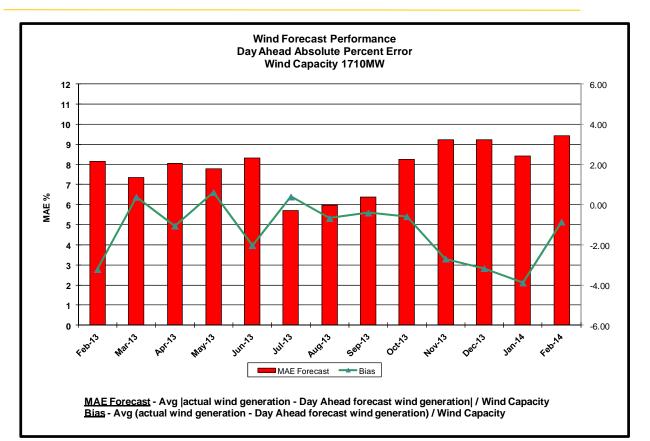


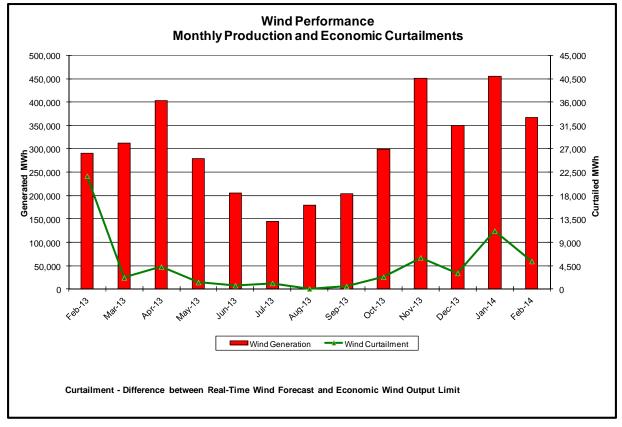




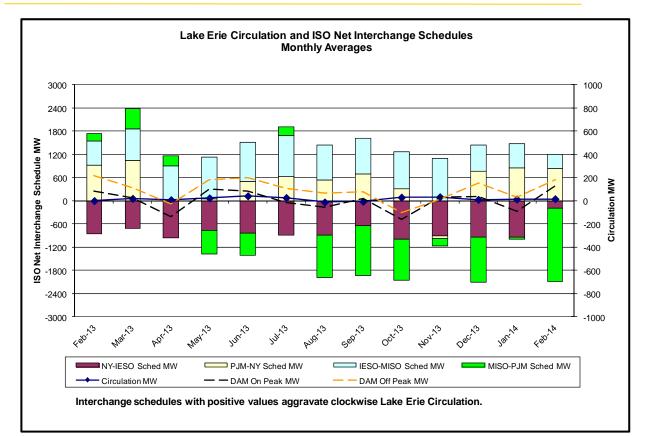


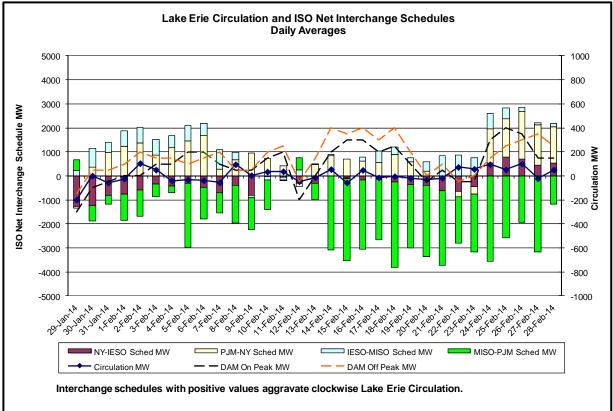




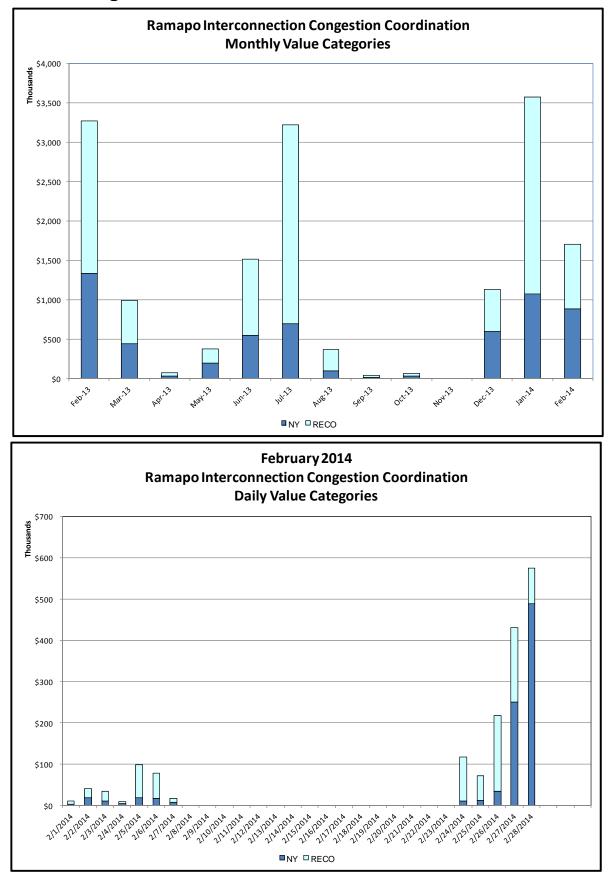












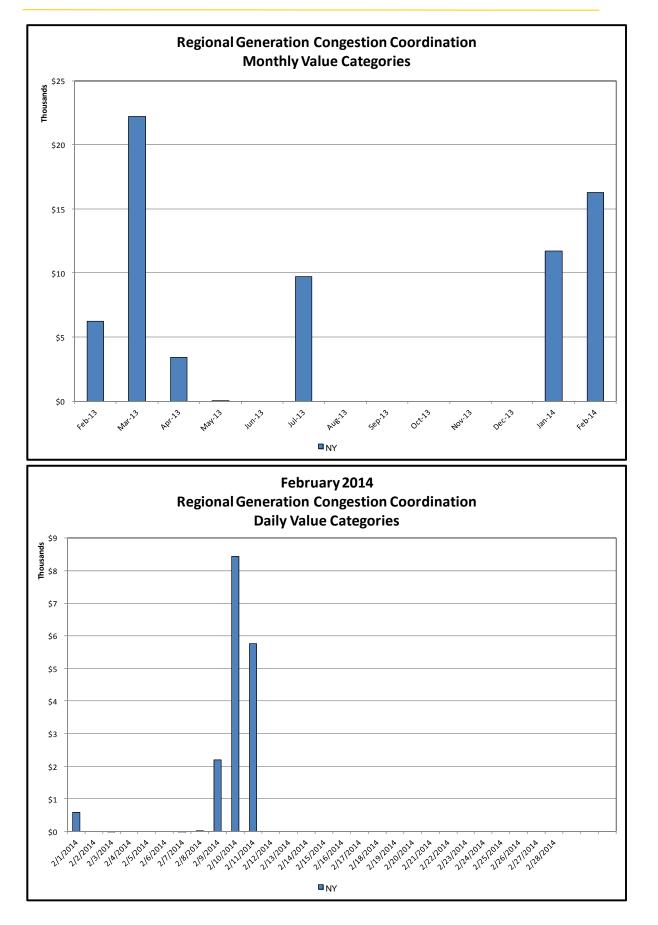
# **Broader Regional Market Performance Metrics**



# Ramapo Interconnection Congestion Coordination

<u>Category</u> NY	<u>Description</u> 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 congestio for the under-delivery or inability to deliver service to RECO load over Ramapo 5018.







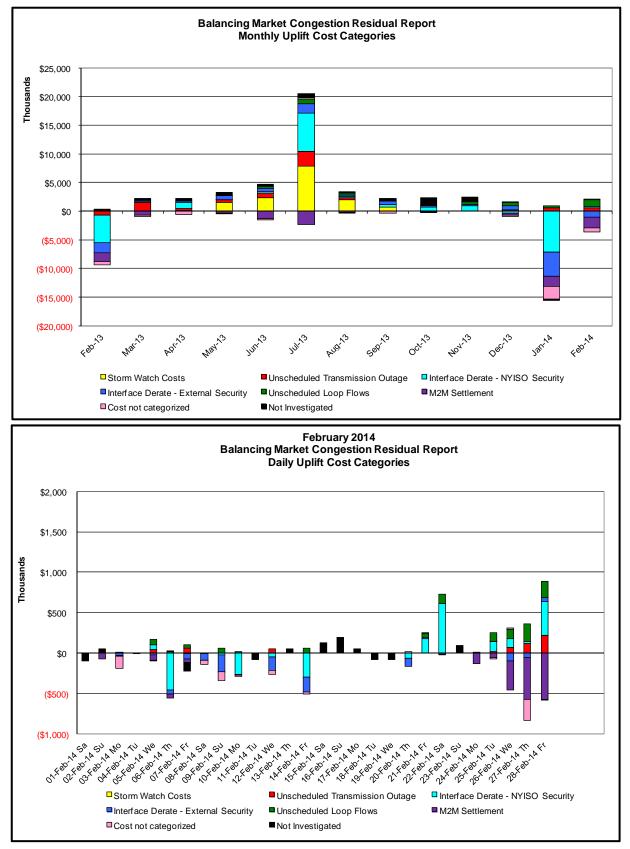
### **Regional Generation Congestion Coordination**

<u>Category</u> NY

<u>Description</u> 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**



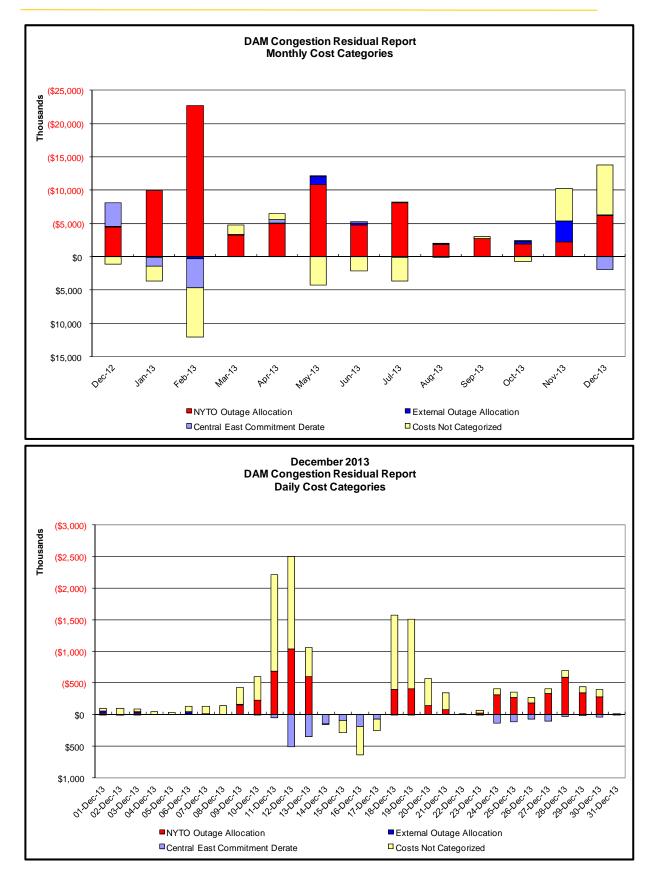


Event	Description	February Dates
	Extended outage Gilboa-Fraser 345kV (#GF5-35)	25,26,27,28
	Extended outage New Scotland-Marcy 345kV (#18)	5
	Forced outage Branchburg-Ramapo 500kV (#5018), Ramapo 345_345 Par 4500	27
	Forced outage East Garden City-Sprainbrook 345kV (#Y49)	12
	Forced outage FreshKills-WillowBrook 138kV (#29211)	26
	Forced outage of Valley Stream-Jamaica 138kV (#901)	7
	Forced outage Ramapo 345_345 Par 4500	28
	Derate Astoria East - Hellgate East 138kV (#34052)	12
	Derate Central East	5,7,8,10,12,21,22,25,26,27,28
	Derate East Garden City-Valley Stream 138kV (#262) for I/o BUS:BARRETT 292, 459 & G2	12
	Derate East Garden City-Valley Stream 138kV (#262) for I/o SCB:NEWBRIDGE 1380, 461 & BK6	7
	Derate Freeport-Newbridge 138kV (#461)	12,27,28
	Derate Freshkills 345/138 Transformer (#TA1) for I/o Gowanus-Goethals 345kV (#26)	12
	Derate Freshkills 345/138 Transformer (#TA1) for SCB:GOWANUS(16):42&26	5,12
	Derate Jamaica-Lake Success 138kV (#903)	12
	Derate Sprainbrook-East Garden City 345kV (#Y49)	21,22,25
	NYCA DNI Ramp Limit	3,5,6,7,9,10,12,14,20,21,25,26,27,28
	Uprate Central East	6,7,8,10,12,14,20,26,27
	Uprate Dysinger East	6
	Uprate Hudson Avenue-Jamaica 138kV (#701)	12,14
	Uprate Motthaven-Dunwoodie 345kV (#72)	12
	HQ_CHAT DNI Ramp Limit	3,12,26,27,28
	HQ_CHAT-NY Scheduling Limit	7,8,9,12
	IESO_AC DNI Ramp Limit	6,12,22,25,26
	IESO_AC-NY Scheduling Limit	25
	NE_AC DNI Ramp Limit	12,28
	NE_AC-NY Scheduling Limit	3,5,6,7,8,9,14,20,21,25,26
	NE_NNC1385 - NY Scheduling Limit	6,9,14,20,25,26
	PJM_AC DNI Ramp Limit	7,9,12
	PJM_AC-NY Scheduling Limit	5,26,27,28
	Lake Erie Clockwise Circulation, DAM-RTM exceeds 125MW; Central East	5,7,9,10,14,21,22,25,26,27,28
	Lake Erie Clockwise Circulation, DAM-RTM exceeds 125MW; Dysinger East	6

#### Real-Time Balancing Market Congestion Residual (Uplift Cost) Categories Category Cost Assignment Events Types Event Examples Storm Watch Thunderstorm Alert (TSA) TSA Activations Zone J Reduction in DAM to RTM transfers Unscheduled Transmission Outage Market-wide Forced Line Outage, related to unscheduled Unit AVR Outages transmission outage Interface Derate - NYISO Security Market-wide Reduction in DAM to RTM transfers Interface Derates due to not related to transmission outage **RTM voltages** Reduction in DAM to RTM transfers Interface Derate - External Security Market-wide TLR Events, **External Transaction** related to External Control Area Security Events Curtailments Unscheduled Loop Flows Changes in DAM to RTM DAM to RTM Clockwise Market-wide unscheduled loop flows impacting Lake Erie Loop Flows NYISO Interface transmission greater than 125 MW constraints M2M Settlement Market-wide Settlment result inclusive of coordianted 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



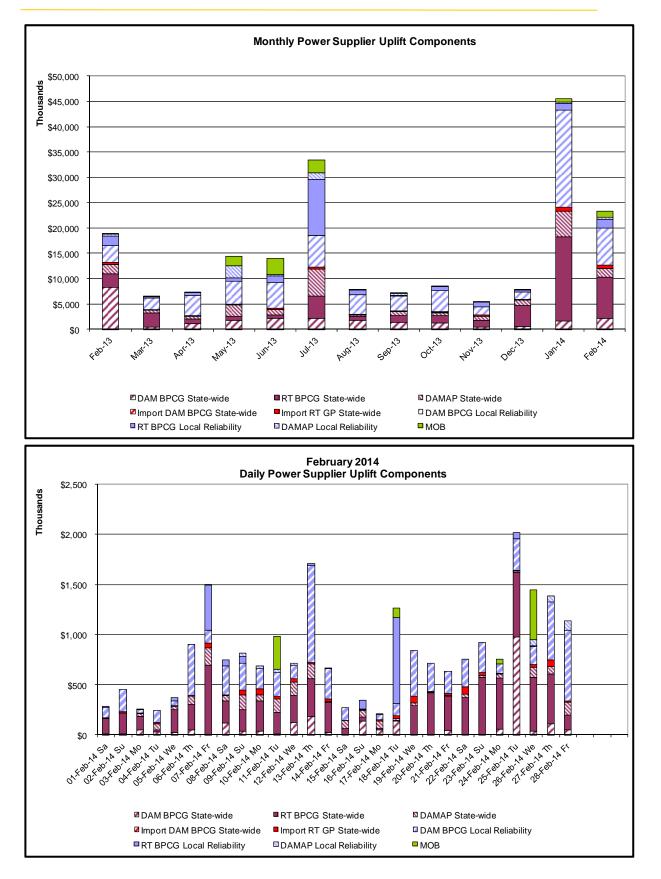




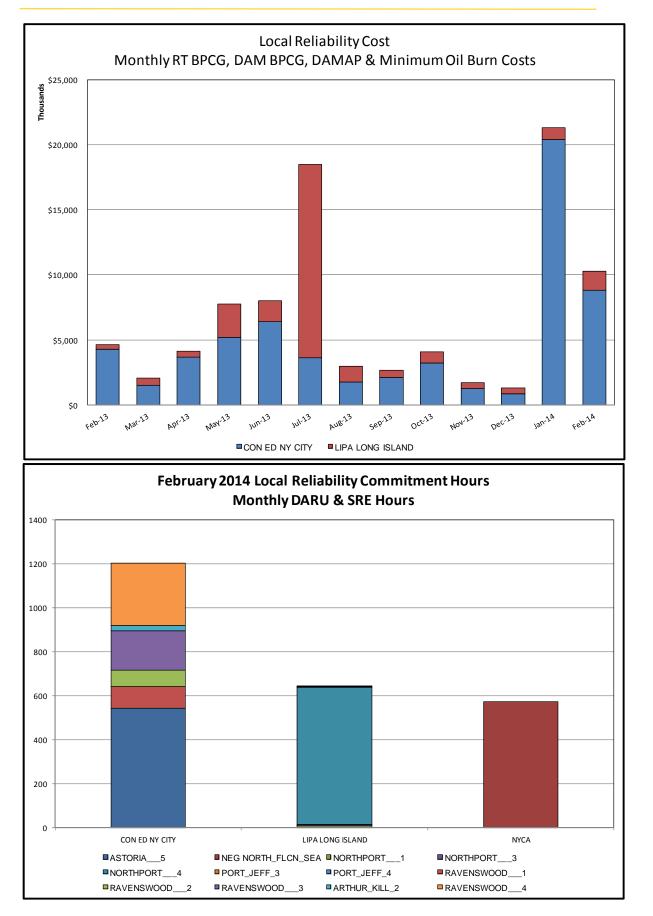
# Day-Ahead Market Congestion Residual Categories

<u>Category</u> NYTO Outage Allocation	<u>Cost Assignment</u> Responsible TO	<u>Events Types</u> Direct allocation to NYTO's responsible for transmission equipment status change.	<u>Event Examples</u> 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.	

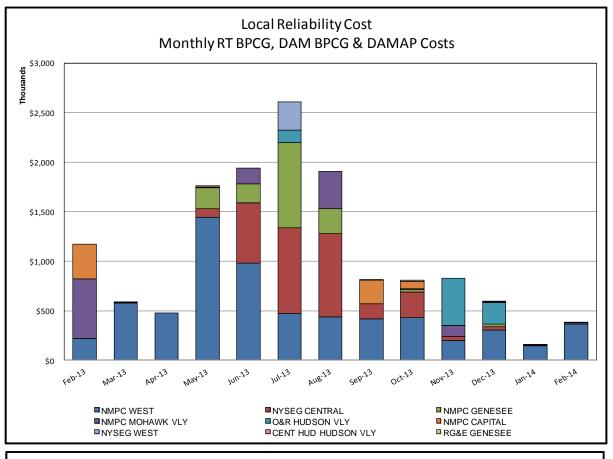




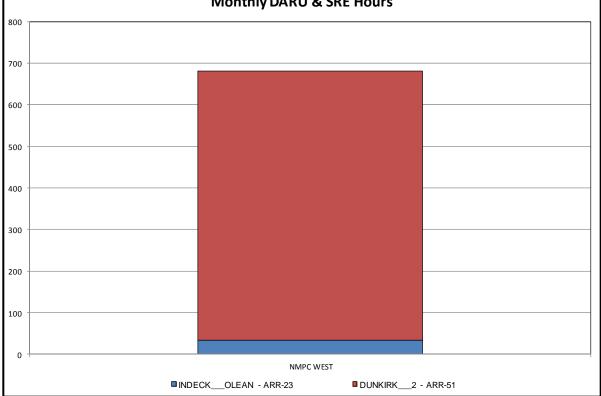




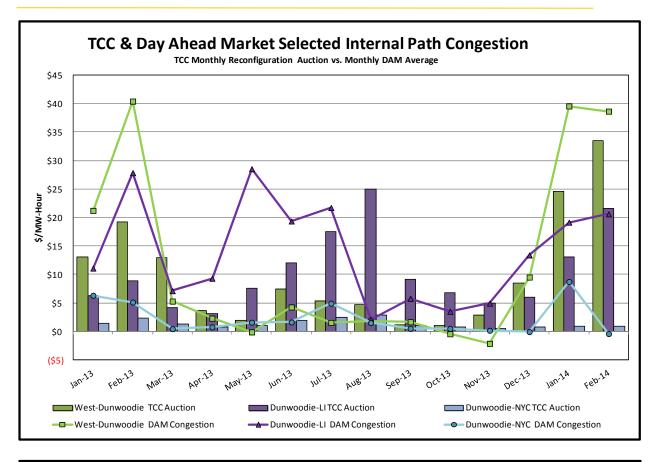


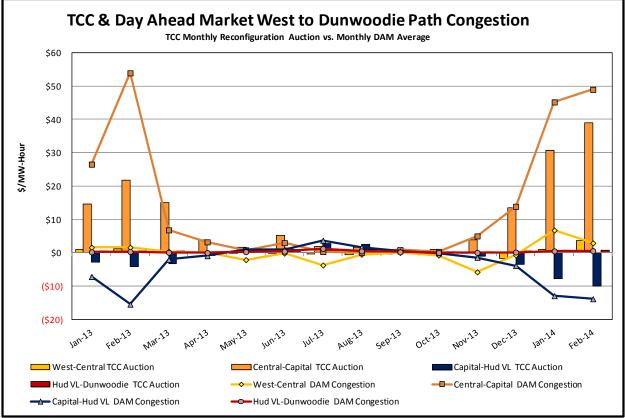


# February 2014 Local Reliability Commitment Hours Monthly DARU & SRE Hours

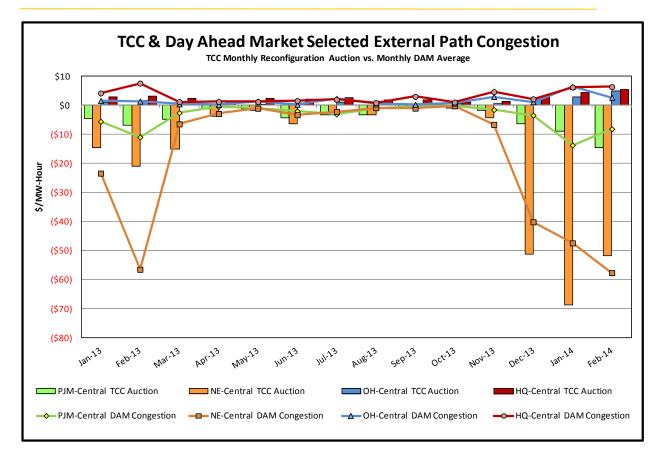




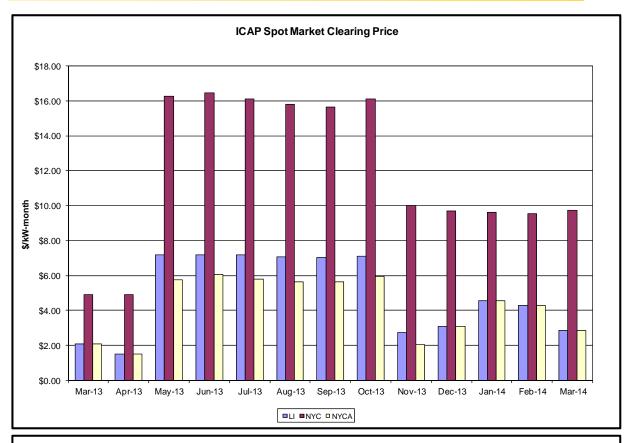


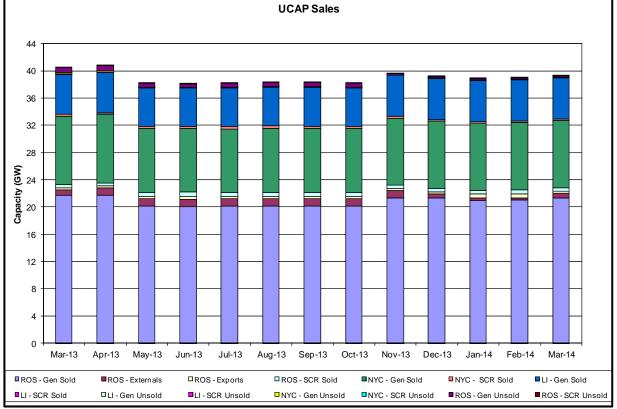






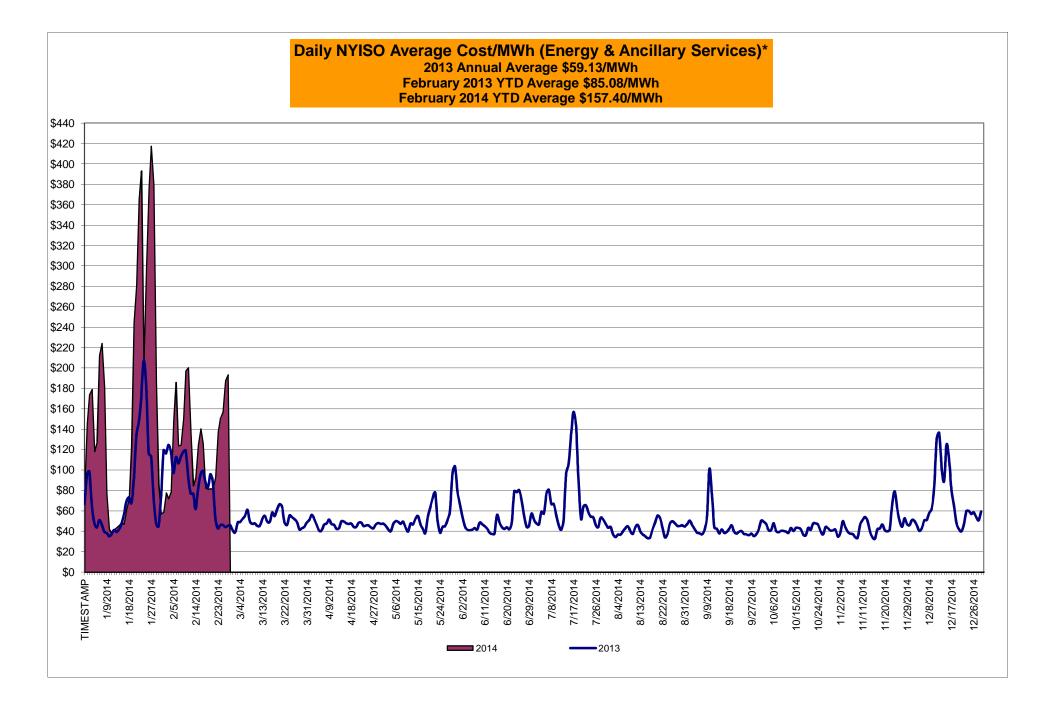






# Market Performance Highlights for February 2014

- LBMP for February is \$123.16/MWh; 33% lower than \$183.25/MWh in January 2014 and 44% higher than \$85.76/MWh in February 2013.
  - Day Ahead and Real Time Load Weighted LBMPs are lower compared to January.
- February 2014 average year-to-date monthly cost of \$157.40/MWh is an 85% increase from \$85.08/MWh in February 2013.
- Average daily sendout is 460 GWh/day in February; lower than 475 GWh/day in January 2014 and higher than 453 GWh/day in February 2013.
- Natural gas prices were lower compared to the previous month, and distillate prices were higher compared to the previous month.
  - Natural Gas (Transco Z6 NY) was \$11.64/MMBtu, down 58% from \$27.43/MMBtu in January.
  - Jet Kerosene Gulf Coast was \$21.96/MMBtu, up from \$21.65/MMBtu in January.
  - Ultra Low Sulfur No.2 Diesel NY Harbor was \$23.10/MMBtu, up from \$22.26/MMBtu in January.
- Uplift per MWh is lower compared to the previous month.
  - Uplift (not including NYISO cost of operations) is \$0.25/MWh; higher than (\$0.36)/MWh in January.
    - The Local Reliability Share is \$0.73/MWh, lower than \$1.38 in January.
    - The Statewide Share is (\$0.49)/MWh, higher than (\$1.73)/MWh in January.
  - TSA \$ per NYC MWh is \$0.00/MWh.
  - Total uplift costs (Schedule 1 components including NYISO Cost of Operations) are higher than January.

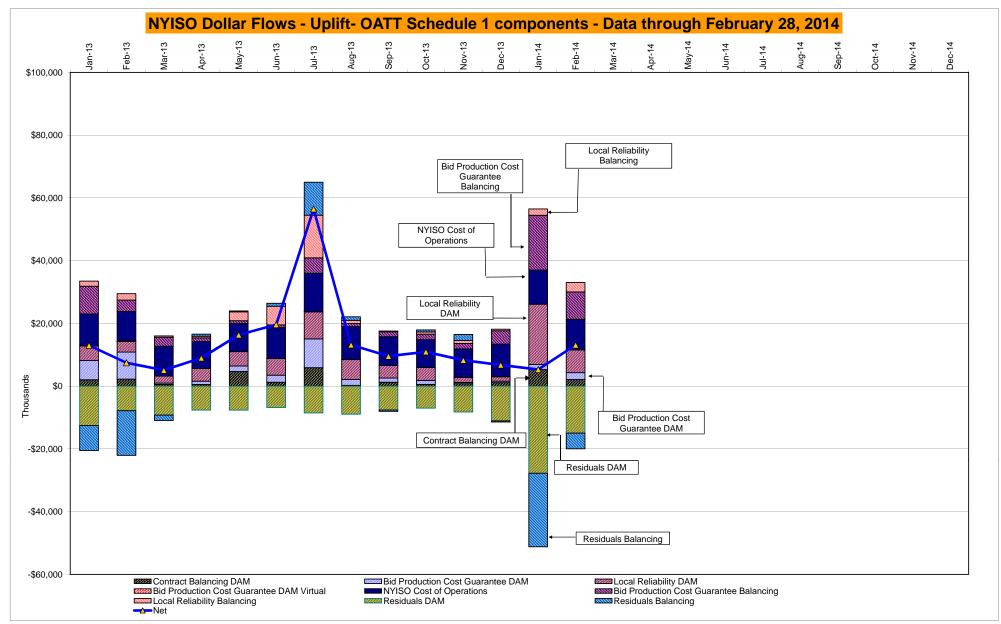


\* Excludes ICAP payments.

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

2014	January	February	March	April	May	June	July	August	September	October	November	December
LBMP	183.25	123.16	March	April	iviay	<u>ounc</u>	<u>oury</u>	August			November	December
NTAC	0.56	0.64										
Reserve	0.78	0.49										
Regulation	0.27	0.40										
NYISO Cost of Operations	0.27	0.21										
Uplift	(0.36)	0.05										
Uplift: Local Reliability Share	1.38	0.23										
Uplift: Statewide Share	(1.73)	(0.49)										
Voltage Support and Black Start	0.36	0.36										
Avg Monthly Cost												
Avg Monthly Cost	185.55	125.81										
Avg YTD Cost	185.55	157.40										
TSA \$ per NYC MWh	0.00	0.00										
2013	January	<b>February</b>	March	<u>April</u>	May	June	<u>July</u>	August	<u>September</u>	October	November	December
LBMP	79.77	85.76	48.94	44.47	52.21	50.17	68.49	40.81	44.24	39.83	43.27	66.39
NTAC	0.79	0.83	0.76	0.90	0.85	0.86	0.66	0.28	0.57	0.91	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	2.07	0.03	(0.04)	0.16	(0.06)	(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)	0.80	(0.46)	(0.36)	(0.21)	(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
Avg Monthly Cost	82.34	88.06	50.96	46.91	55.10	53.05	72.88	42.62	46.32	42.55	45.86	68.34
Avg YTD Cost	82.34	85.08	74.02	67.80	65.46	63.36	65.10	62.27	60.74	59.30	58.23	59.13
Avg TTD Cost	02.34	05.00	74.02	07.00	03.40	03.30	03.10	02.27	00.74	59.50	50.25	59.15
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
2012	<u>January</u>	<u>February</u>	March	<u>April</u>	May	June	July	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	December
LBMP	44.00	32.45	28.98	28.31	34.68	47.37	63.80	46.24	39.59	39.30	50.16	44.67
NTAC	0.85	0.80	0.68	0.71	0.72	0.77	0.58	0.65	0.57	0.70	0.75	0.83
Reserve	0.35	0.25	0.38	0.32	0.13	0.36	0.36	0.22	0.23	0.29	0.40	0.26
Regulation	0.10	0.08	0.13	0.12	0.09	0.15	0.15	0.12	0.09	0.10	0.11	0.09
NYISO Cost of Operations	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Uplift	0.44	0.17	0.00	(0.18)	(0.11)	0.61	0.23	0.22	(0.33)	1.04	0.82	(0.11)
Uplift: Local Reliability Share	0.49	0.27	0.19	0.07	0.25	0.42	0.49	0.83	0.26	0.67	0.72	0.30
Uplift: Statewide Share	(0.05)	(0.10)	(0.19)	(0.25)	(0.36)	0.19	(0.26)	(0.61)	(0.59)	0.38	0.11	(0.41)
Voltage Support and Black Start	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Avg Monthly Cost	46.75	34.75	31.19	30.29	36.52	50.27	66.14	48.46	41.17	42.44	53.26	46.74
Avg YTD Cost	46.75	41.12	37.96	36.09	36.18	38.89	44.26	44.91	44.51	44.33	45.14	45.28
TSA \$ per NYC MWh * Excludes ICAP payments. Market Mitigation and Analysis	0.00	0.00	0.00	0.00	1.52	0.45	0.85	0.46	0.59	0.00 Data re	0.00 eflects true-ups thr	<b>0.00</b> u Sept 2013.

Market Mitigation and Analysis Prepared: 3/6/2014 8:17 AM



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

	NYISO Markets Transactions									
2014	January	February	March	April	May	June	July	August September	October Nove	mber December
Day Ahead Market MWh		14,409,515								
DAM LSE Internal LBMP Energy Sales	52%	50%								
DAM External TC LBMP Energy Sales	5%	7%								
DAM Bilateral - Internal Bilaterals	36%	36%								
DAM Bilateral - Importl/Non-LBMP Market Bilaterals	5%	5%								
DAM Bilateral - Export/Non-LBMP Market Bilaterals	2%	1%								
DAM Bilateral - Wheel Through Bilaterals	1%	1%								
Balancing Energy Market MWh	-240,397	-285,718								
Balancing Energy LSE Internal LBMP Energy Sales	-237%	-208%								
Balancing Energy External TC LBMP Energy Sales	109%	80%								
Balancing Energy Bilateral - Internal Bilaterals	21%	28%								
Balancing Energy Bilateral - Importl/Non-LBMP Market Bilaterals	0%	0%								
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	11%	6%								
Balancing Energy Bilateral - Wheel Through Bilaterals	-5%	-6%								
Transactions Summary										
LBMP	56%	56%								
Internal Bilaterals	37%	37%								
Import Bilaterals	5%	5%								
Export Bilaterals	2%	1%								
Wheels Through	1%	1%								
Market Share of Total Load										
Day Ahead Market	101.5%	102.0%								
Balancing Energy +	-1.5%	-2.0%								
Total MWH	15,793,868	14,123,796								
Average Daily Energy Sendout/Month GWh	475	460								
2013	lanuary	February	March	April	May	lune	luly	August September	Octobor Nov	mber December

<u>2013</u>	<u>January</u>	<u>February</u>	March	<u>April</u>	May	<u>June</u>	<u>July</u>	<u>August</u>	September	<u>October</u>	November	<u>December</u>
Day Ahead Market MWh	15,140,096	14,116,189	14,250,091	12,963,905	13,451,310	14,872,971	17,974,314	16,090,437	14,021,472	13,411,499	13,692,854	15,406,816
DAM LSE Internal LBMP Energy Sales	56%	55%	56%	57%	56%	57%	59%	57%	55%	51%	52%	52%
DAM External TC LBMP Energy Sales	4%	6%	3%	3%	1%	1%	1%	0%	0%	0%	3%	6%
DAM Bilateral - Internal Bilaterals	38%	37%	38%	37%	37%	36%	33%	36%	38%	41%	40%	36%
DAM Bilateral - Importl/Non-LBMP Market Bilaterals	0%	0%	0%	0%	3%	4%	5%	5%	4%	5%	4%	4%
DAM Bilateral - Export/Non-LBMP Market Bilaterals	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	2%	1%
DAM Bilateral - Wheel Through Bilaterals	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Balancing Energy Market MWh	-471,167	-648,574	-501,253	-525,278	-501,948	-669,315	-294,946	-915,232	-759,051	-682,567	-573,122	-528,397
Balancing Energy LSE Internal LBMP Energy Sales	-131%	-117%	-127%	-123%	-133%	-115%	-189%	-113%	-120%	-123%	-134%	-131%
Balancing Energy External TC LBMP Energy Sales	33%	20%	23%	21%	35%	16%	78%	9%	11%	14%	23%	16%
Balancing Energy Bilateral - Internal Bilaterals	4%	10%	11%	3%	5%	4%	11%	3%	6%	6%	4%	13%
Balancing Energy Bilateral - Importl/Non-LBMP Market Bilaterals	0%	0%	0%	0%	0%	1%	4%	0%	0%	0%	0%	0%
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	5%	3%	4%	5%	4%	2%	3%	1%	2%	4%	7%	5%
Balancing Energy Bilateral - Wheel Through Bilaterals	-11%	-16%	-11%	-6%	-11%	-9%	-7%	0%	1%	0%	1%	-4%
Transactions Summary												
LBMP	59%	59%	58%	59%	55%	56%	59%	54%	53%	49%	52%	56%
Internal Bilaterals	39%	39%	40%	39%	39%	38%	34%	39%	41%	43%	41%	38%
Import Bilaterals	0%	0%	0%	0%	4%	4%	5%	5%	4%	6%	4%	4%
Export Bilaterals	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%	2%
Wheels Through	1%	0%	1%	1%	0%	1%	1%	1%	1%	1%	1%	1%
Market Share of Total Load												
Day Ahead Market	103.2%	104.8%	103.6%	104.2%	103.9%	104.7%	101.7%	106.0%	105.7%	105.4%	104.4%	103.6%
Balancing Energy +	-3.2%	-4.8%	-3.6%	-4.2%	-3.9%	-4.7%	-1.7%	-6.0%	-5.7%	-5.4%	-4.4%	-3.6%
Total MWH	14,668,929	13,467,615	13,748,838	12,438,627	12,949,362	14,203,656	17,679,368	15,175,205	13,262,421	12,728,932	13,119,732	14,878,419
Average Daily Energy Sendout/Month GWh	453	453	429	398	407	469	561	485	438	407	421	450

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

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

Market Mitigation and Analysis Prepared: 3/6/2014 8:46 AM Notes: Percent totals may not equal 100% due to rounding. Virtual Transactions are not reflected in this chart.

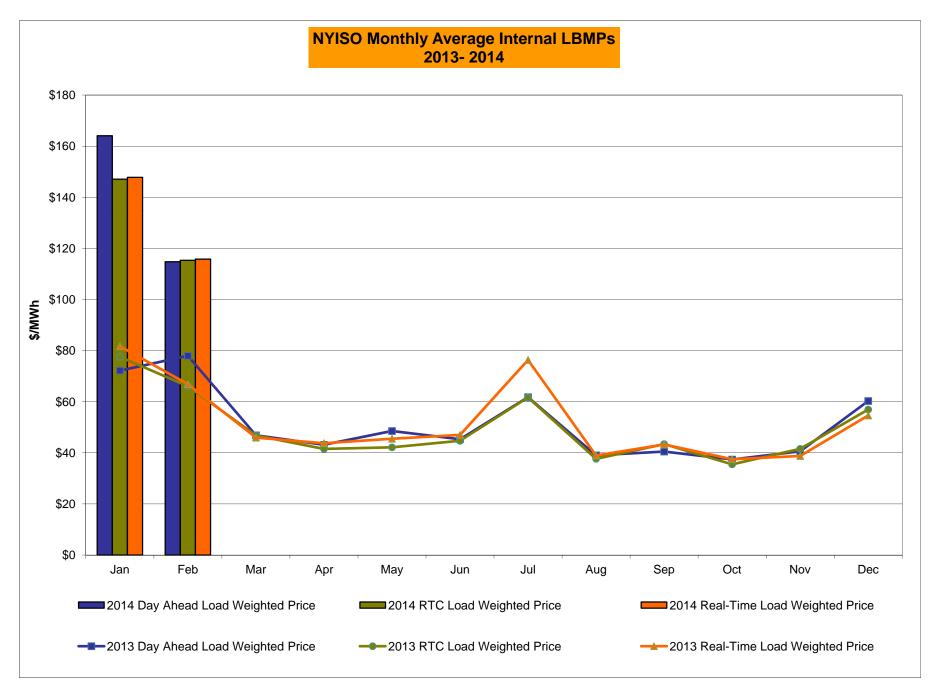
## NYISO Markets 2014 Energy Statistics

	January	February	March	April	May	<u>June</u>	July	August September	October November December
DAY AHEAD LBMP									
Price *	\$155.11	\$110.69							
Standard Deviation	\$121.52	\$50.86							
Load Weighted Price **	\$164.06	\$114.77							
RTC LBMP									
Price *	\$138.41	\$110.71							
Standard Deviation	\$125.42	\$72.22							
Load Weighted Price **	\$147.06	\$115.31							
REAL TIME LBMP									
Price *	\$137.90	\$111.51							
Standard Deviation	\$122.32	\$70.35							
Load Weighted Price **	\$147.77	\$115.80							
Average Daily Energy Sendout/Month GWh	475	460							

# NYISO Markets 2013 Energy Statistics

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

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



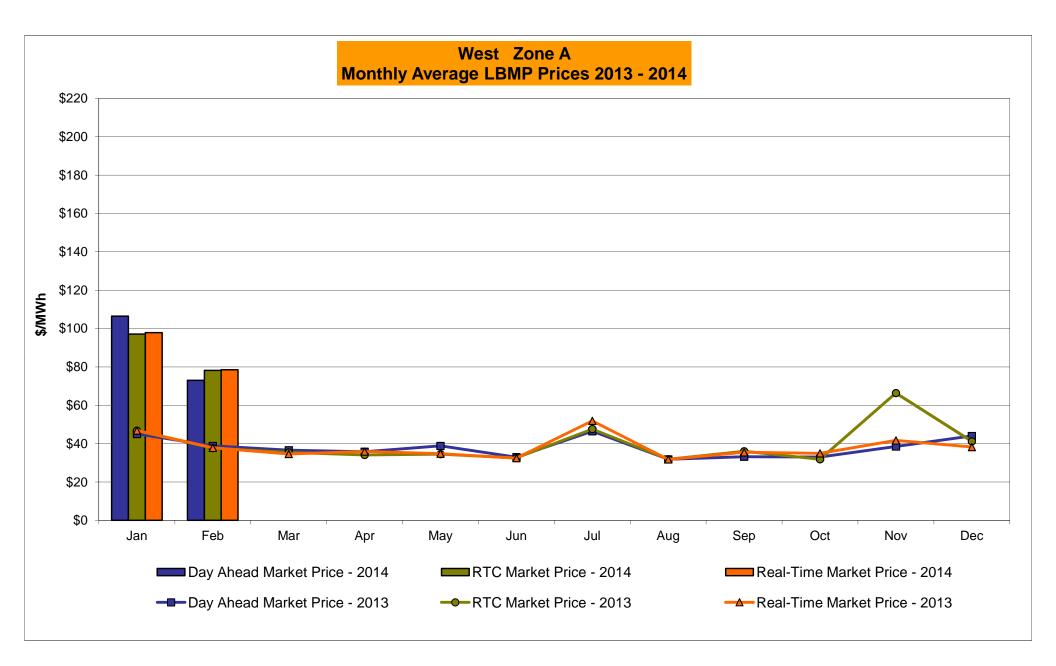
Market Mitigation and Analysis Prepared: 3/3/2014 1:19 PM

## February 2014 Zonal LBMP Statistics for NYISO (\$/MWh)

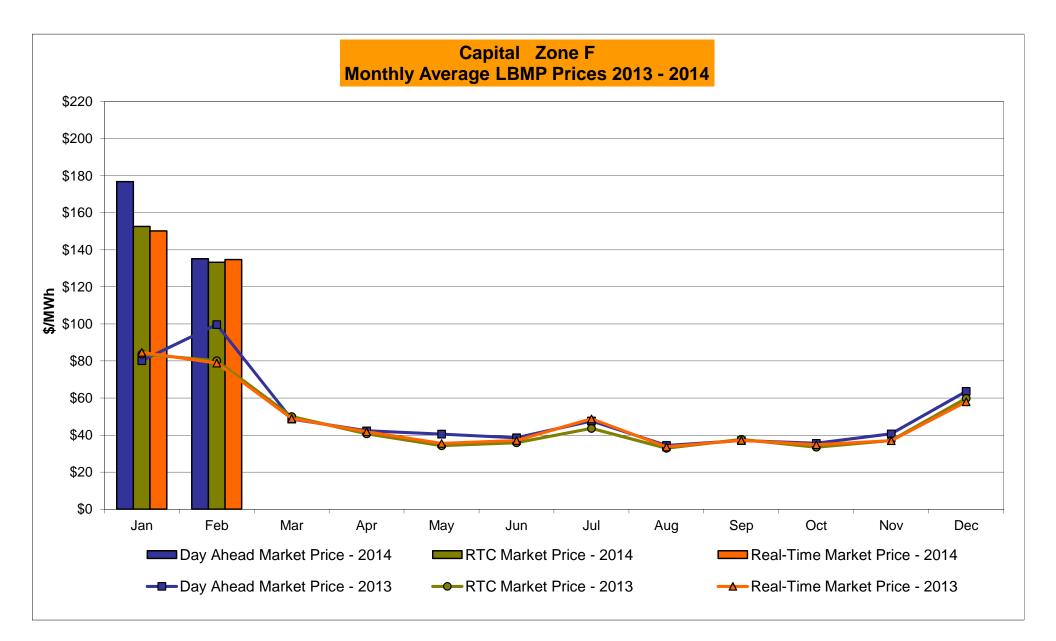
	WEST <u>Zone A</u>	GENESEE Zone B	NORTH <u>Zone D</u>	CENTRAL Zone C	MOHAWK VALLEY <u>Zone E</u>	CAPITAL Zone F	HUDSON VALLEY <u>Zone G</u>	MILLWOOD <u>Zone H</u>	DUNWOODIE <u>Zone I</u>	NEW YORK CITY <u>Zone J</u>	LONG ISLAND <u>Zone K</u>
DAY AHEAD LBMP	72.00	76 60	72.99	90.24	02.42	135.16	122.30	123.42	122.88	122.84	145.94
Unweighted Price *	73.00	76.69		80.31	83.43			-		-	
Standard Deviation	43.28	46.49	51.44	47.92	50.75	59.88	54.78	55.41	55.17	55.85	60.73
RTC LBMP											
Unweighted Price *	78.16	81.55	78.05	84.56	87.99	133.26	122.07	122.96	122.30	122.35	136.05
Standard Deviation	64.87	70.07	74.83	71.15	74.66	81.21	76.30	76.71	76.21	75.57	86.75
REAL TIME LBMP											
Unweighted Price *	78.46	81.21	77.33	84.27	87.69	134.71	123.01	123.92	123.26	124.02	141.36
Standard Deviation	64.27	68.23	73.05	69.30	72.69	82.29	75.49	76.00	75.50	76.13	89.59

	ONTARIO IESO	HYDRO QUEBEC (Wheel)	HYDRO QUEBEC (Import/Export)	РЈМ	NEW ENGLAND	CROSS SOUND CABLE	NORTHPORT- NORWALK	NEPTUNE	LINDEN VFT	HUDSON	Dennison
						Controllable	Controllable	Controllable	Controllable	Controllable	Controllable
	<u>Zone O</u>	<u>Zone M</u>	<u>Zone M</u>	<u>Zone P</u>	<u>Zone N</u>	<u>Line</u>	Line	<u>Line</u>	<u>Line</u>	<u>Line</u>	Line
DAY AHEAD LBMP											
Unweighted Price *	72.01	73.29	73.28	86.89	144.33	143.69	143.08	141.48	99.65	123.82	69.70
Standard Deviation	42.87	60.78	60.78	47.54	58.11	58.67	57.22	57.22	54.77	56.47	52.35
RTC LBMP											
Unweighted Price *	72.55	64.04	62.27	79.97	122.41	125.43	124.96	122.92	101.74	103.82	68.33
Standard Deviation	62.74	110.15	109.79	47.37	62.71	65.64	64.96	63.96	59.11	117.33	56.21
REAL TIME LBMP											
Unweighted Price *	74.23	75.47	73.93	84.07	155.57	134.67	134.59	132.00	94.56	122.53	72.66
Standard Deviation	74.26	67.74	67.47	57.01	77.94	81.14	79.85	80.48	105.96	73.28	69.17

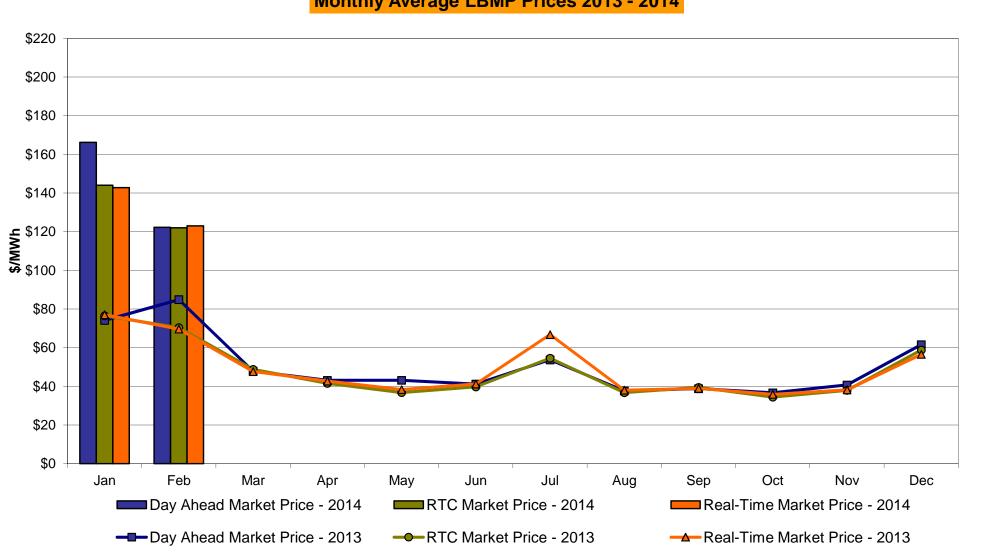
\* Straight LBMP averages



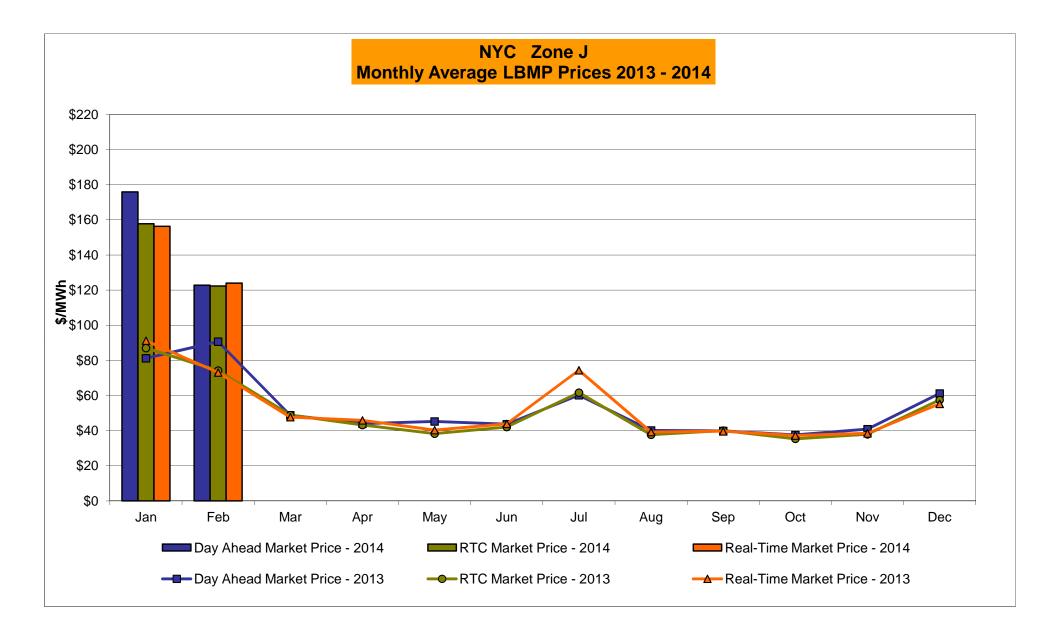
Market Mitigation and Analysis Prepared: 3/5/2014 9:53 AM



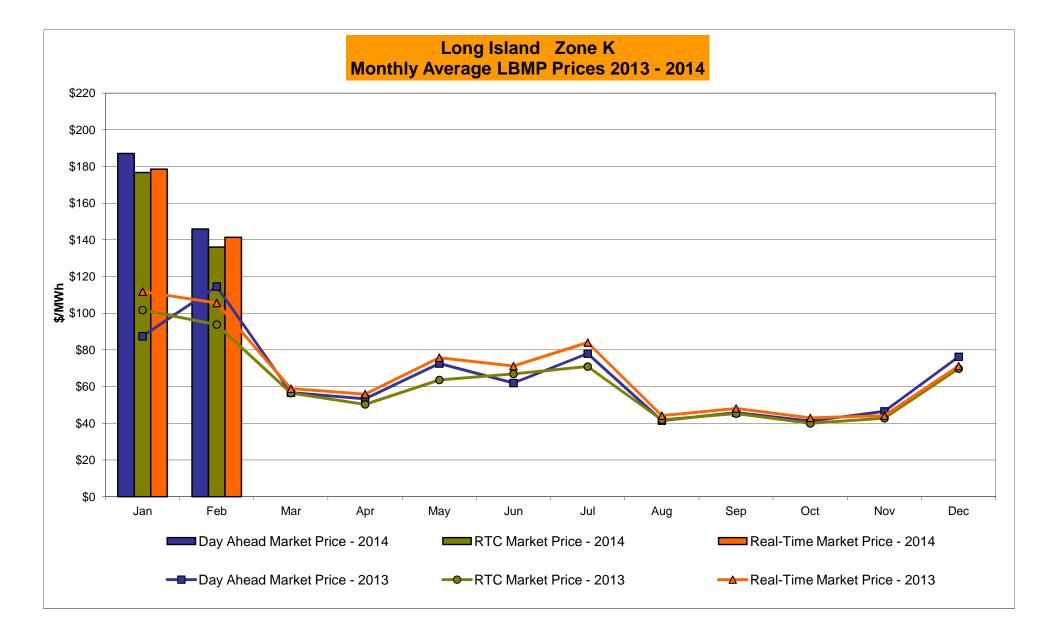
## Hudson Valley Zone G Monthly Average LBMP Prices 2013 - 2014



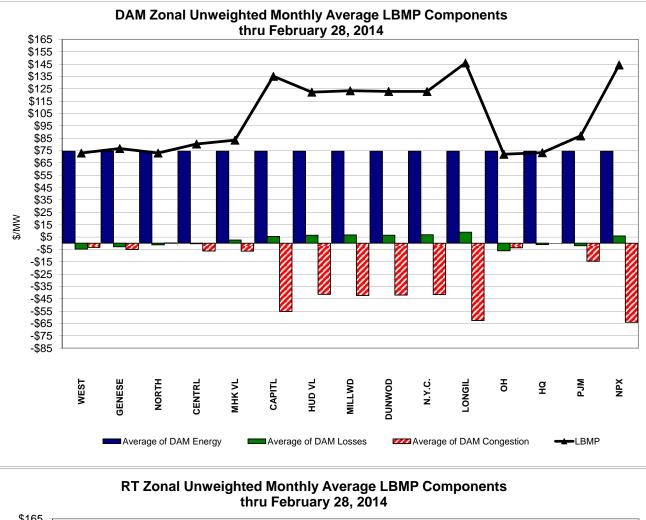
Market Mitigation and Analysis Prepared:3/5/2014 9:54 AM

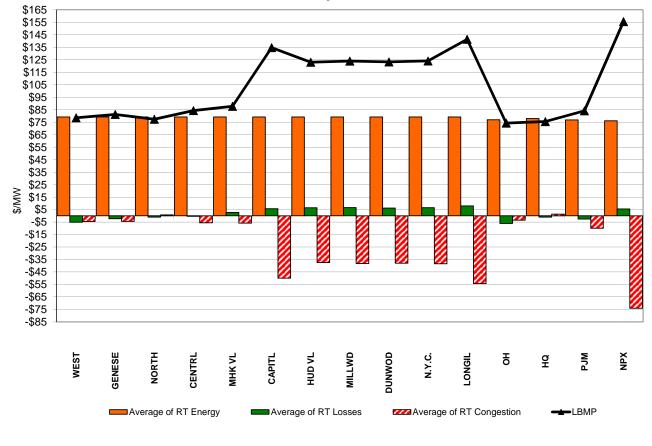


Market Mitigation and Analysis Prepared:3/5/2014 9:55 AM



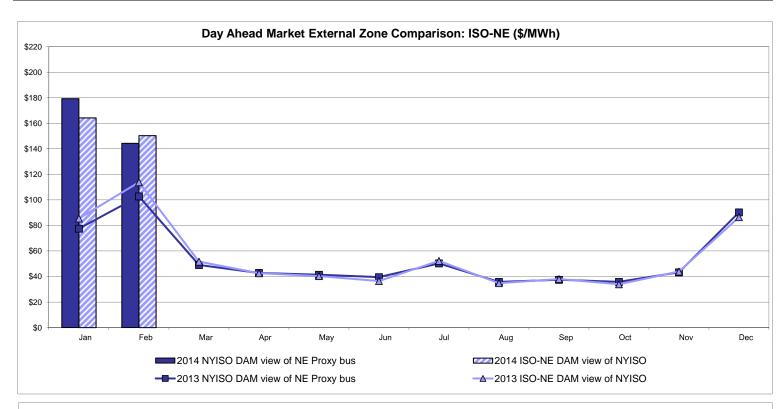
Market Mitigation and Analysis Prepared:3/5/2014 9:55 AM

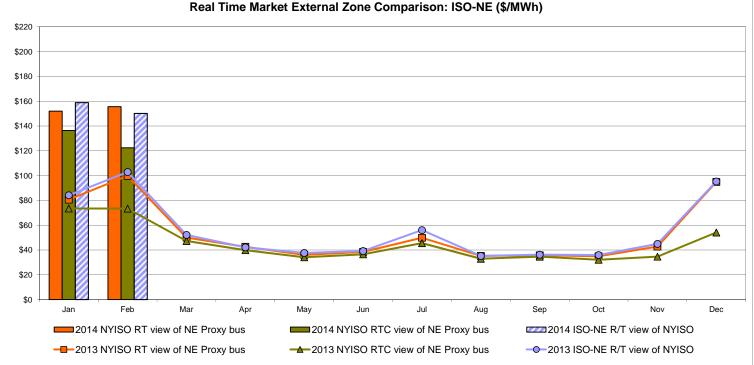




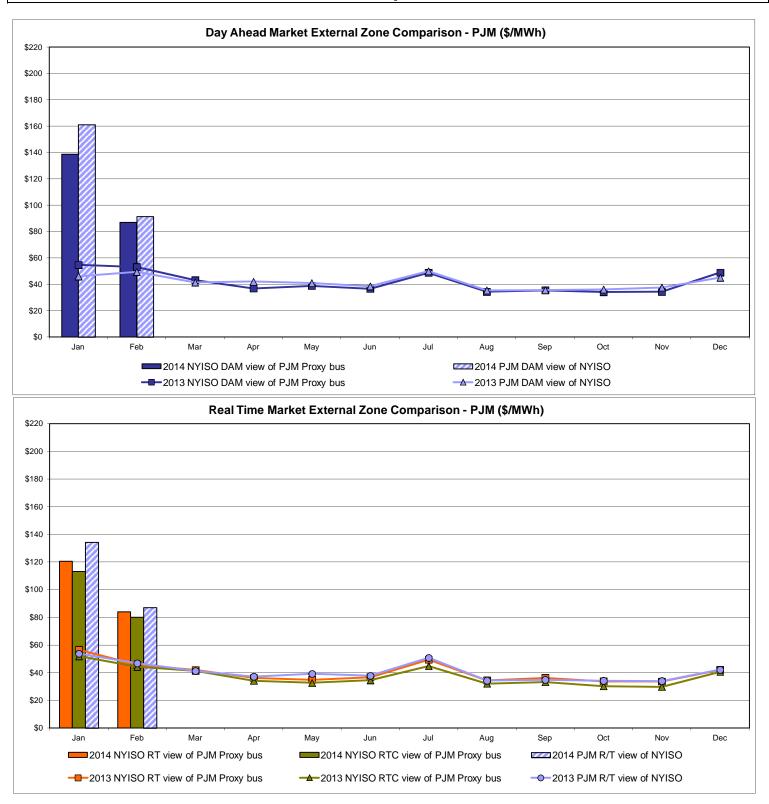
Market Mitigation and Analysis Prepared:3/3/2014 1:38 PM



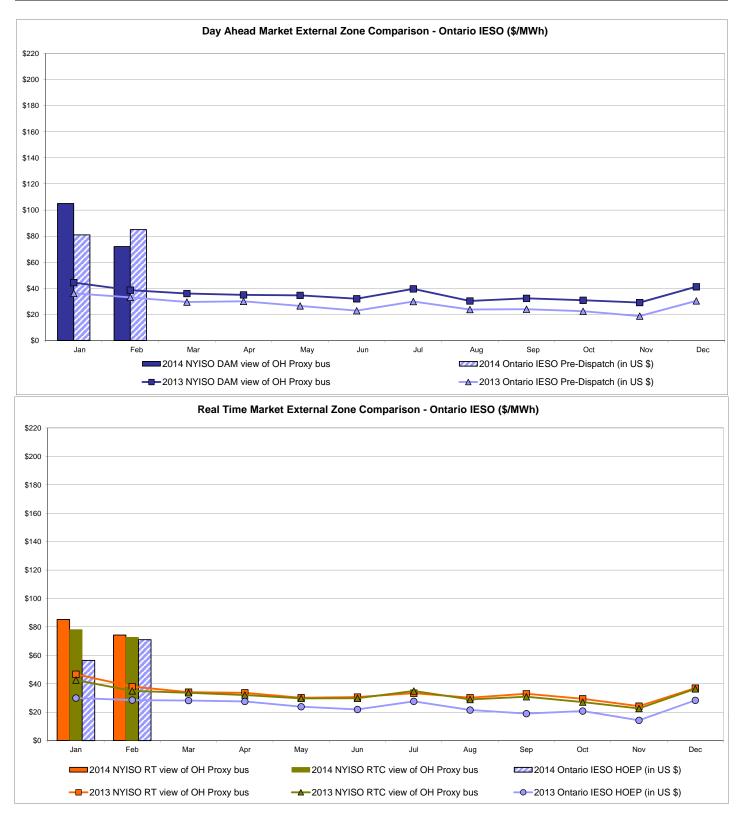




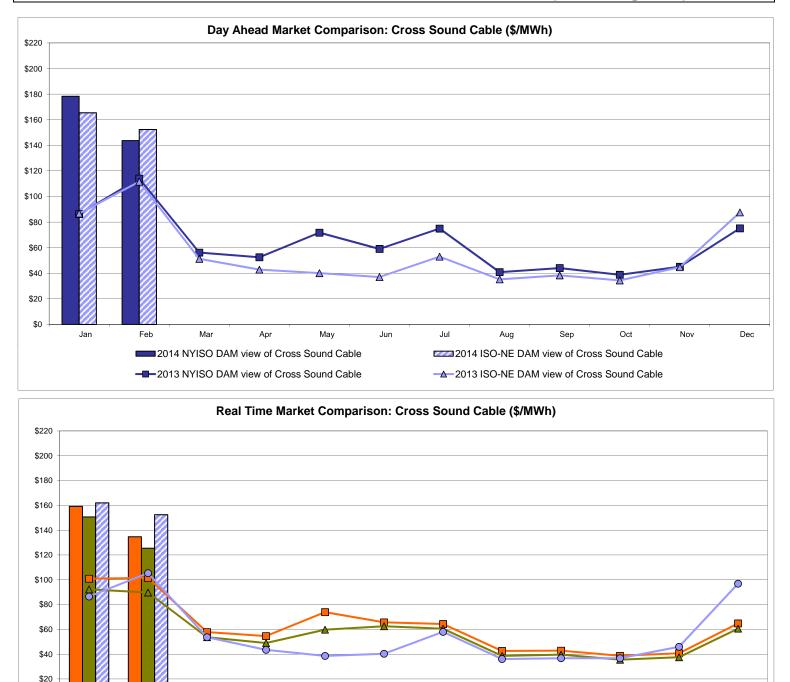
# **External Comparison PJM**



## **External Comparison Ontario IESO**



Notes: Exchange factor used for February 2014 was 0.9046 to US \$ HOEP: Hourly Ontario Energy Price Pre-Dispatch: Projected Energy Price



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

Note:

\$0

Jan

ISO-NE Forecast is an advisory posting @ 18:00 day before.

-D-2013 NYISO RT view of Cross Sound Cable

2014 NYISO RT view of Cross Sound Cable

Feb

The DAM and R/T prices at the Shorham 13899 interface are used for ISO-NE.

Mar

Apr

Mav

The DAM and R/T prices at the CSC interface are used for NYISO.

Jun

2014 NYISO RTC view of Cross Sound Cable

2013 NYISO RTC view of Cross Sound Cable

Jul

Aug

Sep

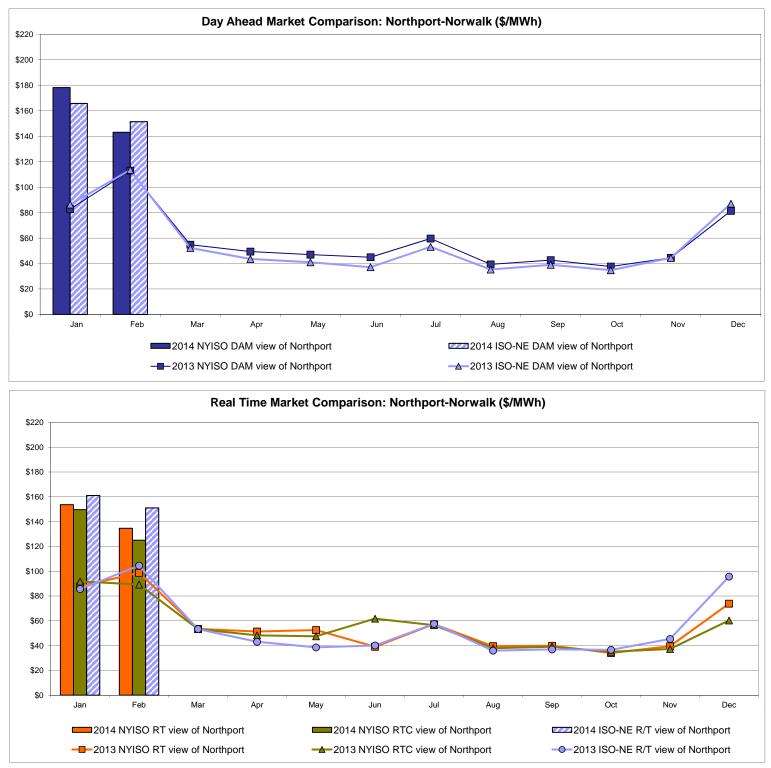
Oct

2014 ISO-NE R/T view of Cross Sound Cable

-O-2013 ISO-NE R/T view of Cross Sound Cable

Nov

Dec



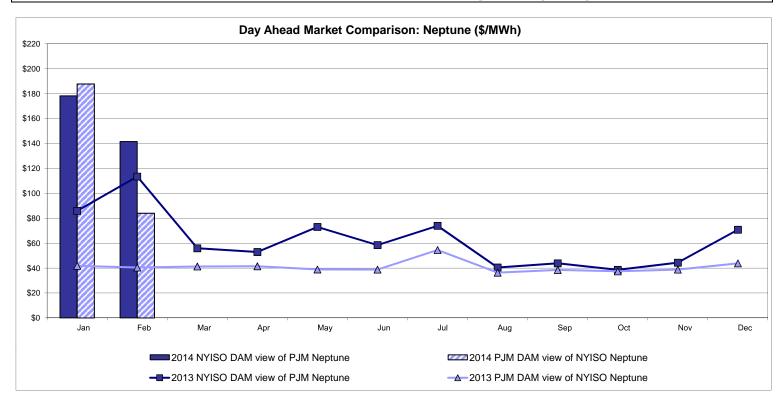
# External Controllable Line: Northport - Norwalk (New England)

Note:

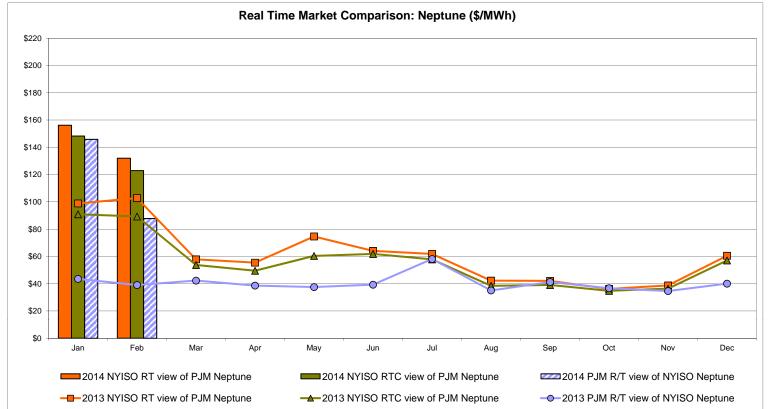
ISO-NE Forecast is an advisory posting @ 18:00 day before.

The DAM and R/T prices at the Northport 138 interface are used for ISO-NE.

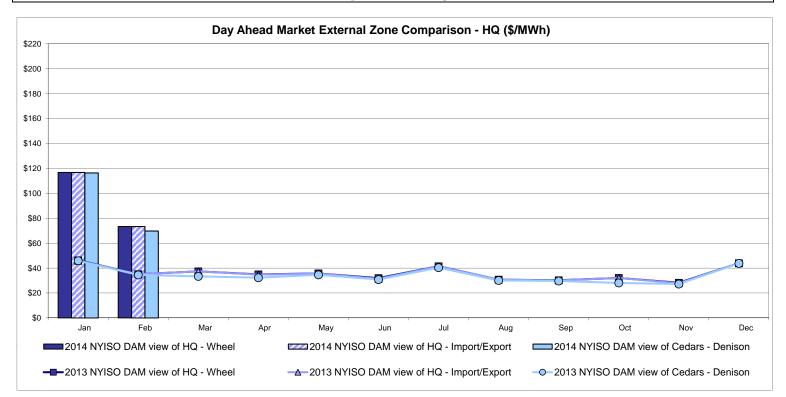
The DAM and R/T prices at the 1385 interface are used for NYISO.

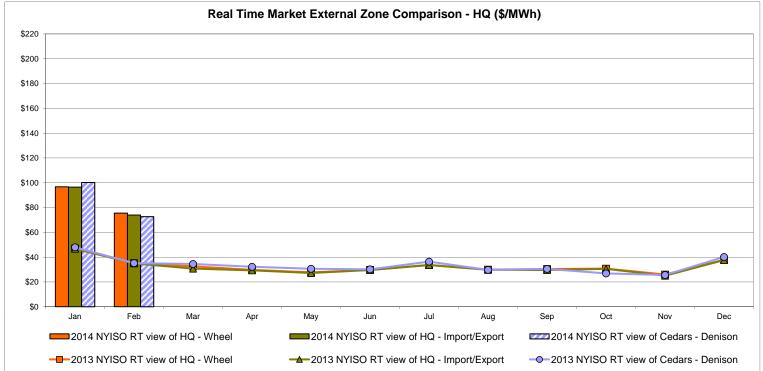


# External Controllable Line: Neptune (PJM)



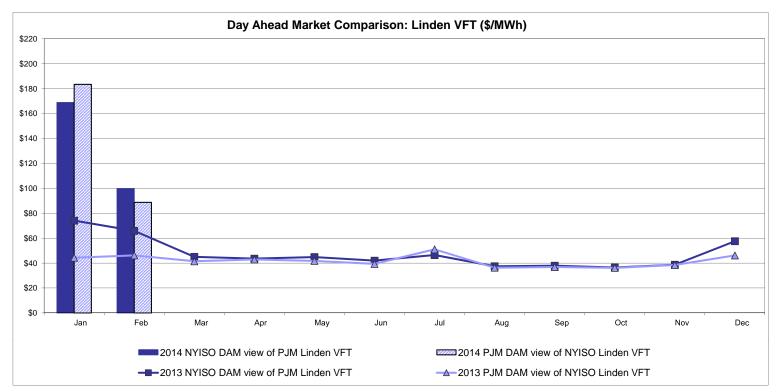
# **External Comparison Hydro-Quebec**



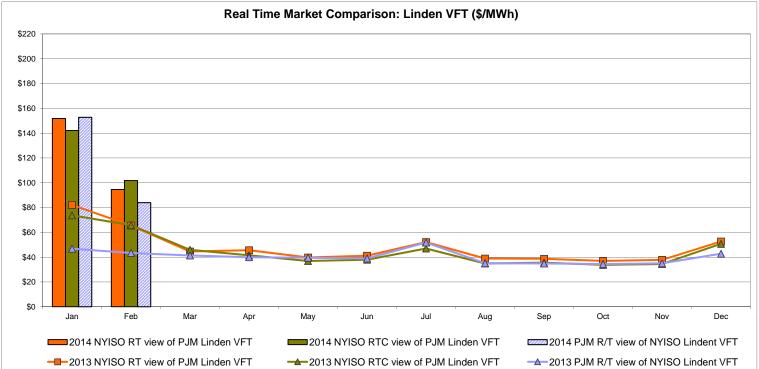


Note:

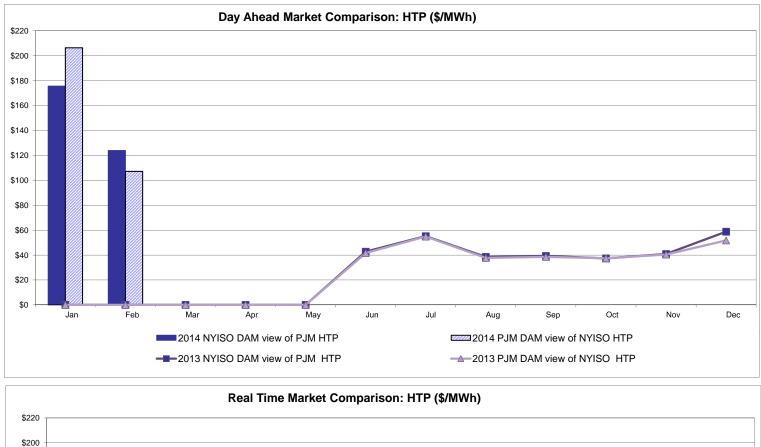
Hydro-Quebec Prices are unavailable.

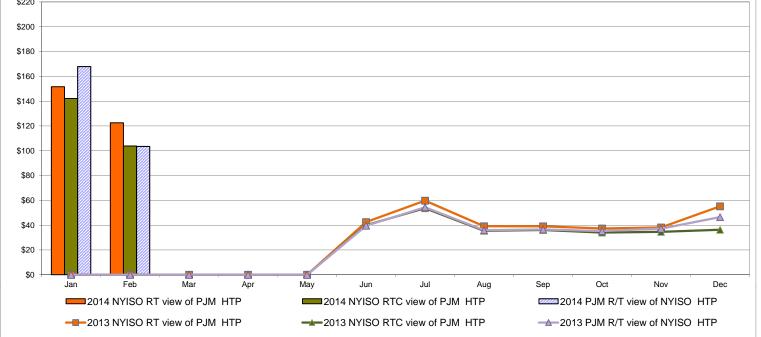


# External Controllable Line: Linden VFT (PJM)



# External Controllable Line: Hudson (PJM)

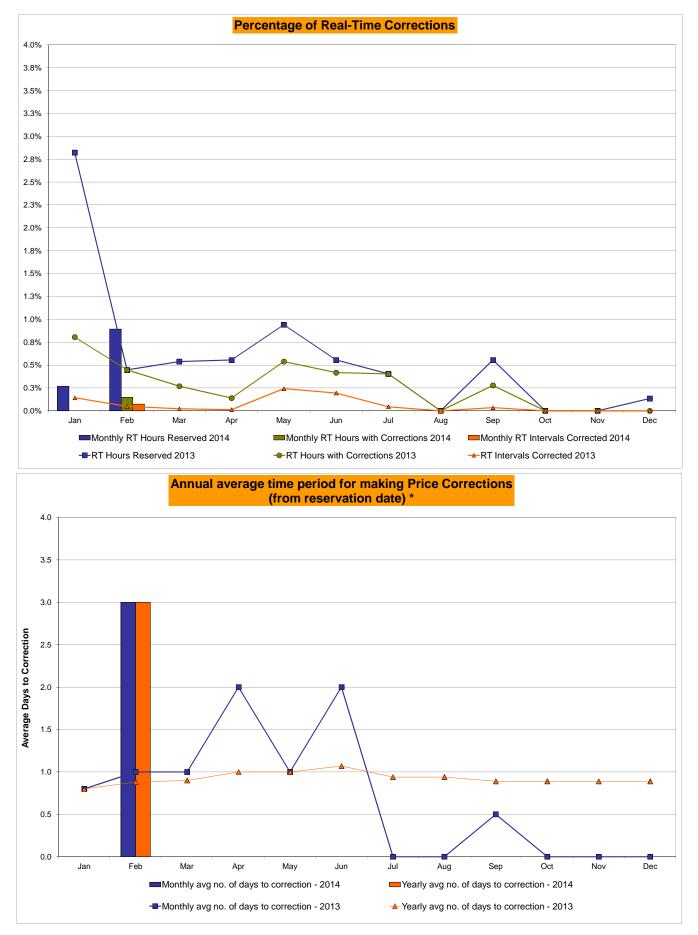




#### **NYISO Real Time Price Correction Statistics**

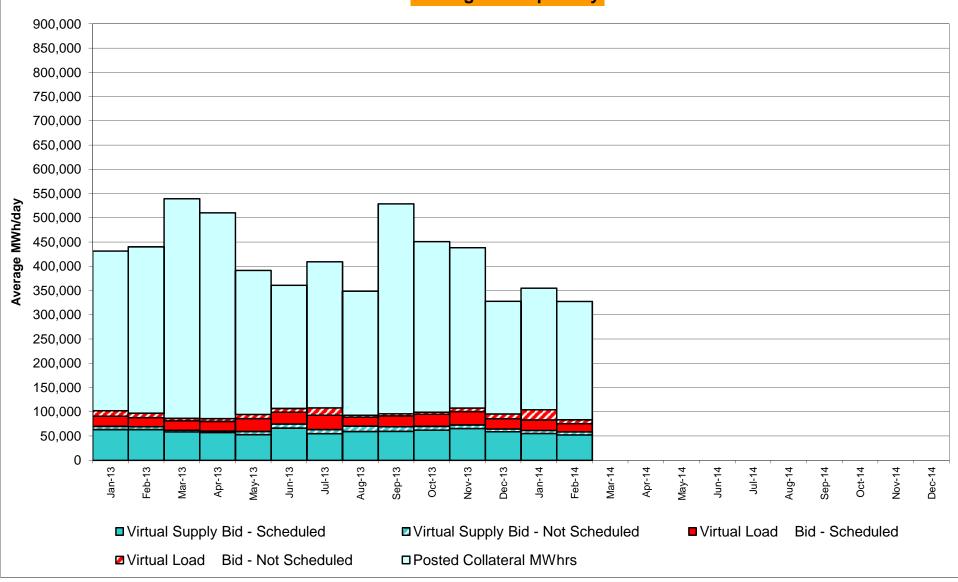
2014		January	February	March	<u>April</u>	May	June	<u>July</u>	August	<u>September</u>	<u>October</u>	November	December
Hour Corrections Number of hours with corrections	in the month	0	1										
Number of hours	in the month	744	672										
% of hours with corrections	in the month	0.00%	0.15%										
% of hours with corrections	vear-to-date	0.00%	0.07%										
Interval Corrections	year-to-date	0.0078	0.0778										
Number of intervals corrected	in the month	0	6										
Number of intervals	in the month	9,232	8,205										
% of intervals corrected	in the month	0.00%	0.07%										
% of intervals corrected	year-to-date	0.00%	0.03%										
Hours Reserved													
Number of hours reserved	in the month	2	6										
Number of hours	in the month	744	672										
% of hours reserved	in the month	0.27%	0.89%										
% of hours reserved	vear-to-date	0.27%	0.56%										
Days to Correction *	,												
Avg. number of days to correction	in the month	0.00	3.00										
Avg. number of days to correction	vear-to-date	0.00	3.00										
Days Without Corrections													
Days without corrections	in the month	31	27										
Days without corrections	year-to-date	31	58										
2012		lanuany	Fobruary	March	April	Mov	luno	turby.	August	Sontombor	Octobor	Novombor	December
2013 Hour Corrections		<u>January</u>	February	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	November	December
Hour Corrections	in the month	<u>_</u> _											
Hour Corrections Number of hours with corrections	in the month	6	3	2	1	4	3	3	0	2	0	0	0
Hour Corrections Number of hours with corrections Number of hours	in the month	6 744	3 672	2 743	1 720	4 744	3 720	3 744	0 744	2 720	0 744	0 721	0 744
Hour Corrections Number of hours with corrections Number of hours % of hours with corrections	in the month in the month	6 744 0.81%	3 672 0.45%	2 743 0.27%	1 720 0.14%	4 744 0.54%	3 720 0.42%	3 744 0.40%	0 744 0.00%	2 720 0.28%	0 744 0.00%	0 721 0.00%	0 744 0.00%
Hour Corrections Number of hours with corrections Number of hours % of hours with corrections % of hours with corrections	in the month	6 744	3 672	2 743	1 720	4 744	3 720	3 744	0 744	2 720	0 744	0 721	0 744
Hour Corrections Number of hours with corrections Number of hours % of hours with corrections % of hours with corrections Interval Corrections	in the month in the month year-to-date	6 744 0.81% 0.81%	3 672 0.45% 0.64%	2 743 0.27% 0.51%	1 720 0.14% 0.42%	4 744 0.54% 0.44%	3 720 0.42% 0.44%	3 744 0.40% 0.43%	0 744 0.00% 0.38%	2 720 0.28% 0.37%	0 744 0.00% 0.33%	0 721 0.00% 0.30%	0 744 0.00% 0.27%
Hour Corrections Number of hours with corrections Number of hours % of hours with corrections % of hours with corrections Interval Corrections Number of intervals corrected	in the month in the month year-to-date in the month	6 744 0.81% 0.81% 13	3 672 0.45% 0.64%	2 743 0.27% 0.51% 2	1 720 0.14% 0.42%	4 744 0.54% 0.44% 22	3 720 0.42% 0.44%	3 744 0.40% 0.43% 4	0 744 0.00% 0.38% 0	2 720 0.28% 0.37% 3	0 744 0.00% 0.33% 0	0 721 0.00% 0.30%	0 744 0.00% 0.27% 0
Hour Corrections Number of hours with corrections Number of hours % of hours with corrections % of hours with corrections <u>Interval Corrections</u> Number of intervals corrected Number of intervals	in the month in the month year-to-date in the month in the month	6 744 0.81% 0.81% 13 9,104	3 672 0.45% <u>0.64%</u> 4 8,230	2 743 0.27% 0.51% 2 9,026	1 720 0.14% <u>0.42%</u> 1 8,727	4 744 0.54% 0.44% 22 9,083	3 720 0.42% 0.44% 17 8,740	3 744 0.40% 0.43% 4 9,079	0 744 0.00% 0.38% 0 9,002	2 720 0.28% 0.37% 3 8,760	0 744 0.00% 0.33% 0 9,041	0 721 0.00% 0.30% 0 8,854	0 744 0.00% <u>0.27%</u> 0 9,073
Hour Corrections         Number of hours with corrections         Number of hours         % of hours with corrections         % of hours with corrections         Interval Corrections         Number of intervals corrected         Number of intervals         % of intervals corrected	in the month in the month year-to-date in the month	6 744 0.81% 0.81% 13 9,104 0.14%	3 672 0.45% 0.64% 4 8,230 0.05%	2 743 0.27% 0.51% 2 9,026 0.02%	1 720 0.14% 0.42% 1 8,727 0.01%	4 744 0.54% 0.44% 22 9,083 0.24%	3 720 0.42% 0.44% 17 8,740 0.19%	3 744 0.40% 0.43% 4 9,079 0.04%	0 744 0.00% 0.38% 0 9,002 0.00%	2 720 0.28% 0.37% 3 8,760 0.03%	0 744 0.00% 0.33% 0 9,041 0.00%	0 721 0.00% 0.30% 0 8,854 0.00%	0 744 0.00% <u>0.27%</u> 0 9,073 0.00%
Hour Corrections         Number of hours with corrections         Number of hours         % of hours with corrections         % of hours with corrections         Interval Corrections         Number of intervals corrected         Number of intervals corrected         % of intervals corrected         % of intervals corrected	in the month in the month year-to-date in the month in the month	6 744 0.81% 0.81% 13 9,104	3 672 0.45% <u>0.64%</u> 4 8,230	2 743 0.27% 0.51% 2 9,026	1 720 0.14% <u>0.42%</u> 1 8,727	4 744 0.54% 0.44% 22 9,083	3 720 0.42% 0.44% 17 8,740	3 744 0.40% 0.43% 4 9,079	0 744 0.00% 0.38% 0 9,002	2 720 0.28% 0.37% 3 8,760	0 744 0.00% 0.33% 0 9,041	0 721 0.00% 0.30% 0 8,854	0 744 0.00% <u>0.27%</u> 0 9,073
Hour Corrections         Number of hours with corrections         Number of hours with corrections         % of hours with corrections         Interval Corrections         Number of intervals corrected         Number of intervals         % of intervals corrected	in the month in the month year-to-date in the month in the month year-to-date	6 744 0.81% 0.81% 13 9,104 0.14% 0.14%	3 672 0.45% 0.64% 4 8,230 0.05% 0.10%	2 743 0.27% 0.51% 2 9,026 0.02% 0.07%	1 720 0.14% 0.42% 1 8,727 0.01% 0.06%	4 744 0.54% 0.44% 22 9,083 0.24% 0.10%	3 720 0.42% 0.44% 17 8,740 0.19% 0.11%	3 744 0.40% 0.43% 4 9,079 0.04% 0.10%	0 744 0.00% 0.38% 0 9,002 0.00% 0.09%	2 720 0.28% 0.37% 3 8,760 0.03% 0.08%	0 744 0.00% 0.33% 0 9,041 0.00% 0.07%	0 721 0.00% 0.30% 0 8,854 0.00% 0.07%	0 744 0.00% 0.27% 0 9,073 0.00% 0.06%
Hour Corrections         Number of hours with corrections         Number of hours with corrections         % of hours with corrections         Interval Corrections         Number of intervals corrected         Number of intervals         % of intervals corrected         Mumber of hours reserved	in the month in the month year-to-date in the month in the month year-to-date in the month	6 744 0.81% 0.81% 13 9,104 0.14% 0.14% 21	3 672 0.45% 0.64% 4 8,230 0.05% 0.10% 3	2 743 0.27% 0.51% 2 9,026 0.02% 0.02% 0.07%	1 720 0.14% 0.42% 1 8,727 0.01% 0.06% 4	4 744 0.54% 0.44% 22 9,083 0.24% 0.10% 7	3 720 0.42% 0.44% 17 8,740 0.19% 0.11% 4	3 744 0.40% 0.43% 4 9,079 0.04% 0.10% 3	0 744 0.00% 0.38% 0 9,002 0.00% 0.09% 0	2 720 0.28% 0.37% 3 8,760 0.03% 0.08% 4	0 744 0.00% 0.33% 0 9,041 0.00% 0.07% 0	0 721 0.00% 0.30% 0 8,854 0.00% 0.07% 0	0 744 0.00% 0.27% 0 9,073 0.00% 0.06% 1
Hour Corrections         Number of hours with corrections         Number of hours with corrections         % of hours with corrections         Interval Corrections         Number of intervals corrected         Number of intervals         % of intervals corrected         Mumber of hours reserved         Number of hours	in the month in the month year-to-date in the month in the month year-to-date in the month in the month	6 744 0.81% 0.81% 13 9,104 0.14% 0.14% 21 744	3 672 0.45% 0.64% 4 8,230 0.05% 0.10% 3 672	2 743 0.27% 0.51% 2 9,026 0.02% 0.02% 0.07% 4 743	1 720 0.14% 0.42% 1 8,727 0.01% 0.06% 4 720	4 744 0.54% 0.44% 22 9,083 0.24% 0.10% 7 7	3 720 0.42% 0.44% 17 8,740 0.19% 0.11% 4 720	3 744 0.40% 0.43% 4 9,079 0.04% 0.10% 3 744	0 744 0.00% 0.38% 0 9,002 0.00% 0.09% 0 744	2 720 0.28% 0.37% 3 8,760 0.03% 0.08% 4 720	0 744 0.00% 0.33% 0 9,041 0.00% 0.07% 0 744	0 721 0.00% 0.30% 0 8,854 0.00% 0.07% 0 721	0 744 0.00% 0.27% 0 9,073 0.00% 0.06% 1 744
Hour Corrections         Number of hours with corrections         Number of hours with corrections         % of hours with corrections         Interval Corrections         Number of intervals corrected         Number of intervals         % of intervals corrected         Mumber of hours reserved	in the month in the month year-to-date in the month in the month year-to-date in the month	6 744 0.81% 0.81% 13 9,104 0.14% 0.14% 21	3 672 0.45% 0.64% 4 8,230 0.05% 0.10% 3	2 743 0.27% 0.51% 2 9,026 0.02% 0.02% 0.07%	1 720 0.14% 0.42% 1 8,727 0.01% 0.06% 4	4 744 0.54% 0.44% 22 9,083 0.24% 0.10% 7	3 720 0.42% 0.44% 17 8,740 0.19% 0.11% 4	3 744 0.40% 0.43% 4 9,079 0.04% 0.10% 3	0 744 0.00% 0.38% 0 9,002 0.00% 0.09% 0	2 720 0.28% 0.37% 3 8,760 0.03% 0.08% 4	0 744 0.00% 0.33% 0 9,041 0.00% 0.07% 0	0 721 0.00% 0.30% 0 8,854 0.00% 0.07% 0	0 744 0.00% 0.27% 0 9,073 0.00% 0.06% 1
Hour Corrections         Number of hours with corrections         Number of hours with corrections         % of hours with corrections         Mumber of intervals corrected         Number of intervals corrected         % of intervals corrected         Mumber of hours reserved         Number of hours reserved         % of hours reserved         % of hours reserved	in the month in the month year-to-date in the month in the month year-to-date in the month in the month	6 744 0.81% 0.81% 13 9,104 0.14% 0.14% 21 744	3 672 0.45% 0.64% 4 8,230 0.05% 0.10% 3 672	2 743 0.27% 0.51% 2 9,026 0.02% 0.02% 0.07% 4 743	1 720 0.14% 0.42% 1 8,727 0.01% 0.06% 4 720	4 744 0.54% 0.44% 22 9,083 0.24% 0.10% 7 7	3 720 0.42% 0.44% 17 8,740 0.19% 0.11% 4 720	3 744 0.40% 0.43% 4 9,079 0.04% 0.10% 3 744	0 744 0.00% 0.38% 0 9,002 0.00% 0.09% 0 744	2 720 0.28% 0.37% 3 8,760 0.03% 0.08% 4 720	0 744 0.00% 0.33% 0 9,041 0.00% 0.07% 0 744	0 721 0.00% 0.30% 0 8,854 0.00% 0.07% 0 721	0 744 0.00% 0.27% 0 9,073 0.00% 0.06% 1 744
Hour Corrections         Number of hours with corrections         % of hours with corrections         % of hours with corrections         Mumber of intervals corrected         Number of intervals corrected         % of intervals corrected         Number of hours reserved         Number of hours reserved         % of hours reserved         % of hours reserved         % of hours reserved         % of hours reserved	in the month in the month year-to-date in the month in the month year-to-date in the month in the month in the month in the month	6 744 0.81% 0.81% 13 9,104 0.14% 0.14% 0.14% 21 744 2.82% 2.82%	3 672 0.45% 0.64% 4 8,230 0.05% 0.10% 3 672 0.45% 1.69%	2 743 0.27% 0.51% 2 9,026 0.02% 0.02% 0.07% 4 743 0.54% 1.30%	1 720 0.14% 0.42% 1 8,727 0.01% 0.06% 4 720 0.56% 1.11%	4 744 0.54% 0.44% 22 9,083 0.24% 0.10% 7 744 0.94% 1.08%	3 720 0.42% 0.44% 17 8,740 0.19% 0.11% 4 720 0.56% 0.99%	3 744 0.40% 0.43% 4 9,079 0.04% 0.10% 3 744 0.40% 0.90%	0 744 0.00% 0.38% 0 9,002 0.00% 0.09% 0 744 0.00% 0.79%	2 720 0.28% 0.37% 3 8,760 0.03% 0.08% 4 720 0.56% 0.76%	0 744 0.00% 0.33% 0 9,041 0.00% 0.07% 0 744 0.00% 0.69%	0 721 0.00% 0.30% 0 8,854 0.00% 0.07% 0 721 0.00% 0.62%	0 744 0.00% 0.27% 0 9,073 0.00% 0.06% 1 744 0.13% 0.58%
Hour Corrections         Number of hours with corrections         % of hours with corrections         % of hours with corrections         Mumber of intervals corrected         Number of intervals corrected         % of hours reserved         Number of hours         % of hours reserved	in the month in the month year-to-date in the month in the month year-to-date in the month in the month in the month year-to-date in the month	6 744 0.81% 0.81% 13 9,104 0.14% 0.14% 0.14% 21 744 2.82% 2.82% 0.80	3 672 0.45% 0.64% 4 8,230 0.05% 0.10% 3 672 0.45% 1.69% 1.00	2 743 0.27% 0.51% 2 9,026 0.02% 0.02% 0.07% 4 743 0.54% 1.30% 1.00	1 720 0.14% 0.42% 1 8,727 0.01% 0.06% 4 720 0.56% 1.11% 2.00	4 744 0.54% 0.44% 22 9,083 0.24% 0.10% 7 744 0.94% 1.08% 1.00	3 720 0.42% 0.44% 17 8,740 0.19% 0.11% 4 720 0.56% 0.99% 2.00	3 744 0.40% 0.43% 4 9,079 0.04% 0.10% 3 744 0.40% 0.90% 0.00	0 744 0.00% 0.38% 0 9,002 0.00% 0.09% 0 744 0.00% 0.79% 0.00	2 720 0.28% 0.37% 3 8,760 0.03% 0.08% 4 720 0.56% 0.76% 0.50	0 744 0.00% 0.33% 0 9,041 0.00% 0.07% 0 744 0.00% 0.69% 0.00	0 721 0.00% 0.30% 0 8,854 0.00% 0.07% 0 721 0.00% 0.62% 0.00	0 744 0.00% 0.27% 0 9,073 0.00% 0.06% 1 744 0.13% 0.58% 0.00
Hour Corrections         Number of hours with corrections         % of hours with corrections         % of hours with corrections         Interval Corrections         Number of intervals corrected         Number of intervals corrected         % of intervals corrected         Mumber of hours reserved         Number of hours reserved         % of hours reserved	in the month in the month year-to-date in the month in the month year-to-date in the month in the month in the month year-to-date	6 744 0.81% 0.81% 13 9,104 0.14% 0.14% 0.14% 21 744 2.82% 2.82%	3 672 0.45% 0.64% 4 8,230 0.05% 0.10% 3 672 0.45% 1.69%	2 743 0.27% 0.51% 2 9,026 0.02% 0.02% 0.07% 4 743 0.54% 1.30%	1 720 0.14% 0.42% 1 8,727 0.01% 0.06% 4 720 0.56% 1.11%	4 744 0.54% 0.44% 22 9,083 0.24% 0.10% 7 744 0.94% 1.08%	3 720 0.42% 0.44% 17 8,740 0.19% 0.11% 4 720 0.56% 0.99%	3 744 0.40% 0.43% 4 9,079 0.04% 0.10% 3 744 0.40% 0.90%	0 744 0.00% 0.38% 0 9,002 0.00% 0.09% 0 744 0.00% 0.79%	2 720 0.28% 0.37% 3 8,760 0.03% 0.08% 4 720 0.56% 0.76%	0 744 0.00% 0.33% 0 9,041 0.00% 0.07% 0 744 0.00% 0.69%	0 721 0.00% 0.30% 0 8,854 0.00% 0.07% 0 721 0.00% 0.62%	0 744 0.00% 0.27% 0 9,073 0.00% 0.06% 1 744 0.13% 0.58%
Hour Corrections         Number of hours with corrections         % of hours with corrections         % of hours with corrections         Interval Corrections         Number of intervals corrected         Number of intervals corrected         % of intervals corrected         Number of hours reserved         Number of hours reserved         % of hours reserved         % of hours reserved         % of hours reserved         Avg. number of days to correction Avg. number of days to correction         Avg. Number of days to correction	in the month in the month year-to-date in the month in the month year-to-date in the month in the month in the month year-to-date in the month year-to-date	6 744 0.81% 0.81% 13 9,104 0.14% 0.14% 21 744 2.82% 2.82% 0.80 0.80 0.80	3 672 0.45% 0.64% 4 8,230 0.05% 0.10% 3 672 0.45% 1.69% 1.00 0.88	2 743 0.27% 0.51% 2 9,026 0.02% 0.07% 4 743 0.54% 1.30% 1.00 0.90	1 720 0.14% 0.42% 1 8,727 0.01% 0.06% 4 720 0.56% 1.11% 2.00 1.00	4 744 0.54% 0.44% 22 9,083 0.24% 0.10% 7 744 0.94% 1.08% 1.00 1.00	3 720 0.42% 0.44% 17 8,740 0.19% 0.11% 4 720 0.56% 0.99% 2.00 1.07	3 744 0.40% 0.43% 4 9,079 0.04% 0.10% 3 744 0.40% 0.90% 0.00 0.94	0 744 0.00% 0.38% 0 9,002 0.00% 0.09% 0 744 0.00% 0.79% 0.00 0.94	2 720 0.28% 0.37% 3 8,760 0.03% 0.08% 4 720 0.56% 0.76% 0.50 0.89	0 744 0.00% 0.33% 0 9,041 0.00% 0.07% 0 744 0.00% 0.69% 0.00 0.89	0 721 0.00% 0.30% 0 8,854 0.00% 0.07% 0 721 0.00% 0.62% 0.00 0.89	0 744 0.00% 0.27% 0 9,073 0.00% 0.06% 1 744 0.13% 0.58% 0.00 0.89
Hour Corrections         Number of hours with corrections         % of hours with corrections         % of hours with corrections         Interval Corrections         Number of intervals corrected         Number of intervals corrected         % of intervals corrected         Mumber of hours reserved         Number of hours reserved         % of hours reserved	in the month in the month year-to-date in the month in the month year-to-date in the month in the month in the month year-to-date in the month	6 744 0.81% 0.81% 13 9,104 0.14% 0.14% 0.14% 21 744 2.82% 2.82% 0.80	3 672 0.45% 0.64% 4 8,230 0.05% 0.10% 3 672 0.45% 1.69% 1.00	2 743 0.27% 0.51% 2 9,026 0.02% 0.02% 0.07% 4 743 0.54% 1.30% 1.00	1 720 0.14% 0.42% 1 8,727 0.01% 0.06% 4 720 0.56% 1.11% 2.00	4 744 0.54% 0.44% 22 9,083 0.24% 0.10% 7 744 0.94% 1.08% 1.00	3 720 0.42% 0.44% 17 8,740 0.19% 0.11% 4 720 0.56% 0.99% 2.00	3 744 0.40% 0.43% 4 9,079 0.04% 0.10% 3 744 0.40% 0.90% 0.00	0 744 0.00% 0.38% 0 9,002 0.00% 0.09% 0 744 0.00% 0.79% 0.00	2 720 0.28% 0.37% 3 8,760 0.03% 0.08% 4 720 0.56% 0.76% 0.50	0 744 0.00% 0.33% 0 9,041 0.00% 0.07% 0 744 0.00% 0.69% 0.00	0 721 0.00% 0.30% 0 8,854 0.00% 0.07% 0 721 0.00% 0.62% 0.00	0 744 0.00% 0.27% 0 9,073 0.00% 0.06% 1 744 0.13% 0.58% 0.00

\* Calendar days from reservation date.

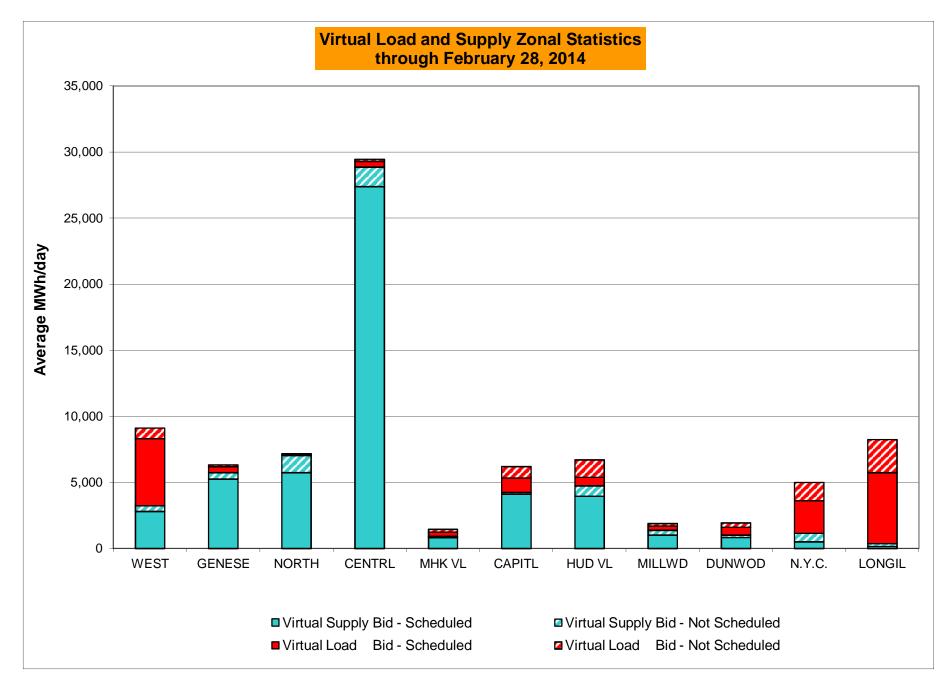


\* Calendar days from reservation date.

## NYISO Virtual Trading Average MWh per day



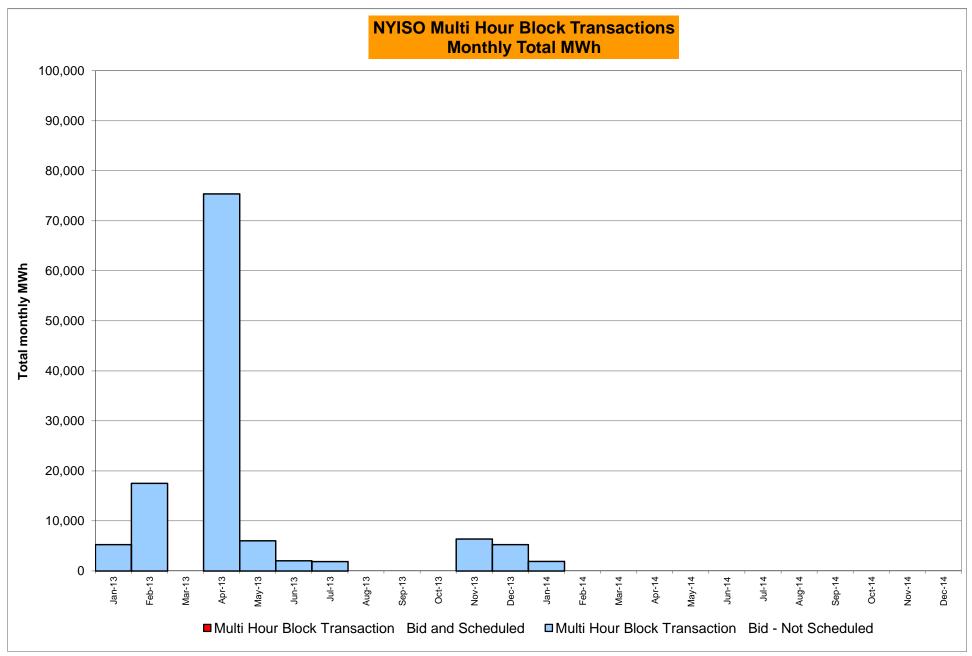
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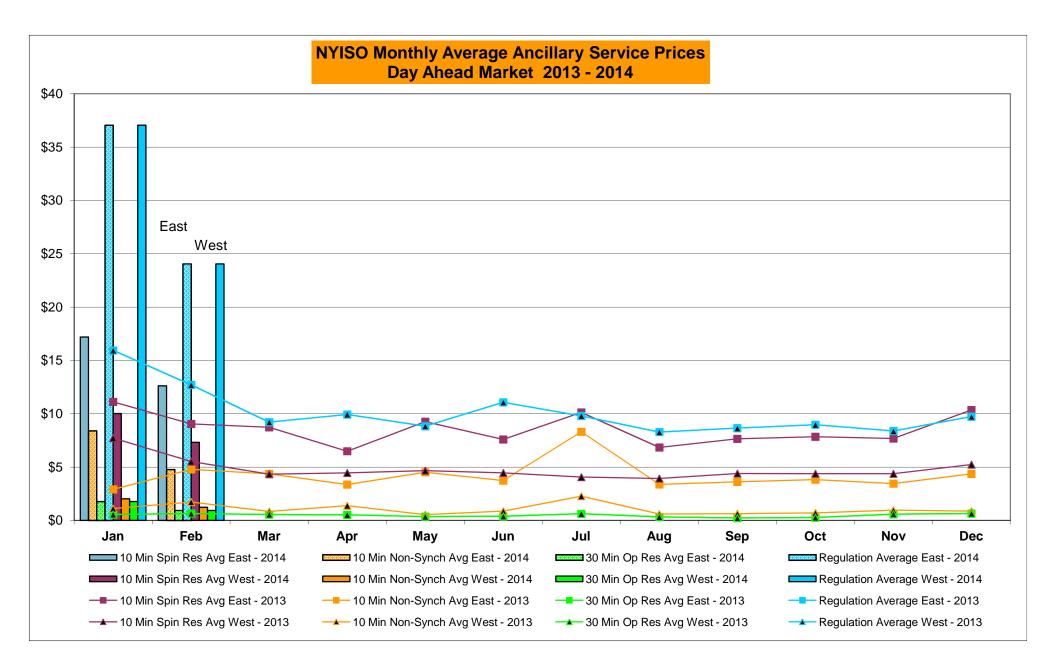
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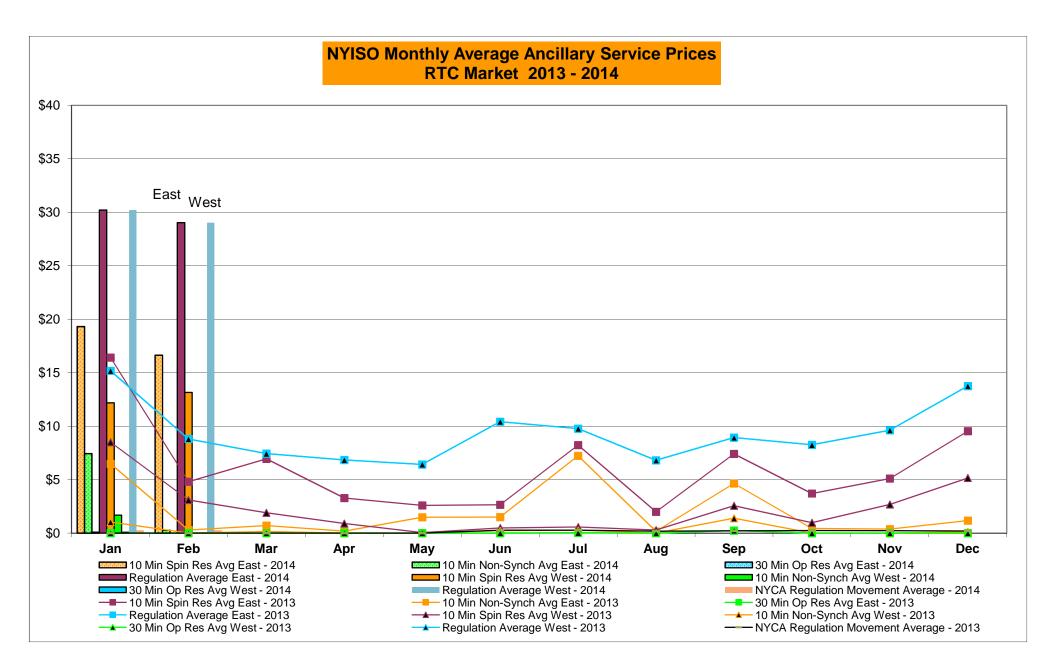
#### Virtual Load and Supply Zonal Statistics (Average MWh/day) - 2014

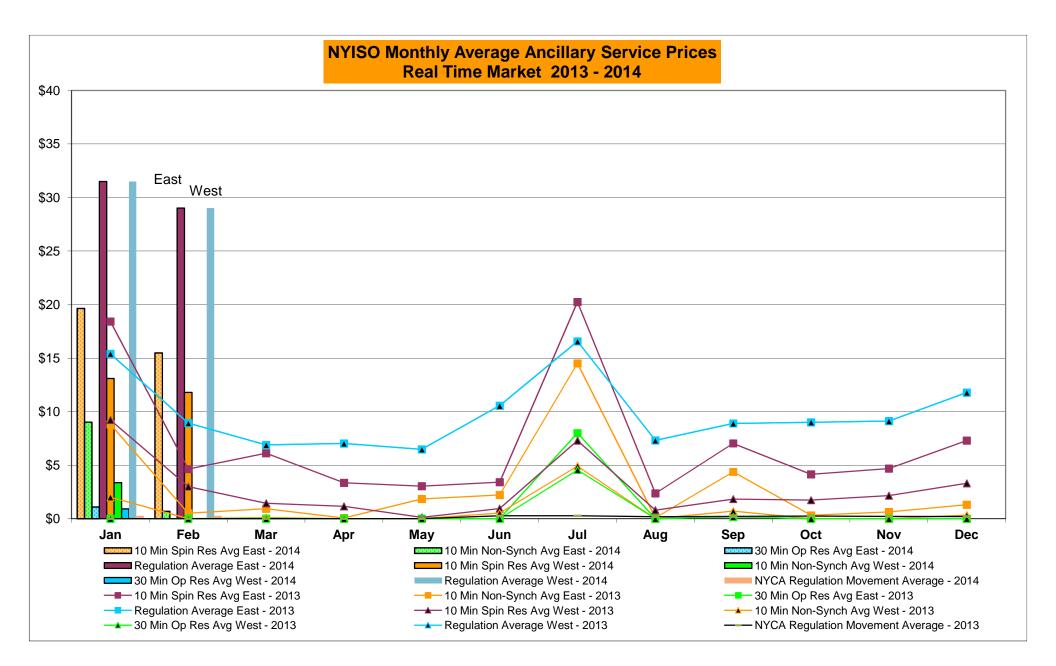
		Virtual L	_oad Bid	Virtual S	upply Bid			Virtual L	oad Bid	Virtual Su	apply Bid			Virtual L	oad Bid	Virtual Sup	pply Bid
			Not		Not				Not		Not				Not		Not
Zone	Date	Scheduled	Scheduled	Scheduled	Scheduled	Zone	Date	Scheduled	Scheduled	Scheduled	Scheduled	Zone	Date	Scheduled	Scheduled	Scheduled	Scheduled
WEST	Jan-14	6,213		2,777	155	MHK VL	Jan-14	429	587	1316	260	DUNWOD	Jan-14		631	2182	268
	Feb-14	5,077	805	2,814	422		Feb-14		204	824	90		Feb-14		348	846	176
	Mar-14						Mar-14						Mar-14				
	Apr-14						Apr-14						Apr-14				
	May-14						May-14						May-14				
	Jun-14						Jun-14					_	Jun-14				
	Jul-14						Jul-14						Jul-14				
	Aug-14 Sep-14						Aug-14						Aug-14				
	Oct-14						Sep-14 Oct-14					_	Sep-14 Oct-14				
	Nov-14						Nov-14						Nov-14				
	Dec-14						Dec-14					_	Dec-14				
	Dec-14						Dec-14						Dec-14				
GENESE	Jan-14	434	279	5,230	425	CAPITL	Jan-14	1439	1278	3985	379	N.Y.C.	Jan-14	2627	3843	666	1083
	Feb-14	473		5,250	487		Feb-14		871	4100	127		Feb-14			521	625
	Mar-14			.,	-		Mar-14					-	Mar-14				
	Apr-14						Apr-14					_	Apr-14				
	May-14						May-14						May-14				
	Jun-14						Jun-14						Jun-14				
	Jul-14						Jul-14						Jul-14				
	Aug-14						Aug-14						Aug-14				
	Sep-14						Sep-14					_	Sep-14				
	Oct-14						Oct-14						Oct-14				
	Nov-14						Nov-14						Nov-14				
	Dec-14						Dec-14						Dec-14				
NORTH	Jan-14	47	168	6,579	1,592		Jan-14	1612	1554	4091	466	LONGIL	Jan-14	7605	6704	59	375
NOKTH	Feb-14	110		5,732	1,308	HODVL	Feb-14	634	1325	3963	792	LONGIL	Feb-14		2494	145	230
	Mar-14	110		0,702	1,000		Mar-14		1020	0000	152		Mar-14		2404	145	200
	Apr-14					_	Apr-14					_	Apr-14				
	May-14						May-14						May-14				
	Jun-14						Jun-14						Jun-14				
	Jul-14						Jul-14						Jul-14				
	Aug-14						Aug-14					_	Aug-14				
	Sep-14						Sep-14						Sep-14				
1	Oct-14						Oct-14						Oct-14				
	Nov-14						Nov-14						Nov-14				
	Dec-14						Dec-14						Dec-14				
OFNER	lan d d	075		07 750	004		lan dd	005	404	0.40	470	NVICO	lan dd	04070	200000	55404	0000
CENTRL	Jan-14 Feb-14	675 419		27,758 27,395	624 1,484	MILLWD	Jan-14 Feb-14	235 324	401 183	848 1015	470 357	NYISO	Jan-14 Feb-14			55491	6098 6097
	Mar-14	419	105	21,395	1,484	_	Mar-14	324	183	1015	357		Mar-14		7888	52604	0097
	Apr-14					_	Apr-14						Apr-14				
	May-14						May-14						May-14				
	Jun-14						Jun-14						Jun-14				
	Jul-14						Jul-14						Jul-14				
	Aug-14						Aug-14						Aug-14				
	Sep-14					—	Sep-14					-	Sep-14				
	Oct-14					-	Oct-14					-	Oct-14			<u> </u>	
	Nov-14					-	Nov-14					-	Nov-14				
	Dec-14						Dec-14						Dec-14				



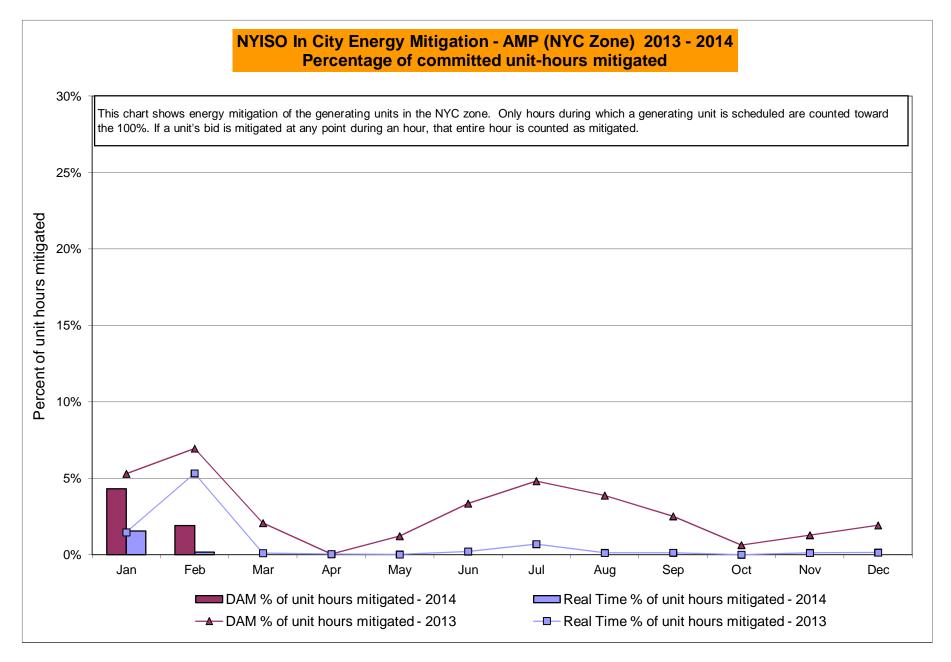
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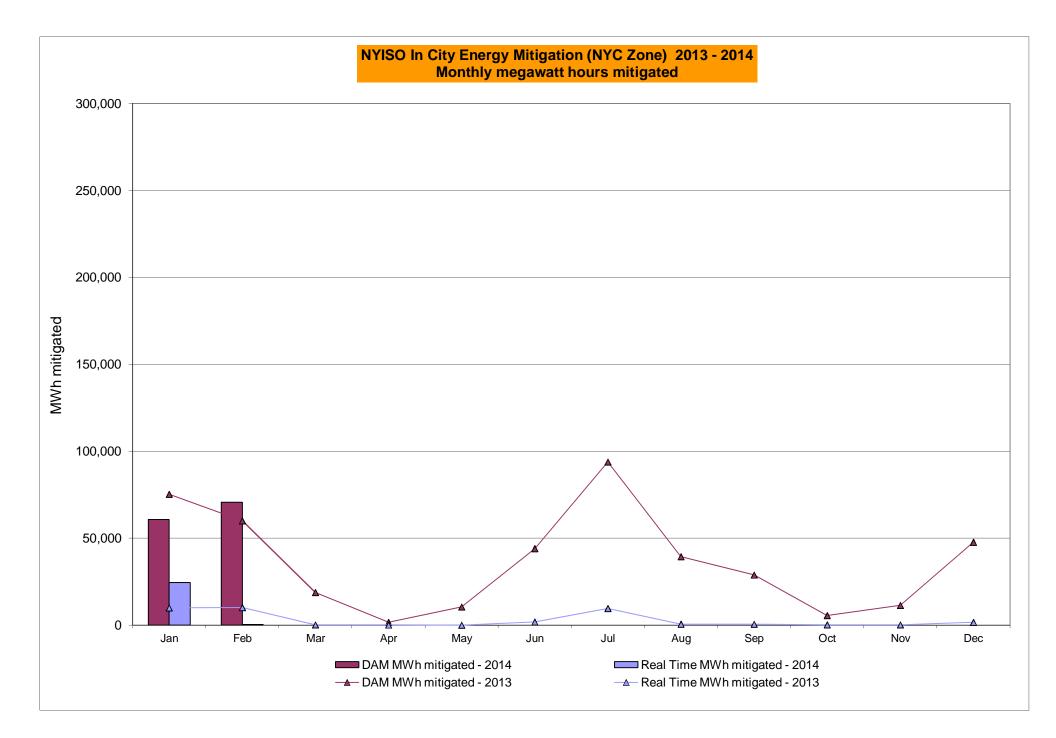


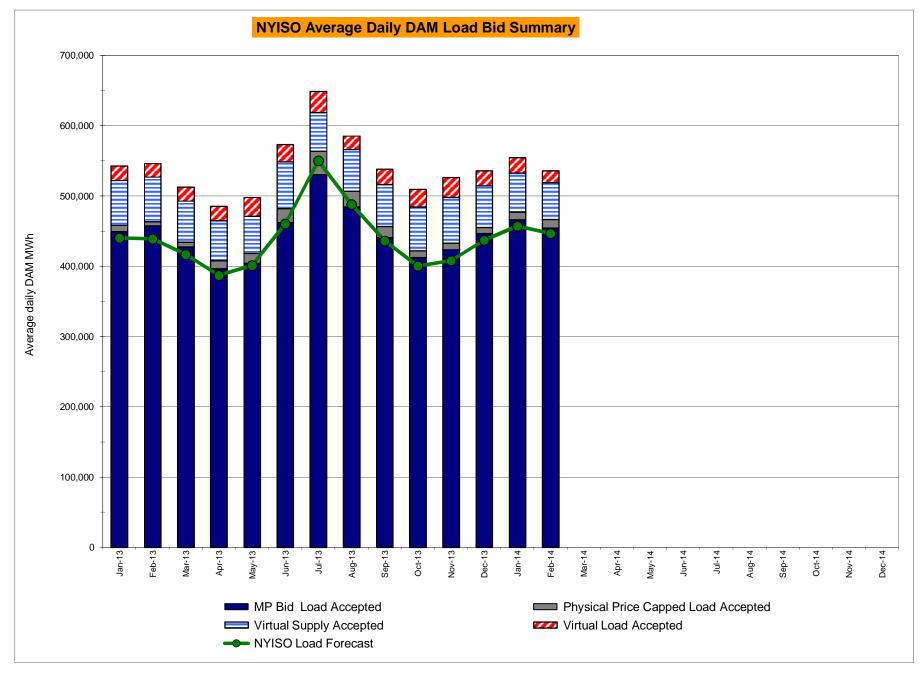


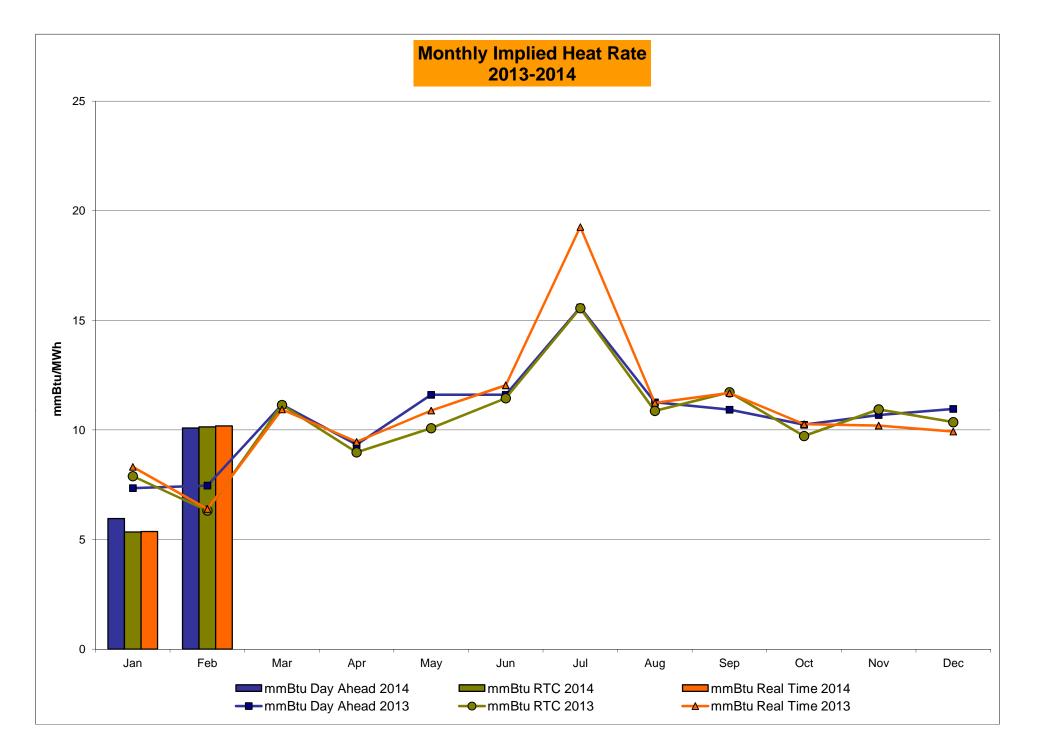


	<u>1</u>	NYISO Mark	ets Ancillar	y Services	Statistics	- Unweight	ed Price (\$	<u>5/MWH)</u>				
2014	January	February	March	<u>April</u>	May	June	July	August	September	October	November	December
Day Ahead Market												
10 Min Spin East	17.19	12.62										
10 Min Spin West	10.02	7.32										
10 Min Non Synch East	8.40	4.78										
10 Min Non Synch West	2.02	1.23										
30 Min East	1.77	0.93										
30 Min West	1.77	0.93										
Regulation East	37.05	24.05										
Regulation West	37.05	24.05										
RTC Market												
	40.00	40.04										
10 Min Spin East	19.32	16.64										
10 Min Spin West	12.18	13.16										
10 Min Non Synch East	7.43	0.26										
10 Min Non Synch West	1.68	0.00										
30 Min East	0.08	0.00										
30 Min West	0.08	0.00										
Regulation East	30.21	29.03										
Regulation West	30.21	29.03										
NYCA Regulation Movement	0.28	0.27										
Real Time Market												
10 Min Spin East	19.64	15.48										
10 Min Spin West	13.10	11.80										
10 Min Non Synch East	9.03	0.70										
10 Min Non Synch West	3.37	0.00										
30 Min East	1.10	0.00										
30 Min West	0.92	0.00										
Regulation East	31.50	29.02										
Regulation West	31.50	29.02										
NYCA Regulation Movement	0.27	0.27										
NYCA Regulation Movement	0.27	0.27	March	April	Mav	June	Julv	August	September	October	November	December
NYCA Regulation Movement 2013			March	<u>April</u>	May	June	July	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	December
NYCA Regulation Movement 2013 Day Ahead Market	0.27 <u>January</u>	0.27 <u>February</u>						-				
NYCA Regulation Movement <u>2013</u> Day Ahead Market 10 Min Spin East	0.27 <u>January</u> 11.12	0.27 <u>February</u> 9.05	8.73	6.49	9.25	7.59	10.13	6.84	7.65	7.85	7.68	10.35
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West	0.27 <u>January</u> 11.12 7.72	0.27 <u>February</u> 9.05 5.53	8.73 4.34	6.49 4.46	9.25 4.67	7.59 4.46	10.13 4.06	6.84 3.94	7.65 4.40	7.85 4.38	7.68 4.37	10.35 5.23
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East	0.27 <u>January</u> 11.12 7.72 2.91	0.27 <u>February</u> 9.05 5.53 4.79	8.73 4.34 4.36	6.49 4.46 3.36	9.25 4.67 4.52	7.59 4.46 3.73	10.13 4.06 8.31	6.84 3.94 3.37	7.65 4.40 3.62	7.85 4.38 3.82	7.68 4.37 3.45	10.35 5.23 4.37
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West	0.27 <u>January</u> 11.12 7.72 2.91 1.11	0.27 <u>February</u> 9.05 5.53 4.79 1.73	8.73 4.34 4.36 0.84	6.49 4.46 3.36 1.38	9.25 4.67 4.52 0.55	7.59 4.46 3.73 0.88	10.13 4.06 8.31 2.27	6.84 3.94 3.37 0.60	7.65 4.40 3.62 0.63	7.85 4.38 3.82 0.70	7.68 4.37 3.45 0.96	10.35 5.23 4.37 0.87
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East	0.27 <u>January</u> 11.12 7.72 2.91	0.27 <u>February</u> 9.05 5.53 4.79	8.73 4.34 4.36	6.49 4.46 3.36	9.25 4.67 4.52	7.59 4.46 3.73	10.13 4.06 8.31	6.84 3.94 3.37	7.65 4.40 3.62	7.85 4.38 3.82	7.68 4.37 3.45	10.35 5.23 4.37
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West	0.27 <u>January</u> 11.12 7.72 2.91 1.11	0.27 <u>February</u> 9.05 5.53 4.79 1.73	8.73 4.34 4.36 0.84	6.49 4.46 3.36 1.38	9.25 4.67 4.52 0.55	7.59 4.46 3.73 0.88	10.13 4.06 8.31 2.27	6.84 3.94 3.37 0.60	7.65 4.40 3.62 0.63	7.85 4.38 3.82 0.70	7.68 4.37 3.45 0.96	10.35 5.23 4.37 0.87
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65	8.73 4.34 4.36 0.84 0.56 0.56	6.49 4.46 3.36 1.38 0.53 0.53	9.25 4.67 4.52 0.55 0.36 0.36	7.59 4.46 3.73 0.88 0.40 0.40	10.13 4.06 8.31 2.27 0.62 0.62	6.84 3.94 3.37 0.60 0.33 0.33	7.65 4.40 3.62 0.63 0.23 0.23	7.85 4.38 3.82 0.70 0.28 0.28	7.68 4.37 3.45 0.96 0.59 0.59	10.35 5.23 4.37 0.87 0.65 0.65
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70	8.73 4.34 4.36 0.84 0.56 0.56 9.21	6.49 4.46 3.36 1.38 0.53 0.53 9.93	9.25 4.67 4.52 0.55 0.36 0.36 8.84	7.59 4.46 3.73 0.88 0.40 0.40 11.07	10.13 4.06 8.31 2.27 0.62 0.62 9.80	6.84 3.94 3.37 0.60 0.33 0.33 8.29	7.65 4.40 3.62 0.63 0.23 0.23 8.65	7.85 4.38 3.82 0.70 0.28 0.28 8.98	7.68 4.37 3.45 0.96 0.59 0.59 8.38	10.35 5.23 4.37 0.87 0.65 0.65 9.74
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65	8.73 4.34 4.36 0.84 0.56 0.56	6.49 4.46 3.36 1.38 0.53 0.53	9.25 4.67 4.52 0.55 0.36 0.36	7.59 4.46 3.73 0.88 0.40 0.40	10.13 4.06 8.31 2.27 0.62 0.62	6.84 3.94 3.37 0.60 0.33 0.33	7.65 4.40 3.62 0.63 0.23 0.23	7.85 4.38 3.82 0.70 0.28 0.28	7.68 4.37 3.45 0.96 0.59 0.59	10.35 5.23 4.37 0.87 0.65 0.65
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West RTC Market	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70	8.73 4.34 4.36 0.84 0.56 0.56 9.21 9.21	6.49 4.46 1.38 0.53 0.53 9.93 9.93	9.25 4.67 4.52 0.55 0.36 0.36 8.84 8.84	7.59 4.46 3.73 0.88 0.40 0.40 11.07 11.07	10.13 4.06 8.31 2.27 0.62 0.62 9.80 9.80	6.84 3.94 3.37 0.60 0.33 0.33 8.29 8.29	7.65 4.40 3.62 0.63 0.23 0.23 8.65 8.65	7.85 4.38 3.82 0.70 0.28 0.28 8.98 8.98	7.68 4.37 3.45 0.96 0.59 0.59 8.38 8.38	10.35 5.23 4.37 0.65 0.65 9.74 9.74
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70	8.73 4.34 4.36 0.84 0.56 0.56 9.21	6.49 4.46 3.36 1.38 0.53 0.53 9.93	9.25 4.67 4.52 0.55 0.36 0.36 8.84	7.59 4.46 3.73 0.88 0.40 0.40 11.07	10.13 4.06 8.31 2.27 0.62 0.62 9.80	6.84 3.94 3.37 0.60 0.33 0.33 8.29	7.65 4.40 3.62 0.63 0.23 0.23 8.65	7.85 4.38 3.82 0.70 0.28 0.28 8.98	7.68 4.37 3.45 0.96 0.59 0.59 8.38	10.35 5.23 4.37 0.87 0.65 0.65 9.74
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West RTC Market	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70	8.73 4.34 4.36 0.84 0.56 0.56 9.21 9.21	6.49 4.46 1.38 0.53 0.53 9.93 9.93	9.25 4.67 4.52 0.55 0.36 0.36 8.84 8.84	7.59 4.46 3.73 0.88 0.40 0.40 11.07 11.07	10.13 4.06 8.31 2.27 0.62 0.62 9.80 9.80	6.84 3.94 3.37 0.60 0.33 0.33 8.29 8.29	7.65 4.40 3.62 0.63 0.23 0.23 8.65 8.65	7.85 4.38 3.82 0.70 0.28 0.28 8.98 8.98	7.68 4.37 3.45 0.96 0.59 0.59 8.38 8.38	10.35 5.23 4.37 0.65 0.65 9.74 9.74
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min East Regulation East Regulation West RTC Market 10 Min Spin East 10 Min Spin West	0.27 January 11.12 7.72 2.91 1.11 0.56 0.56 0.56 15.94 15.94 15.94 16.42 8.50	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 4.81 3.10	8.73 4.34 4.36 0.56 0.56 9.21 9.21 6.94 1.90	6.49 4.46 3.36 1.38 0.53 0.53 9.93 9.93 3.28 0.90	9.25 4.67 4.52 0.55 0.36 0.36 8.84 8.84 2.59 0.05	7.59 4.46 3.73 0.88 0.40 0.40 11.07 11.07 2.65 0.48	10.13 4.06 8.31 2.27 0.62 0.62 9.80 9.80 9.80 8.23 0.57	6.84 3.94 3.37 0.60 0.33 0.33 8.29 8.29 1.99 0.29	7.65 4.40 3.62 0.63 0.23 0.23 8.65 8.65 7.40 2.56	7.85 4.38 3.82 0.70 0.28 0.28 8.98 8.98 3.70 0.97	7.68 4.37 3.45 0.96 0.59 8.38 8.38 5.11 2.68	10.35 5.23 4.37 0.87 0.65 0.65 9.74 9.74 9.53 5.16
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min East Regulation East Regulation West RTC Market 10 Min Spin East 10 Min Spin West 10 Min Spin West 10 Min Spin West 10 Min Non Synch East	0.27 January 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 15.94 16.42 8.50 6.48	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 12.70 4.81 3.10 0.28	8.73 4.34 4.36 0.56 0.56 9.21 9.21 6.94 1.90 0.70	6.49 4.46 3.36 1.38 0.53 0.53 9.93 9.93 3.28 0.90 0.18	9.25 4.67 4.52 0.55 0.36 0.36 8.84 8.84 2.59 0.05 1.48	7.59 4.46 3.73 0.88 0.40 0.40 11.07 11.07 2.65 0.48 1.50	10.13 4.06 8.31 2.27 0.62 0.62 9.80 9.80 9.80 8.23 0.57 7.23	6.84 3.94 3.37 0.60 0.33 0.33 8.29 8.29 1.99 0.29 0.16	7.65 4.40 3.62 0.63 0.23 0.23 8.65 8.65 7.40 2.56 4.63	7.85 4.38 3.82 0.70 0.28 0.28 8.98 8.98 3.70 0.97 0.44	7.68 4.37 3.45 0.96 0.59 0.59 8.38 8.38 5.11 2.68 0.38	10.35 5.23 4.37 0.87 0.65 0.65 9.74 9.74 9.53 5.16 1.17
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West RtC Market 10 Min Spin East 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West	0.27 January 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 15.94 16.42 8.50 6.48 1.04	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 12.70 4.81 3.10 0.28 0.00	8.73 4.34 4.36 0.84 0.56 9.21 9.21 6.94 1.90 0.70 0.15	6.49 4.46 3.36 1.38 0.53 0.53 9.93 9.93 3.28 0.90 0.18 0.00	9.25 4.67 4.52 0.55 0.36 0.36 8.84 8.84 2.59 0.05 1.48 0.00	7.59 4.46 3.73 0.88 0.40 0.40 11.07 11.07 2.65 0.48 1.50 0.22	10.13 4.06 8.31 2.27 0.62 0.62 9.80 9.80 9.80 8.23 0.57 7.23 0.26	6.84 3.94 3.37 0.60 0.33 0.33 8.29 8.29 1.99 0.29 0.16 0.00	7.65 4.40 3.62 0.63 0.23 0.23 8.65 8.65 7.40 2.56 4.63 1.39	7.85 4.38 3.82 0.70 0.28 0.28 8.98 8.98 3.70 0.97 0.44 0.00	7.68 4.37 3.45 0.96 0.59 0.59 8.38 8.38 8.38 5.11 2.68 0.38 0.00	10.35 5.23 4.37 0.87 0.65 0.65 9.74 9.74 9.53 5.16 1.17 0.13
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West RTC Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 15.94 16.42 8.50 6.48 1.04 0.00	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 4.81 3.10 0.28 0.00 0.00	8.73 4.34 4.36 0.84 0.56 9.21 9.21 6.94 1.90 0.70 0.15 0.00	6.49 4.46 3.36 1.38 0.53 9.93 9.93 3.28 0.90 0.18 0.00 0.00	9.25 4.67 4.52 0.55 0.36 0.36 8.84 8.84 2.59 0.05 1.48 0.00 0.00	7.59 4.46 3.73 0.88 0.40 0.40 11.07 11.07 2.65 0.48 1.50 0.22 0.00	10.13 4.06 8.31 2.27 0.62 9.80 9.80 9.80 8.23 0.57 7.23 0.26 0.03	6.84 3.94 3.37 0.60 0.33 8.29 8.29 1.99 0.29 0.16 0.00 0.00	7.65 4.40 3.62 0.63 0.23 0.23 8.65 8.65 7.40 2.56 4.63 1.39 0.24	7.85 4.38 3.82 0.70 0.28 0.28 8.98 8.98 3.70 0.97 0.44 0.00 0.00	7.68 4.37 3.45 0.96 0.59 8.38 8.38 5.11 2.68 0.38 0.00 0.00	10.35 5.23 4.37 0.65 0.65 9.74 9.74 9.53 5.16 1.17 0.13 0.00
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West RTC Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 15.94 16.42 8.50 6.48 1.04 0.00 0.00	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 4.81 3.10 0.28 0.00 0.00 0.00	8.73 4.34 4.36 0.84 0.56 9.21 9.21 6.94 1.90 0.70 0.15 0.00 0.00	6.49 4.46 3.36 1.38 0.53 9.93 9.93 3.28 0.90 0.18 0.00 0.00 0.00	9.25 4.67 4.52 0.55 0.36 8.84 8.84 2.59 0.05 1.48 0.00 0.00 0.00 0.00	7.59 4.46 3.73 0.88 0.40 0.40 11.07 11.07 2.65 0.48 1.50 0.22 0.00 0.00	10.13 4.06 8.31 2.27 0.62 9.80 9.80 9.80 8.23 0.57 7.23 0.26 0.03 0.03	6.84 3.94 3.37 0.60 0.33 0.33 8.29 8.29 1.99 0.29 0.16 0.00 0.00 0.00	7.65 4.40 3.62 0.63 0.23 0.23 8.65 8.65 7.40 2.56 4.63 1.39 0.24 0.24	7.85 4.38 3.82 0.70 0.28 0.28 8.98 8.98 3.70 0.97 0.44 0.00 0.00 0.00	$7.68 \\ 4.37 \\ 3.45 \\ 0.96 \\ 0.59 \\ 8.38 \\ 8.38 \\ 5.11 \\ 2.68 \\ 0.38 \\ 0.00 \\ $	10.35 5.23 4.37 0.65 0.65 9.74 9.74 9.53 5.16 1.17 0.13 0.00 0.00
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West RTC Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 16.42 8.50 6.48 1.04 0.00 0.00 15.18	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 4.81 3.10 0.28 0.00 0.00 0.00 0.00 8.81	8.73 4.34 4.36 0.84 0.56 9.21 9.21 9.21 6.94 1.90 0.70 0.15 0.00 0.00 7.43	6.49 4.46 3.36 1.38 0.53 9.93 9.93 3.28 0.90 0.18 0.00 0.00 0.00 6.84	9.25 4.67 4.52 0.55 0.36 8.84 8.84 2.59 0.05 1.48 0.00 0.00 0.00 0.00 6.42	7.59 4.46 3.73 0.88 0.40 0.40 11.07 11.07 2.65 0.48 1.50 0.22 0.00 0.00 10.42	10.13 4.06 8.31 2.27 0.62 9.80 9.80 9.80 8.23 0.57 7.23 0.26 0.03 0.03 9.77	6.84 3.94 3.37 0.60 0.33 0.33 8.29 8.29 1.99 0.29 0.16 0.00 0.00 0.00 0.00 0.00 0.00 0.00	7.65 4.40 3.62 0.63 0.23 8.65 8.65 8.65 7.40 2.56 4.63 1.39 0.24 0.24 8.93	7.85 4.38 3.82 0.70 0.28 8.98 8.98 3.70 0.97 0.44 0.00 0.00 0.00 8.26	$7.68 \\ 4.37 \\ 3.45 \\ 0.96 \\ 0.59 \\ 0.59 \\ 8.38 \\ 8.38 \\ 5.11 \\ 2.68 \\ 0.38 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 9.63 \\ $	10.35 5.23 4.37 0.65 0.65 9.74 9.74 9.53 5.16 1.17 0.13 0.00 0.00 13.75
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West RTC Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 16.42 8.50 6.48 1.04 0.00 0.00 15.18 15.18	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 4.81 3.10 0.28 0.00 0.00 0.00 8.81 8.81	8.73 4.34 4.36 0.84 0.56 9.21 9.21 6.94 1.90 0.70 0.15 0.00 0.00	6.49 4.46 3.36 1.38 0.53 9.93 9.93 3.28 0.90 0.18 0.00 0.00 0.00 6.84 6.84	9.25 4.67 4.52 0.55 0.36 8.84 8.84 2.59 0.05 1.48 0.00 0.00 0.00 0.00	7.59 4.46 3.73 0.88 0.40 0.40 11.07 11.07 2.65 0.48 1.50 0.22 0.00 0.00	10.13 4.06 8.31 2.27 0.62 9.80 9.80 9.80 8.23 0.57 7.23 0.26 0.03 0.03	6.84 3.94 3.37 0.60 0.33 0.33 8.29 8.29 1.99 0.29 0.16 0.00 0.00 0.00	7.65 4.40 3.62 0.63 0.23 0.23 8.65 8.65 7.40 2.56 4.63 1.39 0.24 0.24	7.85 4.38 3.82 0.70 0.28 0.28 8.98 8.98 3.70 0.97 0.44 0.00 0.00 0.00	$7.68 \\ 4.37 \\ 3.45 \\ 0.96 \\ 0.59 \\ 8.38 \\ 8.38 \\ 5.11 \\ 2.68 \\ 0.38 \\ 0.00 \\ $	10.35 5.23 4.37 0.65 0.65 9.74 9.74 9.53 5.16 1.17 0.13 0.00 0.00
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West RTC Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 16.42 8.50 6.48 1.04 0.00 0.00 15.18	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 4.81 3.10 0.28 0.00 0.00 0.00 0.00 8.81	8.73 4.34 4.36 0.84 0.56 9.21 9.21 9.21 6.94 1.90 0.70 0.15 0.00 0.00 7.43	6.49 4.46 3.36 1.38 0.53 9.93 9.93 3.28 0.90 0.18 0.00 0.00 0.00 6.84	9.25 4.67 4.52 0.55 0.36 8.84 8.84 2.59 0.05 1.48 0.00 0.00 0.00 0.00 6.42	7.59 4.46 3.73 0.88 0.40 0.40 11.07 11.07 2.65 0.48 1.50 0.22 0.00 0.00 10.42	10.13 4.06 8.31 2.27 0.62 9.80 9.80 9.80 8.23 0.57 7.23 0.26 0.03 0.03 9.77	6.84 3.94 3.37 0.60 0.33 0.33 8.29 8.29 1.99 0.29 0.16 0.00 0.00 0.00 0.00 0.00 0.00 0.00	7.65 4.40 3.62 0.63 0.23 8.65 8.65 8.65 7.40 2.56 4.63 1.39 0.24 0.24 8.93	7.85 4.38 3.82 0.70 0.28 8.98 8.98 3.70 0.97 0.44 0.00 0.00 0.00 8.26	$7.68 \\ 4.37 \\ 3.45 \\ 0.96 \\ 0.59 \\ 0.59 \\ 8.38 \\ 8.38 \\ 5.11 \\ 2.68 \\ 0.38 \\ 0.00 \\ 0.00 \\ 0.00 \\ 0.00 \\ 9.63 \\ $	10.35 5.23 4.37 0.65 0.65 9.74 9.74 9.53 5.16 1.17 0.13 0.00 0.00 13.75
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min East 30 Min West Regulation East Regulation East Regulation East Regulation East Regulation West NYCA Regulation Movement Real Time Market	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 16.42 8.50 6.48 1.04 0.00 0.00 15.18 15.18 15.18 0.00	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 4.81 3.10 0.28 0.00 0.00 0.00 0.00 8.81 8.81 0.00	8.73 4.34 4.36 0.84 0.56 9.21 9.21 9.21 6.94 1.90 0.70 0.15 0.00 0.00 7.43 7.43 0.00	6.49 4.46 3.36 1.38 0.53 9.93 9.93 3.28 0.90 0.18 0.00 0.00 0.00 6.84 6.84 0.00	9.25 4.67 4.52 0.55 0.36 8.84 8.84 2.59 0.05 1.48 0.00 0.00 0.00 6.42 6.42 0.00	7.59 $4.46$ $3.73$ $0.88$ $0.40$ $0.40$ $11.07$ $11.07$ $2.65$ $0.48$ $1.50$ $0.22$ $0.00$ $0.00$ $10.42$ $10.42$ $0.27$	10.13 4.06 8.31 2.27 0.62 9.80 9.80 8.23 0.57 7.23 0.26 0.03 0.03 9.77 9.77 0.28	6.84 3.94 3.37 0.60 0.33 0.33 8.29 8.29 0.29 0.16 0.00 0.00 0.00 0.00 0.00 0.00 0.00	7.65 4.40 3.62 0.63 0.23 0.23 8.65 8.65 7.40 2.56 4.63 1.39 0.24 0.24 8.93 8.93 0.21	7.85 4.38 3.82 0.70 0.28 8.98 8.98 3.70 0.97 0.44 0.00 0.00 0.00 8.26 8.26 0.24	7.68 4.37 3.45 0.96 0.59 8.38 8.38 5.11 2.68 0.38 0.00 0.00 0.00 0.00 9.63 9.63 0.22	$10.35 \\ 5.23 \\ 4.37 \\ 0.65 \\ 0.65 \\ 9.74 \\ 9.74 \\ 9.53 \\ 5.16 \\ 1.17 \\ 0.13 \\ 0.00 \\ 0.00 \\ 13.75 \\ 13.75 \\ 0.20 \\ \end{array}$
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation East Regulation East Regulation East Regulation West NYCA Regulation Movement	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 16.42 8.50 6.48 1.04 0.00 0.00 15.18 15.18	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 4.81 3.10 0.28 0.00 0.00 0.00 8.81 8.81	8.73 4.34 4.36 0.84 0.56 9.21 9.21 9.21 6.94 1.90 0.70 0.15 0.00 0.00 7.43 7.43	6.49 4.46 3.36 1.38 0.53 9.93 9.93 3.28 0.90 0.18 0.00 0.00 0.00 6.84 6.84	9.25 4.67 4.52 0.35 0.36 8.84 8.84 2.59 0.05 1.48 0.00 0.00 0.00 6.42 6.42	7.59 $4.46$ $3.73$ $0.88$ $0.40$ $0.40$ $11.07$ $11.07$ $2.65$ $0.48$ $1.50$ $0.22$ $0.00$ $0.00$ $10.42$ $10.42$	10.13 4.06 8.31 2.27 0.62 9.80 9.80 9.80 8.23 0.57 7.23 0.26 0.03 0.03 9.77 9.77	6.84 3.94 3.37 0.60 0.33 0.33 8.29 8.29 1.99 0.29 0.16 0.00 0.00 0.00 0.00 0.00 0.81 6.81	7.65 4.40 3.62 0.63 0.23 8.65 8.65 8.65 7.40 2.56 4.63 1.39 0.24 0.24 8.93 8.93	7.85 4.38 3.82 0.70 0.28 8.98 8.98 3.70 0.97 0.44 0.00 0.00 0.00 8.26 8.26	7.68 4.37 3.45 0.96 0.59 8.38 8.38 5.11 2.68 0.38 0.00 0.00 0.00 9.63 9.63	10.35 5.23 4.37 0.65 0.65 9.74 9.74 9.53 5.16 1.17 0.13 0.00 0.00 13.75 13.75
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min East 30 Min East 30 Min West Regulation East Regulation East Regulation West NYCA Regulation Movement <b>Real Time Market</b> 10 Min Spin East	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 16.42 8.50 6.48 1.04 0.00 0.00 15.18 15.18 0.00 18.42	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 4.81 3.10 0.28 0.00 0.00 0.00 0.00 8.81 8.81 0.00 4.63	8.73 4.34 4.36 0.84 0.56 0.56 9.21 9.21 9.21 6.94 1.90 0.70 0.15 0.00 0.00 7.43 7.43 0.00 6.12	6.49 4.46 3.36 1.38 0.53 9.93 9.93 3.28 0.90 0.18 0.00 0.00 6.84 6.84 0.00 3.35	9.25 4.67 4.52 0.35 0.36 8.84 8.84 2.59 0.05 1.48 0.00 0.00 0.00 6.42 6.42 0.00 3.03	7.59 $4.46$ $3.73$ $0.88$ $0.40$ $0.40$ $11.07$ $11.07$ $2.65$ $0.48$ $1.50$ $0.22$ $0.00$ $0.00$ $10.42$ $10.42$ $0.27$ $3.41$	10.13 4.06 8.31 2.27 0.62 9.80 9.80 9.80 8.23 0.57 7.23 0.26 0.03 0.03 9.77 9.77 0.28	6.84 3.94 3.37 0.60 0.33 0.33 8.29 8.29 0.29 0.29 0.29 0.16 0.00 0.00 0.00 0.00 0.00 0.00 0.81 6.81 0.18 2.37	7.65 4.40 3.62 0.63 0.23 8.65 8.65 7.40 2.56 4.63 1.39 0.24 0.24 8.93 8.93 0.21 7.03	7.85 4.38 3.82 0.70 0.28 8.98 8.98 3.70 0.97 0.44 0.00 0.00 0.00 8.26 8.26 8.26 0.24	7.68 4.37 3.45 0.96 0.59 8.38 8.38 5.11 2.68 0.38 0.00 0.00 0.00 9.63 9.63 0.22 4.68	10.35 5.23 4.37 0.65 0.65 9.74 9.74 9.53 5.16 1.17 0.13 0.00 0.00 13.75 13.75 0.20 7.29
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West 10 Min Spin East 10 Min Spin West 10 Min Non Synch West 30 Min East 30 Min East 30 Min West Regulation East Regulation East Regulation East Regulation East Regulation Movement Regulation Movement Min Spin East 10 Min Spin	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 16.42 8.50 6.48 1.04 0.00 0.00 15.18 15.18 15.18 0.00 18.42 9.22	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 4.81 3.10 0.28 0.00 0.00 0.00 8.81 8.81 0.00 4.63 3.00	8.73 4.34 4.36 0.84 0.56 9.21 9.21 9.21 6.94 1.90 0.70 0.15 0.00 0.00 7.43 7.43 0.00 6.12 1.44	6.49 4.46 3.36 1.38 0.53 9.93 9.93 3.28 0.90 0.18 0.00 0.00 6.84 6.84 0.00 3.35 1.15	9.25 4.67 4.52 0.55 0.36 0.36 8.84 8.84 2.59 0.05 1.48 0.00 0.00 0.00 0.00 6.42 6.42 0.00 3.03 0.13	7.59 $4.46$ $3.73$ $0.88$ $0.40$ $0.40$ $11.07$ $11.07$ $2.65$ $0.48$ $1.50$ $0.22$ $0.00$ $0.00$ $10.42$ $10.42$ $0.27$ $3.41$ $0.94$	10.13 4.06 8.31 2.27 0.62 9.80 9.80 9.80 8.23 0.57 7.23 0.26 0.03 0.03 9.77 9.77 0.28 20.24 7.29	6.84 3.94 3.37 0.60 0.33 8.29 8.29 0.29 0.16 0.00 0.00 0.00 0.00 6.81 6.81 0.18 2.37 0.80	7.65 4.40 3.62 0.63 0.23 8.65 8.65 7.40 2.56 4.63 1.39 0.24 0.24 8.93 8.93 0.21 7.03 1.83	7.85 4.38 3.82 0.70 0.28 8.98 8.98 3.70 0.97 0.44 0.00 0.00 8.26 8.26 0.24 4.14 1.73	7.68 4.37 3.45 0.96 0.59 8.38 8.38 5.11 2.68 0.38 0.00 0.00 0.00 9.63 9.63 0.22 4.68 2.16	10.35 5.23 4.37 0.65 0.65 9.74 9.74 9.53 5.16 1.17 0.13 0.00 0.00 13.75 13.75 0.20 7.29 3.31
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West TC Market 10 Min Spin East 10 Min Spin Kest 10 Min Non Synch Kest 30 Min East 30 Min West Regulation East Regulation East Regulation East Regulation West NYCA Regulation Movement Real Time Market 10 Min Spin East 10 Min Spin Kest 10 Min Spin Kest 10 Min Spin West 10 Min Spin Kest 10 Min Ke	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 15.94 16.42 8.50 6.48 1.04 0.00 0.00 15.18 15.18 15.18 15.18 0.00 18.42 9.22 8.81	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 4.81 3.10 0.28 0.00 0.00 0.00 8.81 8.81 0.00 4.63 3.00 0.52	8.73 4.34 4.36 0.84 0.56 9.21 9.21 6.94 1.90 0.70 0.15 0.00 0.00 7.43 7.43 0.00 6.12 1.44 0.93	6.49 4.46 3.36 1.38 0.53 9.93 9.93 3.28 0.90 0.18 0.00 0.00 0.00 0.00 6.84 6.84 0.00 3.35 1.15 0.06	9.25 4.67 4.52 0.55 0.36 8.84 8.84 2.59 0.05 1.48 0.00 0.00 0.00 6.42 6.42 0.00 3.03 0.13 1.84	7.59 $4.46$ $3.73$ $0.88$ $0.40$ $11.07$ $11.07$ $2.65$ $0.48$ $1.50$ $0.22$ $0.00$ $0.00$ $10.42$ $10.42$ $0.27$ $3.41$ $0.94$ $2.22$	10.13 4.06 8.31 2.27 0.62 9.80 9.80 9.80 8.23 0.57 7.23 0.26 0.03 0.03 9.77 9.77 0.28 20.24 7.29 14.51	6.84 3.94 3.37 0.60 0.33 8.29 8.29 8.29 0.29 0.16 0.00 0.00 0.00 0.00 6.81 0.18 2.37 0.80 0.07	7.65 4.40 3.62 0.63 0.23 0.23 8.65 8.65 7.40 2.56 4.63 1.39 0.24 0.24 0.24 8.93 0.21 7.03 1.83 4.37	7.85 4.38 3.82 0.70 0.28 0.28 8.98 8.98 3.70 0.97 0.44 0.00 0.00 0.00 0.00 8.26 8.26 0.24 4.14 1.73 0.31	7.68 4.37 3.45 0.96 0.59 8.38 8.38 5.11 2.68 0.38 0.00 0.00 0.00 0.00 9.63 0.22 4.68 2.16 0.63	10.35 5.23 4.37 0.65 0.65 9.74 9.74 9.53 5.16 1.17 0.13 0.00 0.00 13.75 13.75 0.20 7.29 3.31 1.31
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West TCC Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation East Regulation East Regulation West NYCA Regulation Movement <b>Real Time Market</b> 10 Min Spin East 10 Min Spin Kest 10 Min Spin Kest 10 Min Spin Kest 10 Min Non Synch Kest	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 15.94 16.42 8.50 6.48 1.04 0.00 0.00 15.18 15.18 15.18 0.00 15.18 15.18 0.00 18.42 9.22 8.81 2.00	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 4.81 3.10 0.28 0.00 0.00 0.00 8.81 8.81 0.00 4.63 3.00 0.52 0.00	8.73 4.34 4.36 0.84 0.56 9.21 9.21 9.21 6.94 1.90 0.70 0.15 0.00 0.00 7.43 7.43 0.00 6.12 1.44 0.93 0.10	6.49 4.46 3.36 1.38 0.53 9.93 9.93 3.28 0.90 0.18 0.00 0.00 0.00 6.84 6.84 0.00 3.35 1.15 0.06 0.00	9.25 4.67 4.52 0.55 0.36 8.84 8.84 2.59 0.05 1.48 0.00 0.00 0.00 6.42 6.42 0.00 3.03 0.13 1.84 0.00	7.59 $4.46$ $3.73$ $0.88$ $0.40$ $0.40$ $11.07$ $11.07$ $2.65$ $0.48$ $1.50$ $0.22$ $0.00$ $0.00$ $10.42$ $10.42$ $10.42$ $0.27$ $3.41$ $0.94$ $2.22$ $0.53$	10.13 4.06 8.31 2.27 0.62 9.80 9.80 9.80 8.23 0.57 7.23 0.26 0.03 0.03 9.77 9.77 0.28 20.24 7.29 14.51 4.91	6.84 3.94 3.37 0.60 0.33 8.29 8.29 0.29 0.29 0.29 0.16 0.00 0.00 0.00 0.00 6.81 6.81 0.18 2.37 0.80 0.07 0.00	7.65 4.40 3.62 0.63 0.23 0.23 8.65 8.65 7.40 2.56 4.63 1.39 0.24 0.24 8.93 0.21 7.03 1.83 4.37 0.70	7.85 4.38 3.82 0.70 0.28 8.98 8.98 3.70 0.97 0.44 0.00 0.00 0.00 8.26 8.26 0.24 4.14 1.73 0.31 0.00	$\begin{array}{c} 7.68\\ 4.37\\ 3.45\\ 0.96\\ 0.59\\ 0.59\\ 8.38\\ 8.38\\ 8.38\\ 5.11\\ 2.68\\ 0.38\\ 0.00\\ 0.00\\ 0.00\\ 9.63\\ 9.63\\ 9.63\\ 9.63\\ 0.22\\ \end{array}$	10.35 5.23 4.37 0.65 0.65 9.74 9.74 9.53 5.16 1.17 0.13 0.00 0.00 13.75 13.75 0.20 7.29 3.31 1.31 0.34
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West TCC Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min West Regulation East Regulation East Regulation East Regulation East Regulation East Regulation Movement Real Time Market 10 Min Spin East 10 Min Spin East 10 Min Spin East 10 Min Spin East 10 Min Spin West 10 Min Spin West 10 Min Spin East 10 Min Spin West 10 Min Spin Kest 10 Min Spin West 10 Min Spin Kest 10 Min Kest 10 Min Spin Kest 10 Min Spin Kest 10 Min Spin Kest 10 Min Kest 10	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 15.94 16.42 8.50 6.48 1.04 0.00 0.00 15.18 15.18 15.18 0.00 18.42 9.22 8.81 2.00 0.00	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 4.81 3.10 0.28 0.00 0.00 0.00 8.81 8.81 0.00 4.63 3.00 0.52 0.00 0.00 0.00	8.73 4.34 4.36 0.84 0.56 9.21 9.21 9.21 6.94 1.90 0.70 0.15 0.00 0.00 7.43 7.43 0.00 6.12 1.44 0.93 0.10 0.00	6.49 4.46 3.36 1.38 0.53 9.93 9.93 3.28 0.90 0.18 0.00 0.00 0.00 6.84 6.84 0.00 3.35 1.15 0.06 0.00	9.25 4.67 4.52 0.55 0.36 8.84 8.84 2.59 0.05 1.48 0.00 0.00 0.00 6.42 6.42 0.00 3.03 0.13 1.84 0.00 0.00 0.00	7.59 4.46 3.73 0.88 0.40 11.07 11.07 2.65 0.48 1.50 0.22 0.00 0.00 10.42 10.42 10.42 10.42 10.42 10.42 10.42 10.42 10.42 10.42 10.42 10.42 10.42 10.42 10.42 10.57 3.41 0.94 2.22 0.53 0.00	10.13 4.06 8.31 2.27 0.62 9.80 9.80 9.80 8.23 0.57 7.23 0.26 0.03 0.03 9.77 9.77 0.28 20.24 7.29 14.51 4.91 7.99	6.84 3.94 3.37 0.60 0.33 0.33 8.29 8.29 0.29 0.29 0.29 0.29 0.29 0.29 0.20 0.20	7.65 4.40 3.62 0.63 0.23 0.23 8.65 8.65 7.40 2.56 4.63 1.39 0.24 0.24 8.93 8.93 0.21 7.03 1.83 4.37 0.70 0.17	7.85 4.38 3.82 0.70 0.28 0.28 8.98 8.98 3.70 0.97 0.44 0.00 0.00 0.00 8.26 8.26 8.26 0.24 4.14 1.73 0.31 0.00 0.00 0.00	$\begin{array}{c} 7.68\\ 4.37\\ 3.45\\ 0.96\\ 0.59\\ 0.59\\ 8.38\\ 8.38\\ 8.38\\ 5.11\\ 2.68\\ 0.38\\ 0.00\\ 0.00\\ 0.00\\ 9.63\\ 9.63\\ 9.63\\ 0.22\\ 4.68\\ 2.16\\ 0.63\\ 0.00\\$	10.35 5.23 4.37 0.65 0.65 9.74 9.74 9.53 5.16 1.17 0.13 0.00 0.00 13.75 13.75 0.20 7.29 3.31 1.31 0.34 0.00
NYCA Regulation Movement 2013 Day Ahead Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation West TCC Market 10 Min Spin East 10 Min Spin West 10 Min Non Synch East 10 Min Non Synch West 30 Min East 30 Min West Regulation East Regulation East Regulation Movement NYCA Regulation Movement 10 Min Spin East 10 Min Spin West 10 Min Non Synch West 10 Min Non Synch West 30 Min East 30 Min East 30 Min Kest 30 Min East 30 Min Kest 30 Min East 30 Min Kest 30 Min East 30 Min Kest 30 Min Kest	0.27 <u>January</u> 11.12 7.72 2.91 1.11 0.56 0.56 15.94 15.94 15.94 16.42 8.50 6.48 1.04 0.00 0.00 15.18 15.18 15.18 0.00 18.42 9.22 8.81 2.00 0.00 0.00	0.27 <u>February</u> 9.05 5.53 4.79 1.73 0.65 0.65 12.70 12.70 4.81 3.10 0.28 0.00 0.00 0.00 0.00 0.00 8.81 8.81 0.00 4.63 3.00 0.52 0.00 0.00 0.00 0.00 0.52 0.00	8.73 4.34 4.36 0.84 0.56 9.21 9.21 6.94 1.90 0.70 0.15 0.00 0.00 7.43 7.43 0.00 6.12 1.44 0.93 0.10 0.00 0.00 0.00	6.49 4.46 3.36 1.38 0.53 9.93 9.93 3.28 0.90 0.18 0.00 0.00 0.00 6.84 6.84 0.00 3.35 1.15 0.06 0.00	9.25 4.67 4.52 0.55 0.36 8.84 8.84 2.59 0.05 1.48 0.00 0.00 6.42 6.42 0.00 3.03 0.13 1.84 0.00	7.59 4.46 3.73 0.88 0.40 0.40 11.07 11.07 2.65 0.48 1.50 0.22 0.00 0.00 10.42 10.42 0.27 3.41 0.94 2.22 0.53 0.00 0.00	10.13 4.06 8.31 2.27 0.62 9.80 9.80 8.23 0.57 7.23 0.26 0.03 0.03 9.77 9.77 0.28 20.24 7.29 14.51 4.91 7.99 4.55	6.84 3.94 3.37 0.60 0.33 0.33 8.29 8.29 0.29 0.16 0.00 0.00 0.00 0.00 0.00 0.00 0.00	7.65 4.40 3.62 0.63 0.23 0.23 8.65 8.65 7.40 2.56 4.63 1.39 0.24 0.24 8.93 8.93 0.21 7.03 1.83 4.37 0.70 0.17 0.17	7.85 4.38 3.82 0.70 0.28 0.28 8.98 8.98 3.70 0.97 0.44 0.00 0.00 0.00 8.26 8.26 8.26 0.24 4.14 1.73 0.31 0.00 0.00 0.00	$\begin{array}{c} 7.68\\ 4.37\\ 3.45\\ 0.96\\ 0.59\\ 0.59\\ 8.38\\ 8.38\\ 8.38\\ 5.11\\ 2.68\\ 0.38\\ 0.00\\ 0.00\\ 0.00\\ 9.63\\ 9.63\\ 9.63\\ 0.22\\ 4.68\\ 2.16\\ 0.63\\ 0.00\\$	10.35 5.23 4.37 0.65 0.65 9.74 9.74 9.53 5.16 1.17 0.13 0.00 0.00 13.75 13.75 0.20 7.29 3.31 1.31 0.34 0.00 0.00 0.00
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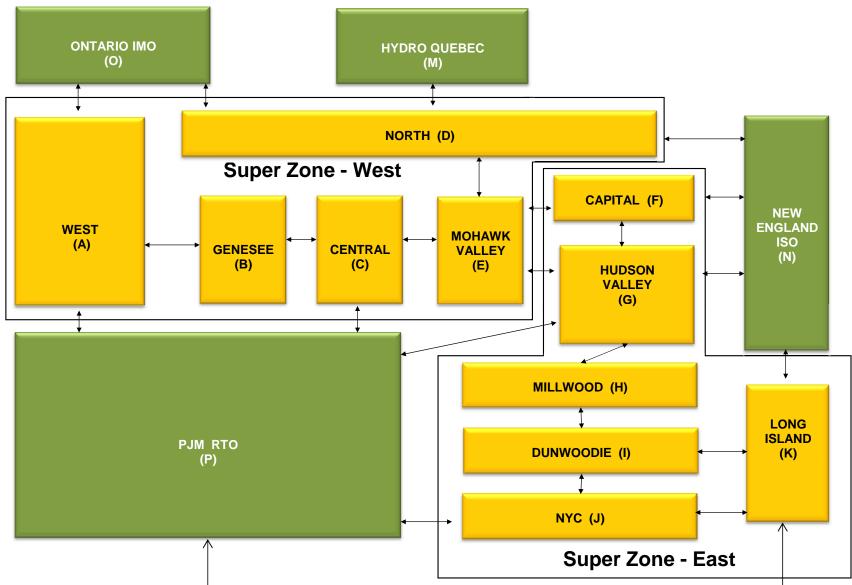








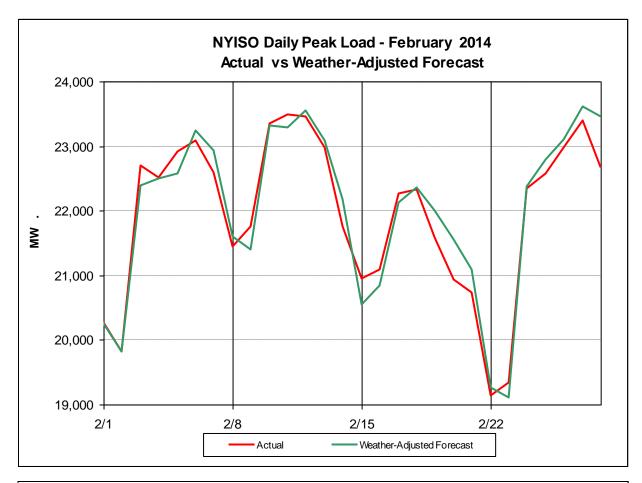
# NYISO LBMP ZONES

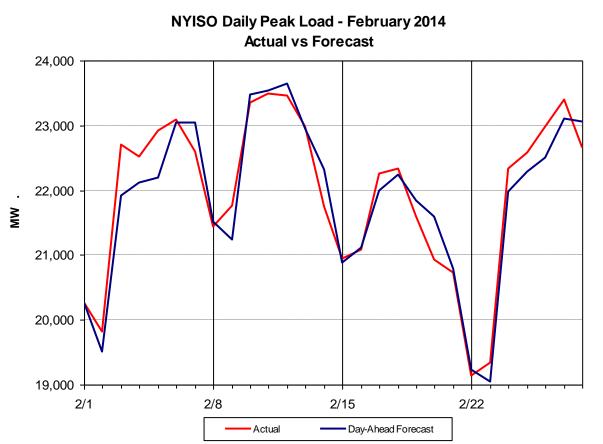


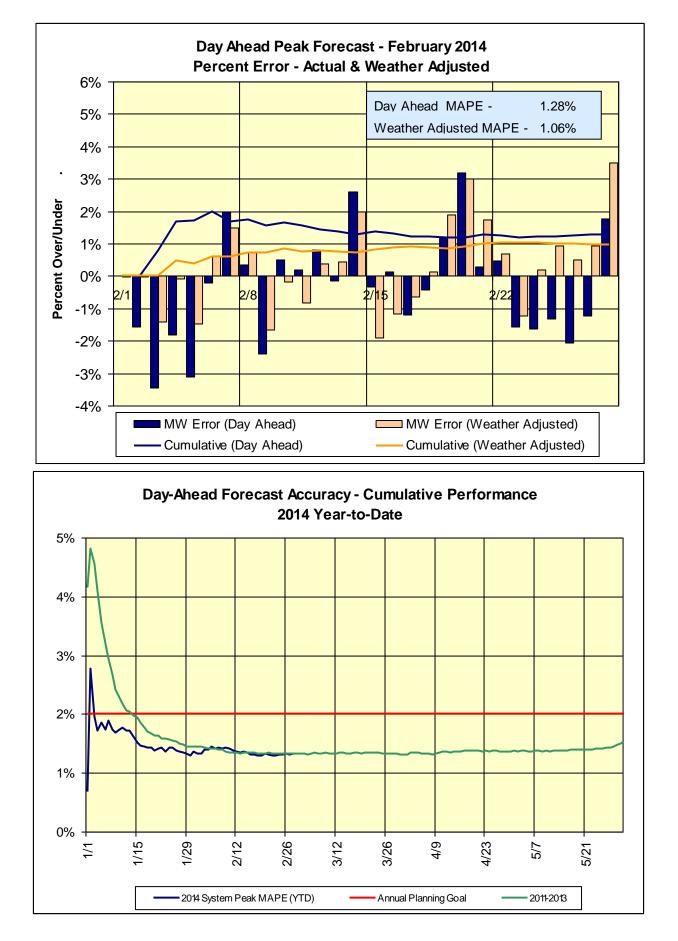
Market Mitigation and Analysis Prepared: 3/3/2014 1:51 PM

#### Billing Codes for Chart 4-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









# Status and Milestone Deliverables

	Business Intelligence Products
Business Intelligence Roadmap: Data Integration	<ul> <li>Status: The purpose of this multi-year project is to improve the Business Intelligence IT service model at NYISO. Planning and design commenced in 2013 with plans to undertake a study in 2014 to identify a data integration and storage technology product for purchase, with implementation to follow in 2015. The data integration and storage solution will provide NYISO the capability to move large data sets to and from business partners and among internal systems in a sustainable manner. The system will have the ability to perform impact analysis and data quality monitoring, which are key to maintaining quality and controlling risk in an increasingly partner integrated environment.</li> <li>Deliverables: The focus of this project in 2014 is the completion of a study to recommend a product for procurement in 2015.</li> </ul>
Electric Quarterly Report (EQR) Enhancements	<ul> <li>Status: FERC has updated the required information and format for providing EQR reports. NYISO Market Participants have benefited from a report generated out of DSS for many years. Market Participants have requested NYISO to update the existing report with additional information and formatting to better match the newer FERC requirements. Updating the existing report will require additional data to be loaded in to DSS as well as changes to the existing reports.</li> <li>Deliverables: The 2014 project will focus on delivering enhancements to existing reports to align with the additional FERC requirements.</li> </ul>
Public Website Technology Upgrade	<b>Status:</b> The purpose of this project is to upgrade the underlying technology for the NYISO public website. The existing technology will be replaced with a more cost-effective solution by using Microsoft SharePoint to maintain and post documents to the public website. <b>Deliverables:</b> The 2014 project deliverable is the deployment of the technology upgrade.



## Project **Status and Milestone Deliverables Capacity Market Products** Status: Additional Capacity Zones is a FERC Mandate and a response to the Independent Market Advisor's 2009 State of the Market Report. Implementation is in progress with the ICAP Automated Market System software deployment planned for Q1 2014 in advance of the Summer Capability Period. This is a significant software effort that requires extensive regression testing. This effort is coupled with the Additional Capacity Zones mitigation Additional Capacity Zones software changes and all tariff revisions specific to new capacity zones and mitigation within new capacity zones. This project was deployed in February. This project is complete. **Deliverables:** The 2014 project deliverable is the software deployment. **Status:** The purpose of this project is to provide multiple NYISO Business Owners access to the same data set utilizing updated technology that is supported by IT. The scope of this project includes replacing Access gueries with an ICAP universe and reporting tools. ICAP Auction Validation and Reporting **Deliverables:** The 2014 project deliverable is the development of the functional requirements and plans for a software deployment in 2015. Status: Market Mitigation and Analysis (MMA) collects extensive financial data from generation owners in order to perform the ICAP market mitigation measures. Now that the data collection process is standardized, efficiency and transparency could be gained by creating a web-based data portal that would allow MPs to upload and review their data. The NYISO and its consultants could use the data portal in the review process and to ICAP Reference System facilitate discussions with MPs. The anticipated deliverable is a Web-based software application, similar in concept to the Reference Level Software (RLS), but with different functionality. This software will enable MMA to complete pre-mitigation determinations for new capacity zones in an automated and timely manner. Software development was completed in 2013.



## **2014 Major Product Enhancements**

Project

## **Status and Milestone Deliverables**

**Deliverables:** The 2014 project deliverable is the completion of testing and the software deployment.

	Demand Response Products
Demand Response – Real Time Energy Market	<b>Status:</b> NYISO will focus on the development of market rules and identification of software changes required to permit demand response entities to participate in the NYISO's real-time energy market. BIC and OC approved the Market Design concepts for this multi-year project in December 2012. Business Requirements were approved in 2013.
	<b>Deliverables:</b> Obtaining stakeholder approval on the market design is the focus of the project in 2014.
SCR Provisional ACL Phase	<ul> <li>Status: The SCR Program is the largest of the NYISO's demand response programs, both in the number of individual demand side resources and MW. Since the SCR baseline changes were implemented in April 2011, the NYISO has received a significant number of comments, including three market participant presentations at the ICAPWG, regarding SCRs enrolled with a Provisional ACL. One of the presentations related to using the Provisional ACL as a way to allow resources to account for an increase in load since the last Capability Period, which would allow the SCR to offer more capacity. The scope of the project is intended to address four key areas from stakeholder comments:</li> <li>1) Address allowance for the use of Provisional ACL for SCRs that change RIPs;</li> <li>2) Review the limitation on Provisional ACL for three consecutive Capability Periods;</li> <li>3) Review SCR Load Zone Peak Hours for Winter ACL; and</li> <li>4) Address increased baseline with reporting process to increase ACL values within a Capability Period.</li> </ul>



Project	Status and Milestone Deliverables
	The first phase was successfully deployed in October 2013.
	<b>Deliverables:</b> The focus of the 2014 project is the deployment of the next phase of software changes.
SCR Baseline Study	<ul> <li>Status: This project will evaluate the current Average Coincident Load (ACL) against a number of alternative response baseline calculations using a Customer Baseline Load (CBL) for SCRs. In February 2011, when the NYISO proposed, and stakeholders accepted, the change to the SCR baseline from Average Peak Monthly Demand (APMD) to ACL, the NYISO committed to conducting a study to evaluate an additional set of baseline calculations for measuring event response. The objective of the study is to determine if there is a method of estimating response to an event that will provide a better estimate of event response than the ACL. The study is complete.</li> <li>Deliverables: The focus of the 2014 project is a NYISO Management response to the study completed at the end of 2013.</li> </ul>
Order 745 – Day Ahead Demand Response Program (DADRP) Compliance	<b>Status:</b> NYISO planned to implement the net benefits test in March 2012 based on the compliance filing submitted in August 2011. However, implementation was placed on hold pending a response from FERC. Also, as part of the compliance obligation, NYISO completed a study in August 2012 to evaluate the feasibility of incorporating a dynamic net benefits test into the day-ahead and real-time unit commitment and scheduling processes. A compliance filing detailing the results of the feasibility study was submitted to FERC in September 2012. FERC issued an Order on May 16, 2013 in response to NYISO's August 2011 filing. NYISO requested a 60-day extension on the compliance filing, which was subsequently approved for August 14. Also, NYISO requested rehearing on the cost allocation methodology.



#### **Status and Milestone Deliverables**

 Deliverables:
 Upon receipt of responses from FERC regarding the August 14, 2013

 compliance filing and the request for rehearing, NYISO will evaluate the responses and

 determine a feasible implementation date.

 Energy Market Products

 Status:
 In 2012 FERC accepted the joint filings of NYISO and ISONE to implement CTS.

Coordinated Transaction Scheduling (CTS) with New England **Status:** In 2012 FERC accepted the joint filings of NYISO and ISONE to implement CTS. CTS will enable Market Participants to submit transaction bid costs as an arbitrage spread value, instead of today's \$/MW pair. This spread will be merged with ISONE's supply curve and then optimized by NY for transaction scheduling. To help facilitate this new trading and to insure proper data transparency between the ISOs and the MPs, a new common bid platform will be built and run by NYISO. In addition, data will be exchanged between NY and NE to help facilitate settlements and operator interaction.

**Deliverables:** The focus of this project in 2014 will be development completed of all systems needed to begin joint testing in March 2015 and activate CTS with NE in Q4 2015.

Status:The State of the Market has recommended that NYISO continue to work with its<br/>neighbors to provide market efficiencies from transaction scheduling. This project will look<br/>to expand upon the work and concepts outlined in CTS with NE to improve transaction<br/>scheduling inefficiencies that can occur between PJM's physical transaction modeling and<br/>NYISO's economic based scheduling models. A market design concept was completed in 4<sup>th</sup><br/>quarter 2012. NYISO and PJM Stakeholders approved the market design in 2013. Software<br/>development was completed at the end of 2013.

**Deliverables:** The focus of this project in 2014 is the software deployment, joint testing and implementation.



## 2014 Major Product Enhancements

# Project

# Status and Milestone Deliverables

Scheduling and Pricing: Graduated Transmission Demand Curve	<b>Status:</b> The 2012 State of the Market (SOM) recommends the NYISO consider the feasibility and potential impacts on reliability and system security from using a graduated Transmission Shortage Cost. The SOM states, "RTD uses a "Transmission Shortage Cost" that limits the re-dispatch costs that may be incurred to \$4,000/MWh when managing congestion. However, our analysis suggests that this level may be higher than necessary to maintain reliability during some brief shortages." The single 'penalty point' is too high and may result in ineffective generation re-dispatch in response to transmission constraints given established operating practices and capabilities. A graduated demand curve will improve the accuracy of the Transmission Shortage Cost and will make for a more efficient commitment and dispatch actions, and set more efficient prices.  Deliverables: The focus of this project in 2014 is FERC approval of tariff changes and implementation of the software changes.
Enterprise Project Management (EPM): Phases II and III	<ul> <li>Enterprise Products</li> <li>Status: In 2012 NYISO implemented Microsoft Project 2010 on the EPMLive application to provide NYISO with up-to-date project scheduling and tracking tools, centralized and consistent project reporting for improved portfolio management, and improved project team collaboration. Additional phases will continue the implementation of the EPMLive application to provide a centralized system with enterprise time reporting, and an enterprise view of project demand, resource capacity, project costs, and resource utilization to support key decision making processes. In 2013 the EPMLive time tracking module was configured to align with the requirements of the Enterprise Cost Management (ECM) initiative and the business requirements for resource management were approved.</li> <li>Deliverables: 2014 deliverables include an enterprise implementation of the time tracking functionality, followed by deployment of resource management functionality for project management and resource capacity planning.</li> </ul>



# Status and Milestone Deliverables

Enterprise Technology Monitoring	<b>Status:</b> This purpose of this project is to provide IT with the necessary toolset to effectively manage the NYISO technology portfolio. Investment in new tools and processes is necessary to maintain the availability of business services, including Market to Market and Smart Grid applications that require infrastructure not technically compatible with NYISO's current monitoring platform. This project will define an enterprise monitoring strategy and build a foundational solution that is capable of monitoring all core infrastructure services. Subsequent initiatives will deploy the monitoring strategy for all critical business services and enable proactive monitoring of key services to prevent and reduce downtime.
	<b>Deliverables:</b> The project deliverable for 2014 is a deployment.
Identity and Access Management (IAM)	<ul> <li>Status: This multi-year project is NYISO's top security priority for mitigating cyber security risks. To enhance NYISO's security posture and improve compliance with NERC Critical Infrastructure Protection (CIP) standards, the NYISO is in progress on this initiative to enable and control cyber access to its critical technology systems, and physical access to NYISO facilities, for employees and contractors.</li> <li>Deliverables: The focus of this project in 2014 is implementation to complete the migration of existing functionality to a supported system prior to the vendor's retirement of the current product in 2014, and to expand IAM access control to CIP assets in support of the NYISO of the vendor's retirement of the current product in 2014, and to expand IAM access control to CIP assets in support of the NYISO of the vendor's retirement of the current product in 2014, and to expand IAM access control to CIP assets in support of the NYISO of the vendor's retirement of the current product in 2014, and to expand IAM access control to CIP assets in support of the NYISO of the vendor's retirement of the current product in 2014, and to expand IAM access control to CIP assets in support of the NYISO of the vendor's retirement of the vendor's retireme</li></ul>
	the NYISO cyber security strategy.
Stakeholder Services Suite	<b>Status:</b> To improve customer service and satisfaction, the NYISO has included the creation of a Stakeholder Services Suite of tools in its 2013-2017 Strategic Plan. The vision for this multi-year initiative is to improve relationships between the NYISO and its stakeholders by providing NYISO team members with comprehensive views of current and historical customer inquiries that enable more effective responses to customer requests. The Customer Relationship Management (CRM) solution will enable the NYISO Stakeholder



## **Status and Milestone Deliverables**

and Member Relations (SMR) team to better manage customer interactions from initial contact, to registration, training, and ongoing communication. The CRM solution will also provide customers a self-service, web-based portal to view inquiry status and manage contact information.

**Deliverables:** The focus of this project in 2014 is a deployment.

	Finance Products
Credit Management System: Enhanced Market Participant Data Access	<ul> <li>Status: This project includes several changes to the Credit Management System (CMS) to provide additional access to data for Market Participants and related automation of tasks. This project will provide MPs with access to FERC Order 741 minimum participation data while also automating and providing the Credit Department with better tools to track the required certifications, capitalization, risk procedures, and verification. This project will also include automation of collateral calls for the TCC, DADRP, DSASP, and WTSC markets to send notifications to the MPs to provide consistency across markets in the collateral call notification process.</li> <li>Deliverables: The focus of this project in 2014 is implementation of the software changes.</li> </ul>
Oracle Financials Upgrade	<b>Status:</b> The purpose of this project is to upgrade the existing application to an enhanced and more technologically advanced version of Oracle Financials to better support the existing functionality of the Finance team and to allow the team to perform at a higher level of efficiency. An upgrade will provide the Finance team the ability to utilize improved and more user friendly functions in the existing modules. Also, an upgrade to the latest version will allow the team to take advantage of new modules and functionality to further automate manual processes for procurement and utilize additional functionality for accounts payable, sub-ledger accounting and reporting tools. The software upgrade is in process.



# Status and Milestone Deliverables

	<b>Deliverables:</b> The focus of this project in 2014 is completion of the software upgrade.
Procurement Enhancements	<b>Status:</b> The purpose of this project is to provide tools for two main groups of functionality, process automation and data analytics, in order to aid the procurement team in alleviating their manual work processes and making more timely procurement decisions.
	<b>Deliverables:</b> The focus of this project in 2014 is completion of the functional requirements.
	Operations & Reliability Products
Energy Management System (EMS) Visualization	<b>Status:</b> This project is the continuation of the 2012-2013 projects to design and develop a software system capable of collating and displaying operationally relevant information to Operators and support staff in the control center. Leveraging the tools and infrastructure, additional capabilities will be developed.
	<b>Deliverables:</b> The focus of this project in 2014 is implementation of software changes.
FERC Funded Project	<b>Status:</b> The NYISO's ability to simulate the Day-Ahead Market was instrumental to the success of FERC's Office of Enforcement ("OE") actions against Constellation. As such, the FERC OE is requesting that all ISOs develop the capabilities demonstrated by the NYISO, and in NYISO's specific case, to expand upon on current fundamental analysis capabilities. One million dollars in funding was provided to the NYISO as part of the Constellation Settlement. After consideration and review of numerous possible enhancements, MMA has settled on two primary categories of modifications to the market operations software (Ranger) that meet the FERC OE's requirements:



## **Status and Milestone Deliverables**

- 1. <u>RTS Simulation Capability:</u>
- 2. Enhancements to Simulation Results Reporting and Simulation Data Input (MMA Ranger "Area" Enhancements)

Phase 2 of this project, will utilize the remaining funds to enhance MMA's SAS reporting capabilities.

**Deliverables:** The 2014 project is the continuation of the 2013 FERC Funded Re-Run Capability project. The team focused on development in 2013. The 2014 project will allow the team to complete testing the new functionality and implement it in the MMA Ranger area.

Ranger Optimization & Performance Enhancements	<ul> <li>Status: The NYISO's unit commitment and economic dispatch process utilizes Lagrangian Relaxation (LR) and MINOS technologies. These are being replaced across the industry with Mixed Integer Programming (MIP)/linear programming optimization approach. The NYISO is the last remaining Ventyx/ABB customer on legacy LR/MINOS, which was developed in the late 1970s. MIP provides increased constraint modeling flexibility through high level modeling languages and current compiler and system optimization development, as well as greater IT support. The vendor completed software development in 2013.</li> <li>Deliverables: The focus of this project in 2014 is completion of testing and implementation.</li> </ul>
	Planning and TCC Market Products
FERC Order 1000	<b>Status:</b> As required in Order 1000, the NYISO made compliance filings to address transmission planning and cost allocation requirements. In order to maintain consistency between these new filings, tariff language and the NYISO manuals, policies and procedures implementing them, there is a need to update and/or create such documents. Order 1000



Project	Status and Milestone Deliverables
	requires the NYISO to update policies and procedures currently used in the RPP-Reliability Planning Process ("RPP", formerly known as the "Comprehensive Reliability Planning Process" or "CRPP") and, to a lesser extent, CARIS – Congestion Assessment & Resource Integration Study. These System and Resource Planning (SRP) documents will incorporate changes to manuals, rate schedules, Tariff(s) and supporting documents.
	<b>Deliverables:</b> The focus of this project in 2014 is the updating of the NYISO policies and procedures, fillings and Tariff language as a result of or related to Order 1000.
TCC Centralized Auction Rounds	<ul> <li>Status: The NYISO has a tariff obligation to conduct four auction rounds per TCC product offered in Centralized TCC Auctions unless the New York Transmission Owners reach unanimous consent and provide the NYISO a waiver to conduct fewer than four rounds. Market Participants have indicated through discussion in stakeholder committee meetings, other feedback and TCC auction surveys that they would prefer fewer rounds and a shorter overall auction cycle.</li> <li>Deliverables: The focus of this project in 2014 is to complete the study and discuss with</li> </ul>
TCC Revenue Allocation Automation	<ul> <li>stakeholders.</li> <li>Status: The NYISO collects TCC revenue from the administration of the TCC Markets and the allocation of Fixed Price TCCs. The allocation of revenue associated with the TCC Markets to the Transmission Owners is currently a manual process performed by TCC Market Operations (TMO) staff using Excel and SAS toolsets. The scope of this project will be limited to the automation of allocation of revenue from the TCC Markets. The NYISO is currently working with the NY Transmission Owners to determine an agreeable methodology for the distribution of revenue from the allocation of Fixed Price TCCs. At such a time that the NYISO has an agreed upon methodology with the NY Transmission Owners, the NYISO will evaluate if automation of the Fixed Price TCC revenue allocation process can be incorporated into this project.</li> </ul>



2014 Major Product Enhancements

Project

**Status and Milestone Deliverables** 

**Deliverables:** The focus of this project in 2014 is development completion by end of year.

## Summary Description of Regulatory Filings, Investigations and Rulemakings and Related Orders in NYISO Matters - February 2014

Filing Date	Filing Summary	Docket	Order Date	Order Summary
12/06/2013	NYISO filing re: OATT and MST revisions to add new real- time External Transaction bidding and scheduling rules, together known as Coordinated Transaction Scheduling	ER14-552-000	02/20/2014	FERC order conditionally accepting Tariff revisions re: implementation of CTS at the NYISO/PJM interface subject to a further compliance filing to establish the effective date
12/23/2013	NYISO filing re: request for an extension of time to comply with 11/22/13 Order in this docket to 150 days after FERC issues an order on NYISO's 08/14/13 Order No. 745 compliance filing in Docket No. ER11-4338-002	EL13-74-000	02/28/2014	FERC order denying motion for an extension of time
12/23/2013	NYISO filing re: OATT revisions to allow the early termination of Incremental TCCs and to eliminate the restriction on sales of certain Incremental TCCs	ER14-817-000	02/14/2014	FERC letter order accepting tariff revisions effective 02/21/14, as requested
01/10/2014	NYISO compliance filing and request for shortened comment period and expedited action re: MST Section 5.14.2 revisions to clarify how shortfall penalties and deficiency charges are to be assessed under that section in light of the proposed revisions accepted by the 12/04/13 order in this docket	ER14-39-001	02/18/2014	FERC letter order accepting tariff revisions effective 03/15/14, as requested subject to a compliance filing to reflect accepted language in 146 FERC ¶ 61,043
01/15/2014	NYISO filing re: request for extension of time to submit compliance filing in response to 11/21/13 order concerning the scaling factor methodology for the calculation of projected energy and ancillary services revenues in buyer- side capacity market power mitigation determinations for merchant transmission facilities	EL12-98-000	02/11/2014	FERC order denying NYISO's motion for an extension of time and granting a ten day extension to comply with the remaining 3 compliance directives of the 11/21/13 Order
01/21/2014	NYISO filing re: petition for temporary tariff waiver related to determinations that NYISO expects to make under the Buyer Side Mitigation Rules and a request for expedited action by 02/21/14	ER14-1125-000	02/21/2014	FERC order granting in part and denying in part the request for limited waivers of certain provisions of the ICAP market mitigation measures and directing NYISO to complete and issue final mitigation exemption determinations for the 2 subject projects within 14 days
02/03/2014	NYISO filing re: response to third party comments and protest of its filing to eliminate the real-time import bid production cost guarantee in advance of NYISO's implementation of coordinate transaction scheduling with PJM	ER14-864-000		

Filing Date	Filing Summary	Docket	Order Date	Order Summary
02/03/2014	NYISO answer re: opposing third party motion to consolidate two dockets (i.e., tariff amendments to implement external coordinated transaction scheduling with PJM –ER14-552-000 and tariff amendments to implement simplified and improved proxy generator bus pricing rules – ER14-864-000)	ER14-552-000 ER14-864-000		
02/10/2014	NYISO filing re: document-less motion to intervene in the PJM regional transmission expansion plan tariff filing	ER14-972-000		
02/14/2014	NYISO filing at the NYSPSC re: AC transmission upgrades screening analysis summary	Case 13-E-0488 Case 13-T-0454 Case 13-T-0455 Case 13-T-0456 Case 13-T-0641		
02/14/2014	NYISO filing at the NYSPSC re: compliance report on construction loan costs and expenses	Case 12-E-0168		
02/14/2014	NYISO, MISO, SPP, and CAISO joint filing re: late filed motion to intervene and comments in support of PJM's request for clarification of FERC order accepting NYISO's prohibited securities methodology	ER14-308-000 ER14-309-000		
02/21/2014	NYISO compliance filing re: to provide FERC with the specific scaling factor used in the Hudson Transmission Partners Project determination	EL12-98-002		
02/24/2013	NYISO compliance filing re: statement of effective date for the ICAP demand curves for the G-J Locality being in full effect for the 2014/15, 2015/16 and 2016/17 Capability Years	ER14-500-002		
02/26/2014 02/27/2014	NYISO filing at the NYSPSC re: request for active party status in the proceeding to develop an expedited process for siting transmission on existing rights-of-way	Case 14-T-0017		
02/27/2014	NYISO filing re: request for limited rehearing of the 01/28/14 order on NYISO's proposal to phase in the price impacts of the new G-J Locality ICAP demand curve	ER14-500-001		