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# **NYISO President's Report**

*Management Committee Meeting  
March 25, 2009*

# Report Items

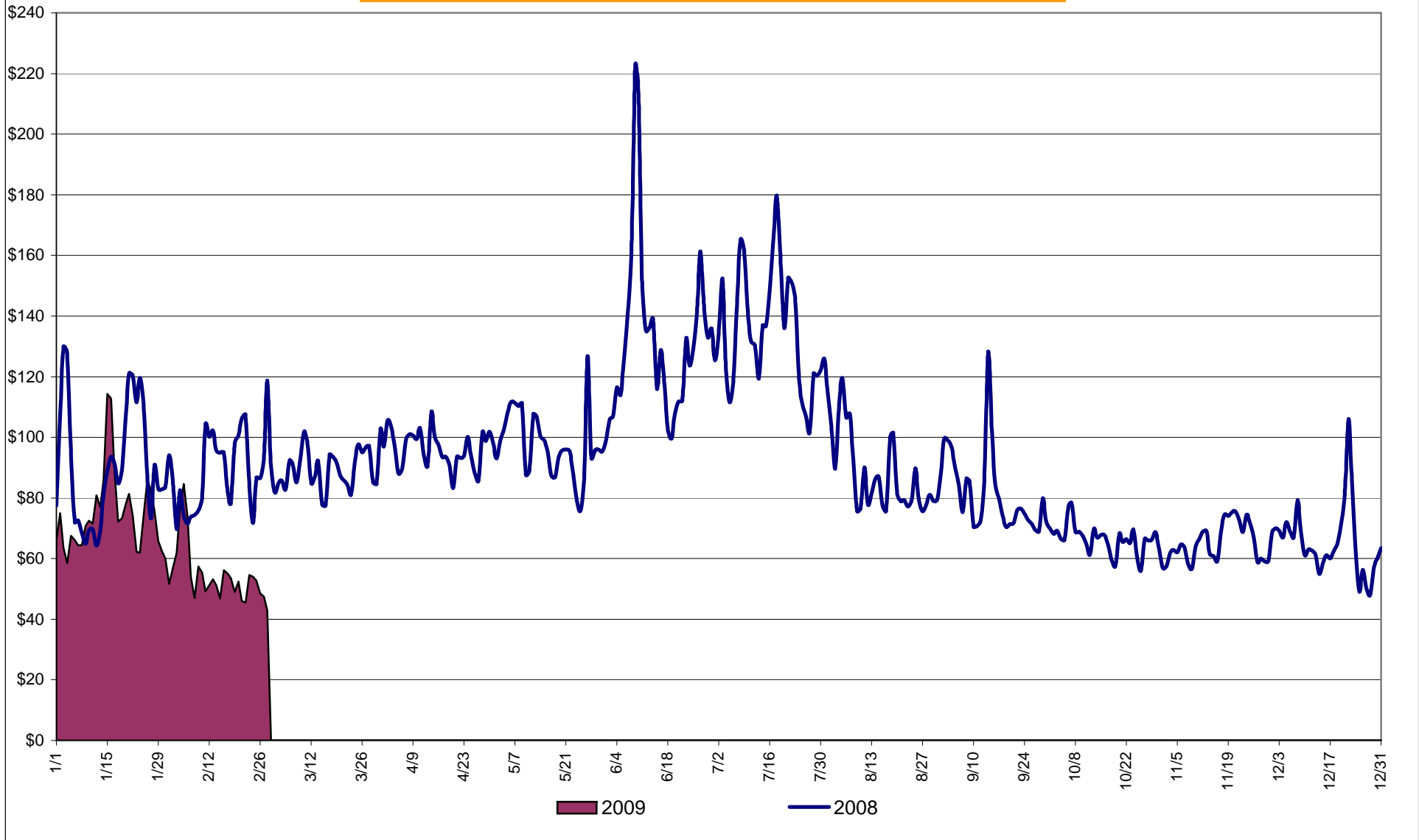
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- Market Performance Highlights – For Information Only
- Uplift
- EPRI Workshops – Green Transmission 4/29/09
- Joint Board MC – Change of Venue
- NYISO Symposium 4/30/09

# Market Performance Highlights for February 2009

- LBMP for February is \$52.73/MWh, down from \$73.28/MWh in January 2009.
  - Average monthly cost is \$55.49/MWh, down from \$75.54/MWh in January 2009.
  - Day Ahead and Real Time LBMPs have decreased from January 2009.
- Average daily sendout is 447GWh/day in February, down from 470Wh/day in January 2009 and lower than the February 2008 amount of 455GWh/day.
- No. 6 Fuel price is up this month while Natural Gas and other fuel prices are down.
  - Kerosene is \$10.16/MMBtu, down from \$11.78/MMBtu in January.
  - No. 2 Fuel Oil is \$9.22/MMBtu, down from \$10.46/MMBtu in January.
  - No. 6 Fuel Oil is \$7.21/MMBtu, up from \$7.09MMBtu in January.
  - Natural Gas is \$6.06/MMBtu, down from \$9.55/MMBtu in January.
- Uplift is somewhat higher this month compared to January 2009.
  - Uplift (not including NYISO cost of operations) is \$0.41/MWh, up from \$0.11/MWh in January 2009.
  - Total uplift (Schedule 1 components including NYISO Cost of Operations) increased from \$11.5 million in January to \$13.6 million in February 2009.

**Daily NYISO Average Cost/MWh (Energy & Ancillary Services)\***  
**2008 Annual Average \$95.31/MWh**  
**February 2008 YTD Average \$91.52/MWh**  
**February 2009 YTD Average \$66.82/MWh**



\* Excludes ICAP payments.

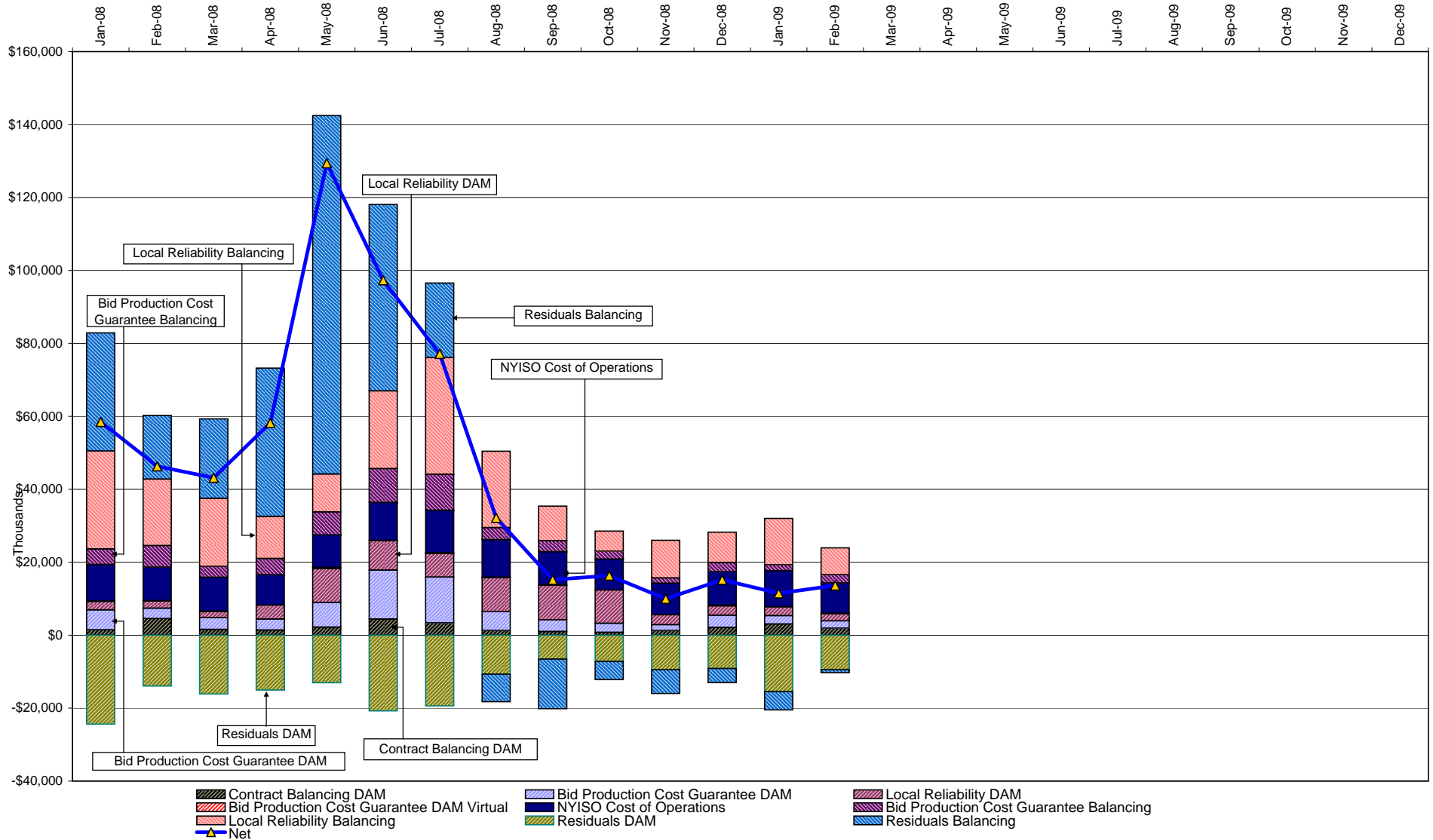
**NYISO Average Cost/MWh (Energy and Ancillary Services) \***  
**from the LBMP Customer point of view**

<b>2009</b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
LBMP	73.28	52.73										
NTAC	0.45	0.53										
Reserve	0.26	0.35										
Regulation	0.45	0.48										
NYISO Cost of Operations	0.65	0.65										
Uplift	0.11	0.41										
Voltage Support and Black Start	0.34	0.34										
<b>Avg Monthly Cost</b>	75.54	55.49										
 Avg YTD Cost	75.54	66.82										
<hr/>												
<b>2008</b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
LBMP	87.00	85.62	85.28	91.20	87.20	128.17	131.34	85.61	80.16	63.61	62.54	63.73
NTAC	0.34	0.43	0.41	0.62	0.48	0.78	1.04	0.66	0.69	0.58	1.28	0.63
Reserve	0.38	0.48	0.55	0.46	0.34	0.27	0.28	0.25	0.27	0.35	0.27	0.26
Regulation	0.54	0.57	0.61	0.53	0.50	0.52	0.44	0.49	0.54	0.53	0.49	0.44
NYISO Cost of Operations	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Uplift	3.10	2.48	2.01	2.58	8.53	5.52	3.54	1.39	0.43	0.59	0.11	0.41
Voltage Support and Black Start	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
<b>Avg Monthly Cost</b>	92.37	90.58	89.87	96.40	98.07	136.26	137.65	89.41	83.08	66.67	65.69	66.48
 Avg YTD Cost	92.37	91.52	90.98	92.26	93.37	101.31	107.98	105.57	103.30	100.31	97.63	95.31

\* Excludes ICAP payments.

These numbers reflect the true-ups of 2008.

## NYISO Dollar Flows - Uplift- OATT Schedule 1 components - Data through February 28, 2009



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

2009	January	February	March	April	May	June	July	August	September	October	November	December
<b>Day Ahead Market MWh</b>	14,570,391	12,511,009										
DAM LSE Internal LBMP Energy Sales	45%	44%										
DAM External TC LBMP Energy Sales	4%	2%										
DAM Bilateral - Internal Bilaterals	45%	47%										
DAM Bilateral - Import/Non-LBMP Market Bilaterals	4%	5%										
DAM Bilateral - Export/Non-LBMP Market Bilaterals	2%	2%										
DAM Bilateral - Wheel Through Bilaterals	0%	0%										
<b>Balancing Energy Market MWh</b>	699,631	283,724										
Balancing Energy LSE Internal LBMP Energy Sales	56%	39%										
Balancing Energy External TC LBMP Energy Sales	38%	46%										
Balancing Energy Bilateral - Internal Bilaterals	8%	19%										
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%										
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	1%	5%										
Balancing Energy Bilateral - Wheel Through Bilaterals	-2%	-10%										
<b>Transactions Summary</b>												
LBMP	51%	47%										
Internal Bilaterals	43%	46%										
Import Bilaterals	4%	5%										
Export Bilaterals	2%	2%										
Wheels Through	0%	0%										
<b>Market Share of Total Load</b>												
Day Ahead Market	95.4%	97.8%										
Balancing Energy +	4.6%	2.2%										
Total MWh	15,270,021	12,794,733										
Average Daily Energy Sendout/Month GWh	470	447										

2008	January	February	March	April	May	June	July	August	September	October	November	December
<b>Day Ahead Market MWh</b>	14,984,732	13,722,512	13,744,999	12,645,499	13,325,474	15,365,697	17,761,482	15,971,685	13,927,588	13,081,095	13,117,299	13,947,259
DAM LSE Internal LBMP Energy Sales	42%	42%	45%	48%	42%	45%	47%	45%	45%	44%	41%	44%
DAM External TC LBMP Energy Sales	9%	7%	5%	4%	6%	5%	8%	7%	4%	3%	5%	2%
DAM Bilateral - Internal Bilaterals	43%	43%	43%	40%	45%	43%	39%	42%	44%	46%	46%	47%
DAM Bilateral - Import/Non-LBMP Market Bilaterals	5%	5%	5%	5%	4%	4%	4%	4%	5%	4%	5%	5%
DAM Bilateral - Export/Non-LBMP Market Bilaterals	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
DAM Bilateral - Wheel Through Bilaterals	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%
<b>Balancing Energy Market MWh</b>	912,477	829,794	1,020,858	767,755	908,796	1,107,024	834,886	389,313	635,380	397,842	605,209	613,724
Balancing Energy LSE Internal LBMP Energy Sales	23%	50%	19%	-3%	3%	35%	47%	45%	64%	29%	43%	50%
Balancing Energy External TC LBMP Energy Sales	68%	48%	78%	97%	98%	56%	53%	47%	36%	84%	64%	55%
Balancing Energy Bilateral - Internal Bilaterals	6%	1%	3%	4%	-2%	5%	3%	6%	4%	7%	0%	1%
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	0%	0%	0%	0%	0%	0%	0%	-1%	0%	0%	0%	1%
Balancing Energy Bilateral - Wheel Through Bilaterals	2%	1%	1%	2%	2%	5%	-2%	3%	-4%	-20%	-7%	-6%
<b>Transactions Summary</b>												
LBMP	53%	52%	53%	55%	52%	53%	57%	53%	51%	49%	49%	49%
Internal Bilaterals	41%	41%	40%	38%	42%	40%	37%	41%	42%	45%	44%	45%
Import Bilaterals	5%	5%	4%	5%	4%	4%	4%	4%	5%	4%	5%	5%
Export Bilaterals	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Wheels Through	0%	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%
<b>Market Share of Total Load</b>												
Day Ahead Market	94.3%	94.3%	93.1%	94.3%	93.6%	93.3%	95.5%	97.6%	95.6%	97.0%	95.6%	95.8%
Balancing Energy +	5.7%	5.7%	6.9%	5.7%	6.4%	6.7%	4.5%	2.4%	4.4%	3.0%	4.4%	4.2%
Total MWh	15,897,209	14,552,307	14,765,858	13,413,255	14,234,270	16,472,720	18,596,368	16,360,998	14,562,968	13,478,936	13,722,508	14,560,983
Average Daily Energy Sendout/Month GWh	456	455	432	406	403	499	541	488	461	412	424	452

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

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

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

### NYISO Markets 2009 Energy Statistics

	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>DAY AHEAD LBMP</u></b>												
Price *	\$70.53	\$50.89										
Standard Deviation	\$19.46	\$13.06										
Load Weighted Price **	\$72.36	\$52.15										
<b><u>RTC LBMP</u></b>												
Price *	\$69.26	\$51.46										
Standard Deviation	\$23.37	\$21.26										
Load Weighted Price **	\$70.80	\$52.72										
<b><u>REAL TIME LBMP</u></b>												
Price *	\$68.14	\$50.62										
Standard Deviation	\$23.66	\$20.30										
Load Weighted Price **	\$69.80	\$52.14										
Average Daily Energy Sendout/Month GWh	470	447										

### NYISO Markets 2008 Energy Statistics

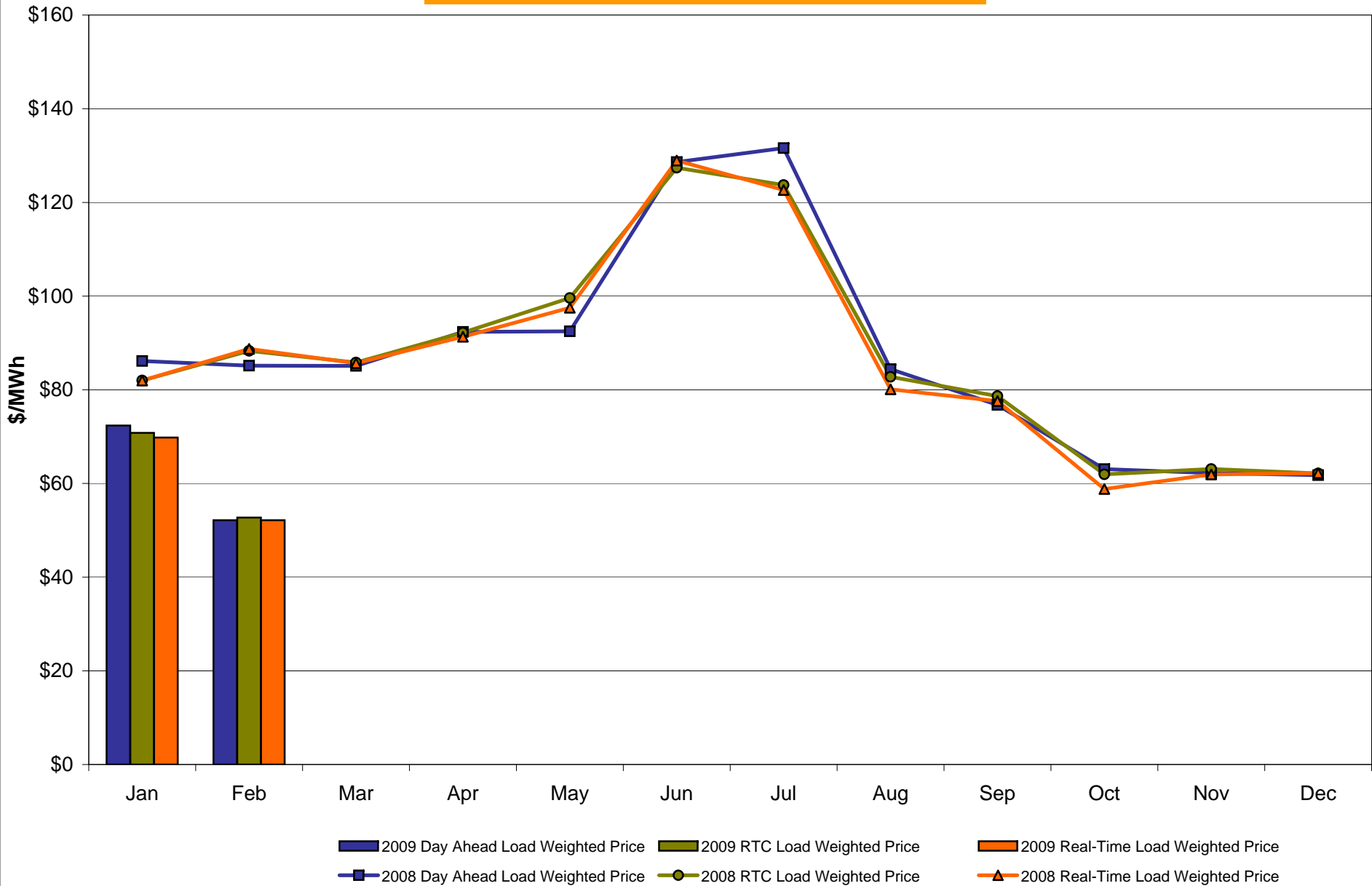
	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>DAY AHEAD LBMP</u></b>												
Price *	\$83.07	\$82.66	\$83.11	\$89.77	\$89.35	\$121.83	\$125.89	\$81.02	\$74.07	\$61.37	\$60.60	\$60.02
Standard Deviation	\$28.43	\$22.45	\$17.97	\$19.87	\$23.21	\$41.13	\$38.25	\$21.91	\$17.78	\$13.20	\$13.04	\$16.61
Load Weighted Price **	\$86.14	\$85.14	\$85.09	\$92.37	\$92.48	\$128.61	\$131.60	\$84.41	\$76.77	\$63.06	\$62.23	\$61.76
<b><u>RTC LBMP</u></b>												
Price *	\$79.46	\$85.91	\$83.81	\$90.48	\$96.21	\$120.88	\$119.78	\$80.23	\$75.23	\$60.39	\$61.67	\$60.24
Standard Deviation	\$35.00	\$60.79	\$34.42	\$31.97	\$61.32	\$64.44	\$53.84	\$39.90	\$49.92	\$26.42	\$16.96	\$31.25
Load Weighted Price **	\$81.98	\$88.30	\$85.82	\$92.22	\$99.59	\$127.40	\$123.71	\$82.76	\$78.66	\$61.95	\$63.08	\$62.14
<b><u>REAL TIME LBMP</u></b>												
Price *	\$79.00	\$85.89	\$83.51	\$89.37	\$93.72	\$120.05	\$118.37	\$77.34	\$72.47	\$57.30	\$60.24	\$59.55
Standard Deviation	\$38.83	\$49.87	\$33.64	\$31.14	\$59.68	\$80.00	\$49.42	\$33.97	\$56.87	\$22.16	\$17.79	\$31.29
Load Weighted Price **	\$81.97	\$88.72	\$85.68	\$91.31	\$97.50	\$128.95	\$122.64	\$80.09	\$77.60	\$58.81	\$61.91	\$62.19
Average Daily Energy Sendout/Month GWh	456	455	432	406	403	499	541	488	461	412	424	452

\* Average zonal load weighted prices.

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



# NYISO Monthly Average Internal LBMPs 2008 - 2009

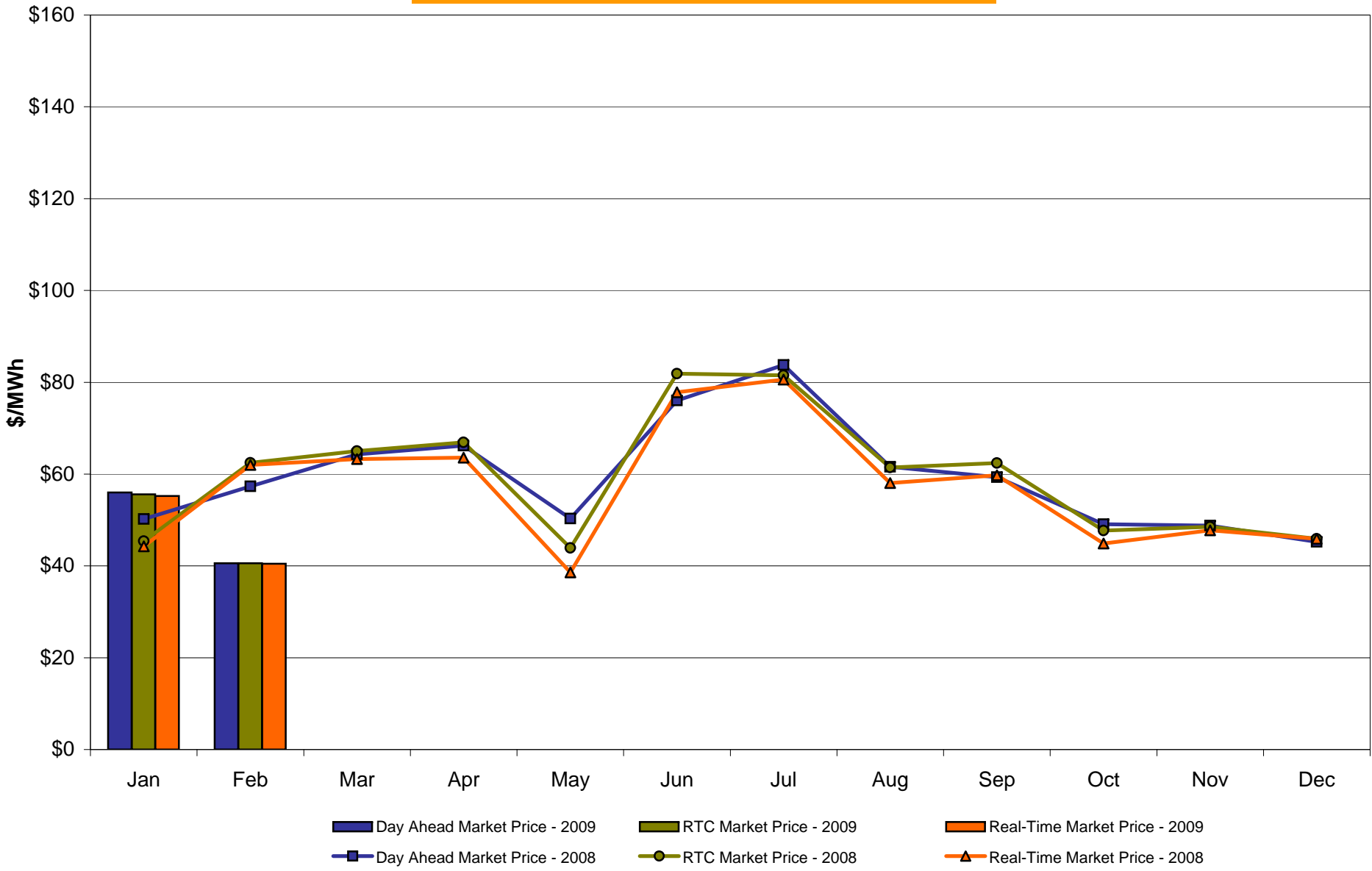


**February 2009 Zonal LBMP Statistics for NYISO (\$/MWh)**

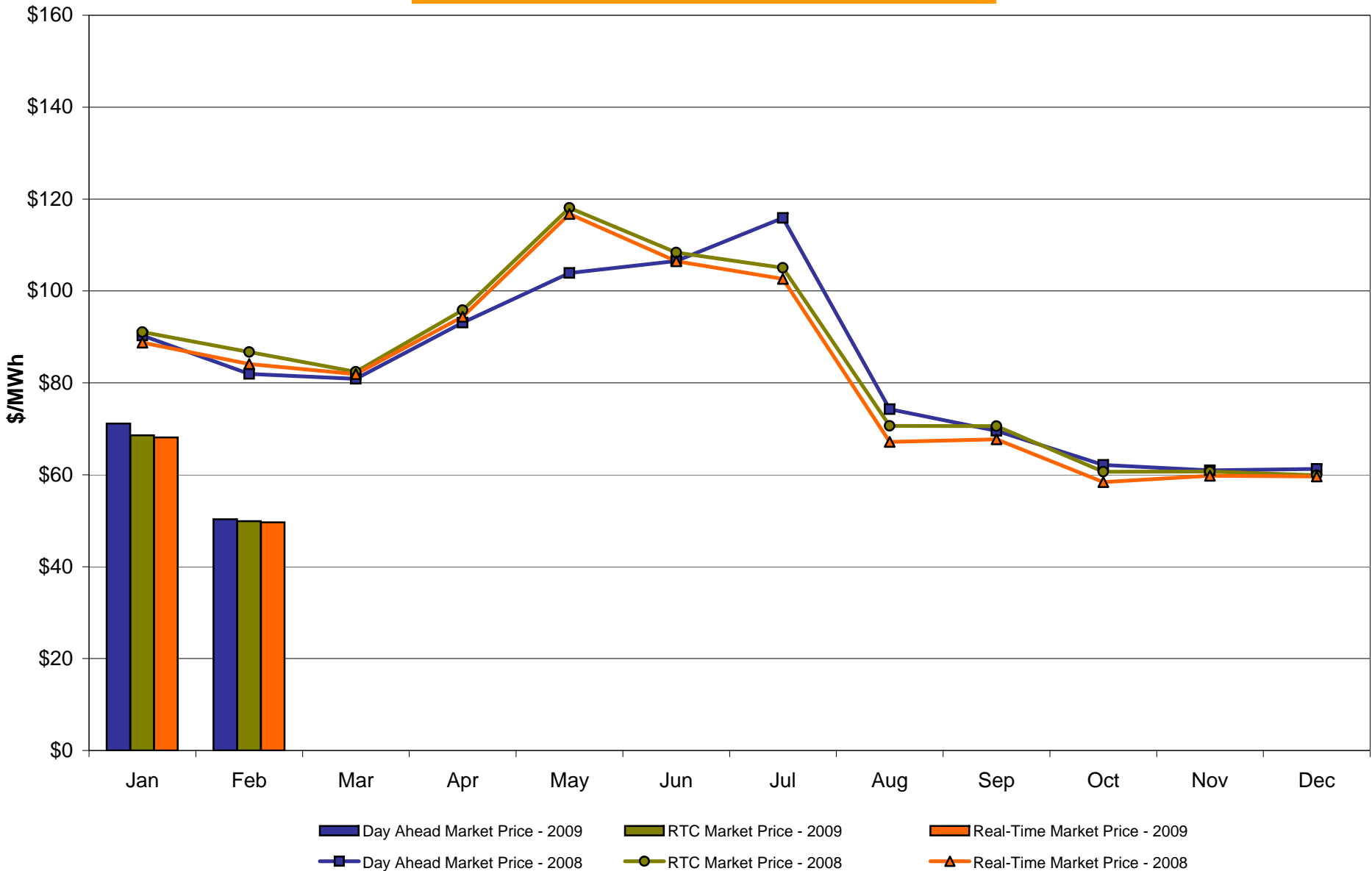
	<u>WEST</u> <u>Zone A</u>	<u>GENESEE</u> <u>Zone B</u>	<u>NORTH</u> <u>Zone D</u>	<u>CENTRAL</u> <u>Zone C</u>	<u>MOHAWK</u> <u>VALLEY</u> <u>Zone E</u>	<u>CAPITAL</u> <u>Zone F</u>	<u>HUDSON</u> <u>VALLEY</u> <u>Zone G</u>	<u>MILLWOOD</u> <u>Zone H</u>	<u>DUNWOODIE</u> <u>Zone I</u>	<u>NEW YORK</u> <u>CITY</u> <u>Zone J</u>	<u>LONG</u> <u>ISLAND</u> <u>Zone K</u>
<b><u>DAY AHEAD LBMP</u></b>											
Unweighted Price *	40.60	42.71	43.67	44.00	46.24	50.32	50.13	50.39	50.49	57.27	56.91
Standard Deviation	8.93	9.71	10.31	10.00	10.79	12.10	11.90	11.98	11.96	16.83	17.15
<b><u>RTC LBMP</u></b>											
Unweighted Price *	40.60	42.39	42.96	43.96	46.18	49.90	50.11	50.33	50.27	57.99	60.28
Standard Deviation	17.69	18.65	19.11	19.15	20.36	20.66	20.60	20.67	20.62	25.81	26.57
<b><u>REAL TIME LBMP</u></b>											
Unweighted Price *	40.47	42.24	42.87	43.82	46.02	49.66	49.90	50.13	50.07	57.13	57.00
Standard Deviation	16.95	17.86	18.37	18.28	19.38	19.91	19.76	19.85	19.81	25.22	24.17
	<u>ONTARIO</u> <u>IESO</u> <u>Zone O</u>	<u>HYDRO</u> <u>QUEBEC</u> <u>(Wheel)</u> <u>Zone M</u>	<u>HYDRO</u> <u>QUEBEC</u> <u>(Import/Export)</u> <u>Zone M</u>	<u>PJM</u> <u>Zone P</u>	<u>NEW</u> <u>ENGLAND</u> <u>Zone N</u>	<u>CROSS</u> <u>SOUND</u> <u>CABLE</u> <u>Controllable</u> <u>Line</u>	<u>NORTHPORT-</u> <u>NORWALK</u> <u>Controllable</u> <u>Line</u>	<u>NEPTUNE</u> <u>Controllable</u> <u>Line</u>			
<b><u>DAY AHEAD LBMP</u></b>											
Unweighted Price *	39.46	43.80	43.80	46.97	50.00	54.98	49.30	53.78			
Standard Deviation	8.35	10.11	10.11	11.08	11.76	15.39	10.79	15.05			
<b><u>RTC LBMP</u></b>											
Unweighted Price *	39.04	42.94	42.77	48.31	50.98	55.31	54.24	54.27			
Standard Deviation	10.19	13.51	13.58	11.88	12.46	15.52	15.18	15.32			
<b><u>REAL TIME LBMP</u></b>											
Unweighted Price *	38.81	42.52	42.34	44.55	49.54	53.80	52.76	52.51			
Standard Deviation	15.88	17.33	17.40	16.37	19.18	22.16	21.74	21.91			

\* Straight LBMP averages

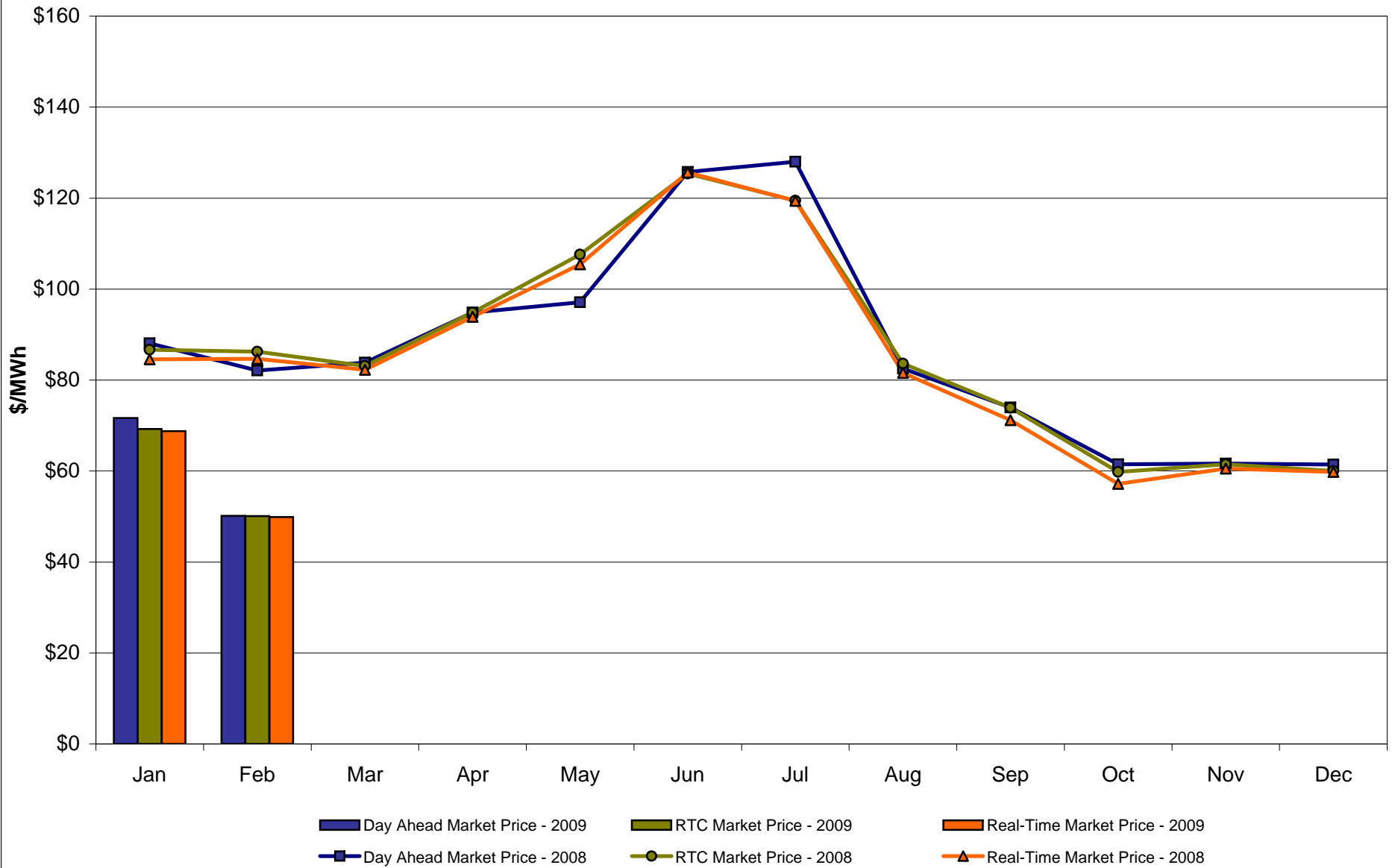
## West Zone A Monthly Average LBMP Prices 2008 - 2009



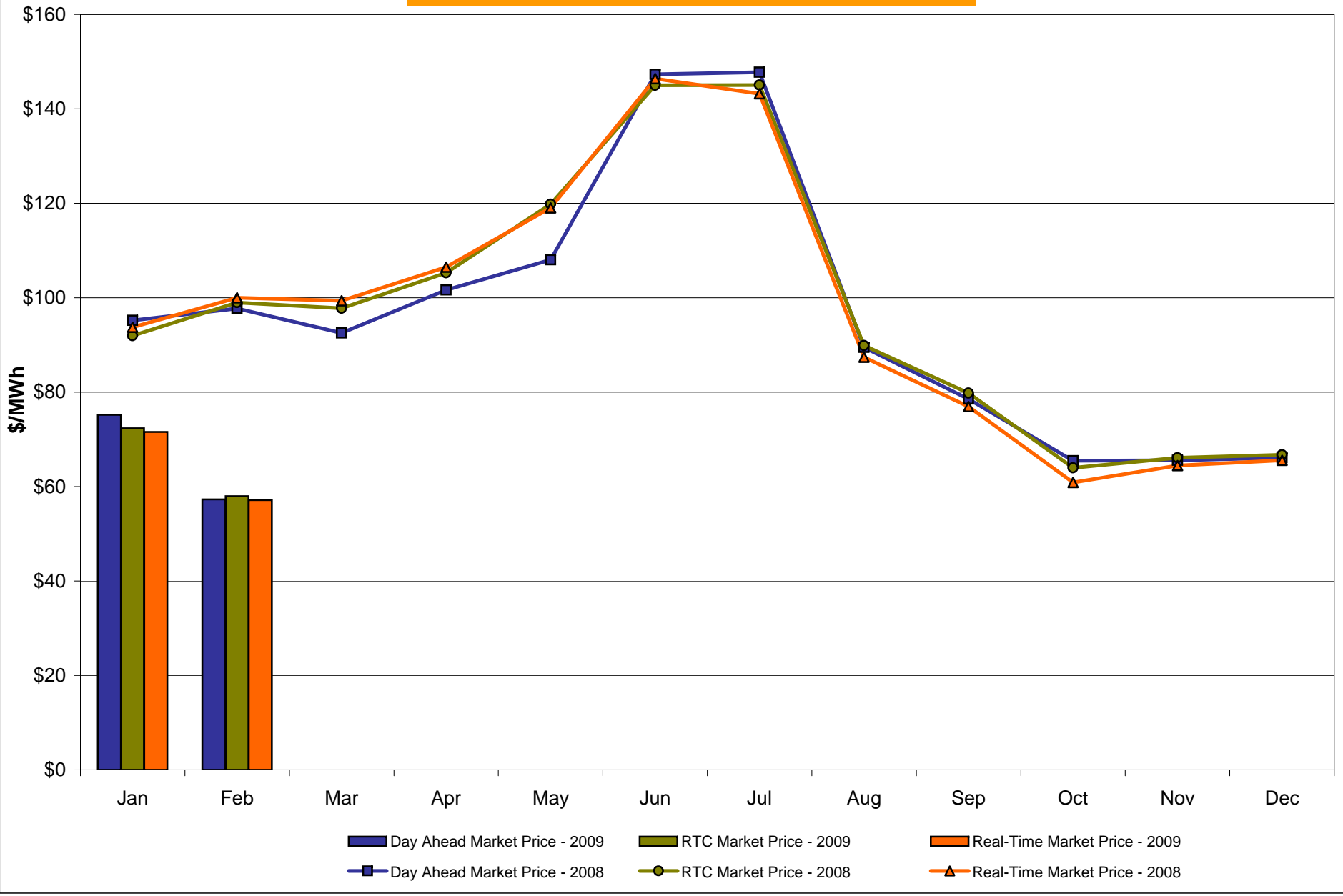
## Capital Zone F Monthly Average LBMP Prices 2008 - 2009



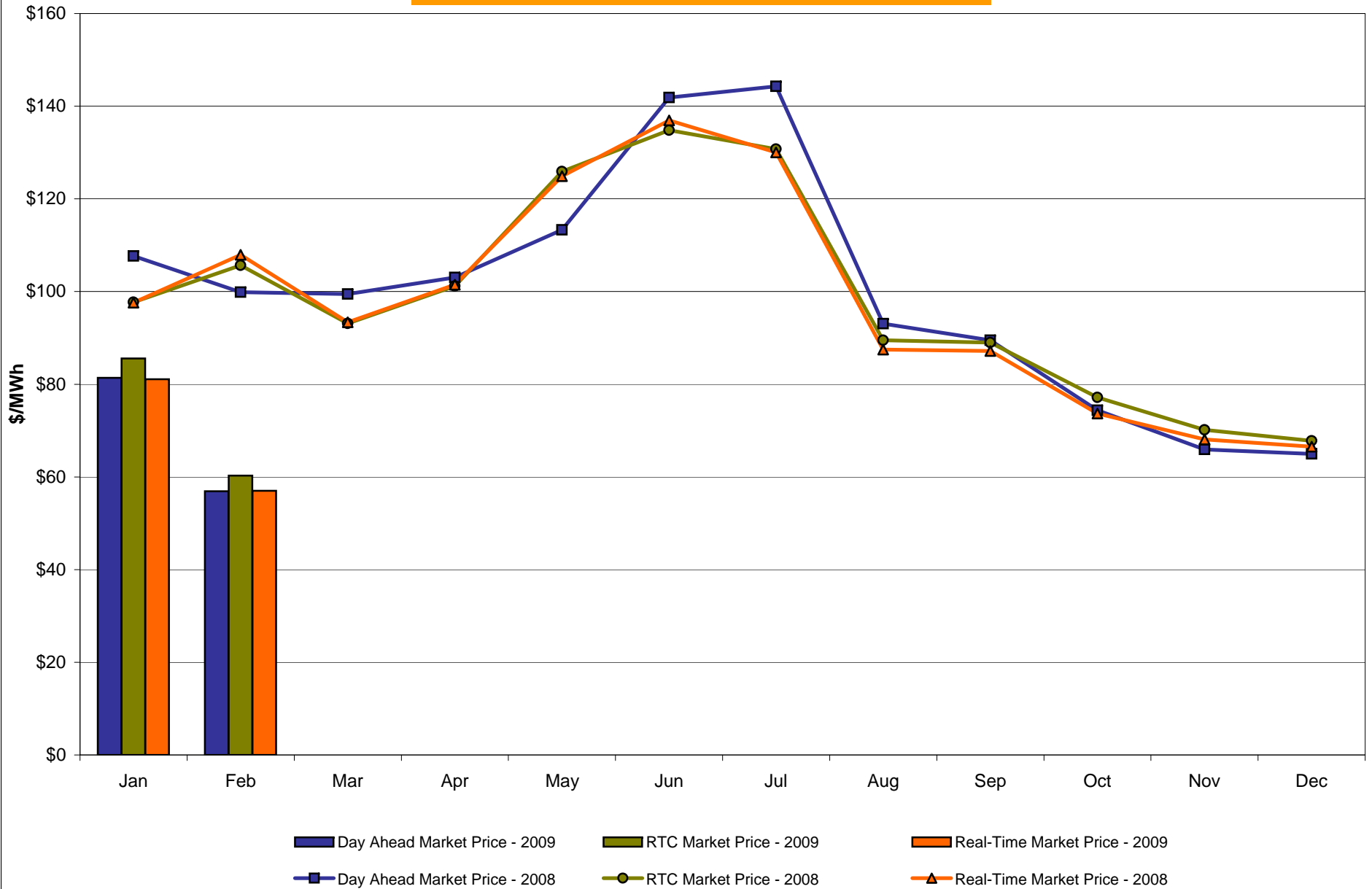
## Hudson Valley Zone G Monthly Average LBMP Prices 2008 - 2009



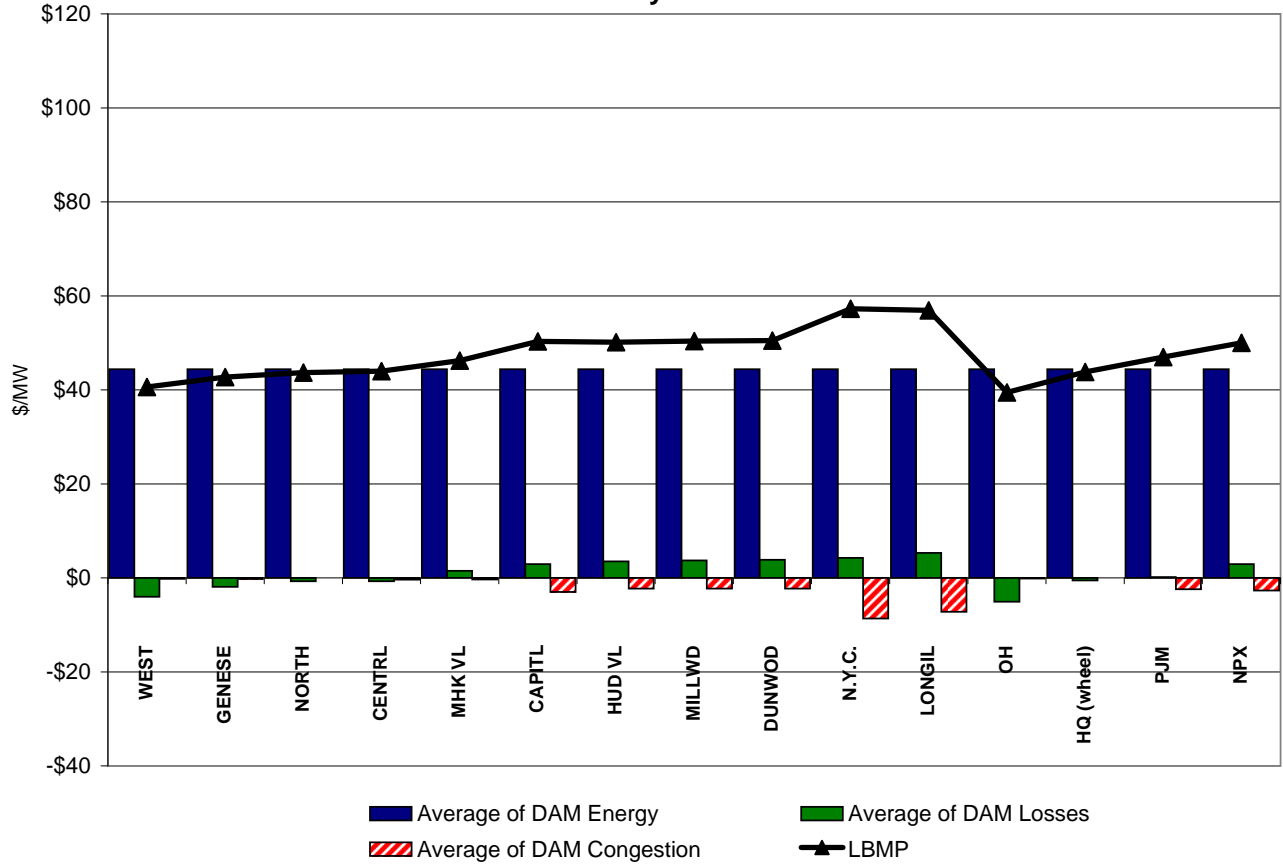
## NYC Zone J Monthly Average LBMP Prices 2008 - 2009



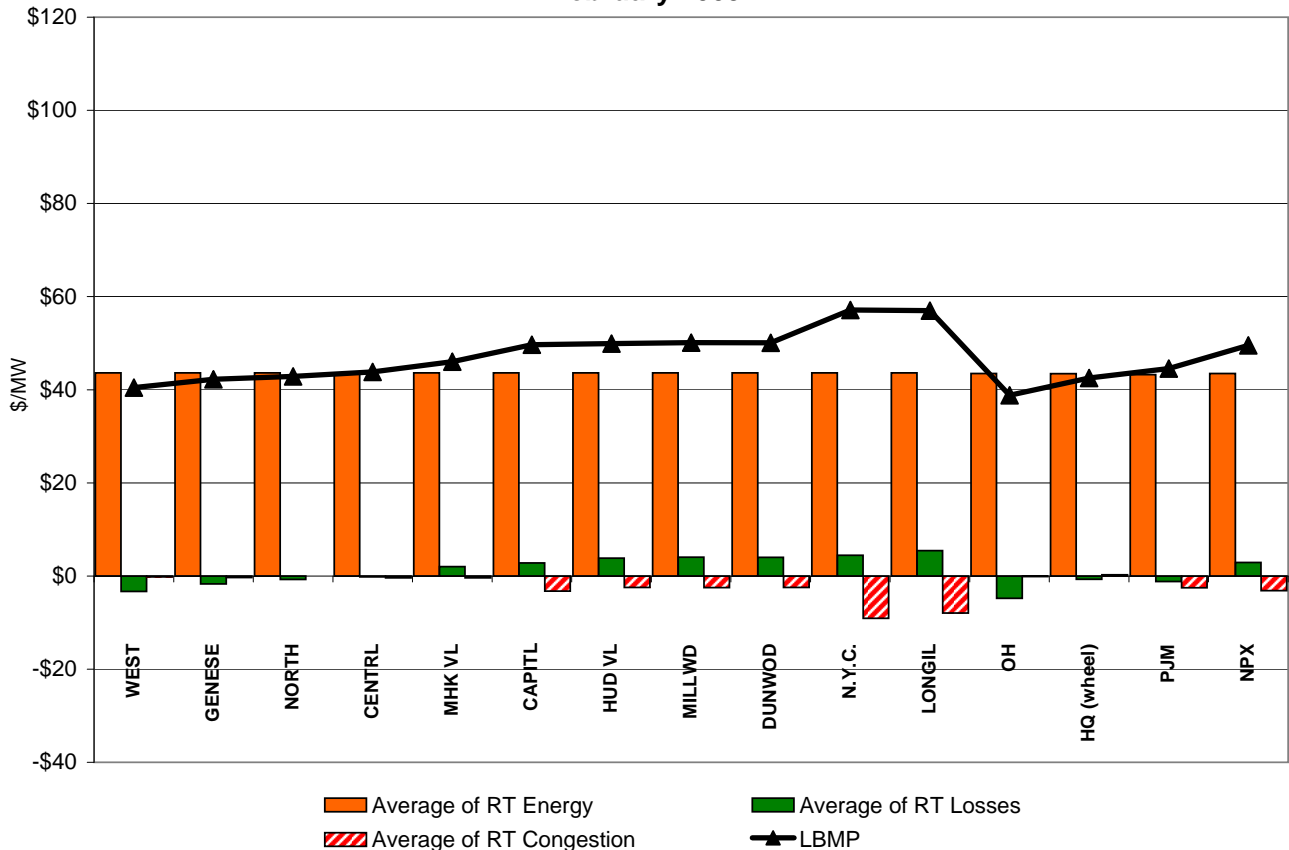
## Long Island Zone K Monthly Average LBMP Prices 2008 - 2009



### DAM Zonal Unweighted Monthly Average LBMP Components February 2009



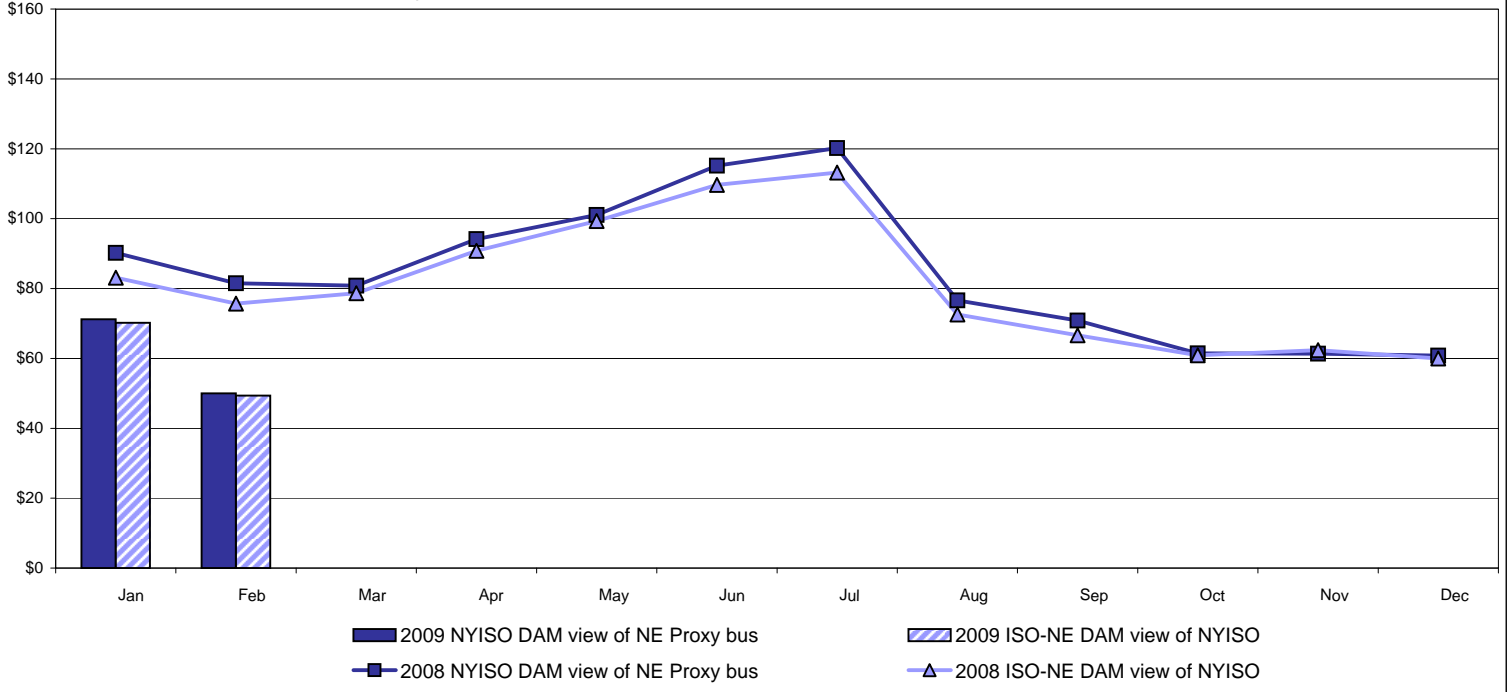
### RT Zonal Unweighted Monthly Average LBMP Components February 2009



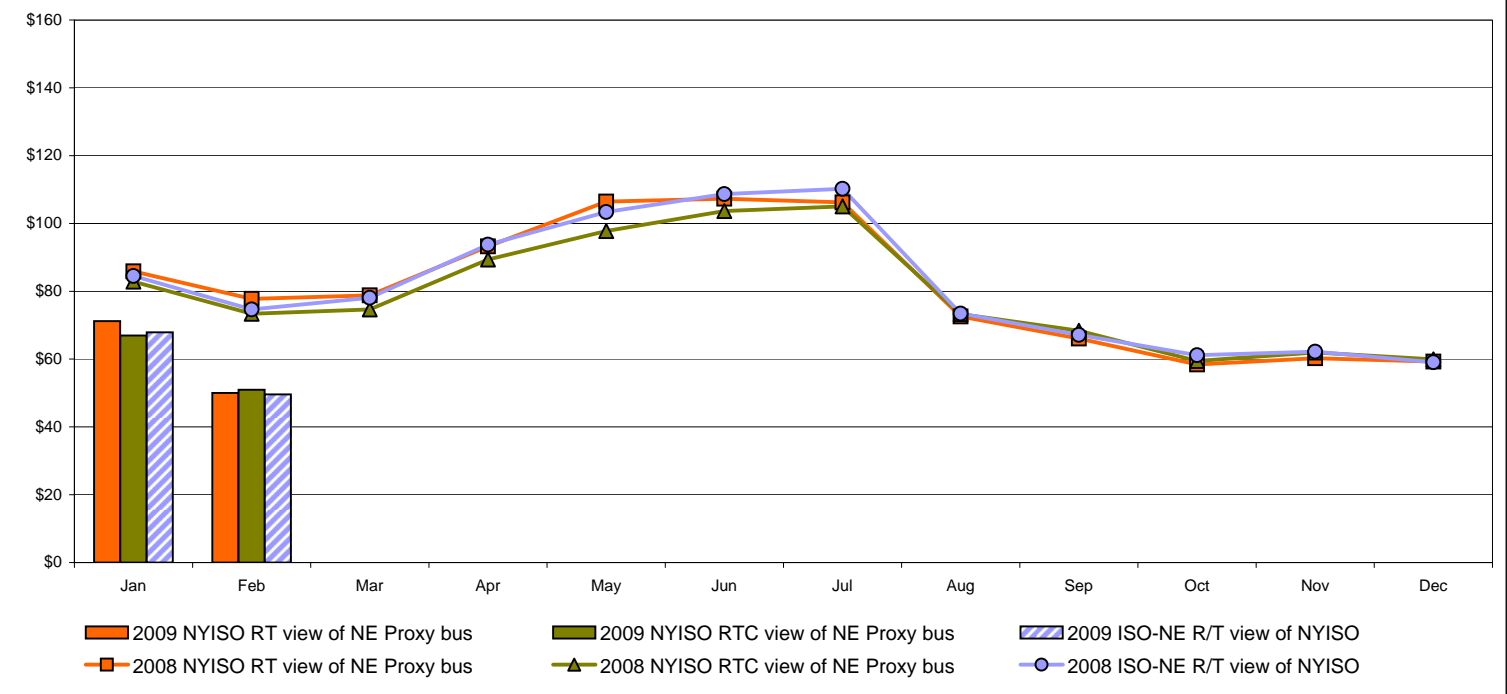


# External Comparison ISO-New England

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

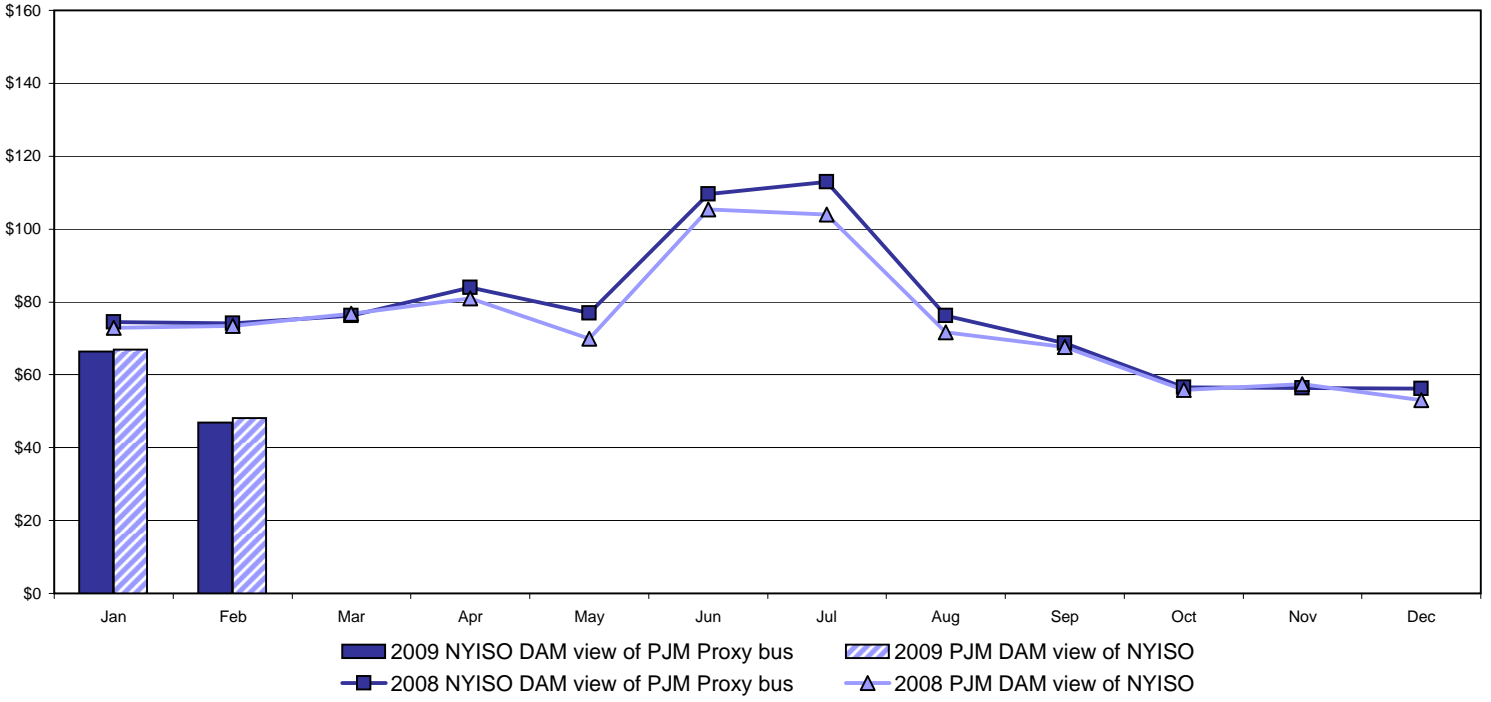


## Real Time Market External Zone Comparison: ISO-NE (\$/MWh)

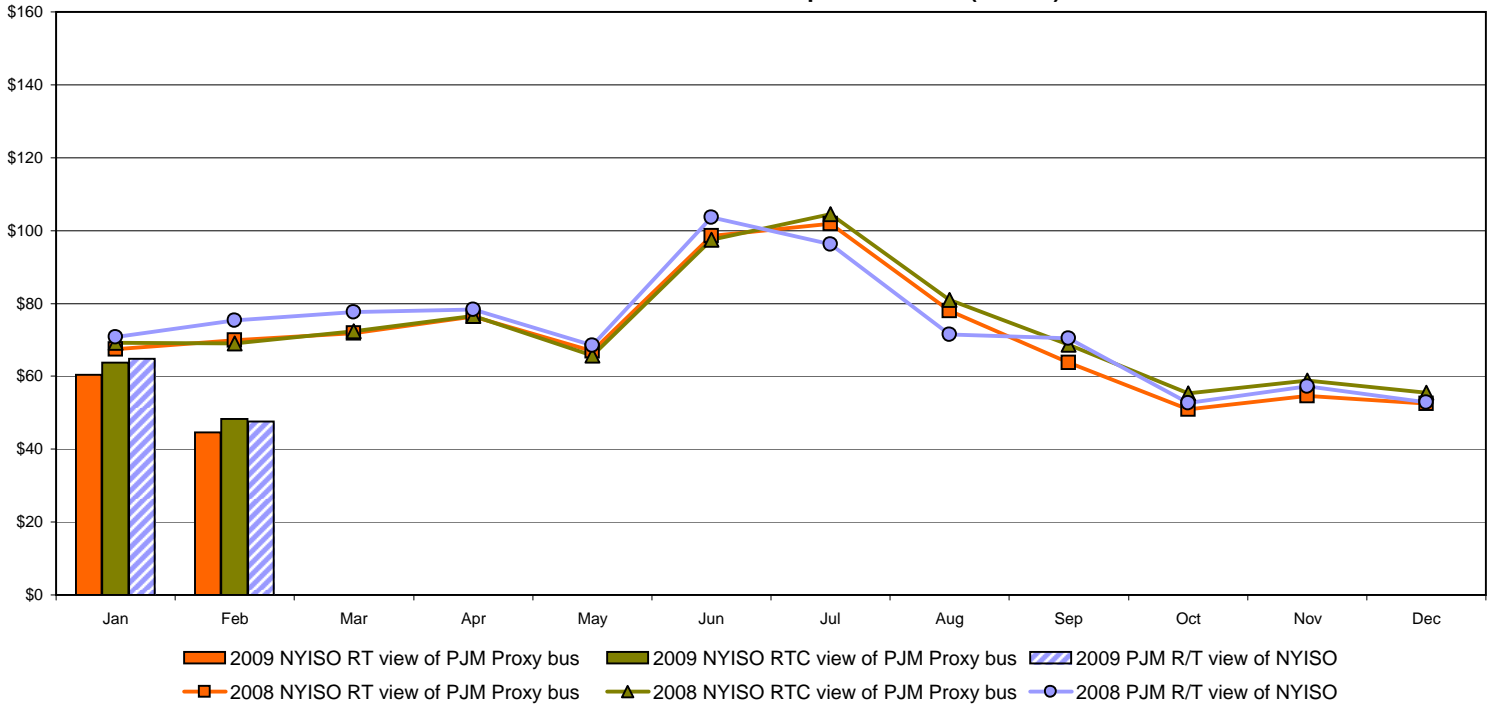


# External Comparison PJM

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

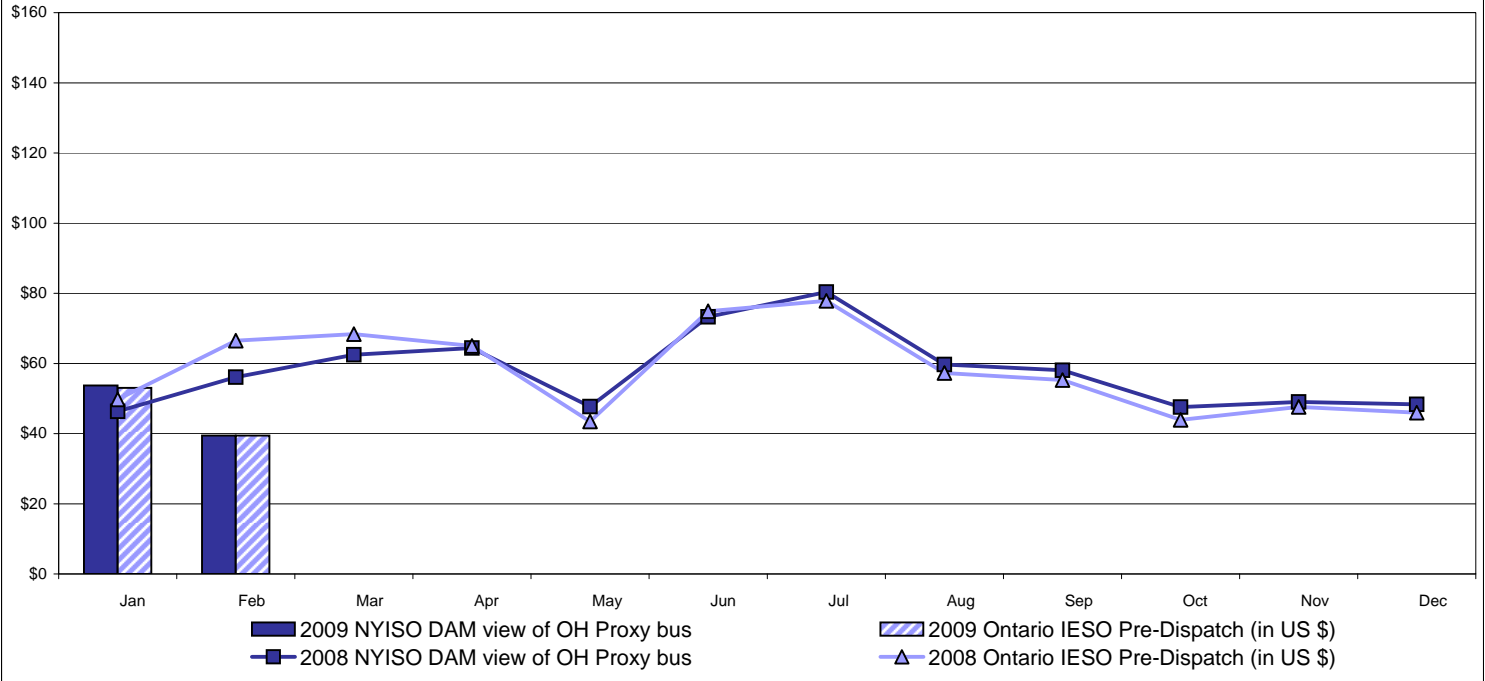


## Real Time Market External Zone Comparison - PJM (\$/MWh)

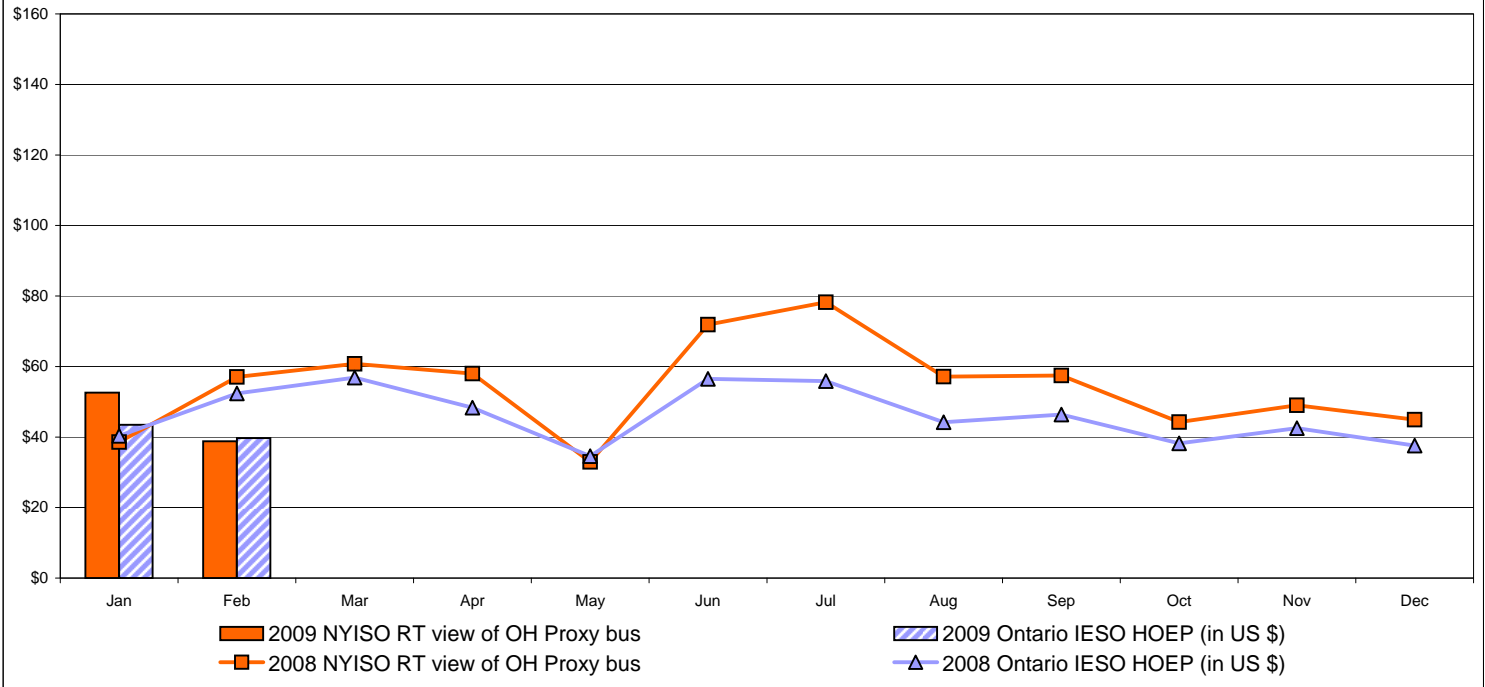


# External Comparison Ontario IESO

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

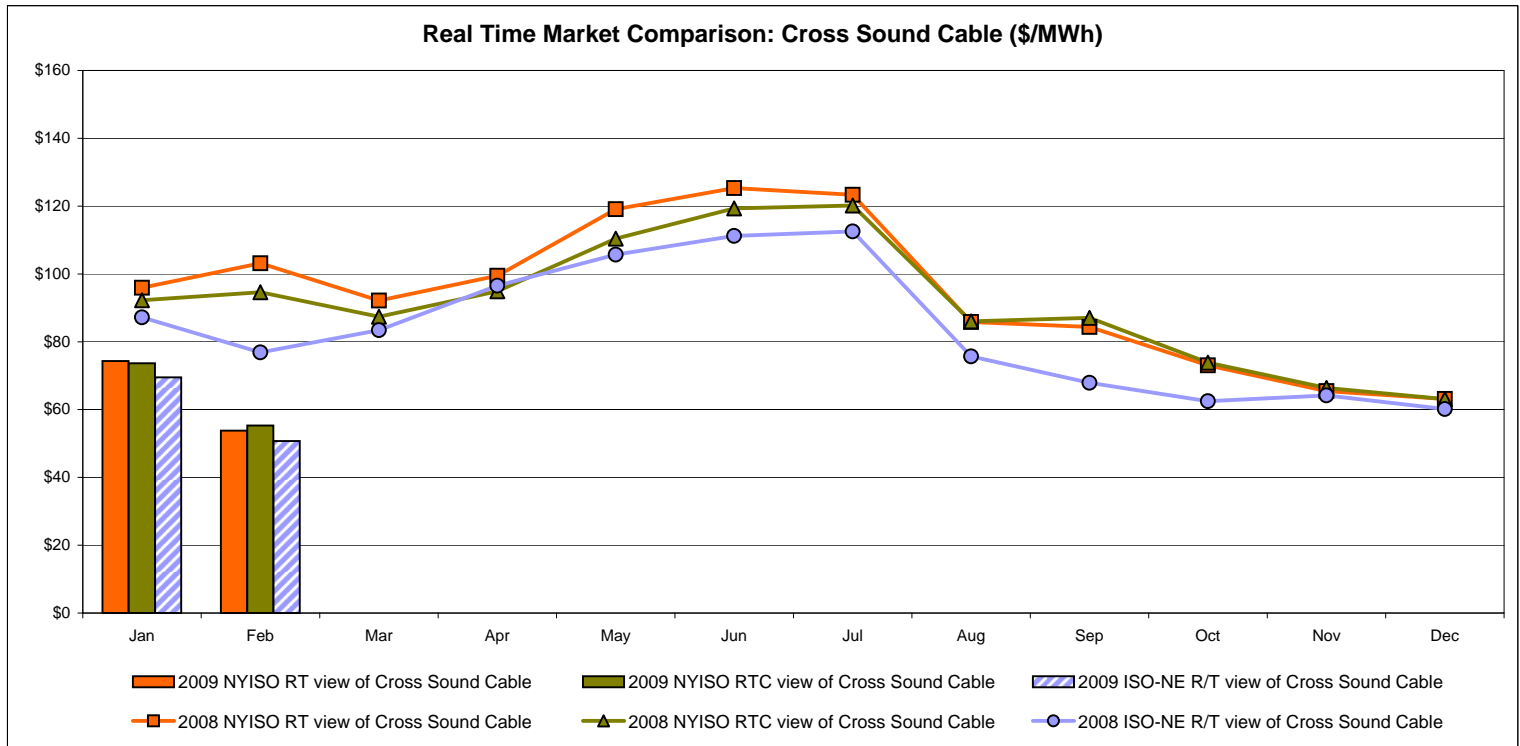
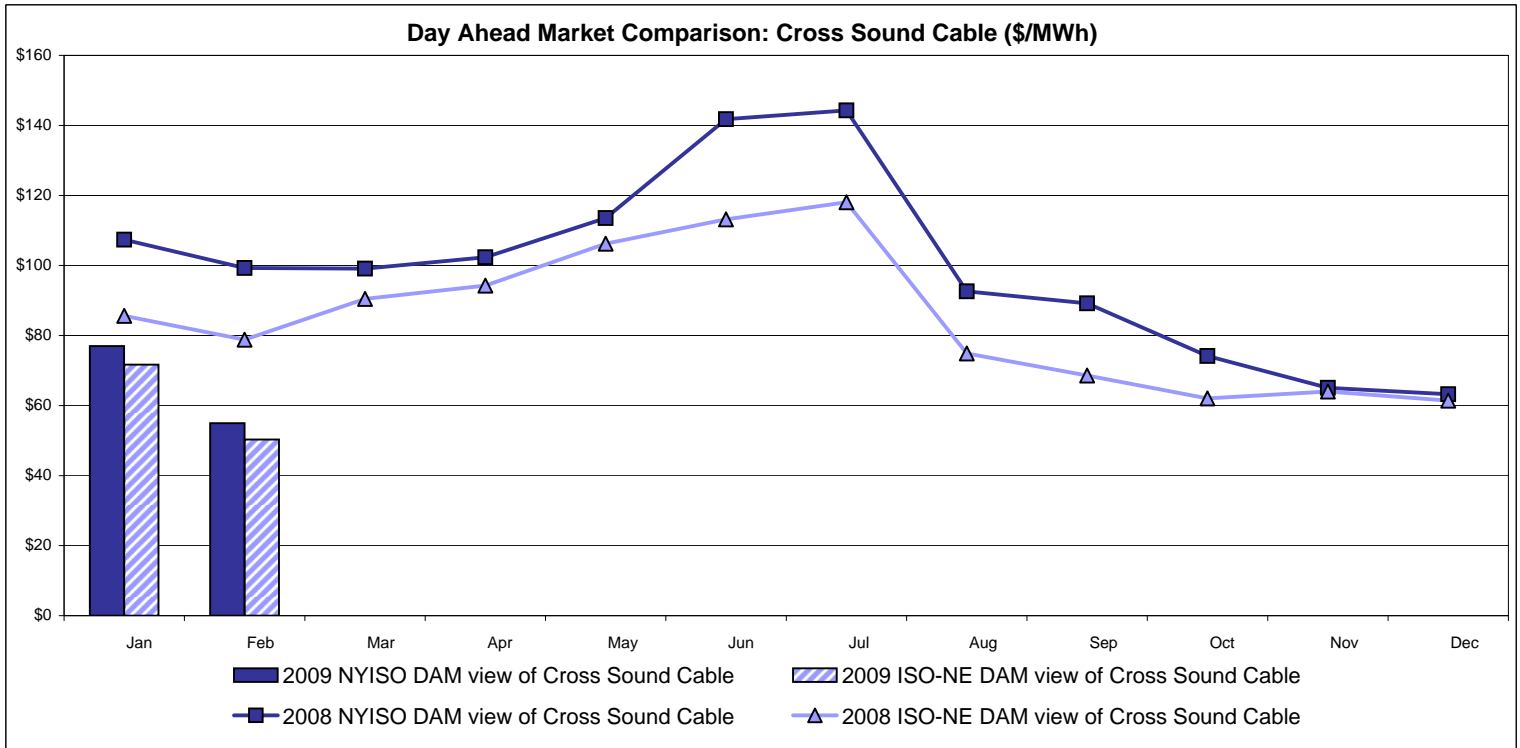


## Real Time Market External Zone Comparison - Ontario IESO (\$/MWh)



Notes: Exchange factor used for February 2009 was .80 to US \$  
 HOEP: Hourly Ontario Energy Price  
 Pre-Dispatch: Projected Energy Price

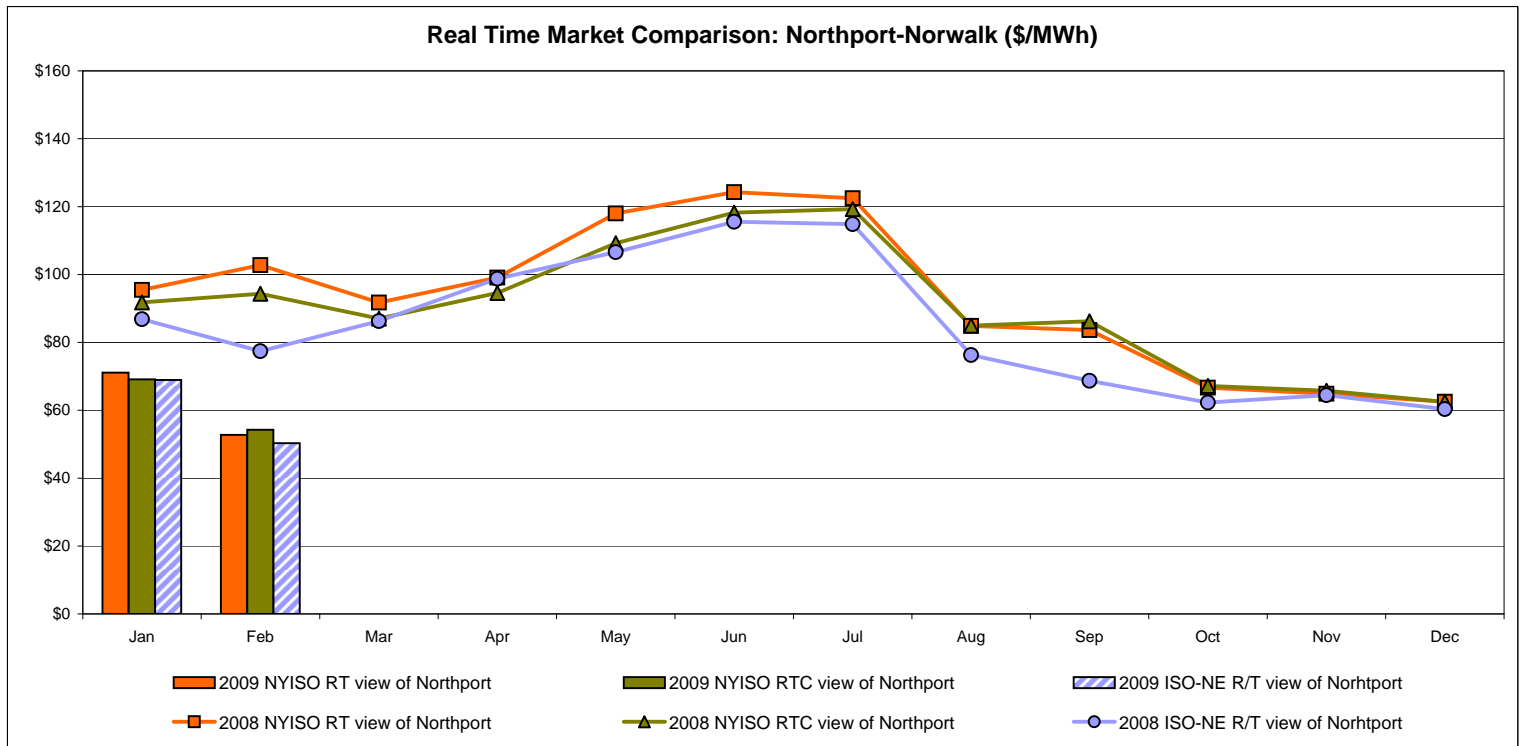
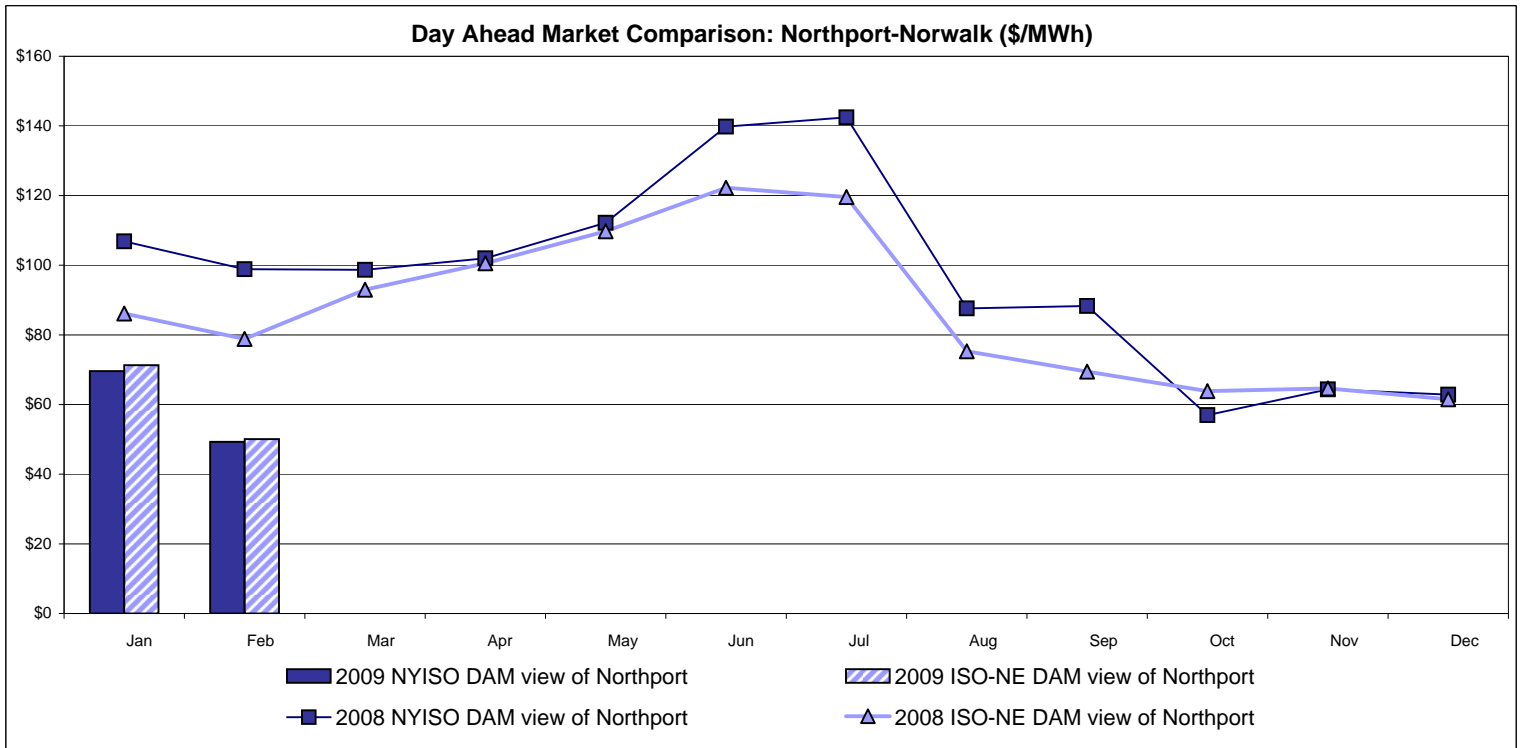
# External Controllable Line: Cross Sound Cable (New England)



**Note:**

ISO-NE Forecast is an advisory posting @ 18:00 day before.  
 The DAM and R/T prices at the Shorham138 99 interface are used for ISO-NE.  
 The DAM and R/T prices at the CSC interface are used for NYISO.

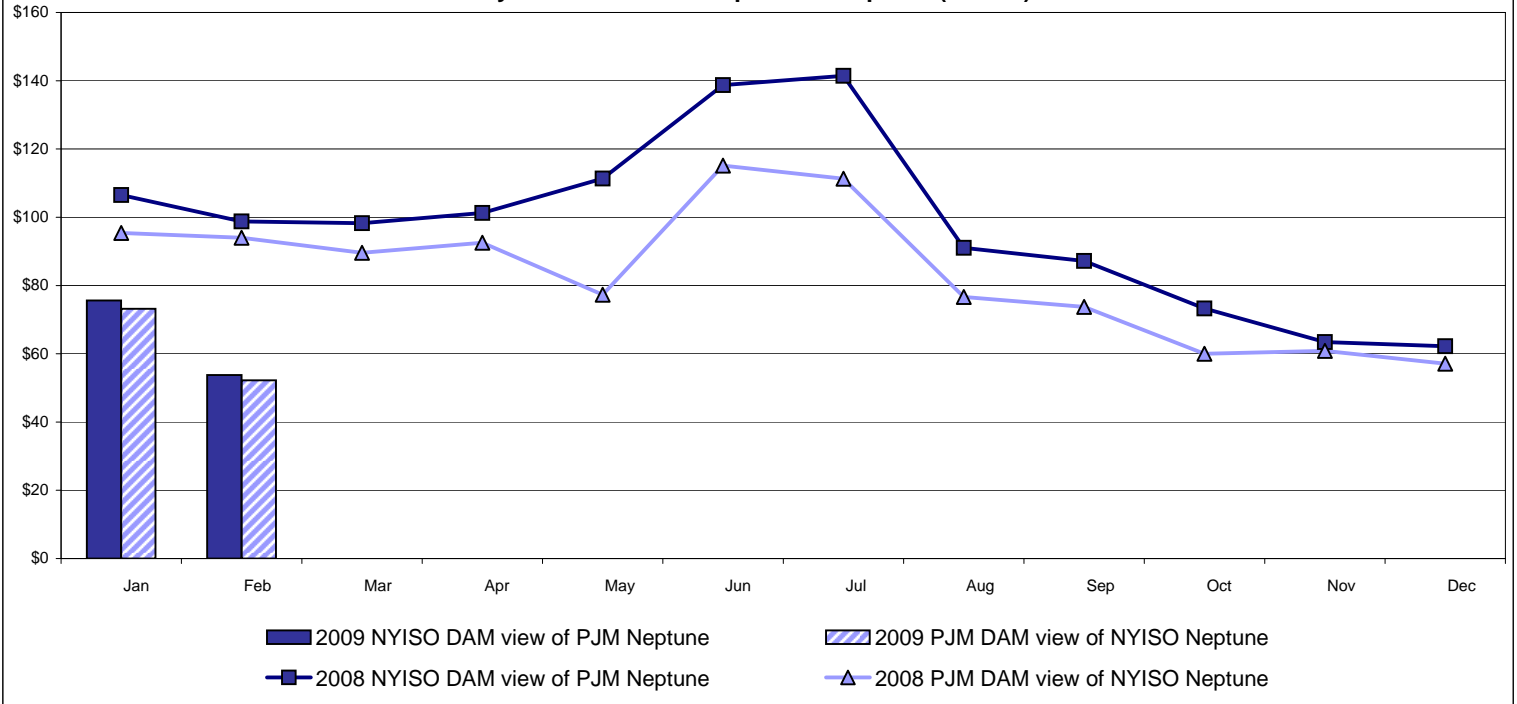
# External Controllable Line: Northport - Norwalk (New England)



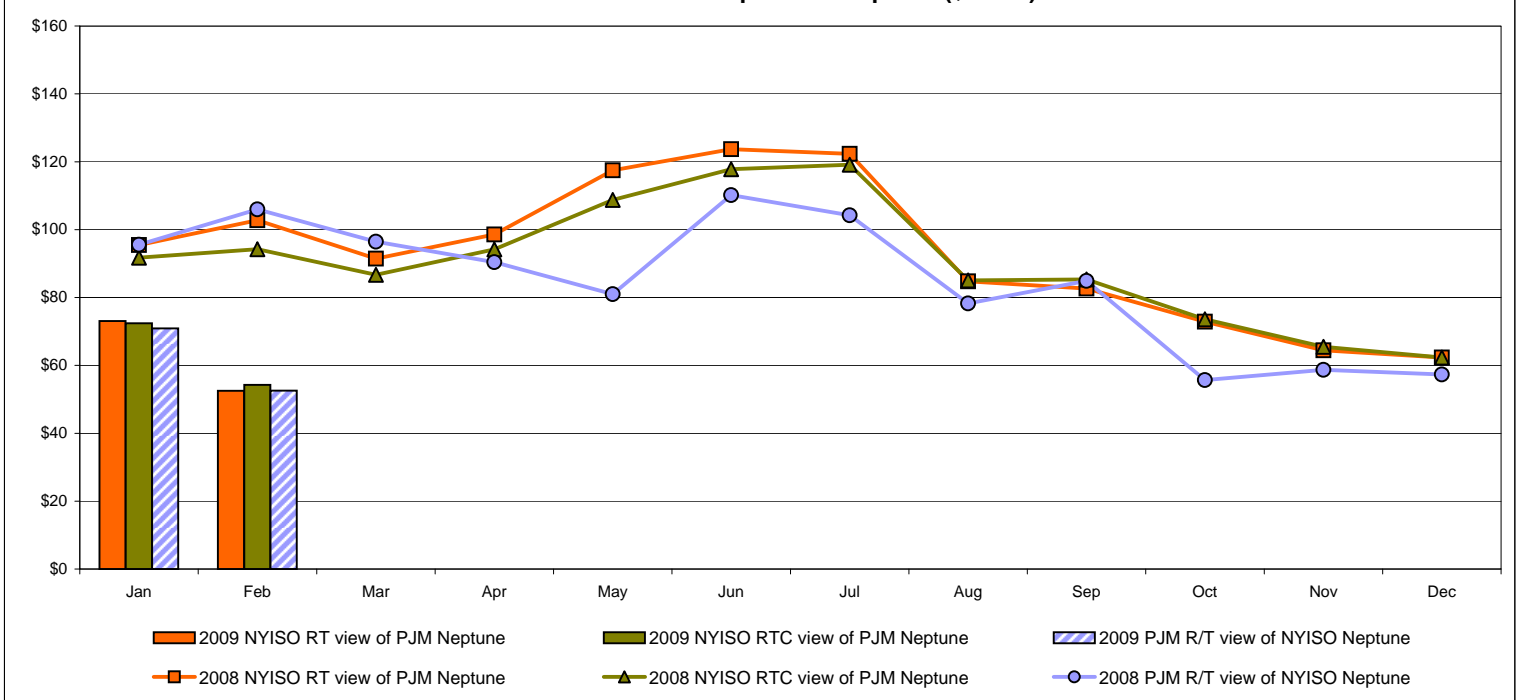
Note:  
 ISO-NE Forecast is an advisory posting @ 18:00 day before.  
 The DAM and R/T prices at the Northport 138 interface are used for ISO-NE.  
 The DAM and R/T prices at the 1385 interface are used for NYISO.

## External Controllable Line: Neptune (PJM)

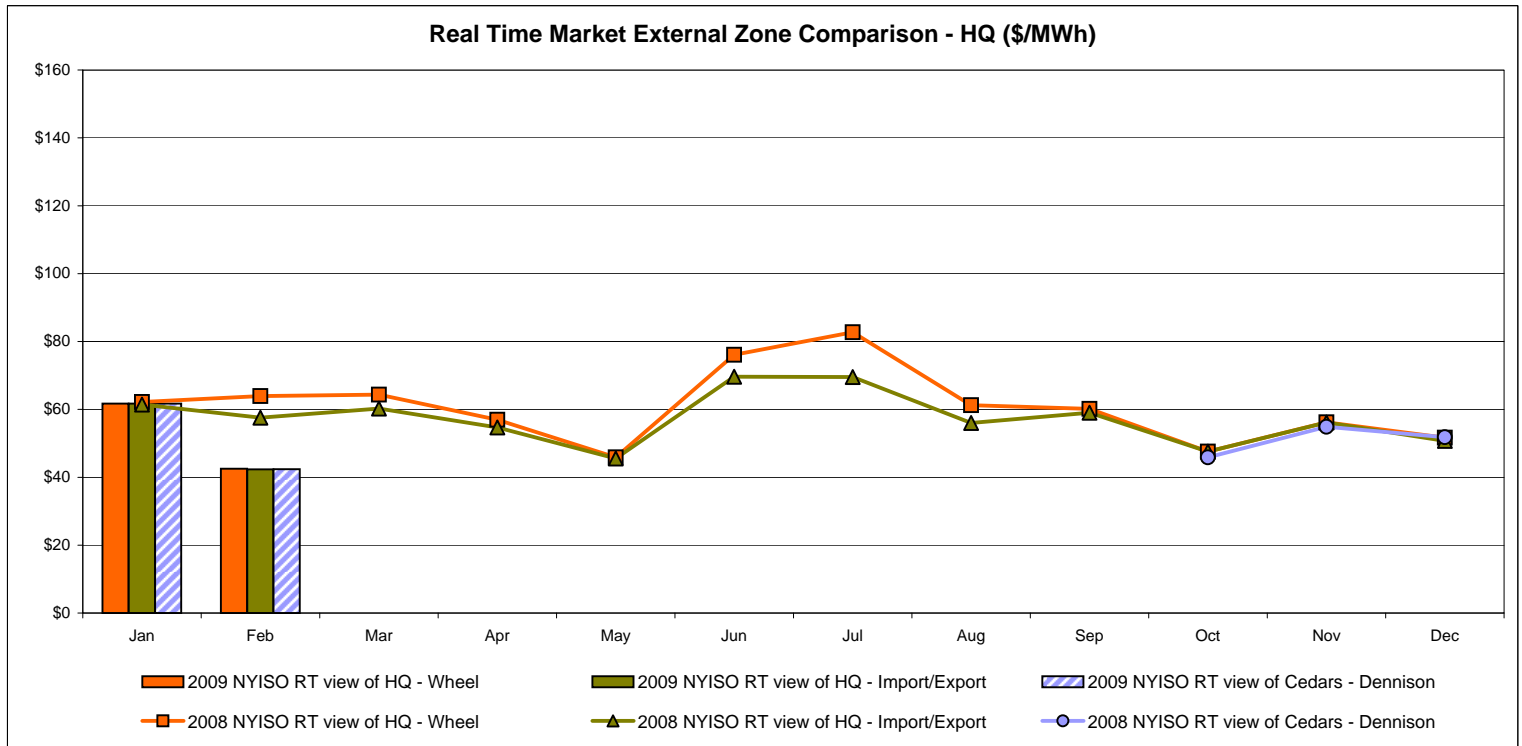
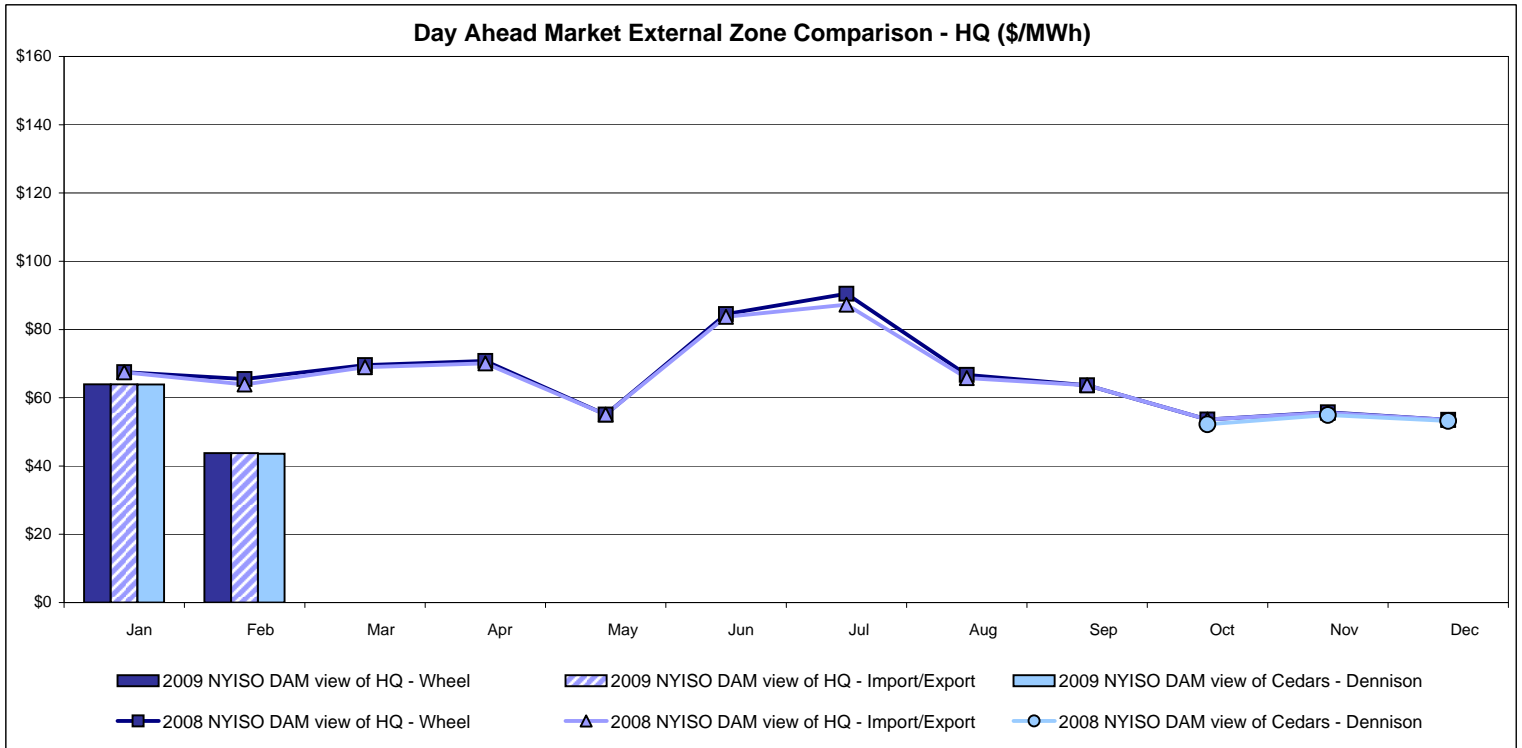
### Day Ahead Market Comparison: Neptune (\$/MWh)



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



# External Comparison Hydro-Quebec



Note:  
 Hydro-Quebec Prices are unavailable.  
 Dennison Scheduled Line Data available beginning 10/1/2008.

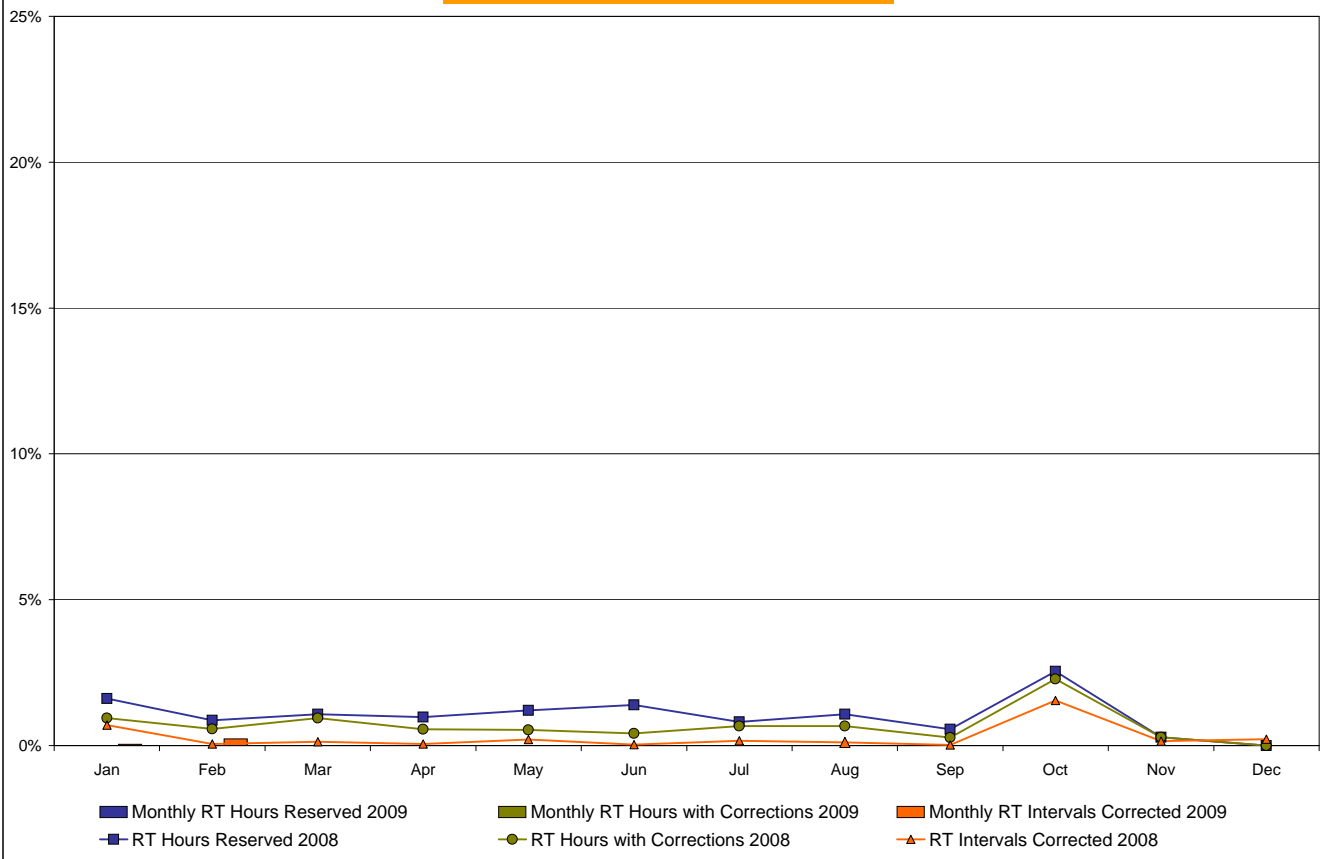
**NYISO Real Time Price Correction Statistics**

<b>2009</b>		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b>Hour Corrections</b>													
Number of hours with corrections	in the month	2	6										
Number of hours	in the month	744	672										
% of hours with corrections	in the month	0.27%	0.89%										
% of hours with corrections	year-to-date	0.27%	0.56%										
<b>Interval Corrections</b>													
Number of intervals corrected	in the month	4	19										
Number of intervals	in the month	8,966	8,082										
% of intervals corrected	in the month	0.04%	0.24%										
% of intervals corrected	year-to-date	0.04%	0.13%										
<b>Hours Reserved</b>													
Number of hours reserved	in the month	4	8										
Number of hours	in the month	744	672										
% of hours reserved	in the month	0.54%	1.19%										
% of hours reserved	year-to-date	0.54%	0.85%										
<b>Days to Correction *</b>													
Avg. number of days to correction	in the month	1.00	1.20										
Avg. number of days to correction	year-to-date	1.00	1.14										
<b>Days Without Corrections</b>													
Days without corrections	in the month	29	23										
Days without corrections	year-to-date	29	52										
<b>2008</b>		<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b>Hour Corrections</b>													
Number of hours with corrections	in the month	7	4	7	4	4	3	5	5	2	17	2	3
Number of hours	in the month	744	696	744	720	744	720	744	744	720	744	720	744
% of hours with corrections	in the month	0.94%	0.57%	0.94%	0.56%	0.54%	0.42%	0.67%	0.67%	0.28%	2.28%	0.28%	0.40%
% of hours with corrections	year-to-date	0.94%	0.76%	0.82%	0.76%	0.71%	0.66%	0.67%	0.67%	0.62%	0.79%	0.75%	0.72%
<b>Interval Corrections</b>													
Number of intervals corrected	in the month	63	5	12	5	19	3	15	10	2	139	13	20
Number of intervals	in the month	8,956	8,387	8,939	8,650	8,989	8,643	8,993	8,995	8,682	8,971	8,689	8,979
% of intervals corrected	in the month	0.70%	0.06%	0.13%	0.06%	0.21%	0.03%	0.17%	0.11%	0.02%	1.55%	0.15%	0.22%
% of intervals corrected	year-to-date	0.70%	0.39%	0.30%	0.24%	0.24%	0.20%	0.20%	0.19%	0.17%	0.31%	0.30%	0.29%
<b>Hours Reserved</b>													
Number of hours reserved	in the month	12	6	8	7	9	10	6	8	4	19	2	3
Number of hours	in the month	744	696	744	720	744	720	744	744	720	744	720	744
% of hours reserved	in the month	1.61%	0.86%	1.08%	0.97%	1.21%	1.39%	0.81%	1.08%	0.56%	2.55%	0.28%	0.40%
% of hours reserved	year-to-date	1.61%	1.25%	1.19%	1.14%	1.15%	1.19%	1.13%	1.13%	1.06%	1.22%	1.13%	1.07%
<b>Days to Correction *</b>													
Avg. number of days to correction	in the month	1.00	1.33	1.20	0.50	0.50	1.00	1.33	1.25	0.50	0.50	0.00	0.50
Avg. number of days to correction	year-to-date	1.00	1.17	1.18	1.00	0.89	0.91	0.96	1.00	0.97	0.97	0.84	0.82
<b>Days Without Corrections</b>													
Days without corrections	in the month	28	26	26	26	27	27	28	27	28	26	28	28
Days without corrections	year-to-date	28	54	80	106	133	160	188	215	243	269	297	325

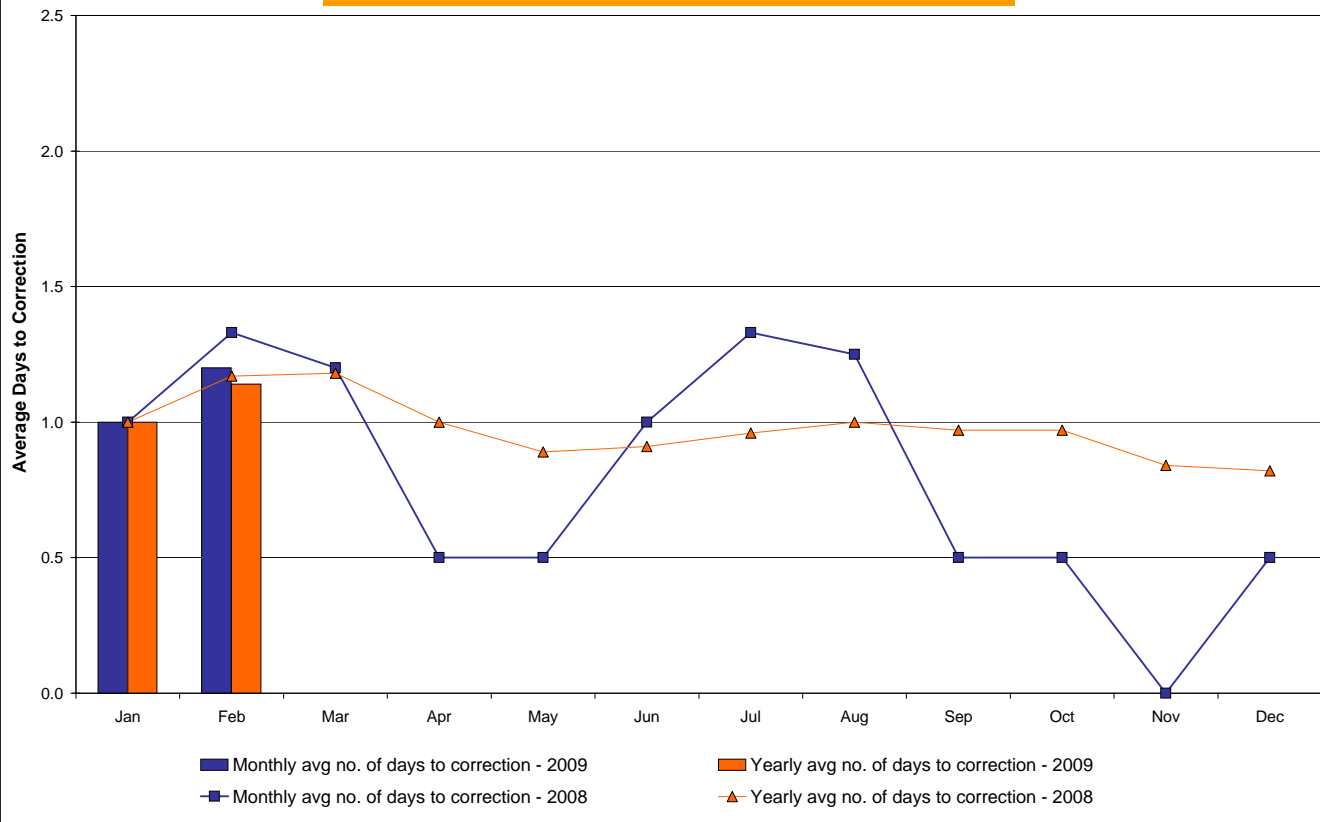
\* Calendar days from reservation date.



### Percentage of Real-Time Corrections

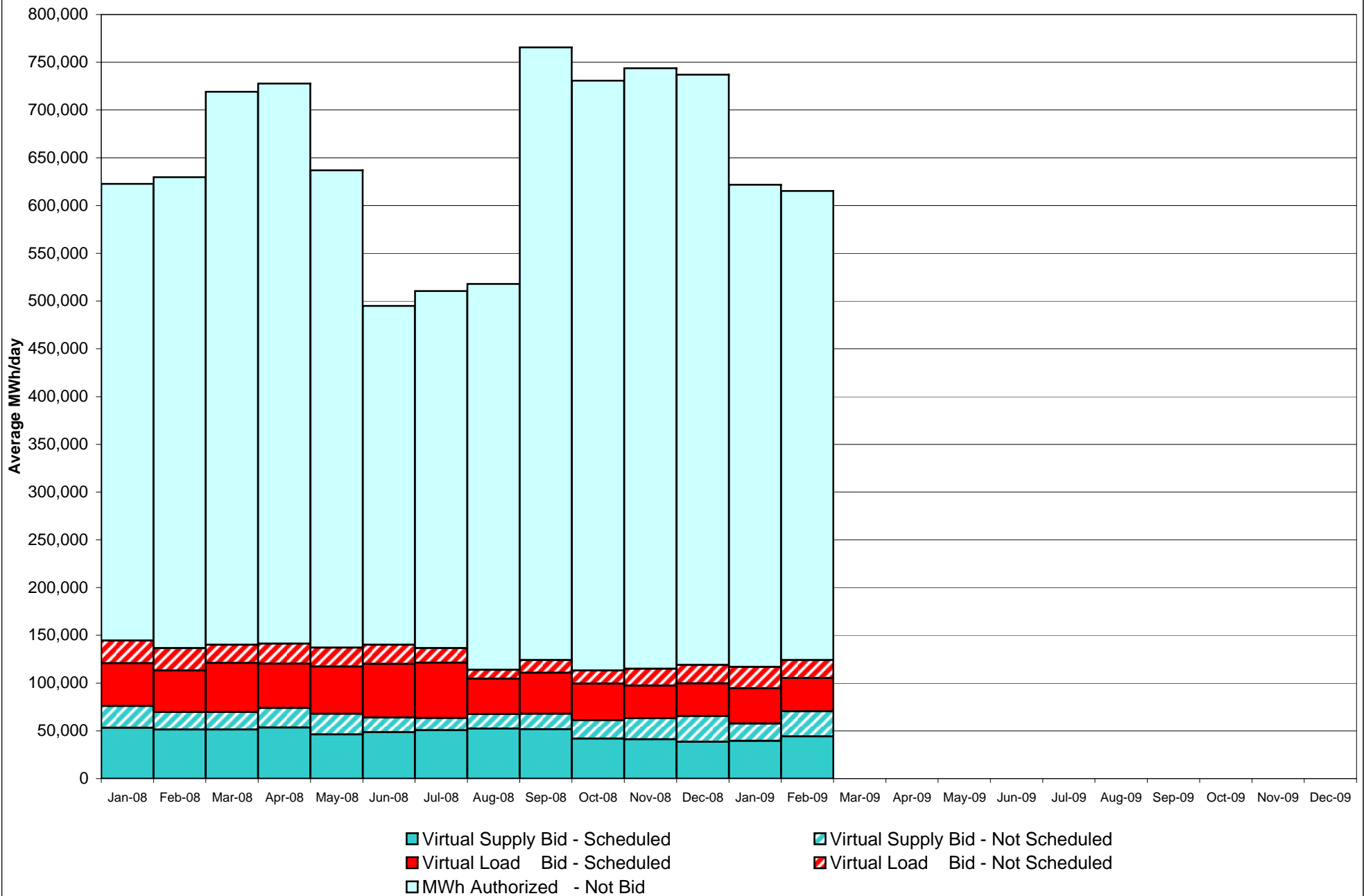


### Annual average time period for making Price Corrections (from reservation date) \*

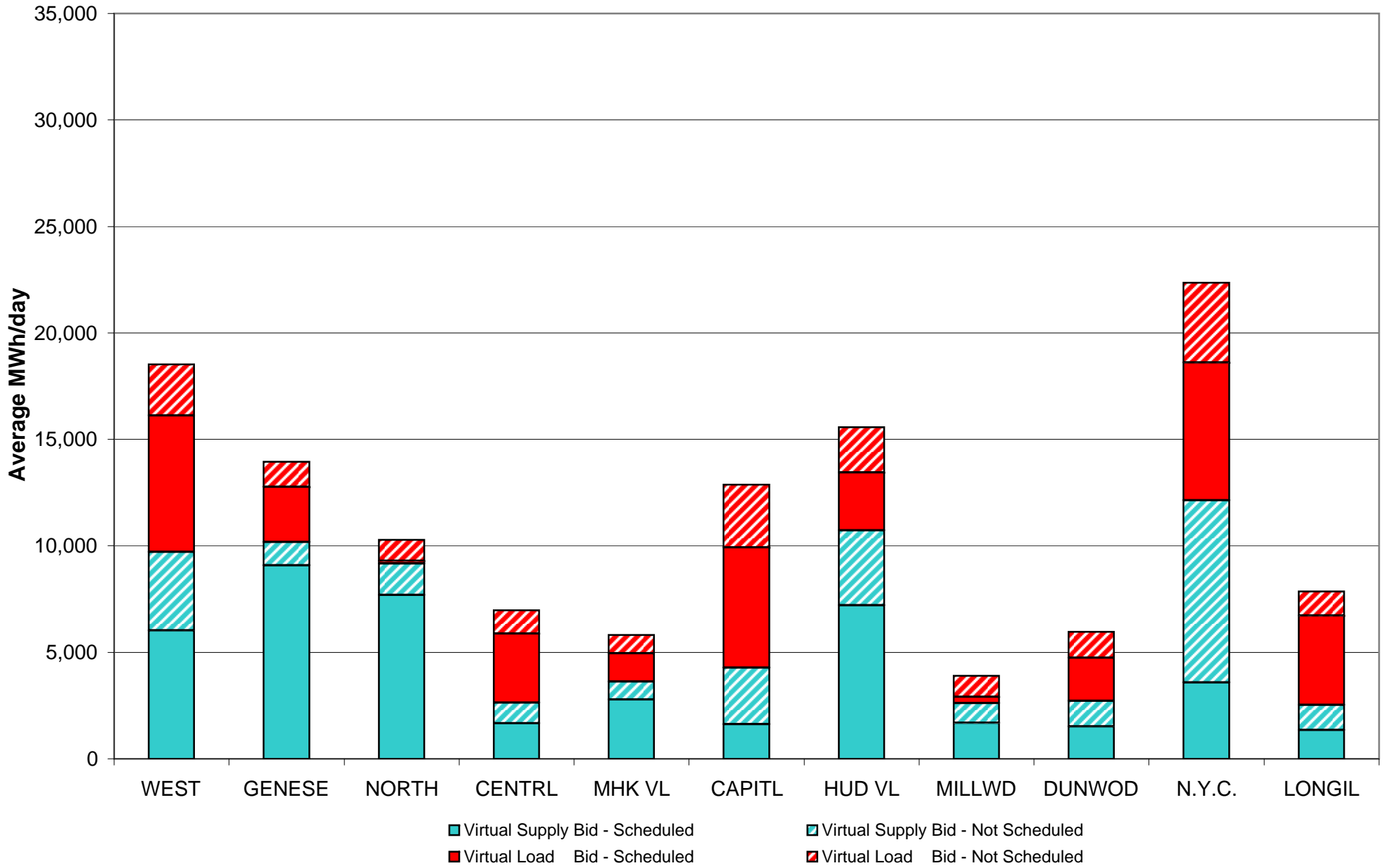


\* Calendar days from reservation date.

## NYISO Virtual Trading Average MWh per day



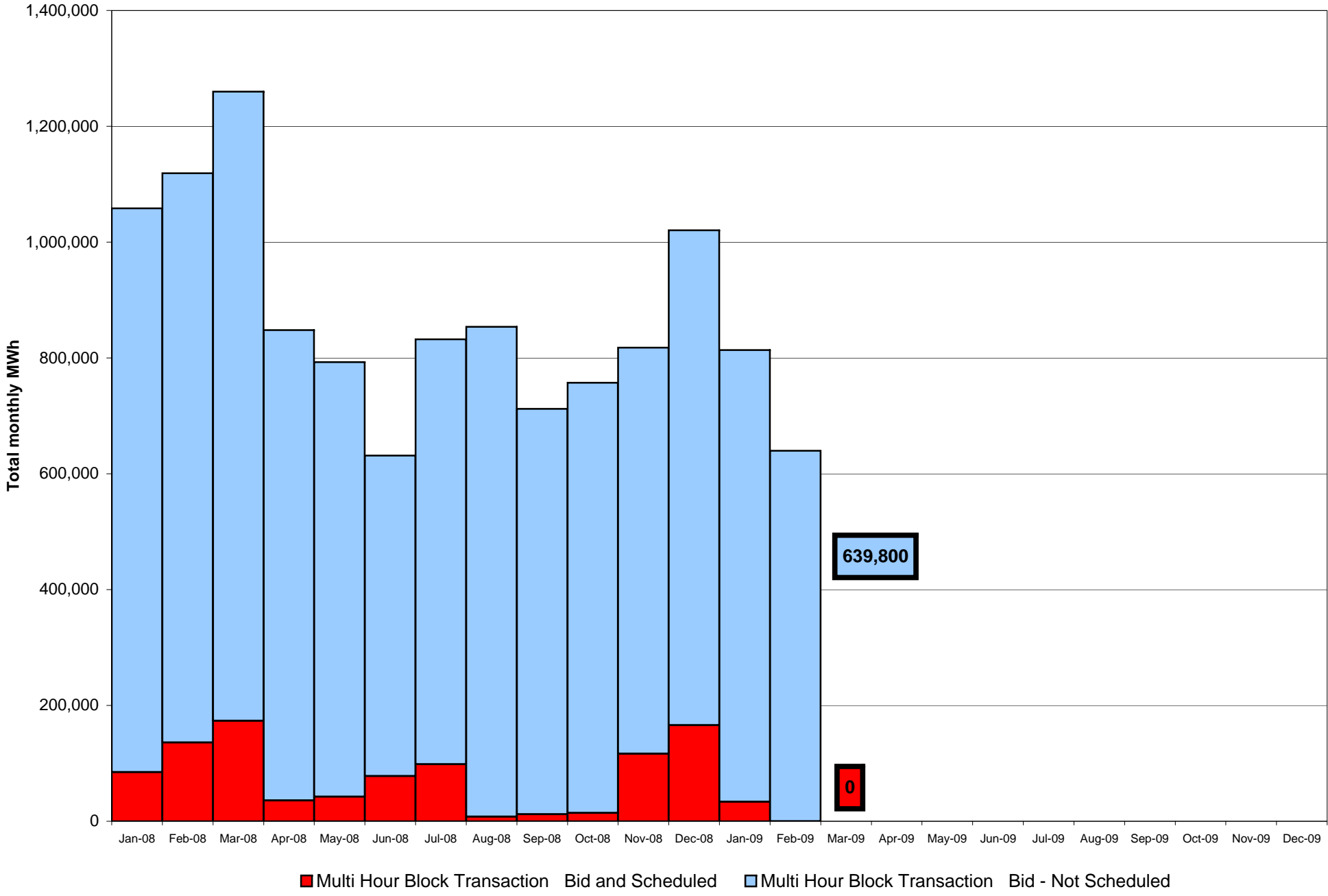
## Virtual Load and Supply Zonal Statistics February 2009



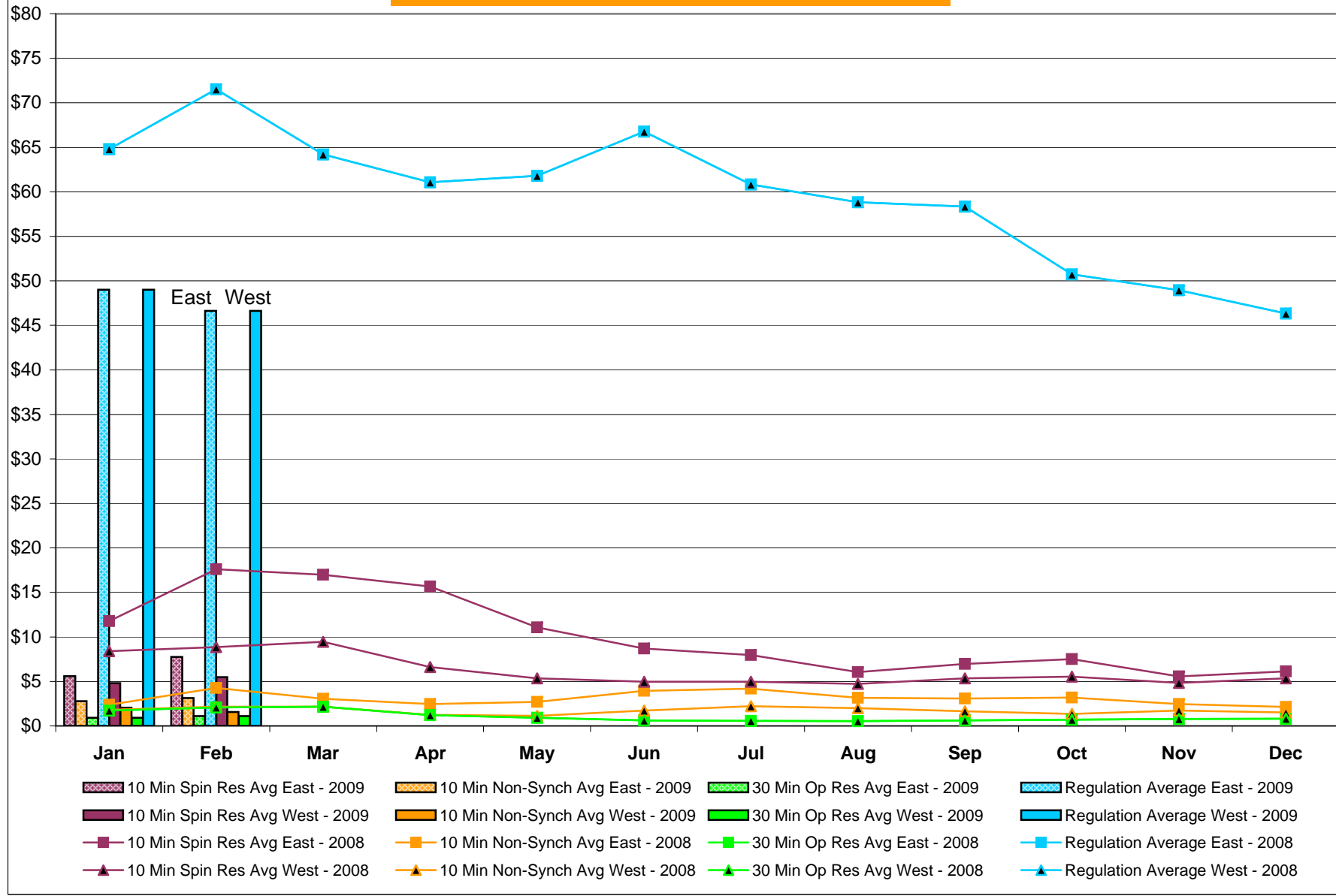
### Virtual Load and Supply Zonal Statistics (Average MWh/day) - 2009

		Virtual Load Bid		Virtual Supply Bid				Virtual Load Bid		Virtual Supply Bid				Virtual Load Bid		Virtual Supply Bid			
Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled	Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled	Zone	Date	Scheduled	Not Scheduled	Scheduled	Not Scheduled		
<b>WEST</b>	Jan-09	5,980	1,802	5,787	1,732	<b>MHK VL</b>	Jan-09	839	852	2,335	568	<b>DUNWOD</b>	Jan-09	3,134	1,616	1,523	1,424		
	Feb-09	6,395	2,412	6,036	3,686		Feb-09	1,336	857	2,786	832		Feb-09	2,013	1,237	1,521	1,200		
	Mar-09						Mar-09						Mar-09						
	Apr-09						Apr-09						Apr-09						
	May-09						May-09						May-09						
	Jun-09						Jun-09						Jun-09						
	Jul-09						Jul-09						Jul-09						
	Aug-09						Aug-09						Aug-09						
	Sep-09						Sep-09						Sep-09						
	Oct-09						Oct-09						Oct-09						
	Nov-09						Nov-09						Nov-09						
	Dec-09						Dec-09						Dec-09						
<b>GENESE</b>	Jan-09	2,540	1,161	8,332	1,092	<b>CAPITL</b>	Jan-09	4,749	3,352	1,706	2,068	<b>N.Y.C.</b>	Jan-09	9,649	6,433	1,814	5,865		
	Feb-09	2,601	1,167	9,082	1,094		Feb-09	5,637	2,956	1,627	2,652		Feb-09	6,464	3,737	3,576	8,570		
	Mar-09						Mar-09						Mar-09						
	Apr-09						Apr-09						Apr-09						
	May-09						May-09						May-09						
	Jun-09						Jun-09						Jun-09						
	Jul-09						Jul-09						Jul-09						
	Aug-09						Aug-09						Aug-09						
	Sep-09						Sep-09						Sep-09						
	Oct-09						Oct-09						Oct-09						
	Nov-09						Nov-09						Nov-09						
	Dec-09						Dec-09						Dec-09						
<b>NORTH</b>	Jan-09	398	1,277	5,428	757	<b>HUD VL</b>	Jan-09	1,572	1,199	5,365	1,875	<b>LONGIL</b>	Jan-09	5,026	2,640	1,654	806		
	Feb-09	125	983	7,684	1,481		Feb-09	2,721	2,126	7,211	3,506		Feb-09	4,191	1,141	1,357	1,164		
	Mar-09						Mar-09						Mar-09						
	Apr-09						Apr-09						Apr-09						
	May-09						May-09						May-09						
	Jun-09						Jun-09						Jun-09						
	Jul-09						Jul-09						Jul-09						
	Aug-09						Aug-09						Aug-09						
	Sep-09						Sep-09						Sep-09						
	Oct-09						Oct-09						Oct-09						
	Nov-09						Nov-09						Nov-09						
	Dec-09						Dec-09						Dec-09						
<b>CENTRL</b>	Jan-09	2,532	1,128	1,935	796	<b>MILLWD</b>	Jan-09	435	900	3,633	1,114	<b>NYISO</b>	Jan-09	36,855	22,359	39,512	18,097		
	Feb-09	3,242	1,093	1,656	983		Feb-09	301	980	1,686	924		Feb-09	35,028	18,690	44,221	26,093		
	Mar-09						Mar-09						Mar-09						
	Apr-09						Apr-09						Apr-09						
	May-09						May-09						May-09						
	Jun-09						Jun-09						Jun-09						
	Jul-09						Jul-09						Jul-09						
	Aug-09						Aug-09						Aug-09						
	Sep-09						Sep-09						Sep-09						
	Oct-09						Oct-09						Oct-09						
	Nov-09						Nov-09						Nov-09						
	Dec-09						Dec-09						Dec-09						

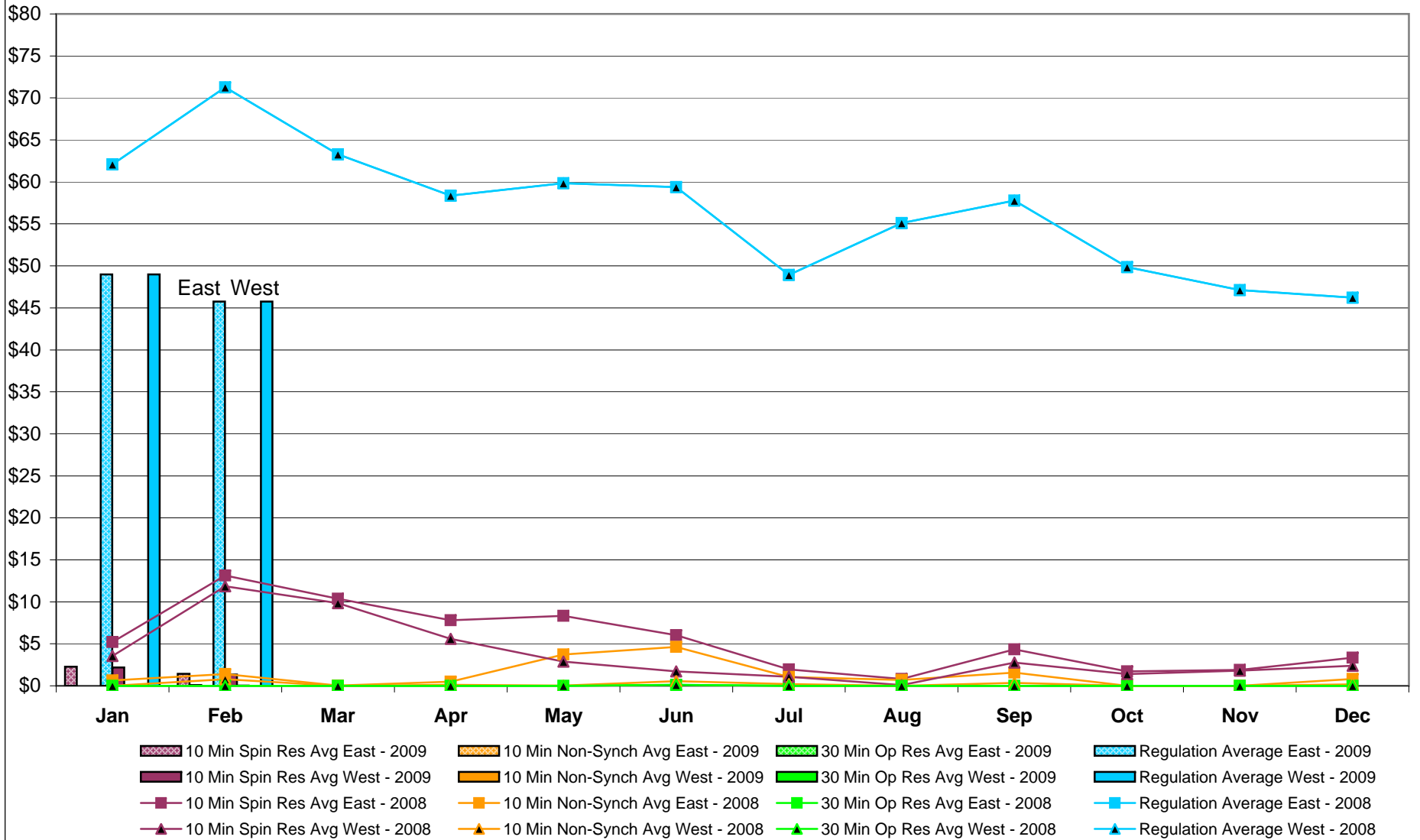
# NYISO Multi Hour Block Transactions Monthly Total MWh



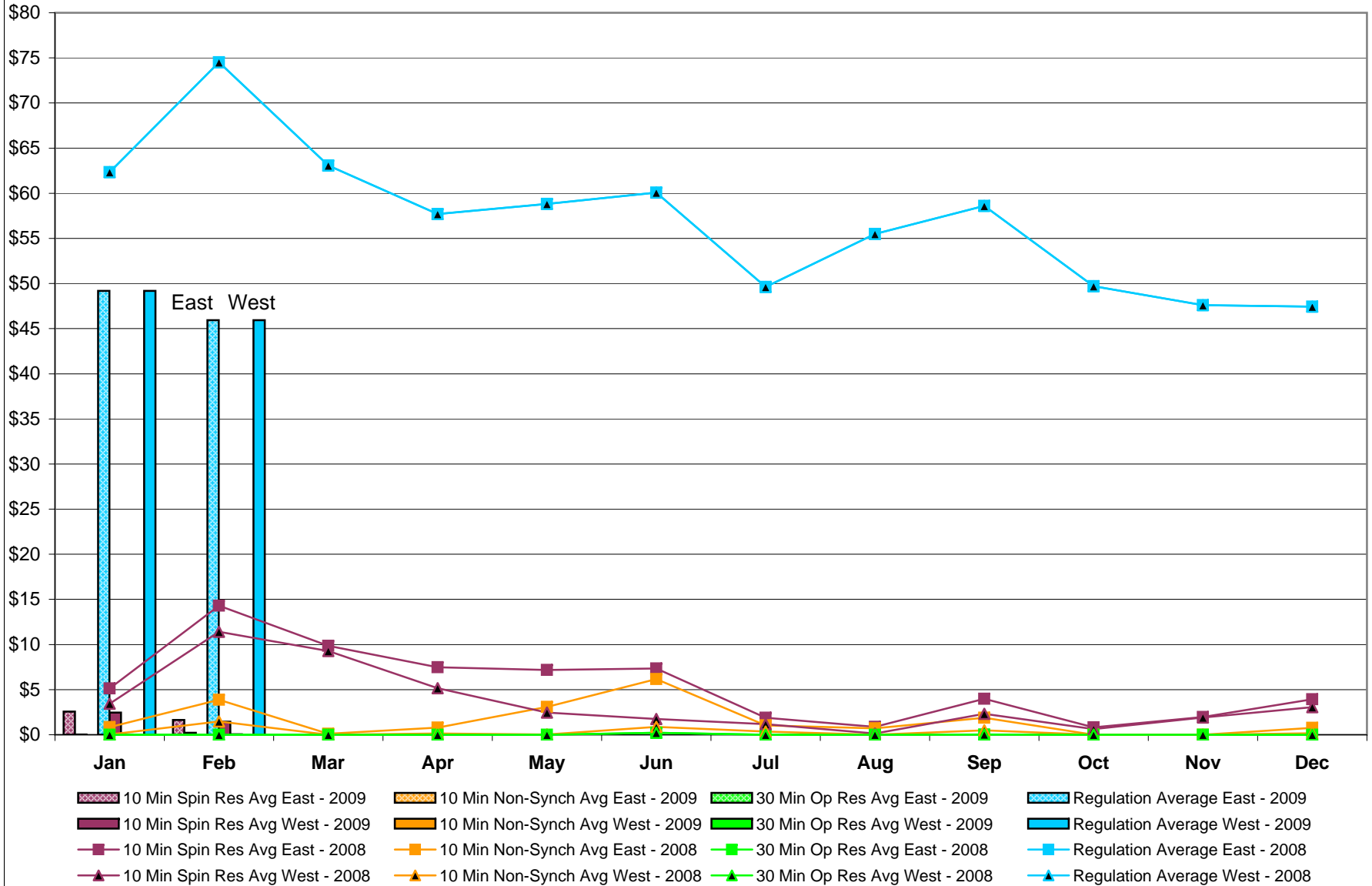
### NYISO Monthly Average Ancillary Service Prices Day Ahead Market 2008 - 2009



## NYISO Monthly Average Ancillary Service Prices RTC Market 2008 - 2009



## NYISO Monthly Average Ancillary Service Prices Real Time Market 2008 - 2009





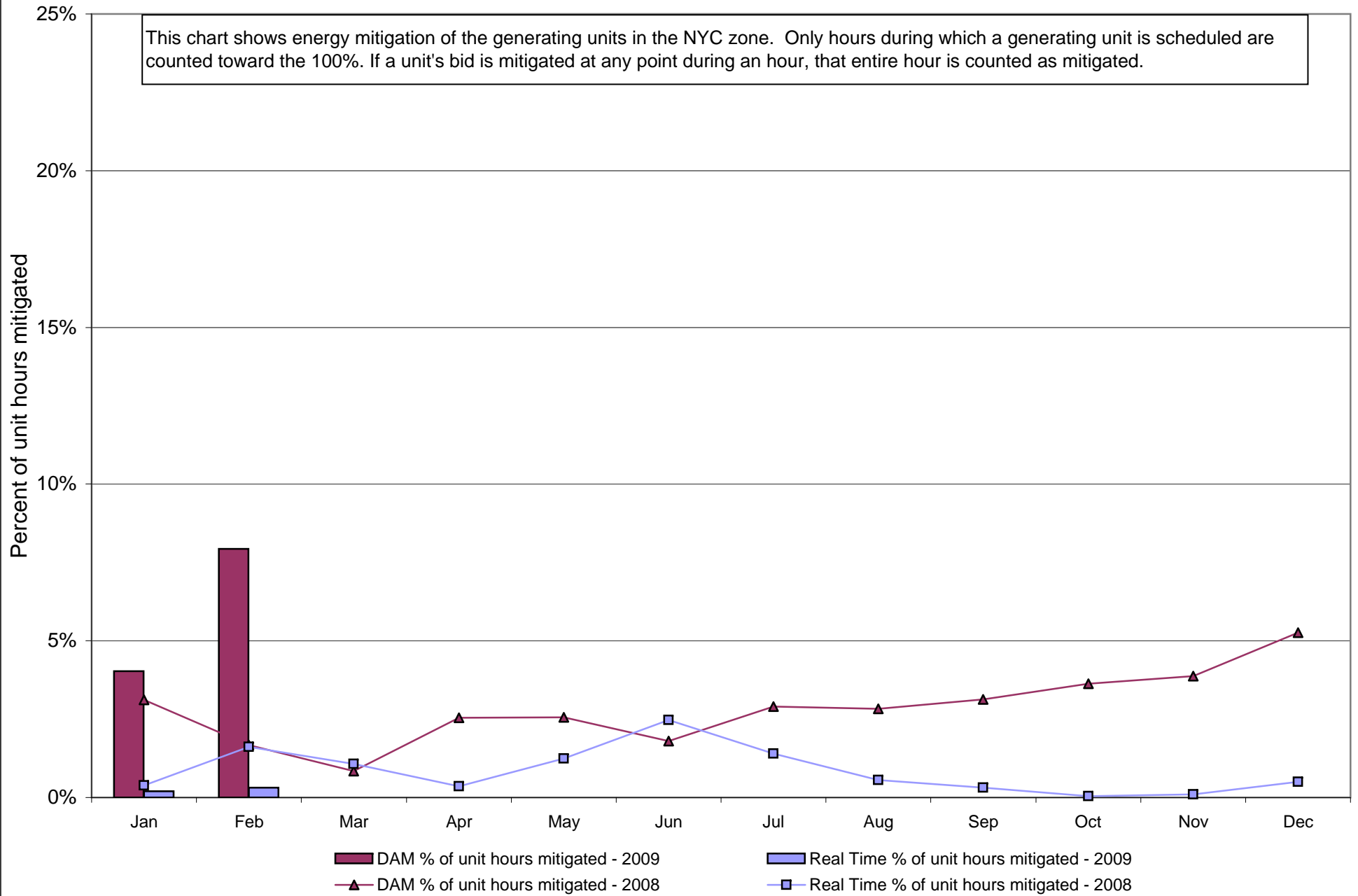
**NYISO Markets Ancillary Services Statistics - Unweighted Price (\$/MWH)**

<b>2009</b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Day Ahead Market</u></b>												
10 Min Spin East	5.60	7.74										
10 Min Spin West	4.81	5.48										
10 Min Non Synch East	2.77	3.13										
10 Min Non Synch West	2.05	1.58										
30 Min East	0.92	1.12										
30 Min West	0.92	1.12										
Regulation East	49.01	46.62										
Regulation West	49.01	46.62										
<b><u>RTC Market</u></b>												
10 Min Spin East	2.27	1.44										
10 Min Spin West	2.20	1.35										
10 Min Non Synch East	0.00	0.08										
10 Min Non Synch West	0.00	0.04										
30 Min East	0.00	0.00										
30 Min West	0.00	0.00										
Regulation East	48.98	45.76										
Regulation West	48.98	45.76										
<b><u>Real Time Market</u></b>												
10 Min Spin East	2.57	1.65										
10 Min Spin West	2.46	1.43										
10 Min Non Synch East	0.03	0.22										
10 Min Non Synch West	0.03	0.05										
30 Min East	0.00	0.00										
30 Min West	0.00	0.00										
Regulation East	49.19	45.95										
Regulation West	49.19	45.95										
<b>2008</b>	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>
<b><u>Day Ahead Market</u></b>												
10 Min Spin East	11.76	17.59	16.98	15.66	11.07	8.68	7.96	6.06	6.97	7.50	5.57	6.14
10 Min Spin West	8.41	8.86	9.45	6.61	5.35	4.97	4.96	4.72	5.33	5.54	4.83	5.35
10 Min Non Synch East	2.36	4.26	3.04	2.46	2.69	3.93	4.18	3.16	3.09	3.18	2.46	2.14
10 Min Non Synch West	1.81	2.16	2.16	1.24	1.14	1.73	2.20	1.99	1.65	1.34	1.74	1.51
30 Min East	1.73	2.07	2.16	1.21	0.93	0.61	0.57	0.54	0.62	0.70	0.79	0.82
30 Min West	1.73	2.07	2.16	1.21	0.93	0.61	0.57	0.54	0.62	0.70	0.79	0.82
Regulation East	64.81	71.51	64.19	61.08	61.80	66.77	60.83	58.82	58.34	50.73	48.94	46.34
Regulation West	64.81	71.51	64.19	61.08	61.80	66.77	60.83	58.82	58.34	50.73	48.94	46.34
<b><u>RTC Market</u></b>												
10 Min Spin East	5.22	13.13	10.37	7.80	8.34	6.04	1.95	0.80	4.33	1.72	1.89	3.34
10 Min Spin West	3.55	11.86	9.83	5.61	2.89	1.71	1.09	0.09	2.76	1.39	1.80	2.39
10 Min Non Synch East	0.65	1.40	0.02	0.49	3.74	4.62	1.05	0.70	1.56	0.00	0.00	0.80
10 Min Non Synch West	0.00	0.79	0.00	0.12	0.04	0.56	0.21	0.00	0.35	0.00	0.00	0.17
30 Min East	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00
30 Min West	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00
Regulation East	62.09	71.26	63.30	58.35	59.84	59.38	48.94	55.11	57.78	49.85	47.11	46.22
Regulation West	62.09	71.26	63.30	58.35	59.84	59.38	48.94	55.11	57.78	49.85	47.11	46.22
<b><u>Real Time Market</u></b>												
10 Min Spin East	5.12	14.30	9.86	7.48	7.19	7.35	1.88	0.87	3.99	0.83	1.96	3.93
10 Min Spin West	3.45	11.40	9.27	5.16	2.45	1.73	1.19	0.15	2.33	0.62	1.90	3.05
10 Min Non Synch East	0.83	3.86	0.10	0.79	3.07	6.17	1.05	0.70	1.89	0.00	0.00	0.77
10 Min Non Synch West	0.02	1.49	0.00	0.13	0.01	0.88	0.37	0.00	0.49	0.00	0.00	0.17
30 Min East	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.02	0.00	0.00	0.00
30 Min West	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.02	0.00	0.00	0.00
Regulation East	62.33	74.53	63.09	57.71	58.83	60.07	49.61	55.50	58.60	49.69	47.61	47.42
Regulation West	62.33	74.53	63.09	57.71	58.83	60.07	49.61	55.50	58.60	49.69	47.61	47.42

## NYISO In City Energy Mitigation (NYC Zone) 2008 - 2009

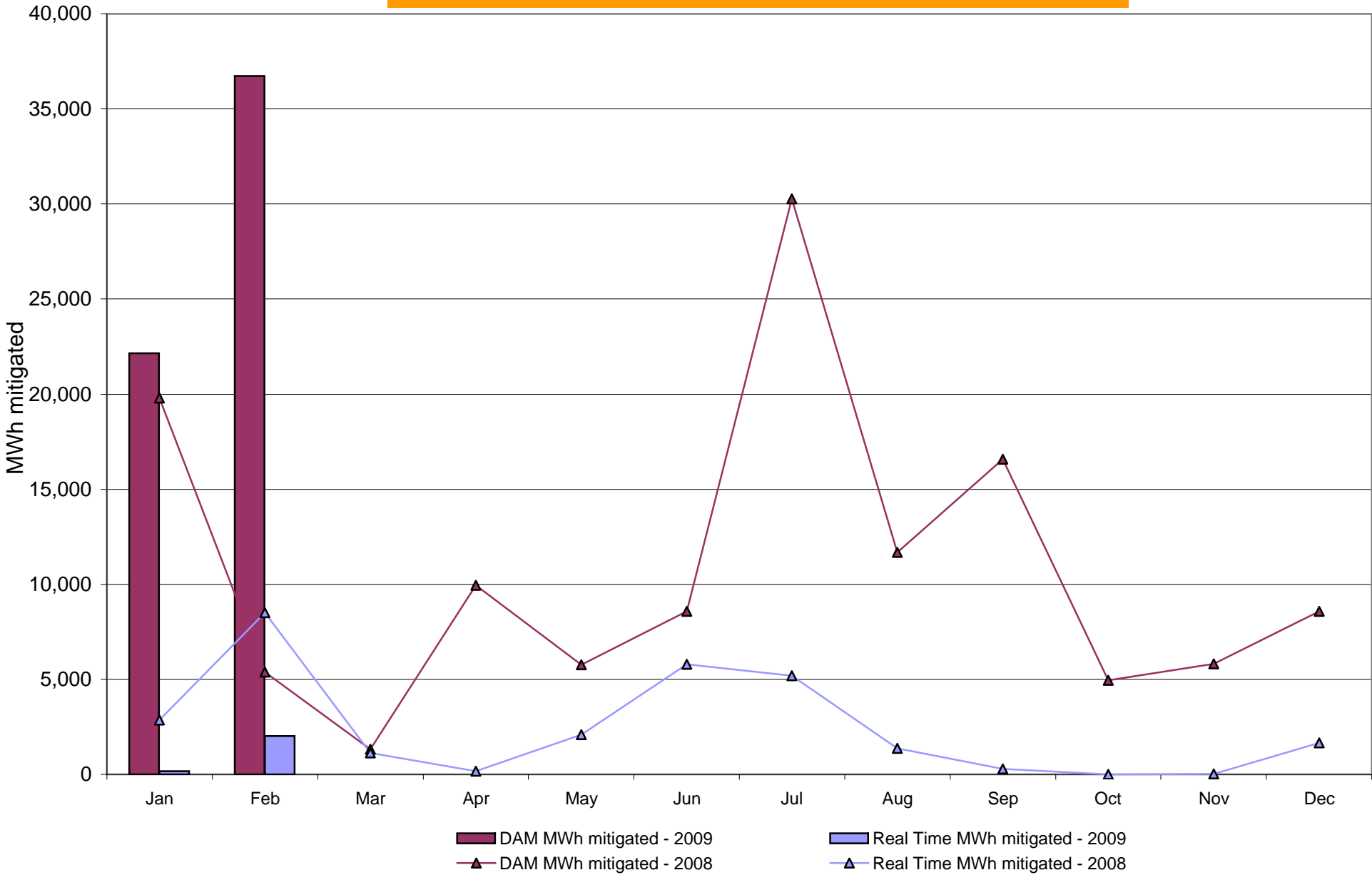
### Percentage of committed unit-hours mitigated

This chart shows energy mitigation of the generating units in the NYC zone. Only hours during which a generating unit is scheduled are counted toward the 100%. If a unit's bid is mitigated at any point during an hour, that entire hour is counted as mitigated.

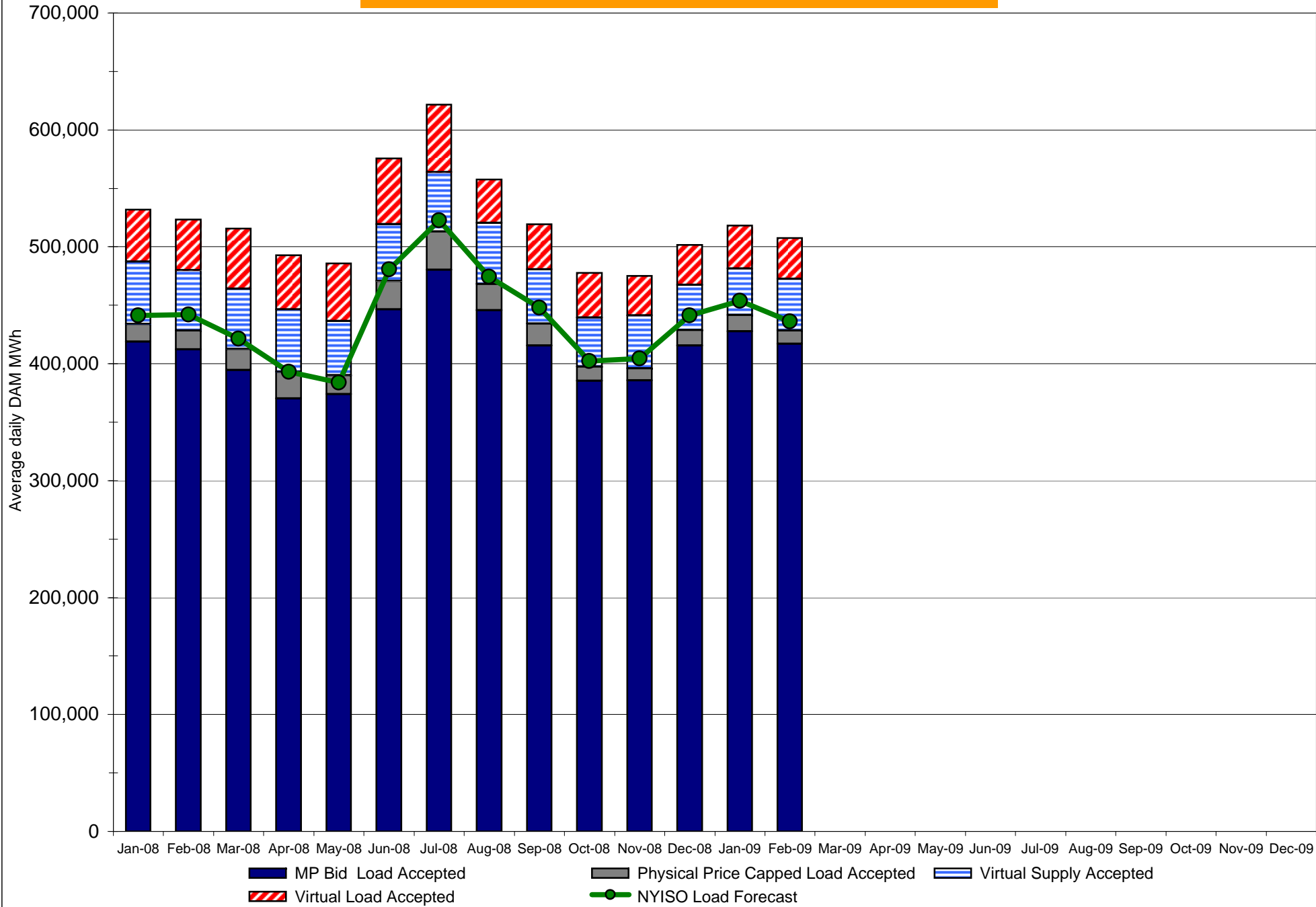


## NYISO In City Energy Mitigation (NYC Zone) 2008 - 2009

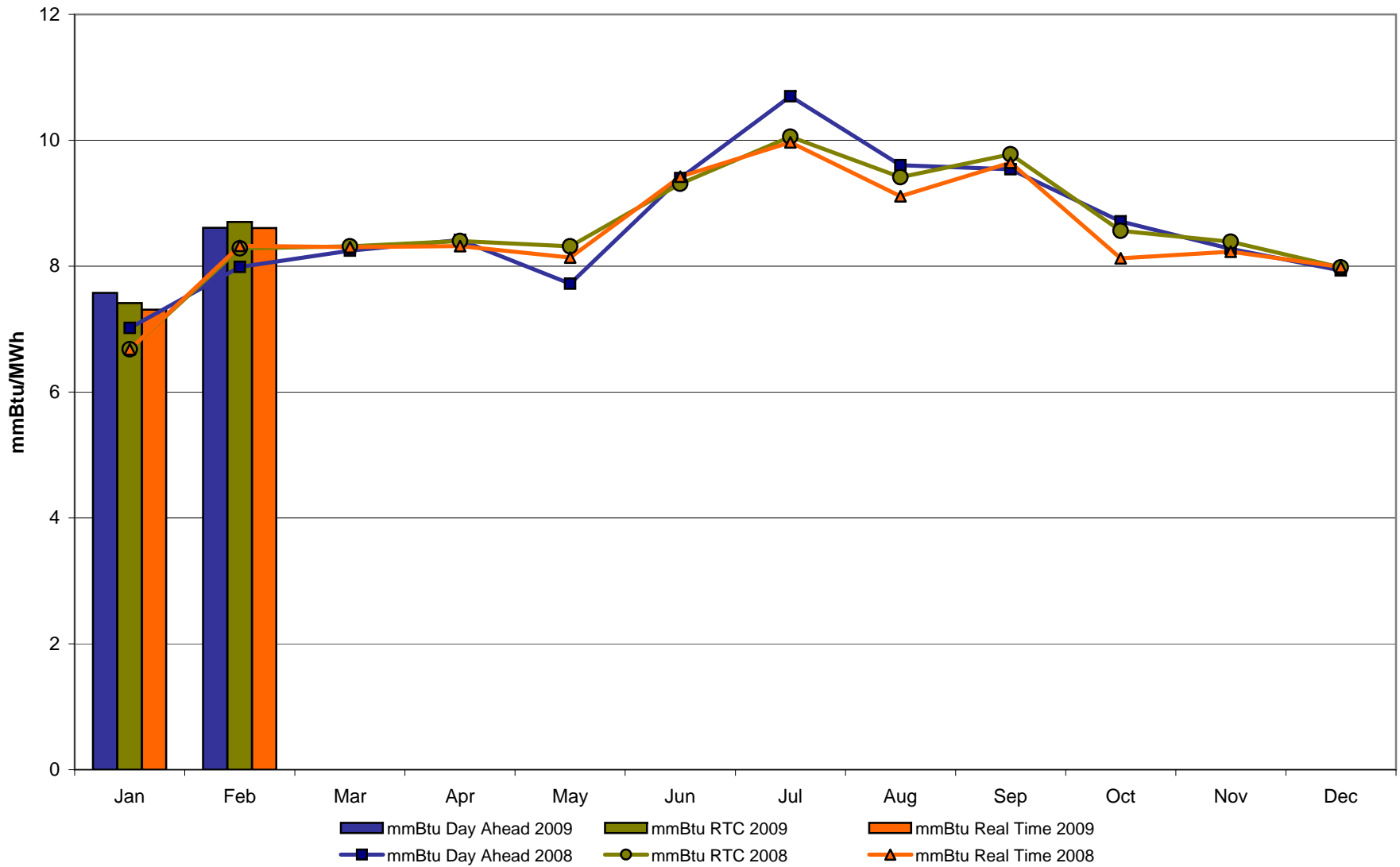
### Monthly megawatt hours mitigated



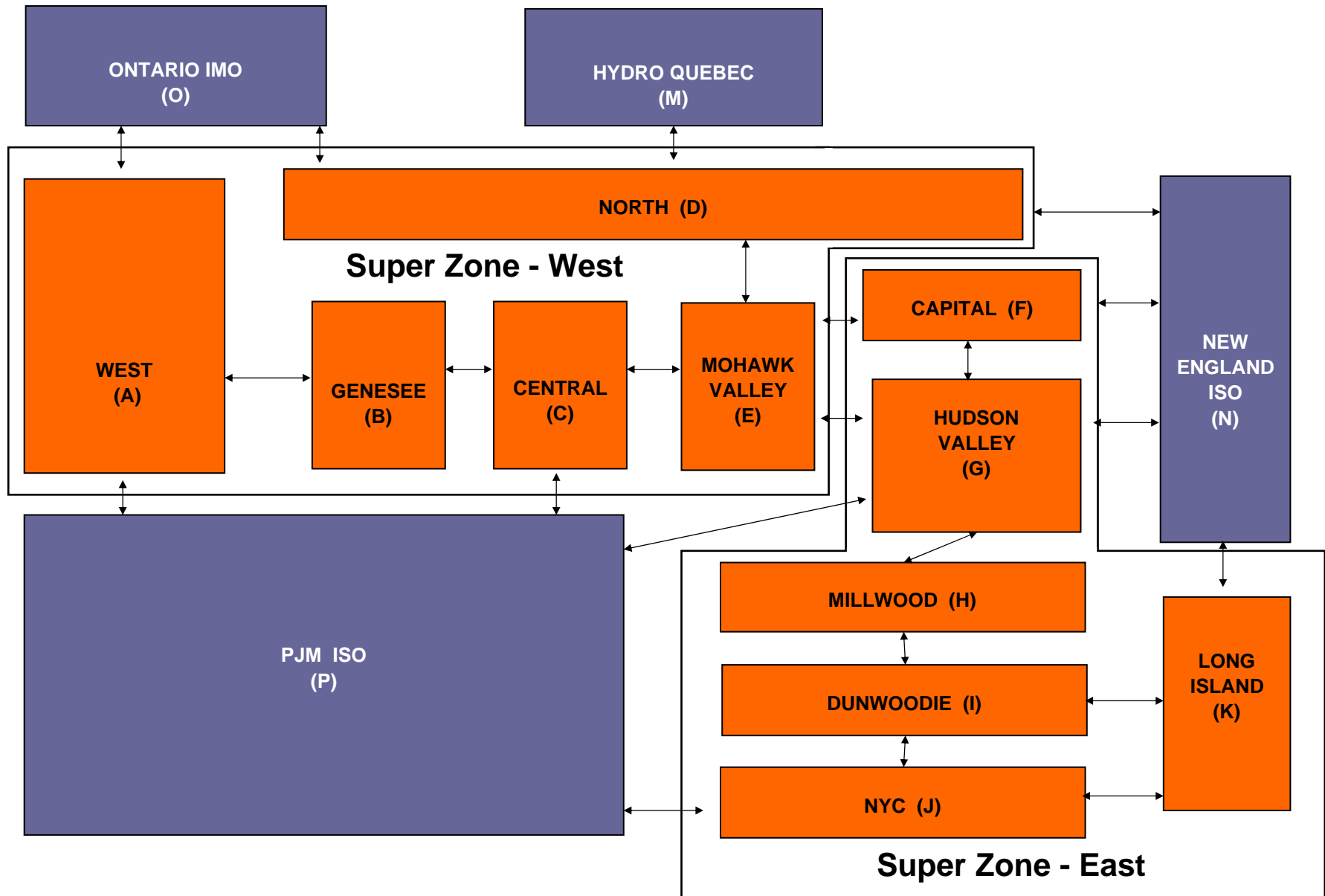
# NYISO Average Daily DAM Load Bid Summary



## Monthly Implied Heat Rate 2008-2009



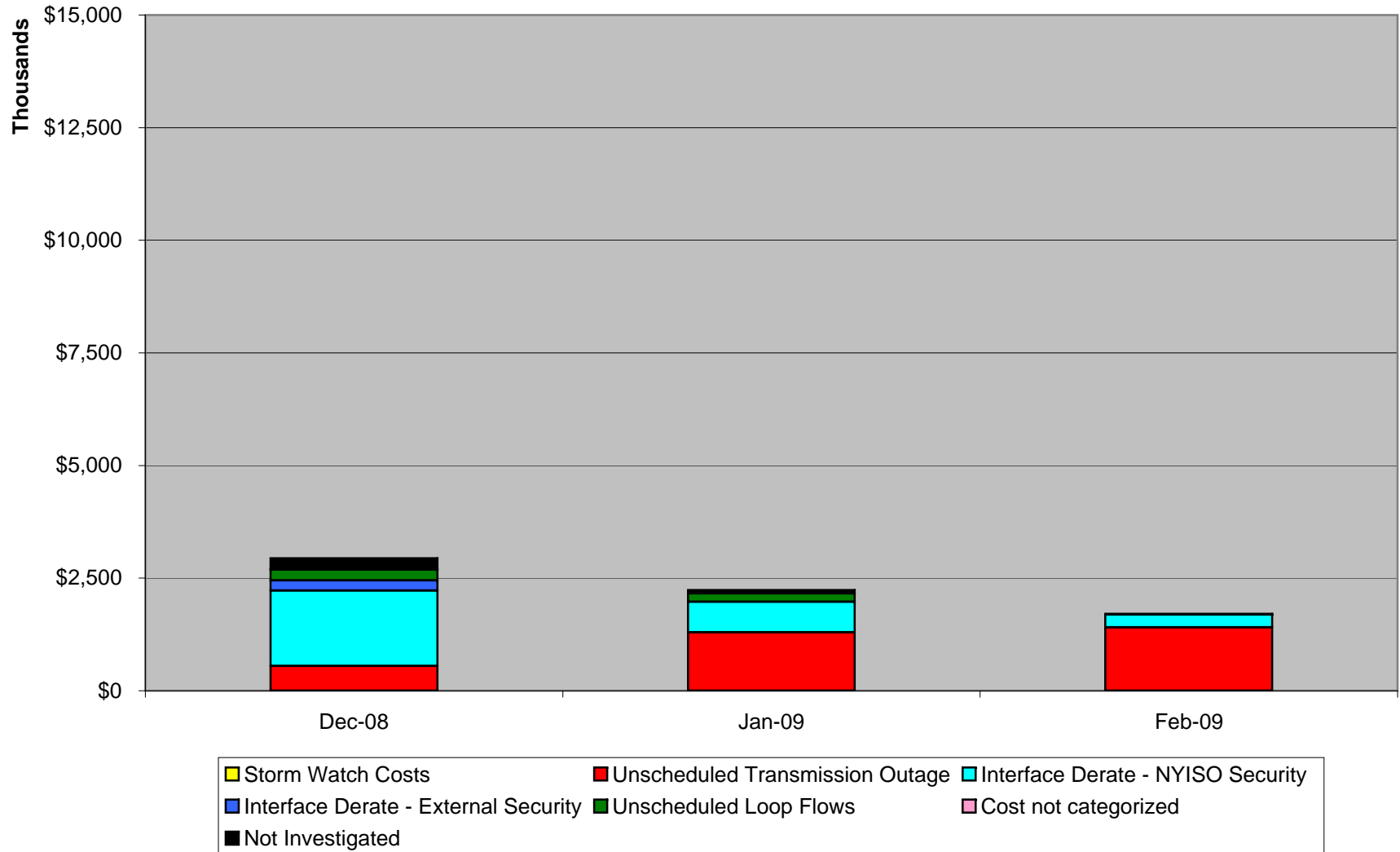
# NYISO LBMP ZONES



**Billing Codes for Chart 4-C**

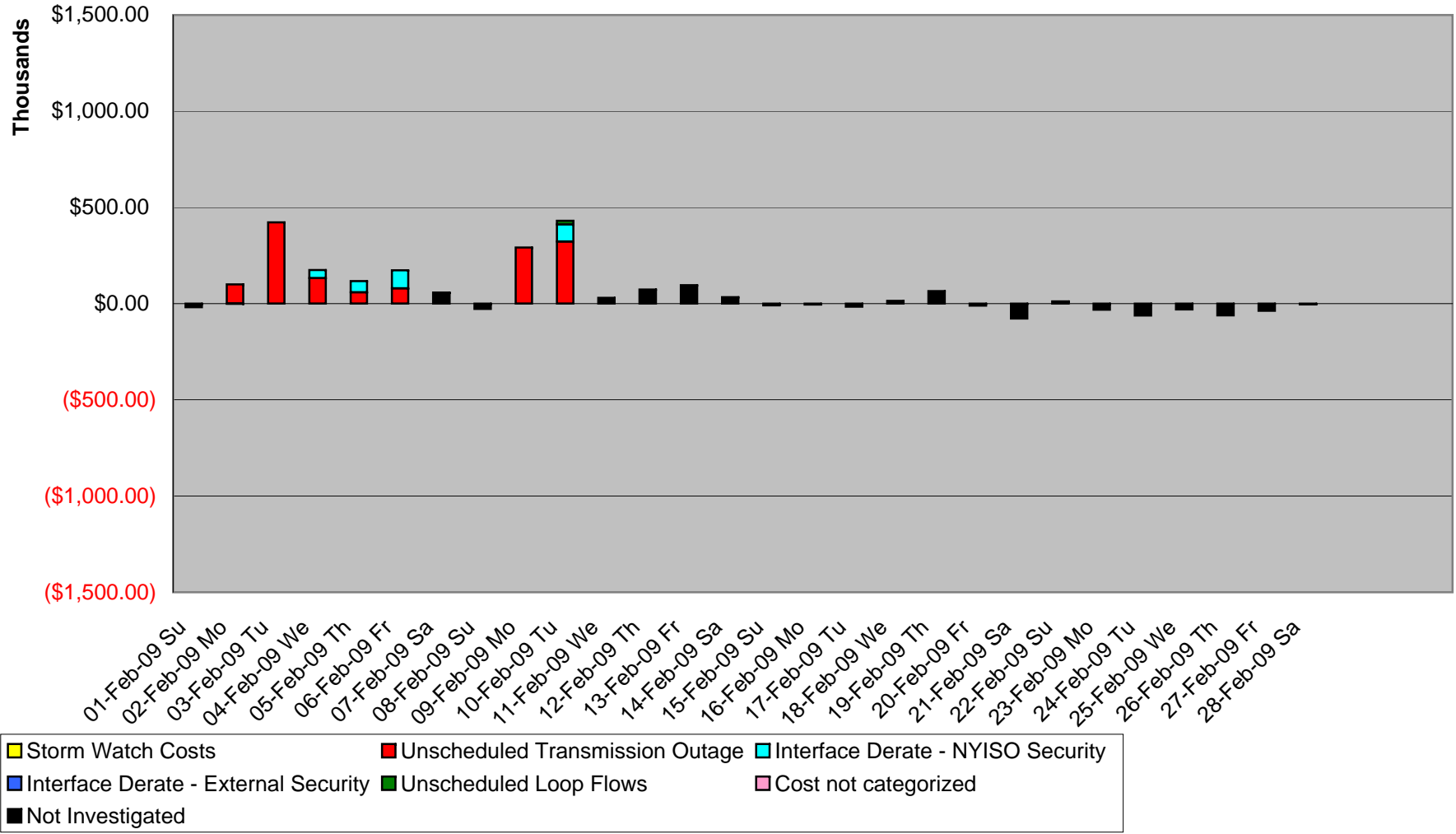
<b>Chart 4-C Category Name</b>	<b>Billing Code</b>	<b>Billing Category Name</b>
Bid Production Cost Guarantee Balancing	81203	Balancing NYISO Bid Production Cost Guarantee - Internal Units
Bid Production Cost Guarantee Balancing	81204	Balancing NYISO Bid Production Cost Guarantee - External Units
Bid Production Cost Guarantee Balancing	81205	Balancing NYISO Bid Production Cost Guarantee Expenditure due to Curtailed Imports
Bid Production Cost Guarantee Balancing	81208	Balancing NYISO Bid Production Cost Guarantee - Internal Units
Bid Production Cost Guarantee Balancing	81209	Balancing NYISO Bid Production Cost Guarantee - External Units
Bid Production Cost Guarantee Balancing	81213	Balancing NYISO Bid Production Cost Guarantee Expenditure due to Curtailed Imports
Bid Production Cost Guarantee DAM	81201	DAM NYISO Bid Production Cost Guarantee - Internal Units
Bid Production Cost Guarantee DAM	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

### Investigation of Balancing Market Congestion Residual Monthly Uplift Cost Categorized










## February 2009 Investigation of Balancing Market Congestion Residual Uplift Cost Categorized



Day's investigated in February: 02, 03, 04, 05, 06, 09, 10

Event	Date (yyyymmdd)	Hours	Description
	20090202	11-23	Forced outage Rainey-Vernon 138kV (#36312)
	20090203	11	Forced outage Sprainbrook-Tremont 345kV (#X28)
	20090203	11-23	Forced outage Tremont transformer 345/138kV (#BK 11)
	20090203	0-23	Forced outage Rainey-Vernon 138kV (#36312)
	20090204	0-23	Forced outage Tremont transformer 345/138kV (#BK 11)
	20090204	0-23	Forced outage Rainey-Vernon 138kV (#36312)
	20090204	9-22	Derate Mott Haven-Rainey 345kV (#Q12) for I/o Mott Haven-Rainey 345kV (#Q11)
	20090205	0-23	Forced outage Tremont transformer 345/138kV (#BK 11)
	20090205	0-23	Derate Astoria West/Queens Bridge/Vernon
	20090205	0-23	Derate Greenwood/Staten Island
	20090205	14-23	Derate Astoria East/Corona/Jamaica
	20090205	15-23	Derate Mott Haven-Rainey 345kV (#Q11) for I/o Mott Haven-Rainey 345kV (#Q12)
	20090206	0-23	Forced outage Tremont transformer 345/138kV (#BK 11)
	20090206	22-23	Forced outage Rainey-Mott Haven 345kV (#Q11)
	20090206	22-23	Forced outage Freshkills transformer 345/138kV (#TA 1)
	20090206	0, 11-23	Derate Greenwood/Staten Island
	20090209	1-23	Forced outage Freshkills transformer 345/138kV (#TA 1)
	20090209	0-23	Forced outage Dunwoodie-East 179th Street 138kV (#99153)
	20090210	0-23	Forced outage Freshkills transformer 345/138kV (#TA 1)
	20090210	0-23	Forced outage Dunwoodie-East 179th Street 138kV (#99153)
	20090210	8-10, 12-15	Derate Dysinger East, Western NY 115 kV limitations, Lockport-Mortimer 115kV (#111) for I/o Kintigh-Rochester 345kV (#SR-1)
	20090210	20	Lake Erie clockwise circulation, DAM-RTM exceeds 500MW: Central East

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

<u>Category</u>	<u>Cost Assignment</u>	<u>Events Types</u>	<u>Event Examples</u>
 Storm Watch	Zone J	Thunderstorm Alert (TSA)	TSA Activations
 Unscheduled Transmission Outage	Market-wide	Reduction in DAM to RTM transfers related to unscheduled transmission outage	Forced Line Outage, Unit/AVR Outages
 Interface Derate - NYISO Security	Market-wide	Reduction in DAM to RTM transfers not related to transmission outage	Interface Derates due to RTM voltages
 Interface Derate - External Security	Market-wide	Reduction in DAM to RTM transfers related to External Control Area Security Events	TLR Events, External Transaction Curtailments
 Unscheduled Loop Flows	Market-wide	Changes in DAM to RTM unscheduled loop flows impacting NYISO Interface transmission constraints	DAM to RTM Clockwise Lake Erie Loop Flows greater than 500MW

### Monthly Balancing Market Congestion Report Assumptions/Notes

- 1) Storm Watch Costs are identified as daily total uplift costs
- 2) At a minimum those days with \$ 100 K/HR or \$ 200 K/Day or more are investigated
- 3) Uplift costs associated with multiple event types are apportioned equally by hour

# The Next Frontier: Transmission Efficiency

## Industry Workshops May/June 2009



Mid Atlantic or Ohio Workshop (May 4, 2009)

Hosted by PJM and AEP

Executive Champions: Terry Boston (PJM), Michael Heyeck (AEP)



Northeast Workshop (April 29, 2009)

Hosted by NYISO, Con Ed, NYPA, LIPA

Executive Champions: Steve Whitley (NYISO), Steve DeCarlo (NYPA), Lou Rana (Con Ed), Mike Hervey (LIPA)



West Coast

Workshop (TBD)

Hosted by CAISO, SCE

Executive Champions: Yakout Mansour (CAISO), Pedro Pizarro (SCE)



International Workshop (June 2, 2009)

Hosted by PSE Operator, ESKOM, National Grid

Executive Champions: Magda Wasiluk Hassa (PSE Operator), Barry MacColl (ESKOM), Ian Welch (NG), Michael Heyeck (AEP)



Dallas Workshop (May 20, 2009)

Hosted by SPP, AEP

Executive Champions: Nick Brown (SPP), Mike Heyeck, AEP)



Southeast Workshop (June 15, 2009)

Hosted by Rob Manning (TVA) and Leslie Sibert (Southern)



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NYISO Symposium April 30, 2009:

Foundation to the Future: *Infrastructure,  
Innovation, Investment*

**Desmond Hotel, Albany, NY**

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**Keynote address by Jon Wellinghoff, Acting Chairman of  
the Federal Energy Regulatory Commission**

Panel discussions will focus on:

- ◆ Renewable Energy Sources
- ◆ Transmission Infrastructure
- ◆ Dynamic Retail Pricing
- ◆ Infrastructure Investment Challenges