
NYISO Market Operations Report

*Business Issues Committee Meeting
March 11, 2003*

Agenda #4

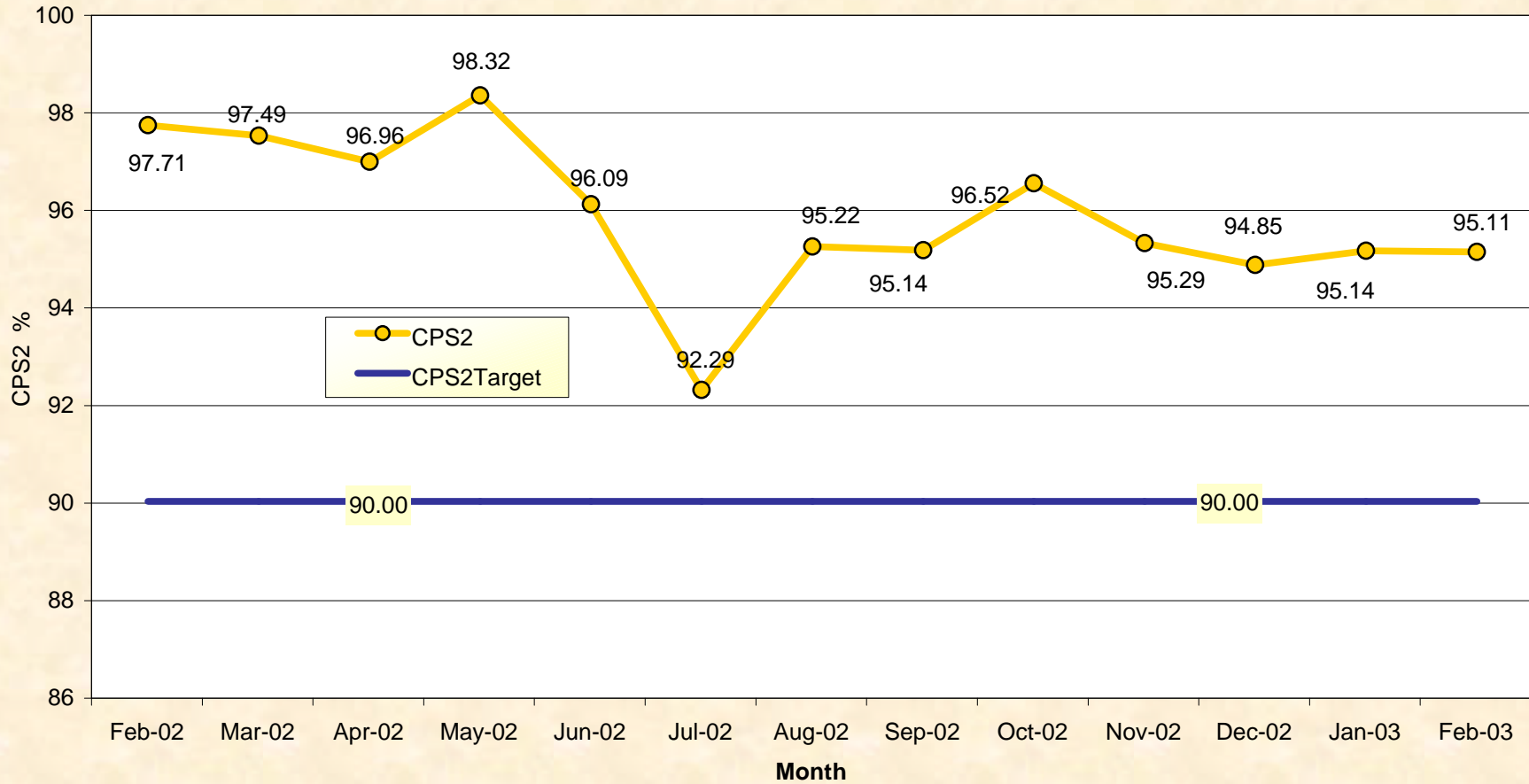
Report Items

- 1) Reliability Indicators
 - *NERC Criteria (CPS-2 Curve)*

- 2) Market Performance Highlights

NERC Control Performance Standard

NYISO Compliance
Year 2002/2003



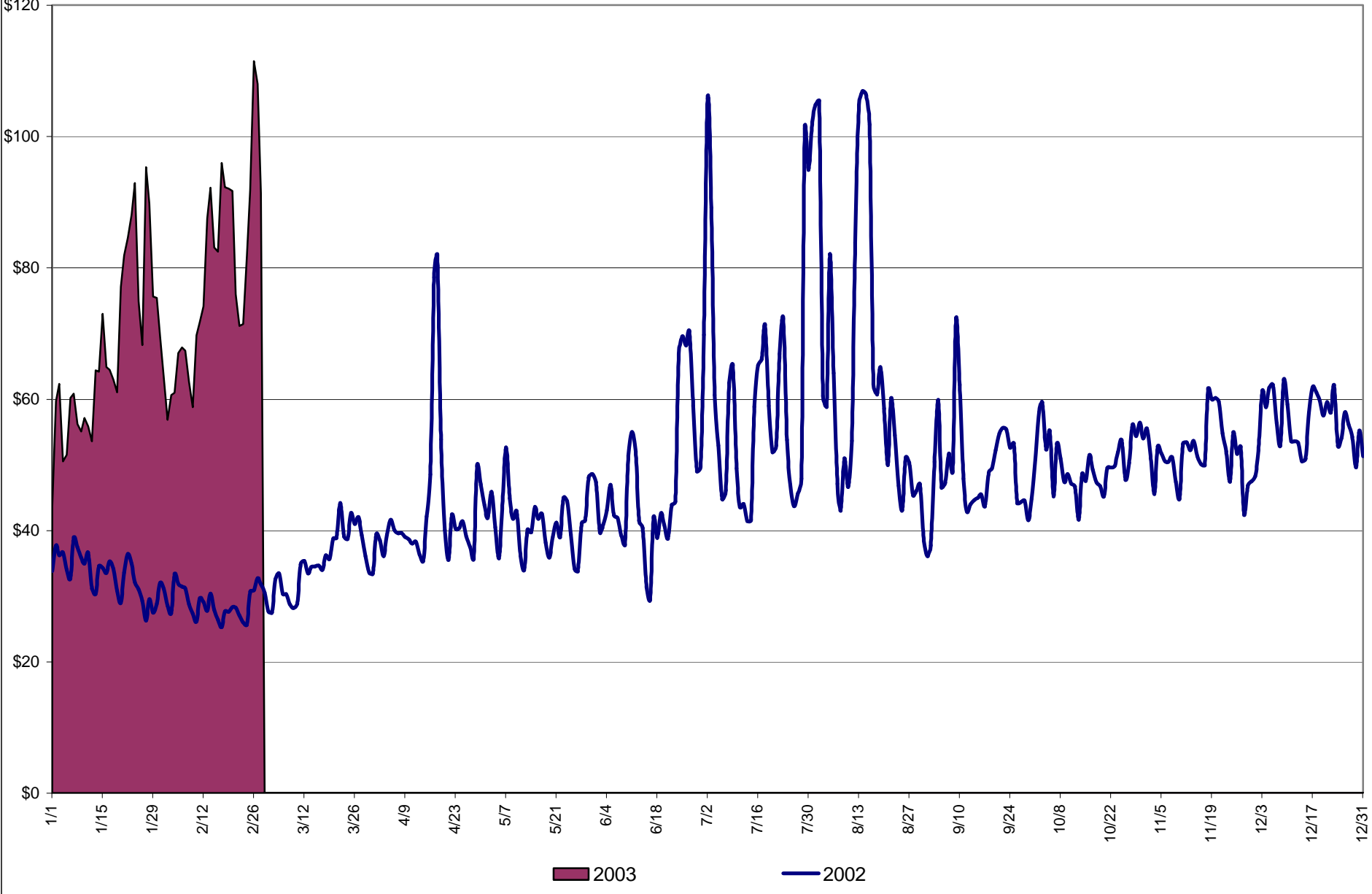
CPS2 for February = 95.11% Compliance Threshold = 90%
CPS2 measures excessive unscheduled power flow resulting from large Area Control Error (ACE)

February 2003

NYISO Market Performance Highlights

- **Aggregated Market Prices** remain at high levels as experienced in January
- **Natural Gas Prices** remain high, impacting energy, ancillary service costs and guarantee payments
- **10 minute reserve prices** have fallen from January levels, but remain high compared to historical levels
- **Volatility in BME prices** can be attributed to isolated occurrences on February 6th and the period of February 17-19
- **Price reservations** dropped substantially in February, dipping below historical levels
 - *The Price reservation screens reflect fuel price changes*
 - *The SCD internal correction rate remains low*

Average Daily NYISO - Administered Total Price (Energy & Ancillary Services)
2002 Annual Average \$49.77/MWH
February 2002 YTD Average \$31.37/MWH
February 2003 YTD Average \$73.99/MWH

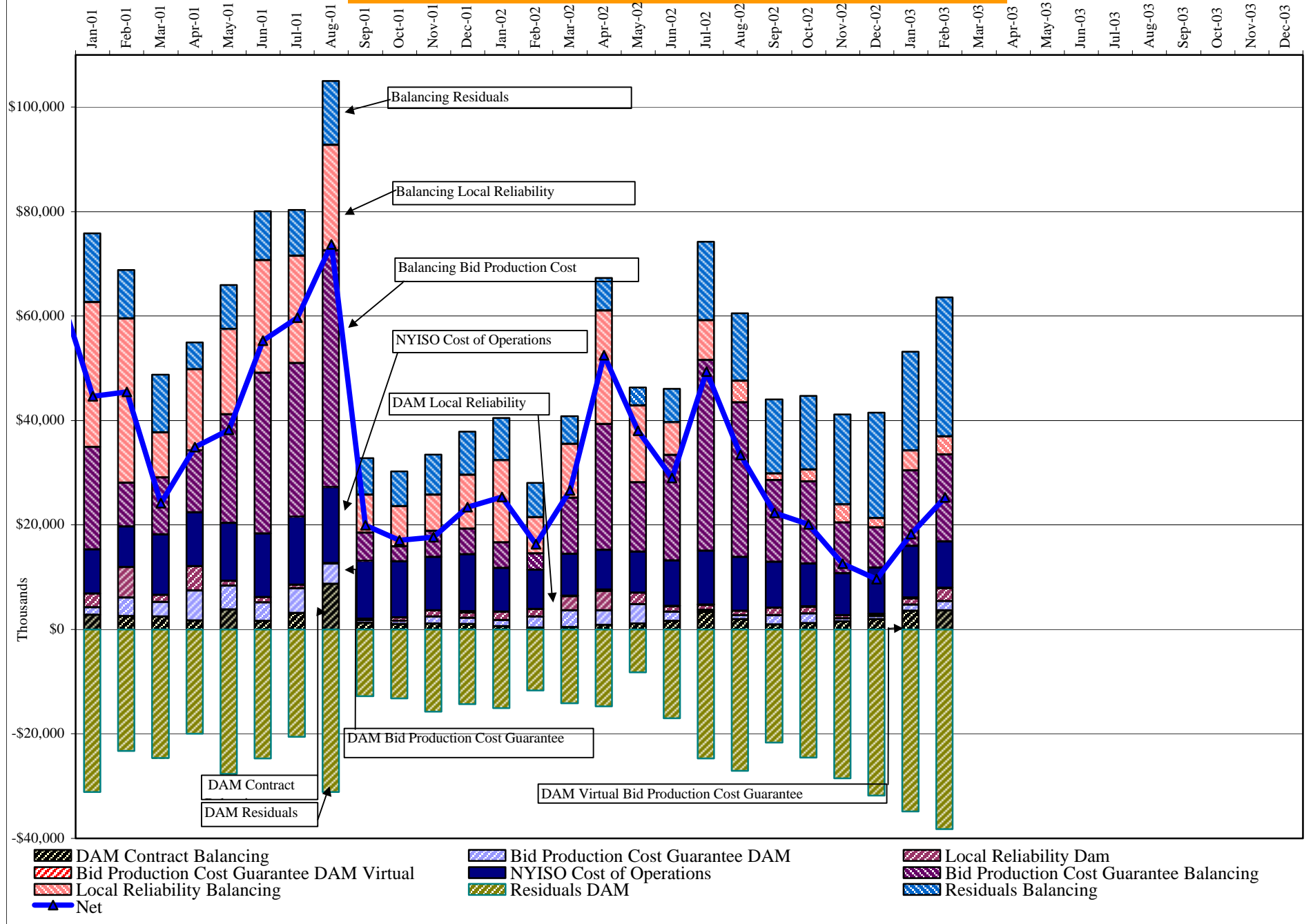


NYISO Administered Total Price (Energy and Ancillary Services)

from the LBMP Customer point of view

2003		January	February	March	April	May	June	July	August	September	October	November	December
	LBMP	66.36	76.58										
	NTAC	0.41	0.35										
	Reserve	0.48	0.36										
	Regulation	0.26	0.27										
	NYISO Cost of Operations	0.68	0.68										
	Uplift	0.34	1.02										
	Voltage Support and Black Start	0.33	0.33										
	Avg Monthly Price	68.86	79.60										
	Avg YTD Price	68.86	73.99										
2002		January	February	March	April	May	June	July	August	September	October	November	December
	LBMP	30.32	26.58	32.02	39.03	37.48	45.59	60.80	65.60	46.88	48.07	50.05	54.73
	NTAC	0.53	0.48	0.45	0.43	0.47	0.61	1.04	0.52	0.49	0.63	0.39	0.35
	Reserve	0.19	0.19	0.24	0.29	0.21	0.19	0.30	0.33	0.22	0.22	0.31	0.41
	Regulation	0.19	0.19	0.17	0.16	0.26	0.24	0.18	0.20	0.27	0.26	0.25	0.25
	NYISO Cost of Operations	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.62	0.63
	Uplift	1.19	0.67	1.36	3.70	2.34	1.35	2.28	1.32	0.86	0.74	0.23	(0.08)
	Voltage Support and Black Start	0.34	0.33	0.33	0.34	0.34	0.33	0.33	0.33	0.33	0.33	0.33	0.33
	Avg Monthly Price	33.39	29.08	35.21	44.58	41.72	48.94	65.56	68.94	49.68	50.88	52.19	56.63
	Avg YTD Price	33.39	31.37	32.69	35.71	36.83	39.06	44.35	48.39	48.54	48.77	49.09	49.77
2001		January	February	March	April	May	June	July	August	September	October	November	December
	LBMP	61.52	44.29	49.98	48.60	52.84	50.31	46.58	71.97	35.33	31.05	31.53	29.23
	NTAC	0.39	0.21	0.59	0.35	0.51	0.41	0.30	0.35	0.38	0.39	0.40	0.61
	Reserve	0.47	0.29	0.42	0.43	0.59	0.44	0.55	1.40	0.43	0.25	0.27	0.25
	Regulation	0.07	0.07	0.10	0.10	0.13	0.08	0.08	0.06	0.14	0.18	0.15	0.18
	NYISO Cost of Operations	0.65	0.59	0.89	0.89	0.88	0.88	0.88	0.88	0.88	0.83	0.88	0.88
	Uplift	2.62	2.85	0.88	2.04	2.98	3.12	3.71	4.27	0.67	0.54	0.52	0.94
	Voltage Support and Black Start	0.34	0.34	0.34	0.34	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
	Avg Monthly Price	66.05	48.64	53.20	52.75	58.27	55.58	52.44	79.28	38.17	33.57	34.10	32.44
	Avg YTD Price	66.05	58.08	56.55	55.72	56.21	56.09	55.41	59.68	57.12	54.63	52.99	51.42
2000		January	February	March	April	May	June	July	August	September	October	November	December
	LBMP	46.01	41.33	32.62	32.05	50.39	79.35	51.46	63.48	54.29	53.84	52.16	62.85
	NTAC	0.47	0.20	0.25	0.65	0.60	0.46	0.39	0.42	0.22	0.32	0.30	0.20
	Reserve	1.44	5.64	2.68	0.27	0.68	0.66	0.31	0.49	0.64	0.44	0.33	0.37
	Regulation	0.19	0.35	0.42	0.33	0.14	0.01	0.10	0.04	0.07	0.09	0.08	0.07
	NYISO Cost of Operations	1.14	(0.46)	(0.61)	0.47	0.76	0.89	0.88	1.81	1.89	0.43	0.48	0.49
	Uplift	0.16	0.05	(0.29)	0.27	3.37	3.31	1.13	3.80	2.85	0.96	0.38	3.70
	Voltage Support and Black Start	0.38	0.37	0.37	0.37	0.38	0.38	0.38	0.37	0.39	0.40	0.40	0.40
	Avg Monthly Price	49.78	47.49	35.45	34.40	56.33	85.06	54.64	70.43	60.36	56.48	54.13	68.07
	Avg YTD Price	49.78	48.70	44.05	41.62	45.14	53.74	53.91	56.57	57.09	57.02	56.75	57.90

NYISO Dollar Flows - Uplift - OATT Schedule 1 components



NYISO Markets 2003 Transactions

	January	February	March	April	May	June	July	August	September	October	November	December
Transactions by Market												
DAM LSE Internal LBMP Energy Sales	46%	48%										
DAM External TC LBMP Energy Sales	1%	1%										
DAM Bilateral - Internal Bilaterals	50%	49%										
DAM Bilateral - Import/Non-LBMP Market Bilaterals	1%	1%										
DAM Bilateral - Export/Non-LBMP Market Bilaterals	1%	1%										
DAM Bilateral - Wheel Through Bilaterals	1%	1%										
Day Ahead Market	100%	100%										
Balancing Energy LSE Internal LBMP Energy Sales	61%	42%										
Balancing Energy External TC LBMP Energy Sales	54%	73%										
Balancing Energy Bilateral - Internal Bilaterals	-6%	-9%										
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	4%	1%										
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	0%	0%										
Balancing Energy Bilateral - Wheel Through Bilaterals	-13%	-6%										
Balancing Energy +	100%	100%										
Transactions Summary												
LBMP	49%	50%										
Internal Bilaterals	48%	47%										
Import Bilaterals	1%	1%										
Export Bilaterals	1%	1%										
Wheels Through	1%	1%										
Market Share of Total Load												
Day Ahead Market	97.46%	97.58%										
Balancing Energy +	2.54%	2.42%										
Total MWH	14,557,243	13,010,139										

NYISO Markets 2002 Transactions

	January	February	March	April	May	June	July	August	September	October	November	December
Transactions by Market												
DAM LSE Internal LBMP Energy Sales	44%	42%	43%	45%	40%	43%	50%	51%	46%	46%	49%	47%
DAM External TC LBMP Energy Sales	0%	1%	1%	1%	1%	2%	3%	1%	2%	1%	1%	2%
DAM Bilateral - Internal Bilaterals	51%	52%	51%	49%	55%	51%	45%	45%	49%	50%	46%	49%
DAM Bilateral - Import/Non-LBMP Market Bilaterals	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%
DAM Bilateral - Export/Non-LBMP Market Bilaterals	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
DAM Bilateral - Wheel Through Bilaterals	3%	3%	3%	3%	2%	2%	1%	2%	2%	1%	1%	1%
Day Ahead Market	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Balancing Energy LSE Internal LBMP Energy Sales	-17%	410%	821%	182%	-10%	148%	311%	18%	-77%	61%	52%	59%
Balancing Energy External TC LBMP Energy Sales	5%	39%	-36%	-15%	44%	-95%	-165%	89%	189%	37%	44%	30%
Balancing Energy Bilateral - Internal Bilaterals	1%	-51%	8%	12%	10%	14%	-19%	27%	17%	-2%	3%	3%
Balancing Energy Bilateral - Import/Non-LBMP Market Bilaterals	13%	27%	24%	3%	8%	15%	24%	19%	14%	8%	9%	9%
Balancing Energy Bilateral - Export/Non-LBMP Market Bilaterals	0%	0%	0%	0%	1%	2%	0%	1%	0%	0%	0%	0%
Balancing Energy Bilateral - Wheel Through Bilaterals	-103%	-524%	-717%	-84%	-154%	-183%	-52%	-55%	-42%	-4%	-8%	-2%
Balancing Energy +	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Transactions Summary												
LBMP	45%	44%	46%	48%	42%	46%	53%	52%	49%	49%	52%	50%
Internal Bilaterals	52%	52%	51%	49%	55%	51%	45%	45%	48%	48%	45%	47%
Import Bilaterals	1%	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Export Bilaterals	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Wheels Through	1%	2%	1%	1%	1%	2%	1%	1%	1%	1%	1%	1%
Market Share of Total Load												
Day Ahead Market	101.60%	100.25%	99.75%	98.14%	100.79%	100.50%	99.46%	99.51%	99.20%	97.34%	97.35%	96.35%
Balancing Energy +	-1.60%#	-0.25%#	0.25%	1.86%	-0.79%#	-0.50%#	0.54%	0.49%	0.80%	2.66%	2.65%	3.65%
Total MWH	13,366,052	11,986,216	12,792,696	12,088,196	12,462,759	13,974,041	16,385,032	16,245,862	14,035,422	13,210,317	12,809,561	14,094,395

The sign convention has changed for the detail of Balancing Energy when the total monthly Balancing Energy is negative. The signs for the detail section more intuitively reflect the direction of power flow eliminating the use of double negatives. This affects Jan., Feb., May, and June 2002.

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

NYISO Markets 2003 Energy Statistics

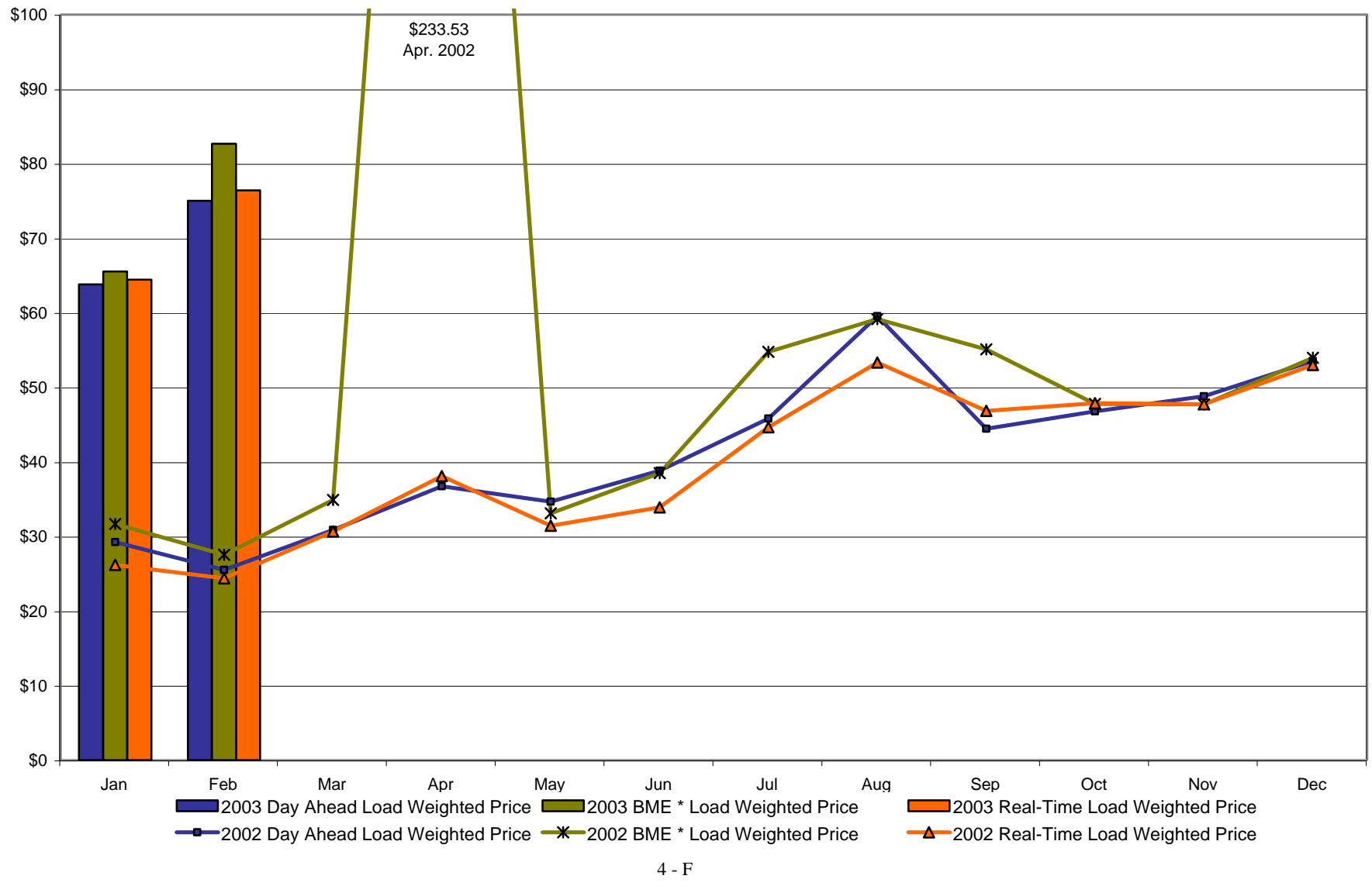
	January	February	March	April	May	June	July	August	September	October	November	December
<u>DAY AHEAD LBMP</u>												
Unweighted Price	\$61.33	\$72.81										
Standard Deviation	\$20.09	\$21.12										
Load Wtg.Price	\$63.81	\$75.03										
<u>BME * LBMP</u>												
Unweighted Price	\$63.19	\$80.25										
Standard Deviation	\$25.43	\$41.53										
Load Wtg.Price	\$65.54	\$82.65										
<u>REAL TIME LBMP</u>												
Unweighted Price	\$61.53	\$74.03										
Standard Deviation	\$30.16	\$37.46										
Load Wtg.Price	\$64.43	\$76.41										
Average Daily Energy Sendout/Month GWh	458	450										

NYISO Markets 2002 Energy Statistics

	January	February	March	April	May	June	July	August	September	October	November	December
<u>DAY AHEAD LBMP</u>												
Unweighted Price	\$28.39	\$24.93	\$30.07	\$35.25	\$33.36	\$38.96	\$51.07	\$54.86	\$42.58	\$45.16	\$47.30	\$52.01
Standard Deviation	\$7.26	\$4.61	\$7.28	\$11.57	\$8.76	\$15.32	\$23.15	\$29.88	\$11.72	\$11.61	\$11.72	\$12.28
Load Wtg.Price	\$29.25	\$25.50	\$30.88	\$36.72	\$34.66	\$38.81	\$45.81	\$59.54	\$44.43	\$46.76	\$48.79	\$53.54
<u>BME * LBMP</u>												
Unweighted Price	\$30.66	\$26.84	\$33.53	\$191.03	\$31.43	\$38.57	\$63.19	\$55.27	\$51.96	\$45.90	\$46.53	\$52.44
Standard Deviation	\$11.22	\$7.60	\$13.84	\$1,020.88	\$13.91	\$54.74	\$181.17	\$29.34	\$147.55	\$12.10	\$11.07	\$14.74
Load Wtg.Price	\$31.67	\$27.54	\$34.88	\$233.53	\$33.12	\$38.49	\$54.76	\$59.15	\$55.08	\$47.76	\$47.70	\$53.95
<u>REAL TIME LBMP</u>												
Unweighted Price	\$25.36	\$23.73	\$29.78	\$35.44	\$29.80	\$33.98	\$53.70	\$49.74	\$44.08	\$46.16	\$46.13	\$51.04
Standard Deviation	\$8.27	\$8.83	\$10.97	\$25.85	\$13.32	\$16.92	\$66.25	\$24.86	\$34.24	\$17.61	\$18.25	\$22.41
Load Wtg.Price	\$26.17	\$24.39	\$30.67	\$38.10	\$31.42	\$33.91	\$44.63	\$53.32	\$46.85	\$47.88	\$47.75	\$53.01
Average Daily Energy Sendout/Month GWh	427	418	403	397	388	449	513	511	444	412	413	440

4 -E

**NYISO Monthly Average Internal LBMPs
2002 - 2003**

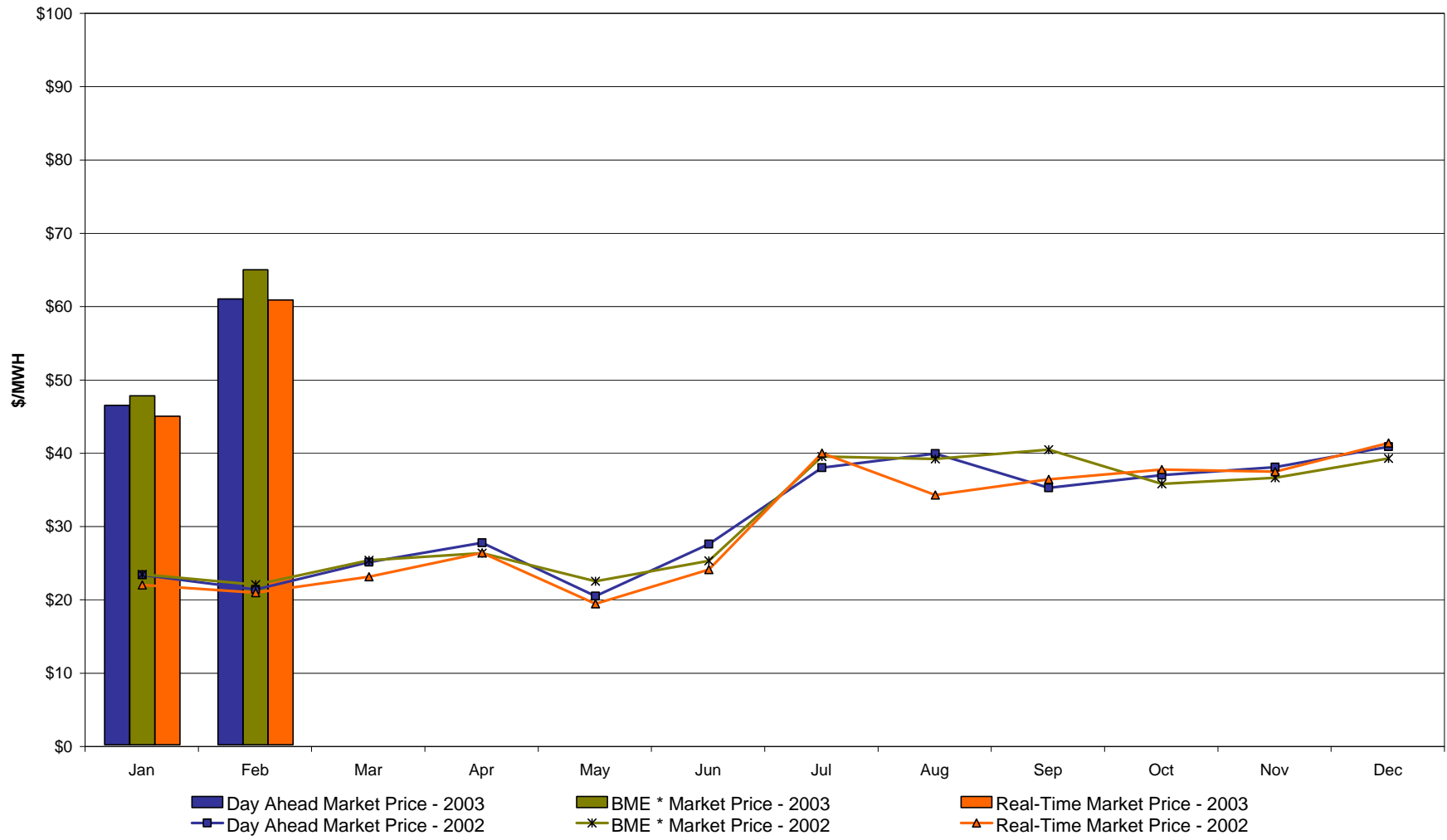


4 - F

February, 2003 Zonal Statistics for NYISO (\$/MWH)

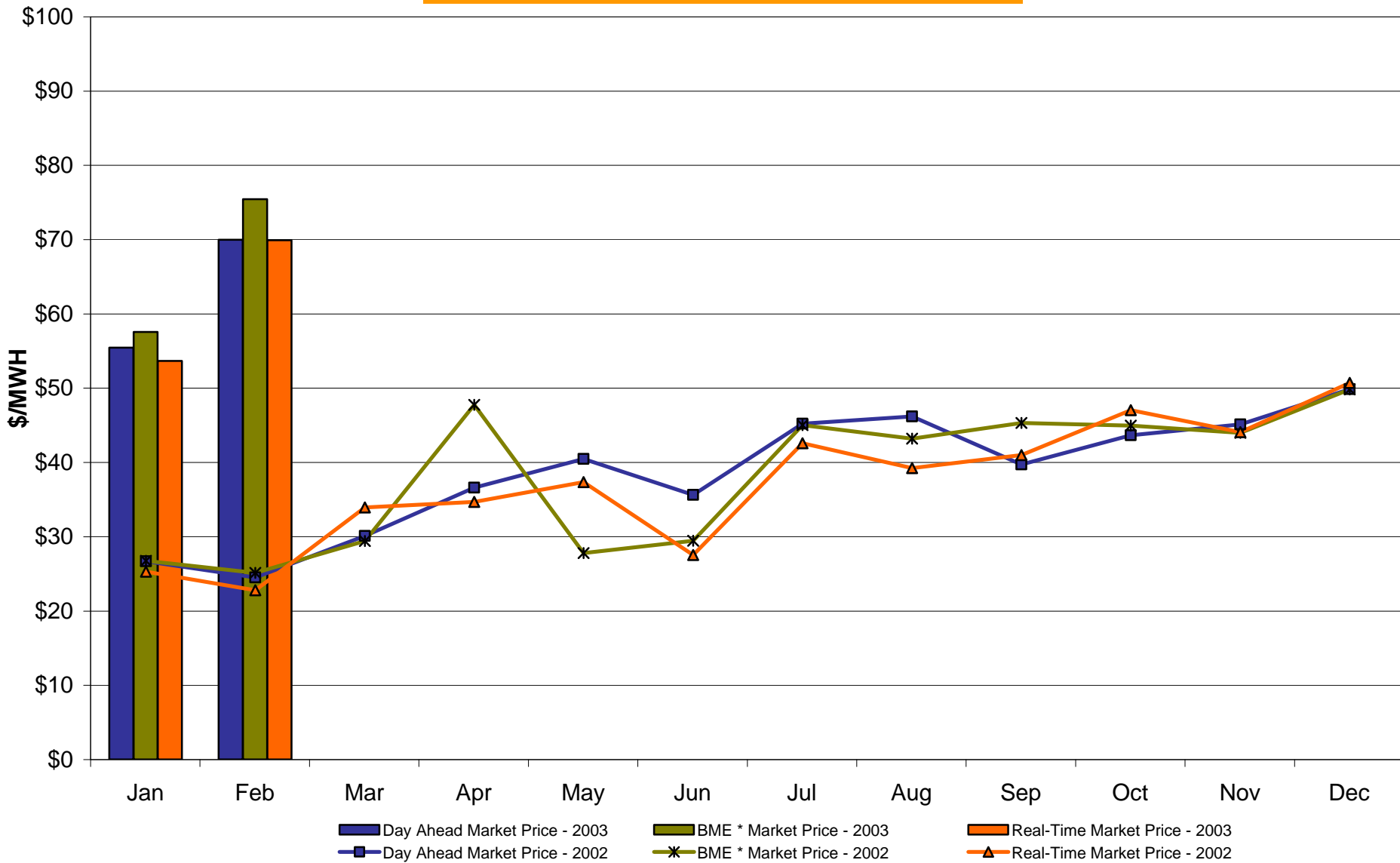
	WEST Zone A	CENTRAL Zone C	MOHAWK VALLEY Zone E	CAPITAL Zone F	HUDSON VALLEY Zone G	GENESEE Zone B	LONG ISLAND Zone K	NORTH Zone D	NEW YORK CITY Zone J	MILLWOOD Zone H	DUNWOODIE Zone I
<u>DAY AHEAD LBMP</u>											
Unweighted Price	60.80	65.02	67.79	69.98	70.01	63.93	78.24	65.98	82.43	69.78	70.80
Standard Deviation	18.70	19.47	19.90	20.25	20.27	19.52	24.54	19.19	25.25	20.77	21.29
<u>BME * LBMP</u>											
Unweighted Price	64.77	70.54	73.75	75.42	76.41	67.02	87.20	72.22	92.59	79.22	80.29
Standard Deviation	33.72	35.73	37.01	37.46	37.52	34.39	45.81	36.21	56.39	42.09	42.58
<u>REAL TIME LBMP</u>											
Unweighted Price	60.65	63.15	66.22	69.92	67.09	64.34	81.92	64.85	86.00	72.91	74.10
Standard Deviation	33.23	34.47	35.87	37.72	35.97	35.23	42.94	35.31	43.80	41.64	42.33
	HYDRO QUEBEC Zone M	NEW ENGLAND Zone N	ONTARIO HYDRO Zone O	PJM Zone P							
<u>DAY AHEAD LBMP</u>											
Unweighted Price	65.73	69.81	59.45	59.20							
Standard Deviation	19.59	20.58	18.77	22.41							
<u>BME * LBMP</u>											
Unweighted Price	72.07	76.07	64.47	62.29							
Standard Deviation	44.74	45.66	43.12	43.59							
<u>REAL TIME LBMP</u>											
Unweighted Price	66.27	69.51	56.83	58.63							
Standard Deviation	46.90	47.84	43.73	45.94							

West Zone A
Monthly Average LBMP Prices 2002 - 2003



4 - H

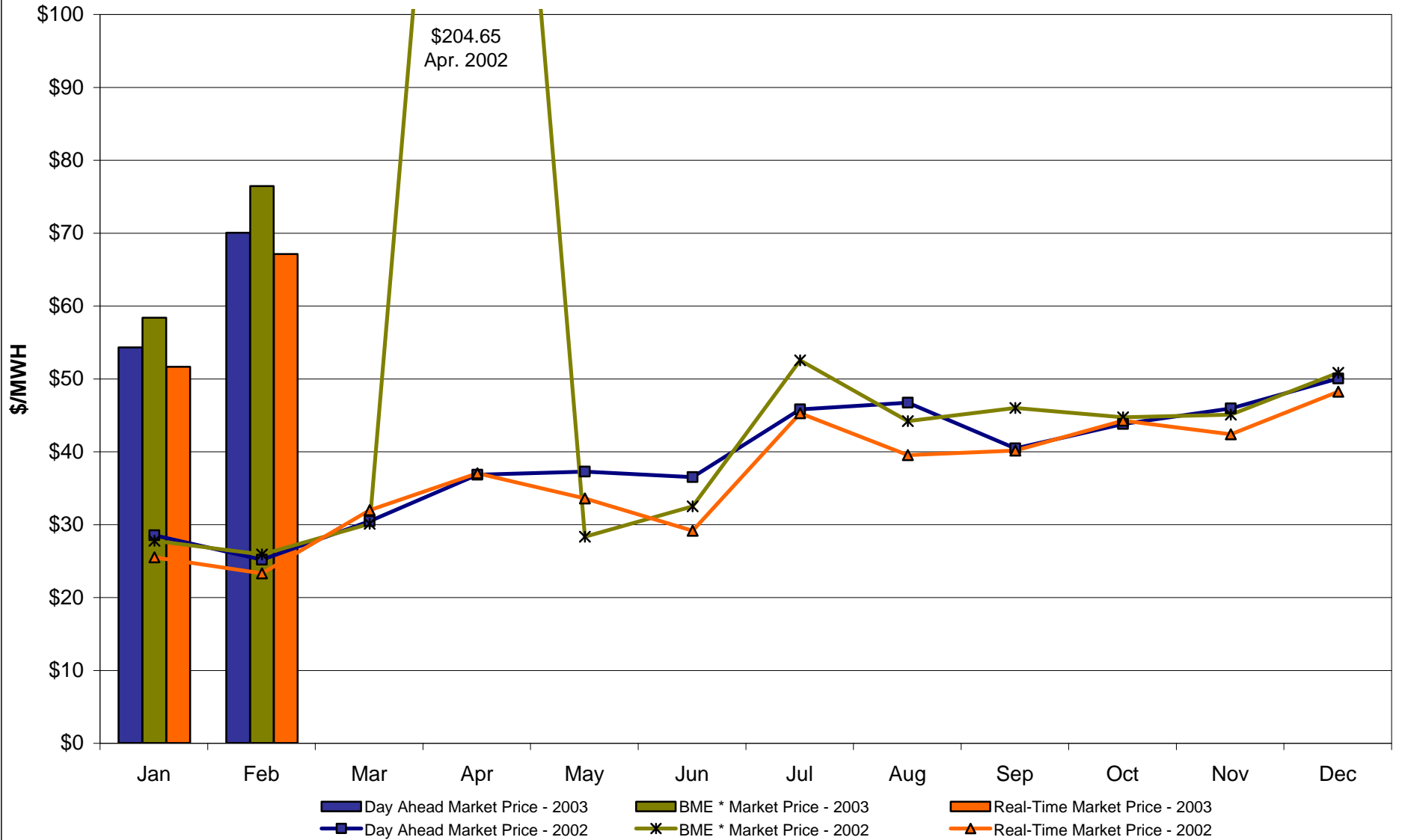
Capital Zone F Monthly Average LBMP Prices 2002 - 2003



4 - I

* Commonly referred to as Hour Ahead Market (HAM)

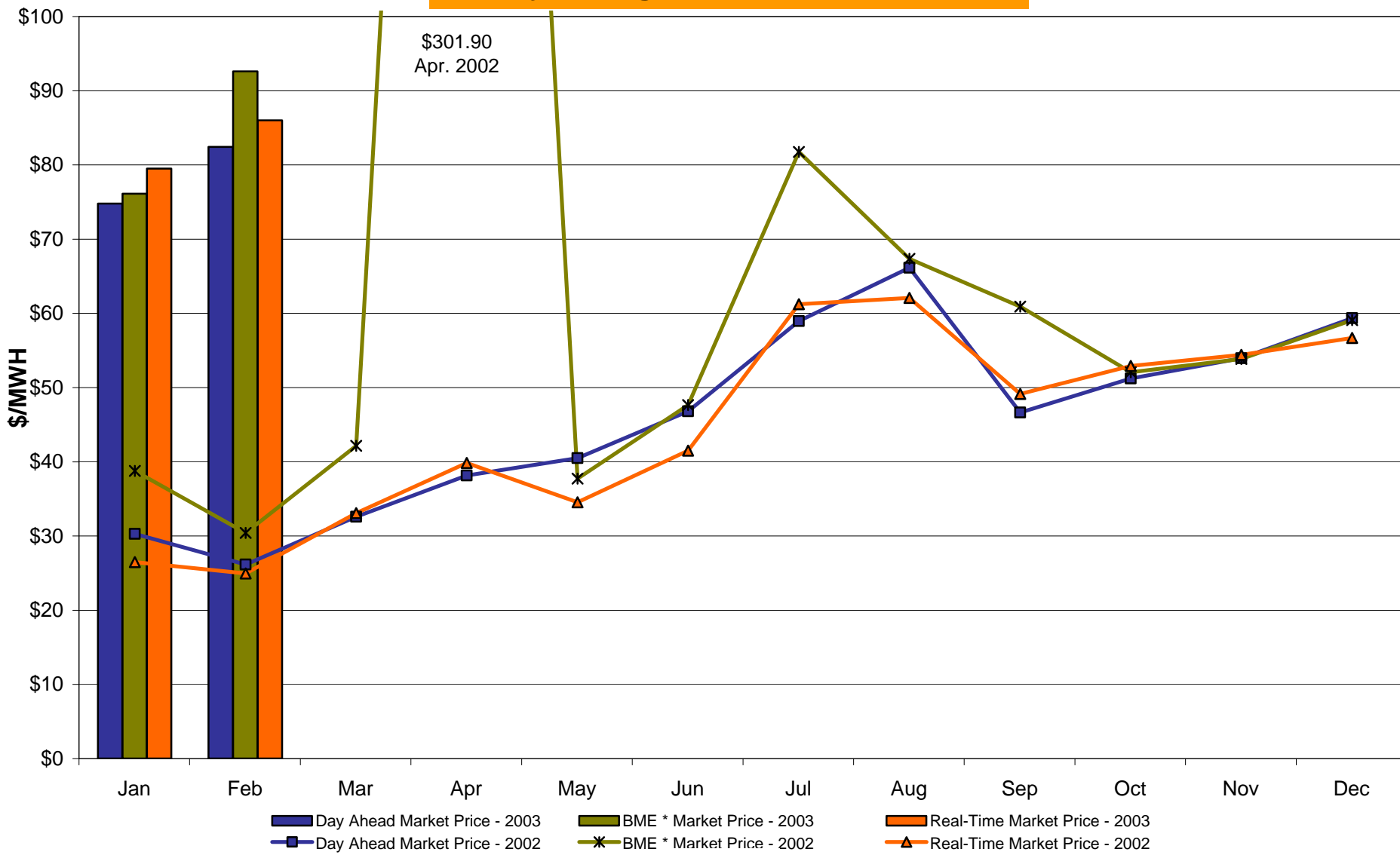
Hudson Valley Zone G Monthly Average LBMP Prices 2002 - 2003



4 - J

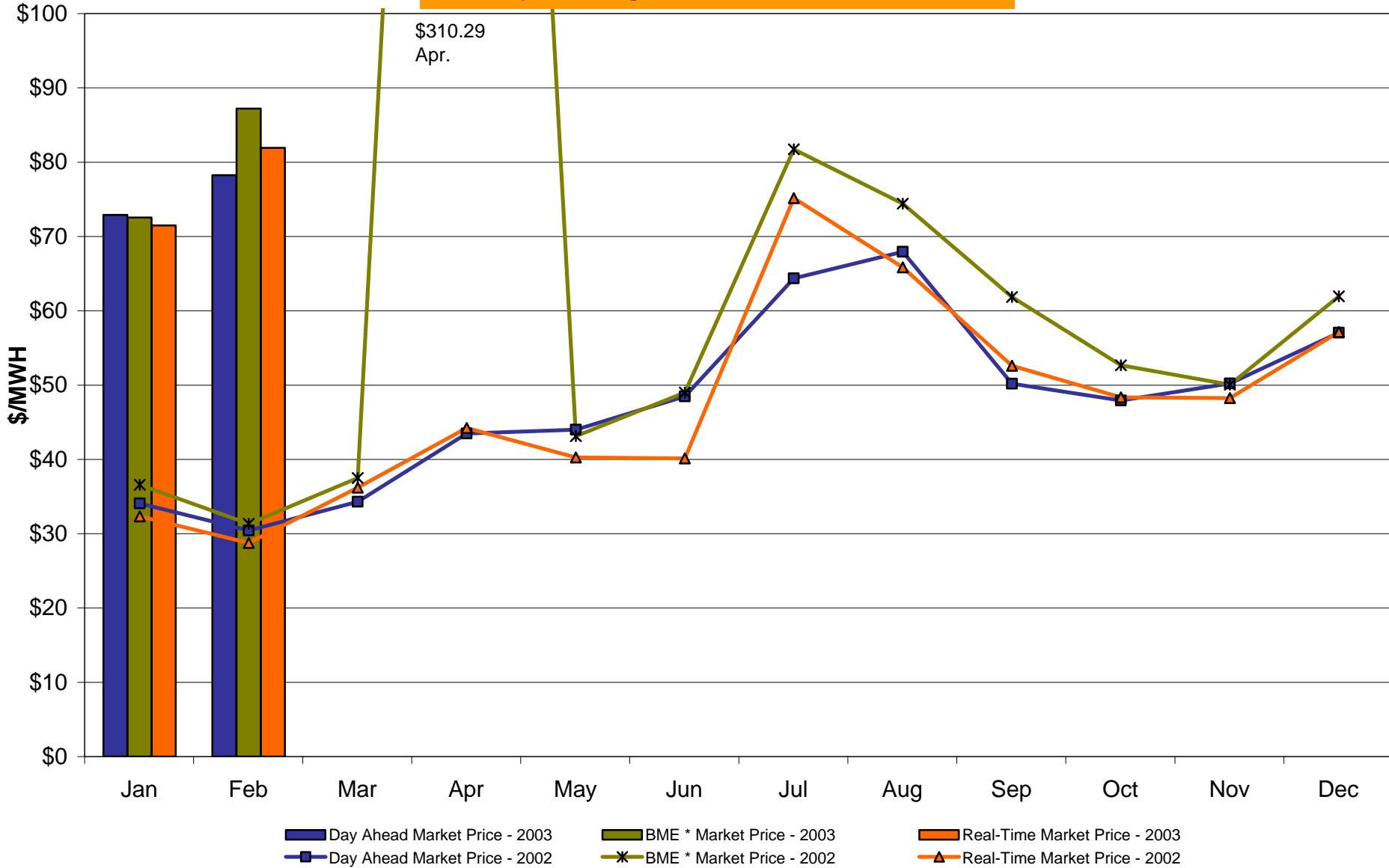
* Commonly referred to as Hour Ahead Market (HAM)

NYC Zone J Monthly Average LBMP Prices 2002 - 2003



4 - K

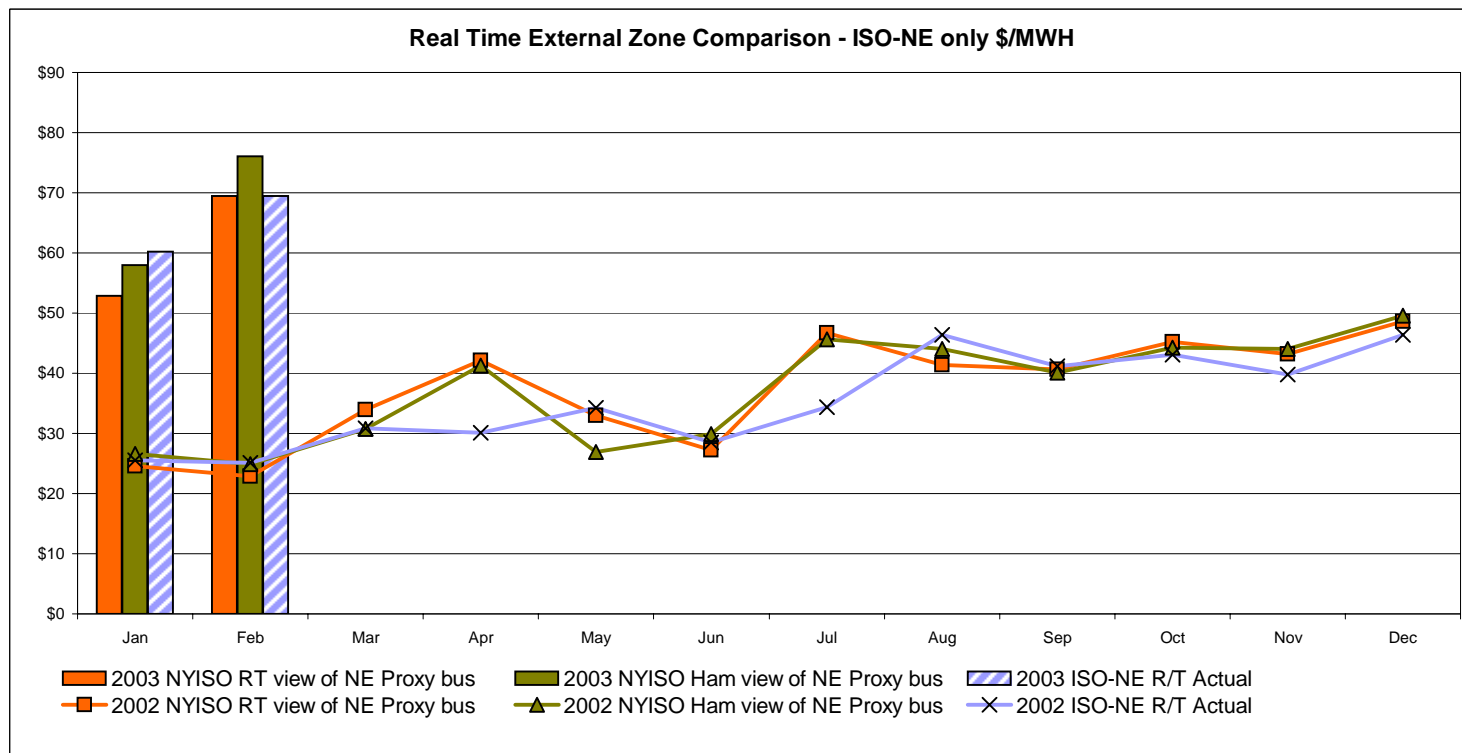
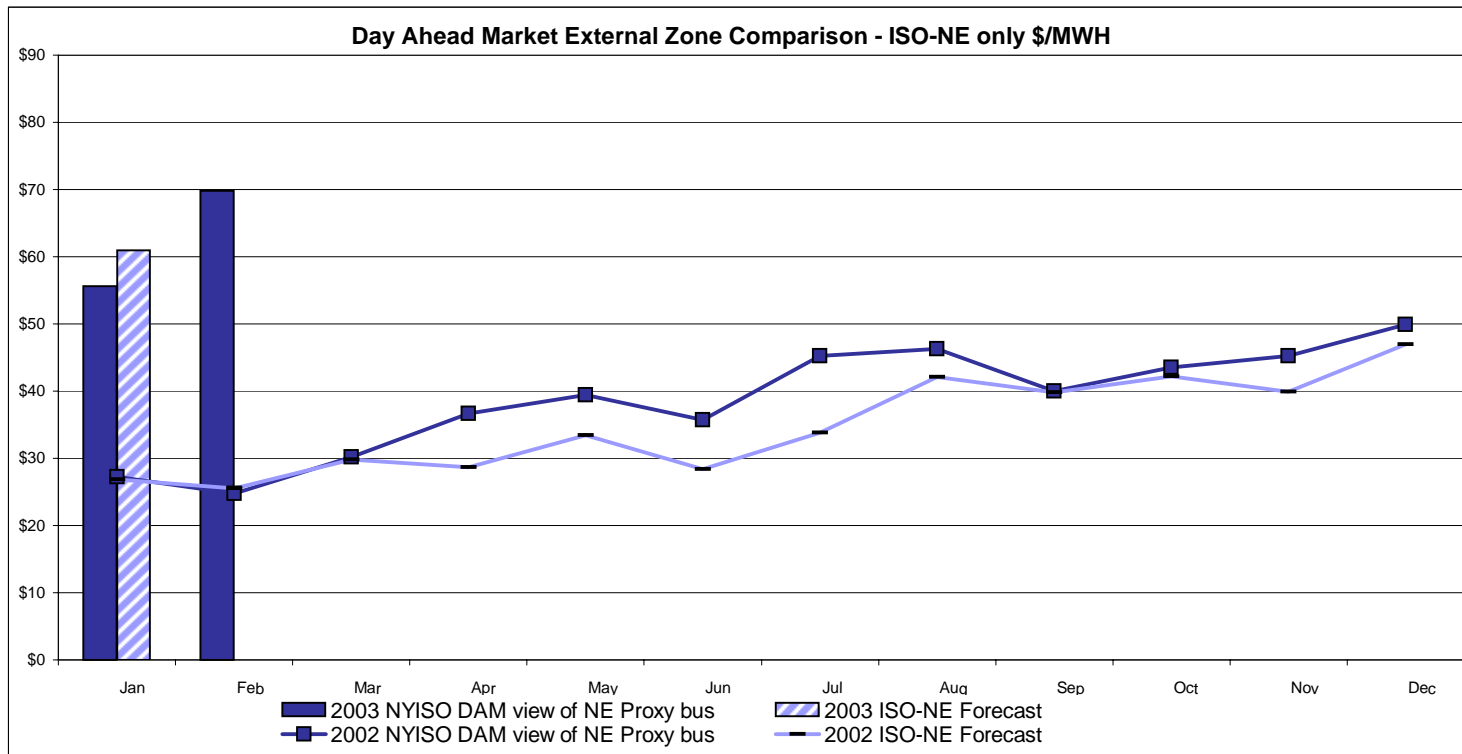
Long Island Zone K Monthly Average LBMP Prices 2002 - 2003



4 - L

* Commonly referred to as Hour Ahead Market (HAM)

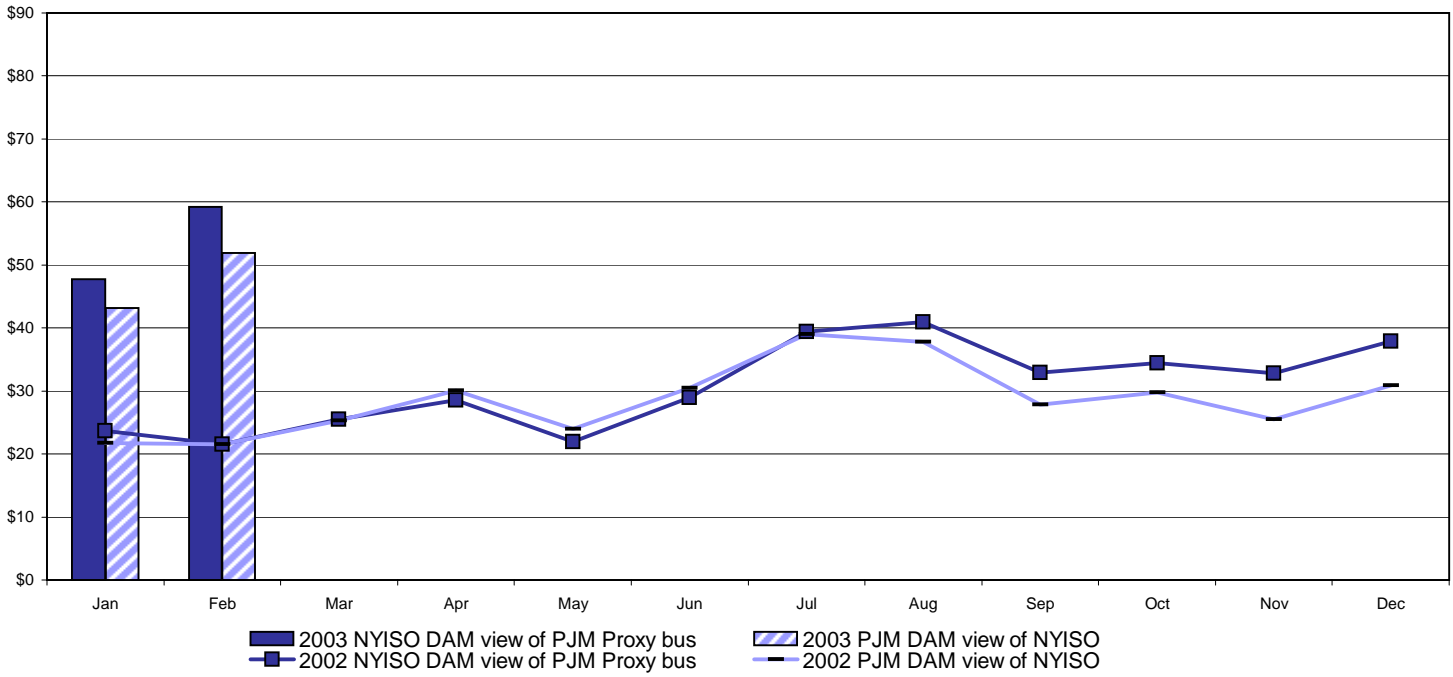
External Comparison ISO-NE



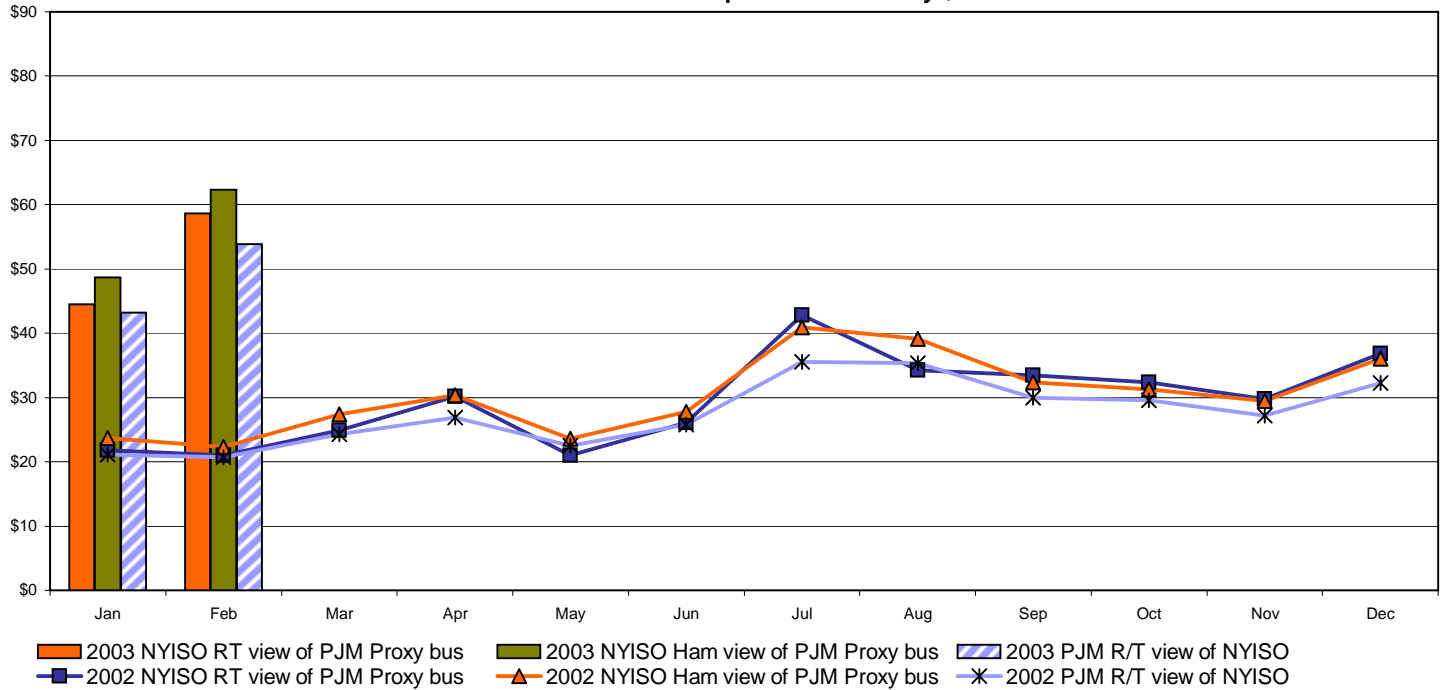
Note:
 ISO-NE Forecast is an advisory posting @ 18:00 day before
 ISO-NE Monthly Average Forecast for 2/03 is not yet available

External Comparison PJM

Day Ahead Market External Zone Comparison - PJM only \$/MWH

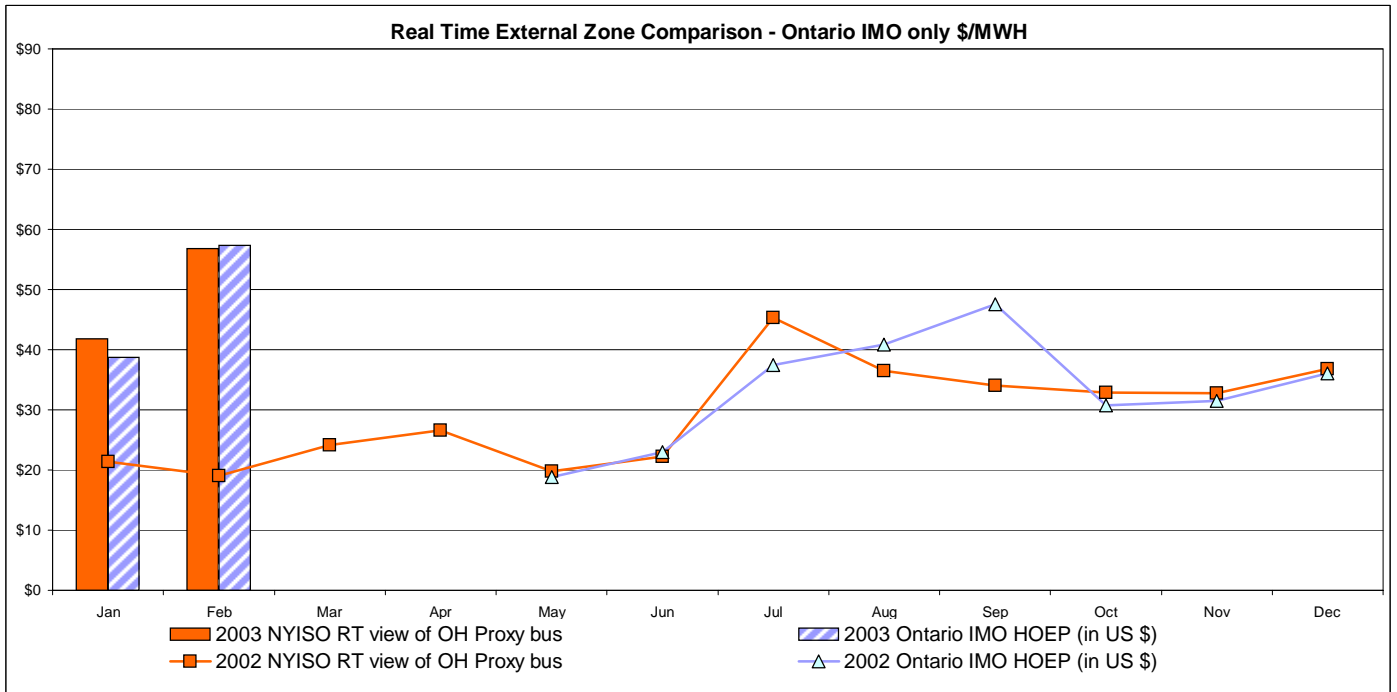
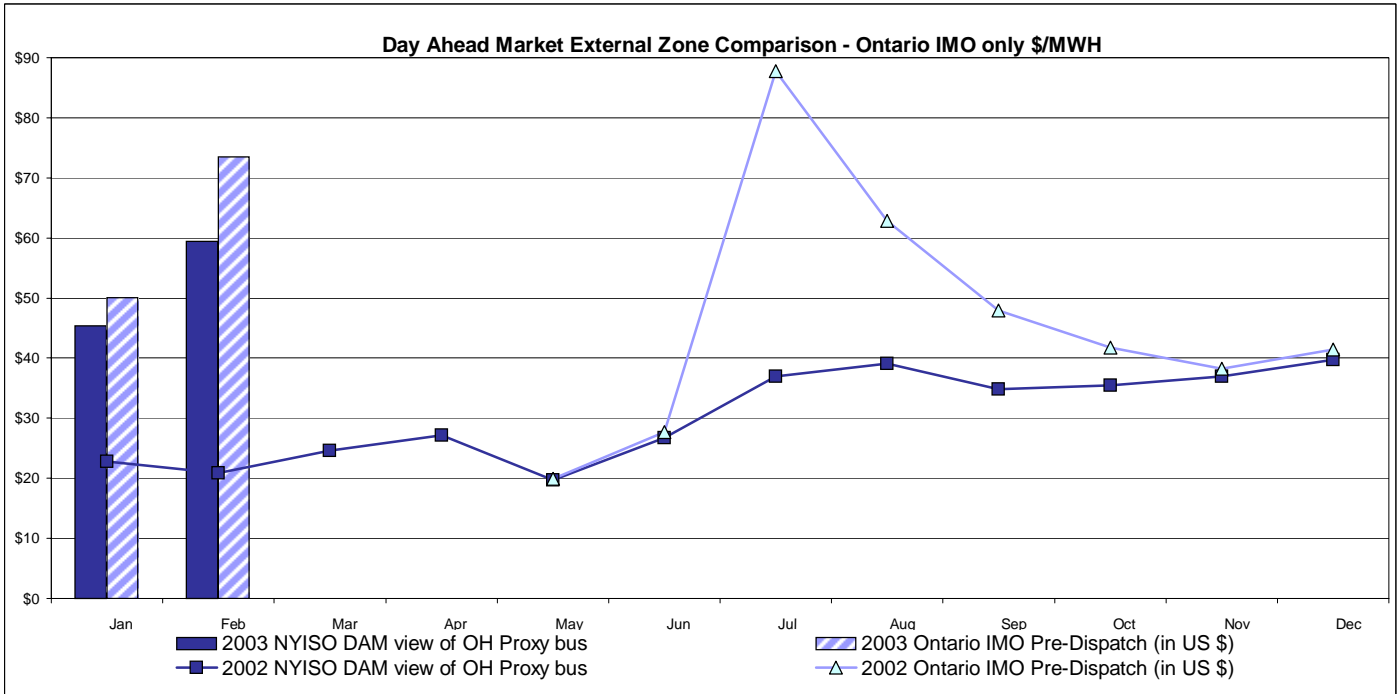


Real Time External Zone Comparison - PJM only \$/MWH



Note:
After 5/1/02 PJM lists only one interface as NYIS

External Comparison Ontario IMO



Notes: Exchange factor used for February 2003 was .66 to US \$
 HOEP: Hourly Ontario Energy Price
 Pre-Dispatch: Projected Energy Price

NYISO Price Correction Statistics

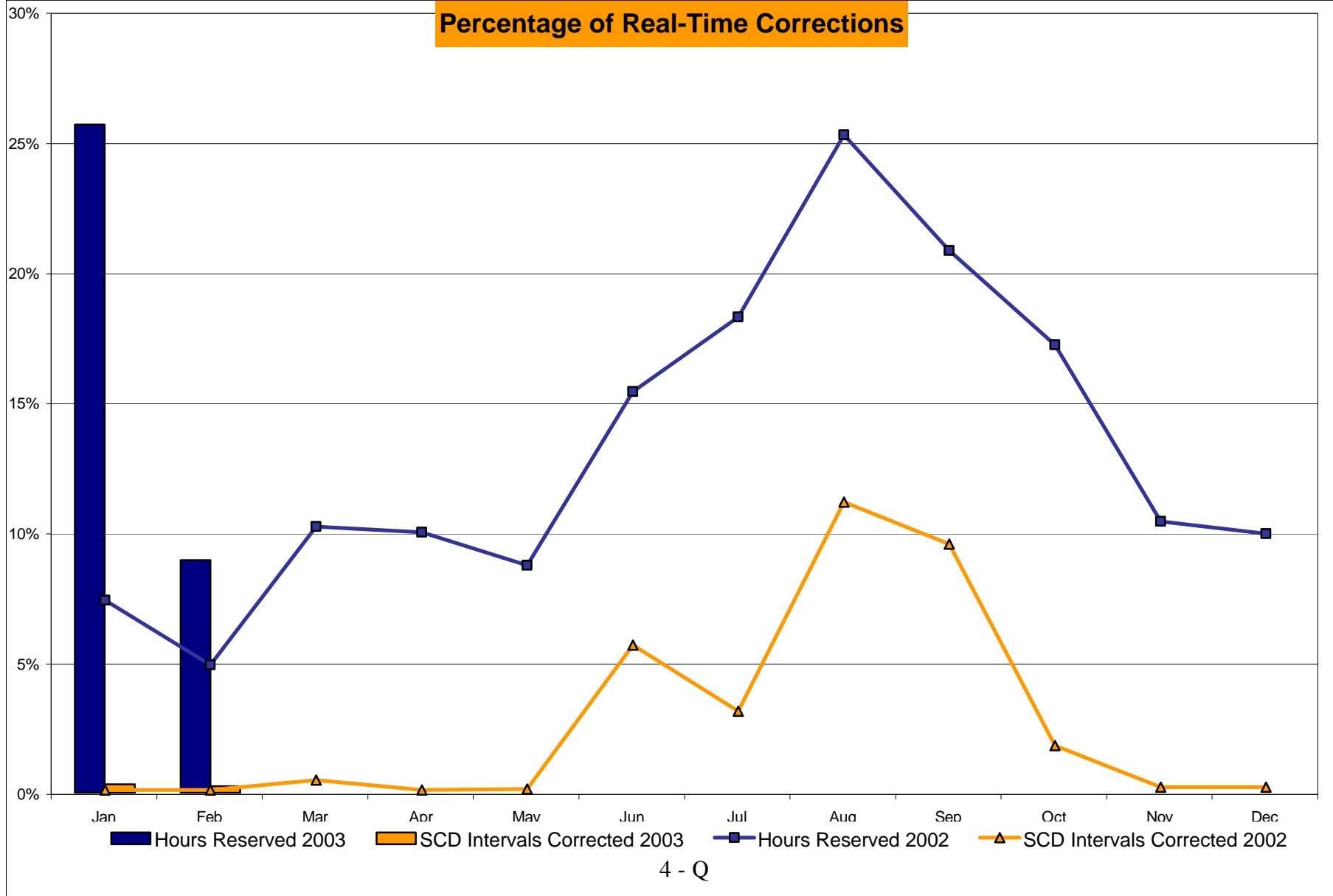
NYISO Price Corrections 2003

<u>Interval Corrections</u>	January	February	March	April	May	June	July	August	September	October	November	December
Number of Intervals corrected in the month	35	25										
Number of Intervals in the month	10,986	10,197										
Percentage of intervals corrected in the month	0.32%	0.25%										
Number of Intervals corrected Year-to-date	35	60										
Number of Intervals Year-to-date	10,986	21,183										
Percentage of intervals corrected Year-to-date	0.32%	0.28%										
<u>Hours Reserved</u>												
Number of hours reserved in the month	191	60										
Number of hours in the month	744	672										
Percentage of hours reserved in the month	25.67%	8.93%										
Number of hours reserved Year-to-date	191	251										
Number of hours Year-to-date	744	1,416										
Percentage of hours reserved Year-to-date	25.67%	17.73%										
<u>Days Without Corrections</u>												
Days without price corrections in the month	18	15										
Days without price corrections Year-to-date	18	33										

NYISO Price Corrections 2002

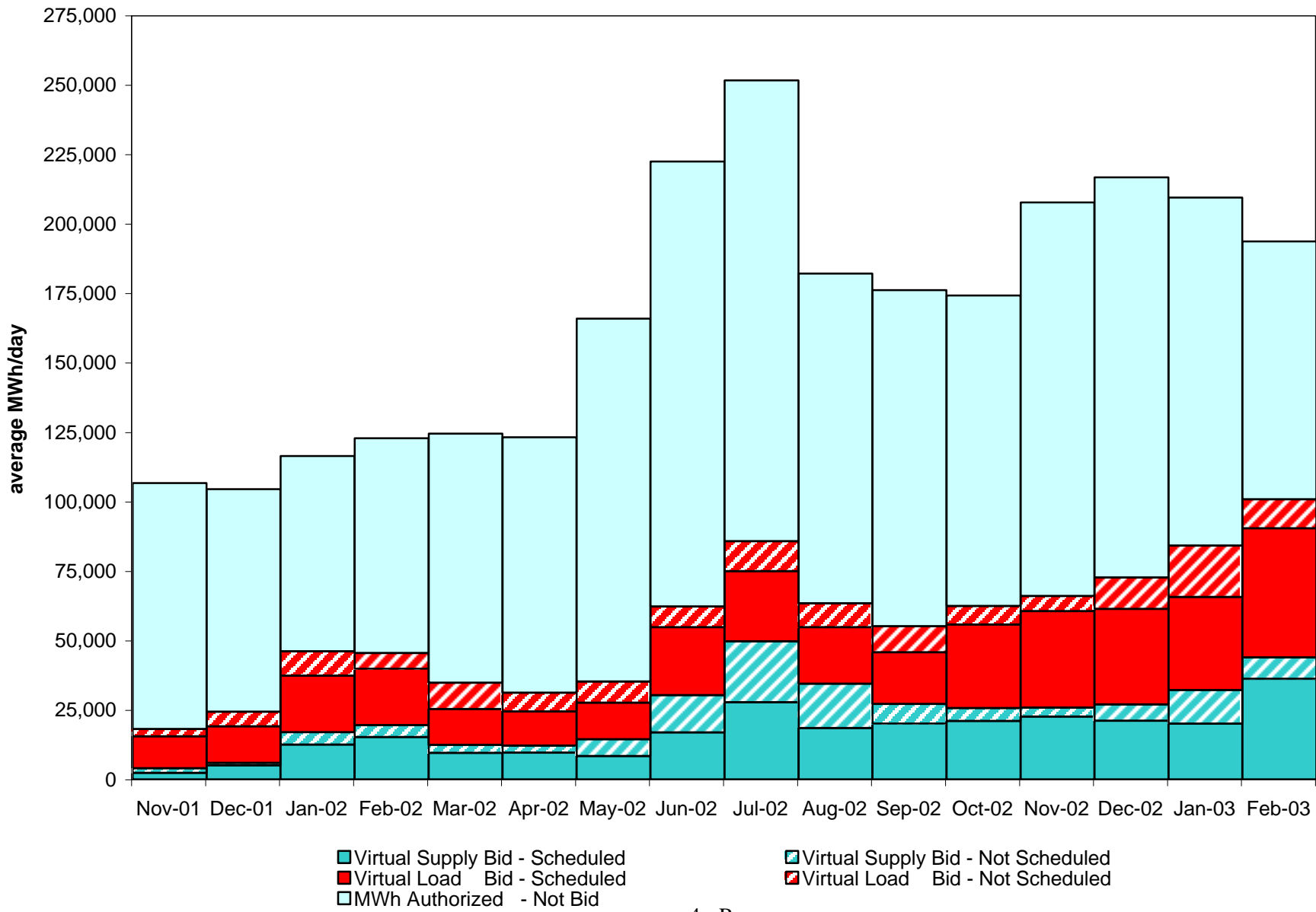
<u>Interval Corrections</u>	January	February	March	April	May	June	July	August	September	October	November	December
Number of Intervals corrected in the month	12	11	55	13	16	616	346	1,261	1,016	201	23	24
Number of Intervals in the month	11,129	10,111	11,231	11,075	11,330	10,845	11,014	11,291	10,632	11,068	10,568	11,043
Percentage of intervals corrected in the month	0.11%	0.11%	0.49%	0.12%	0.14%	5.68%	2.28%	11.17%	9.56%	1.82%	0.22%	0.22%
Number of Intervals corrected Year-to-date	12	23	78	91	107	723	1,069	2,330	3,346	3,547	3,570	3,594
Number of Intervals Year-to-date	11,129	21,240	32,471	43,546	54,876	65,721	76,735	88,026	98,658	109,726	120,294	131,337
Percentage of intervals corrected Year-to-date	0.11%	0.11%	0.24%	0.21%	0.19%	1.10%	1.27%	2.65%	3.39%	3.23%	2.97%	2.74%
<u>Hours Reserved</u>												
Number of hours reserved in the month	55	33	76	72	65	111	136	188	150	128	75	74
Number of hours in the month	744	672	744	720	744	720	744	744	720	744	720	744
Percentage of hours reserved in the month	7.3%	4.9%	10.2%	10.0%	8.7%	15.4%	18.3%	25.3%	20.8%	17.2%	10.4%	10.0%
Number of hours reserved Year-to-date	7	15	27	35	49	124	194	331	438	474	491	511
Number of hours Year-to-date	744	1,416	2,160	2,880	3,624	4,344	5,088	5,832	6,552	7,296	8,016	8,760
Percentage of hours reserved Year-to-date	7.3%	6.1%	7.6%	8.2%	8.3%	9.5%	10.8%	12.6%	13.5%	13.9%	13.6%	13.3%
<u>Days Without Corrections</u>												
Days without price corrections in the month	25	20	27	23	20	12	11	5	10	15	19	17
Days without price corrections Year-to-date	25	45	72	95	115	127	138	143	153	168	187	204

Percentage of Real-Time Corrections



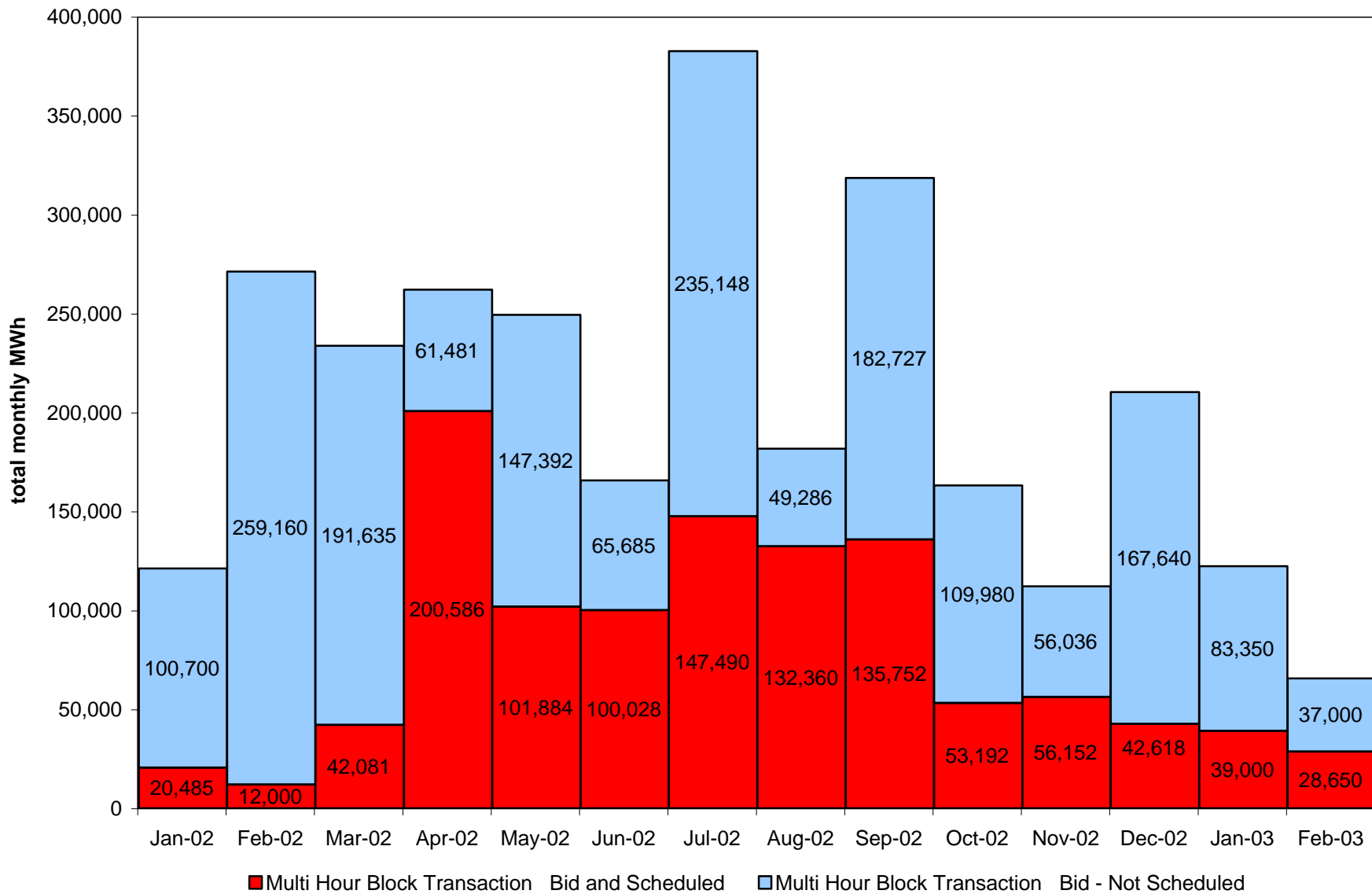
4 - Q

**NYISO Virtual Trading
Average MWh per day**

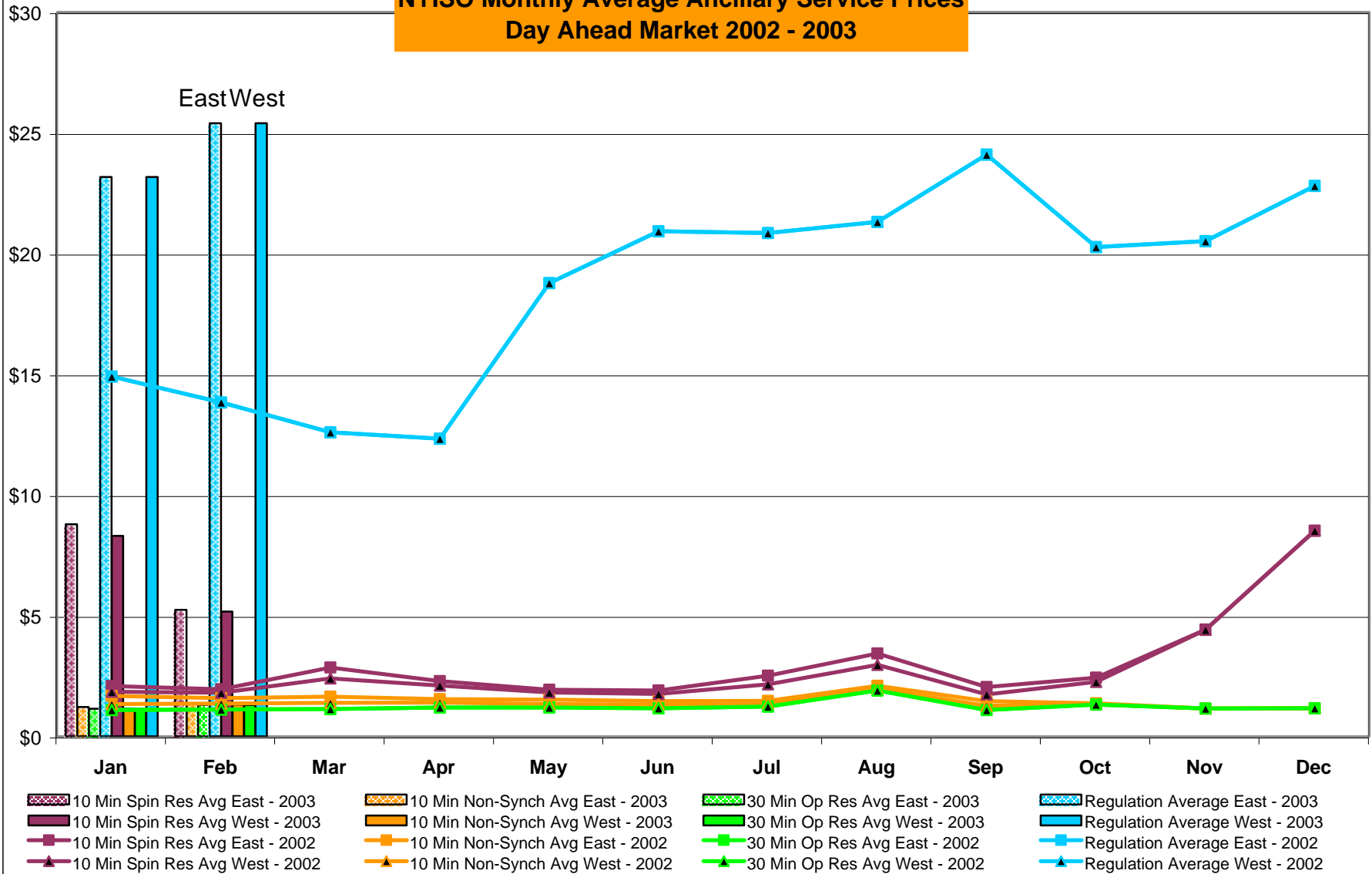


4 - R

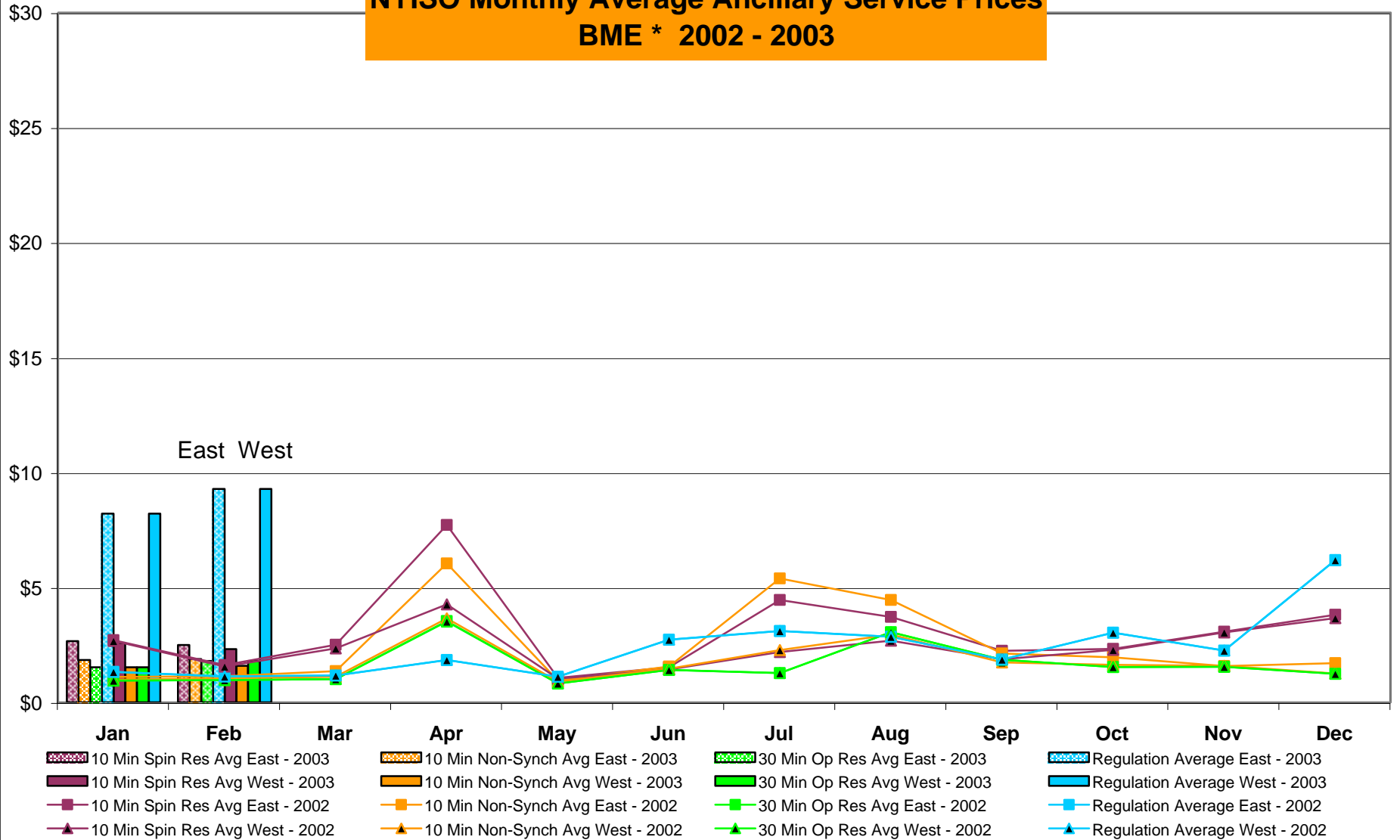
NYISO Multi Hour Block Transactions Monthly Total MWh



**NYISO Monthly Average Ancillary Service Prices
Day Ahead Market 2002 - 2003**



NYISO Monthly Average Ancillary Service Prices BME * 2002 - 2003



4 - U

NYISO Markets Ancillary Services Statistics

January February March April May June July August September October November December

ANCILLARY SERVICES Unweighted Price (\$/MWH) 2003

Day Ahead Market

10 Min Spin East	8.78	5.24
10 Min Spin West	8.30	5.17
10 Min Non Synch East	1.22	1.36
10 Min Non Synch West	1.15	1.32
30 Min East	1.14	1.30
30 Min West	1.14	1.30
Regulation East	23.17	25.39
Regulation West	23.17	25.39

BME* Market

10 Min Spin East	2.67	2.50
10 Min Spin West	2.59	2.32
10 Min Non Synch East	1.85	1.89
10 Min Non Synch West	1.53	1.59
30 Min East	1.52	1.80
30 Min West	1.52	1.80
Regulation East	8.21	9.28
Regulation West	8.21	9.28

ANCILLARY SERVICES Unweighted Price (\$/MWH) 2002

Day Ahead Market

10 Min Spin East	2.09	1.95	2.85	2.29	1.93	1.90	2.51	3.43	2.04	2.43	4.42	8.52
10 Min Spin West	1.85	1.81	2.40	2.11	1.81	1.75	2.16	2.96	1.74	2.26	4.41	8.52
10 Min Non Synch East	1.68	1.58	1.64	1.55	1.52	1.46	1.47	2.09	1.46	1.37	1.15	1.16
10 Min Non Synch West	1.34	1.36	1.39	1.40	1.34	1.32	1.35	1.96	1.27	1.33	1.15	1.16
30 Min East	1.09	1.11	1.13	1.19	1.20	1.17	1.24	1.90	1.09	1.32	1.15	1.16
30 Min West	1.09	1.11	1.13	1.19	1.20	1.17	1.24	1.90	1.09	1.32	1.15	1.16
Regulation East	14.90	13.83	12.59	12.33	18.78	20.92	20.85	21.31	24.10	20.27	20.51	22.80
Regulation West	14.90	13.83	12.59	12.33	18.78	20.92	20.85	21.31	24.10	20.27	20.51	22.80

BME* Market

10 Min Spin East	1.93	0.99	1.46	3.30	0.45	0.46	1.81	1.38	0.64	0.80	1.56	2.05
10 Min Spin West	1.73	0.94	1.26	1.65	0.44	0.38	0.55	0.68	0.42	0.72	1.53	1.91
10 Min Non Synch East	0.65	0.56	0.62	2.12	0.33	0.38	1.48	1.00	0.38	0.16	0.27	0.23
10 Min Non Synch West	0.56	0.51	0.44	1.14	0.32	0.31	0.26	0.31	0.21	0.08	0.26	0.15
30 Min East	0.52	0.47	0.41	1.08	0.28	0.17	0.01	0.18	0.11	0.06	0.24	0.14
30 Min West	0.52	0.47	0.39	1.05	0.28	0.17	0.01	0.18	0.11	0.06	0.24	0.14
Regulation East	0.52	0.74	0.50	0.60	0.44	1.28	1.20	1.37	0.99	1.26	0.66	2.19
Regulation West	5.70	7.26	6.68	6.62	12.05	6.23	6.12	7.22	8.33	1.09	0.63	0.37

* Commonly Referred to as Hour Ahead Market (HAM)

NYISO LBMP ZONES

