Northern Illinois Control Area Interim Market Monitoring Report for August 2004

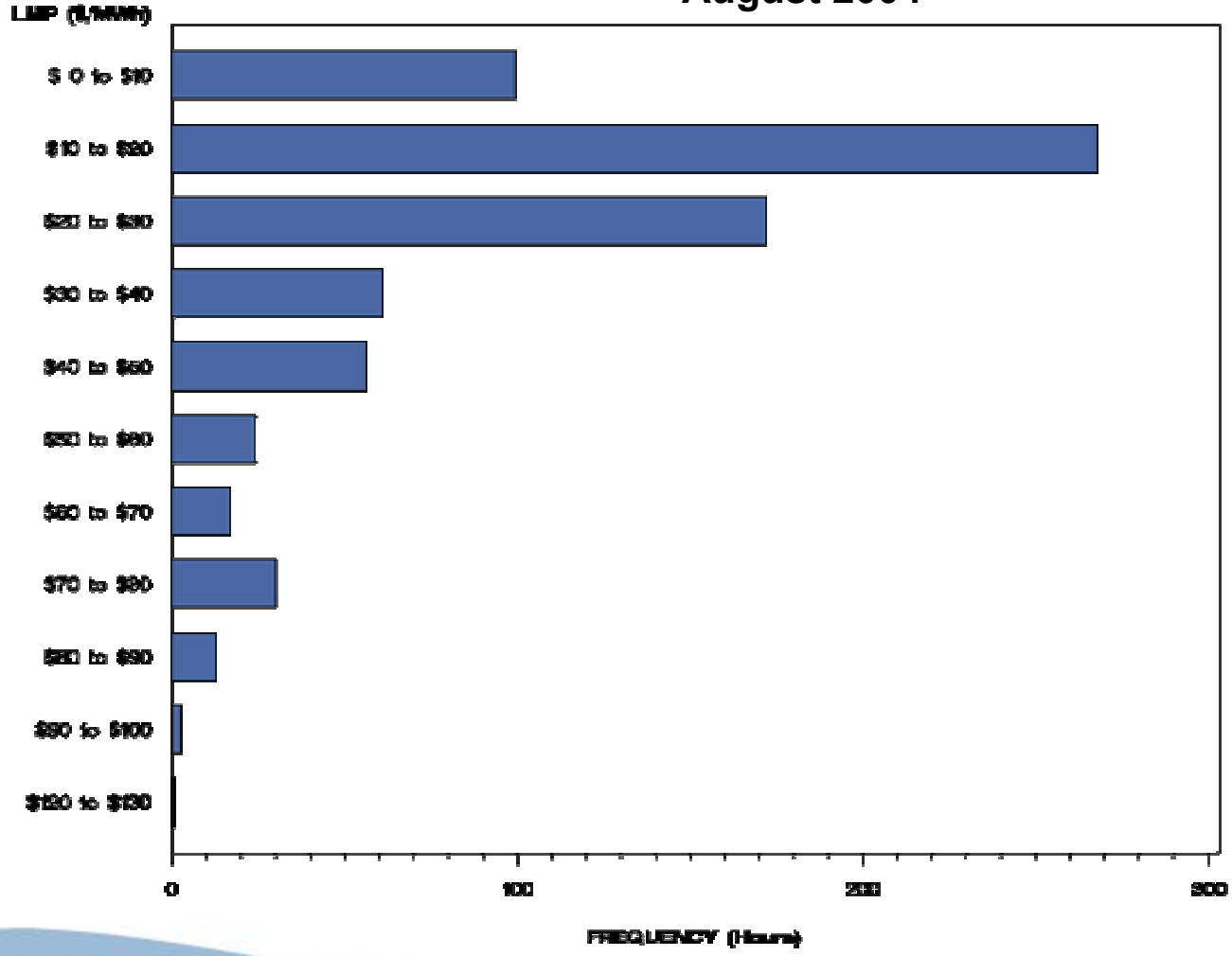
Market Monitoring Unit

September 2004

- Overall, the integrated NICA markets functioned well and effectively.
- The NICA Energy Market results were reasonably competitive.
- Pathway flows have increased competition in the NICA and in the PJM CA.
- Interface pricing has been reasonably effective.
- Congestion has been very limited.
- Financial offer and bid levels reflect an active use of PJM hedging instruments.

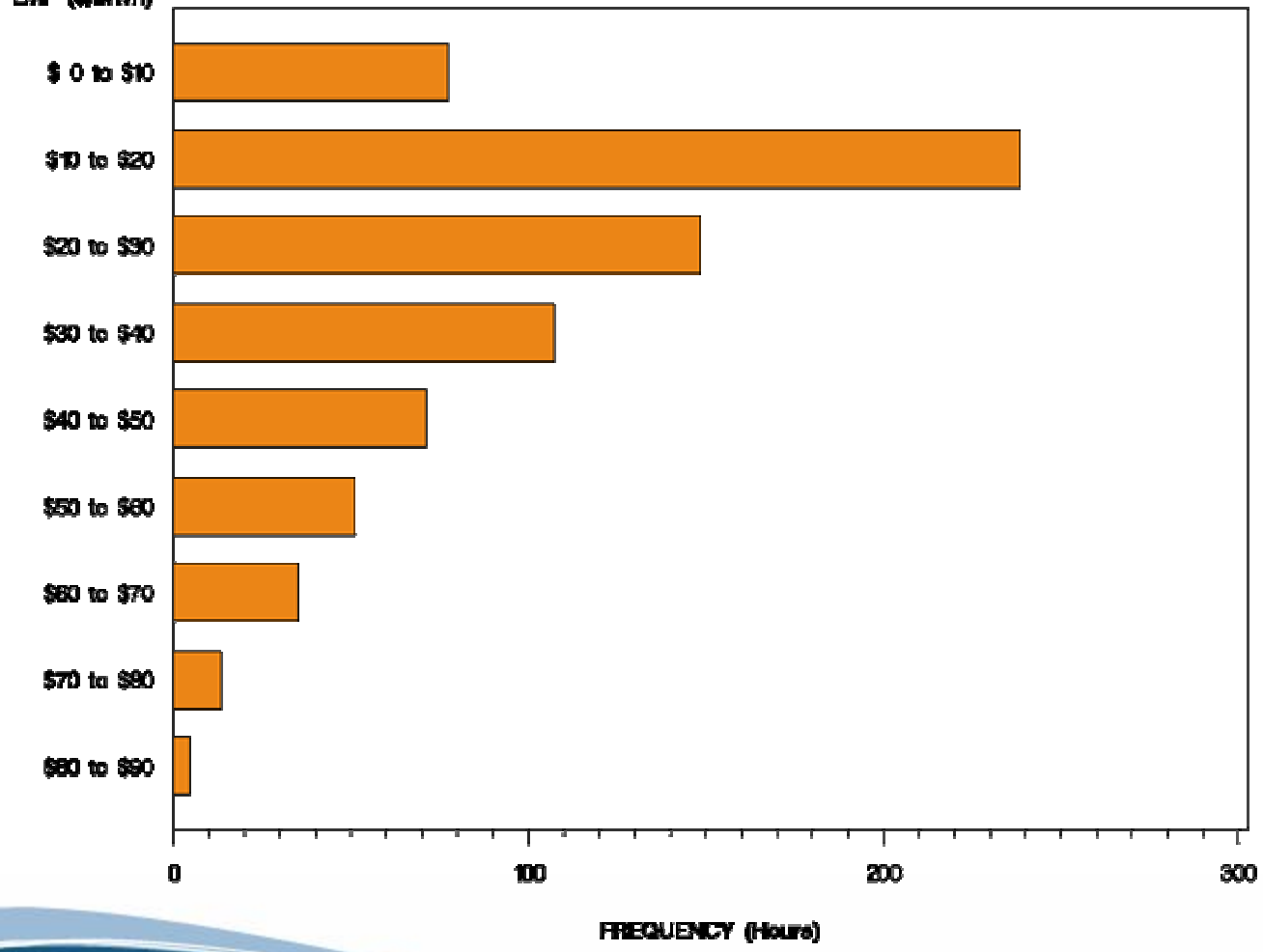
- The NICA real-time zonal LMP was $30 or less per MWh for 72 percent of the hours.
- The NICA day-ahead zonal LMP was $30 or less per MWh for 62 percent of the hours.
- The PJM CA real-time LMP was greater than NICA real-time LMP by an average of $17.69 per MWh.
- The PJM CA day-ahead LMP was greater than NICA day-ahead LMP by an average of $14.04 per MWh.

Frequency Distribution by Hours of NICA Real-time LMP
August 2004



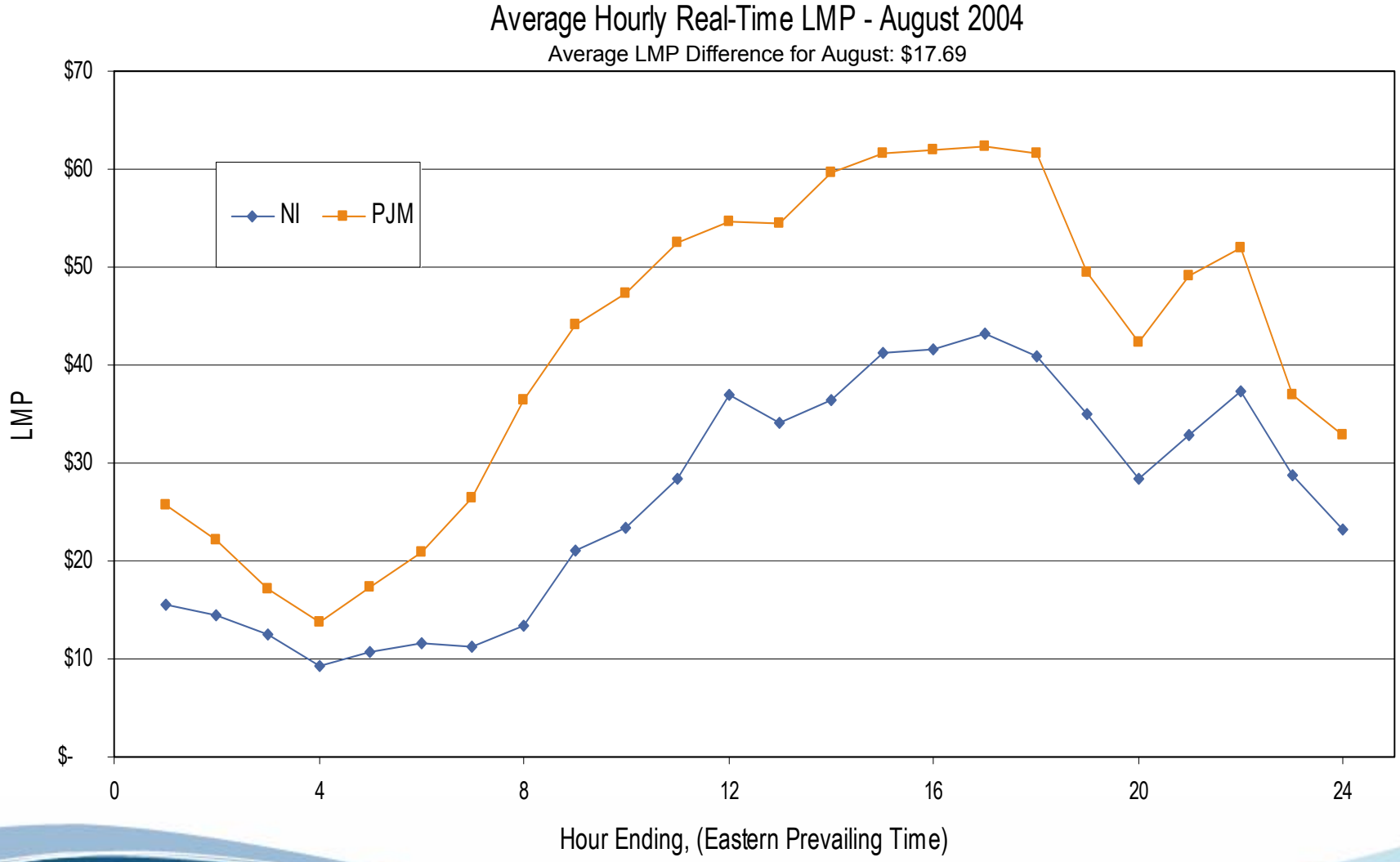
LMP ($/MWh)	FREQ.	CUM. FREQ.	PCT.	CUM. PCT.
$ 0 to $10	99	99	13.31	13.31
$10 to $20	268	367	36.02	49.33
$20 to $30	172	539	23.12	72.45
$30 to $40	61	600	8.20	80.65
$40 to $50	56	656	7.53	88.17
$50 to $60	24	680	3.23	91.40
$60 to $70	17	697	2.29	93.69
$70 to $80	30	727	4.03	97.72
$80 to $90	13	740	1.75	99.46
$90 to $100	3	743	0.40	99.87
$120 to $130	1	744	0.13	100.00

Frequency Distribution by Hours of NICA Day-ahead LMP
August 2004



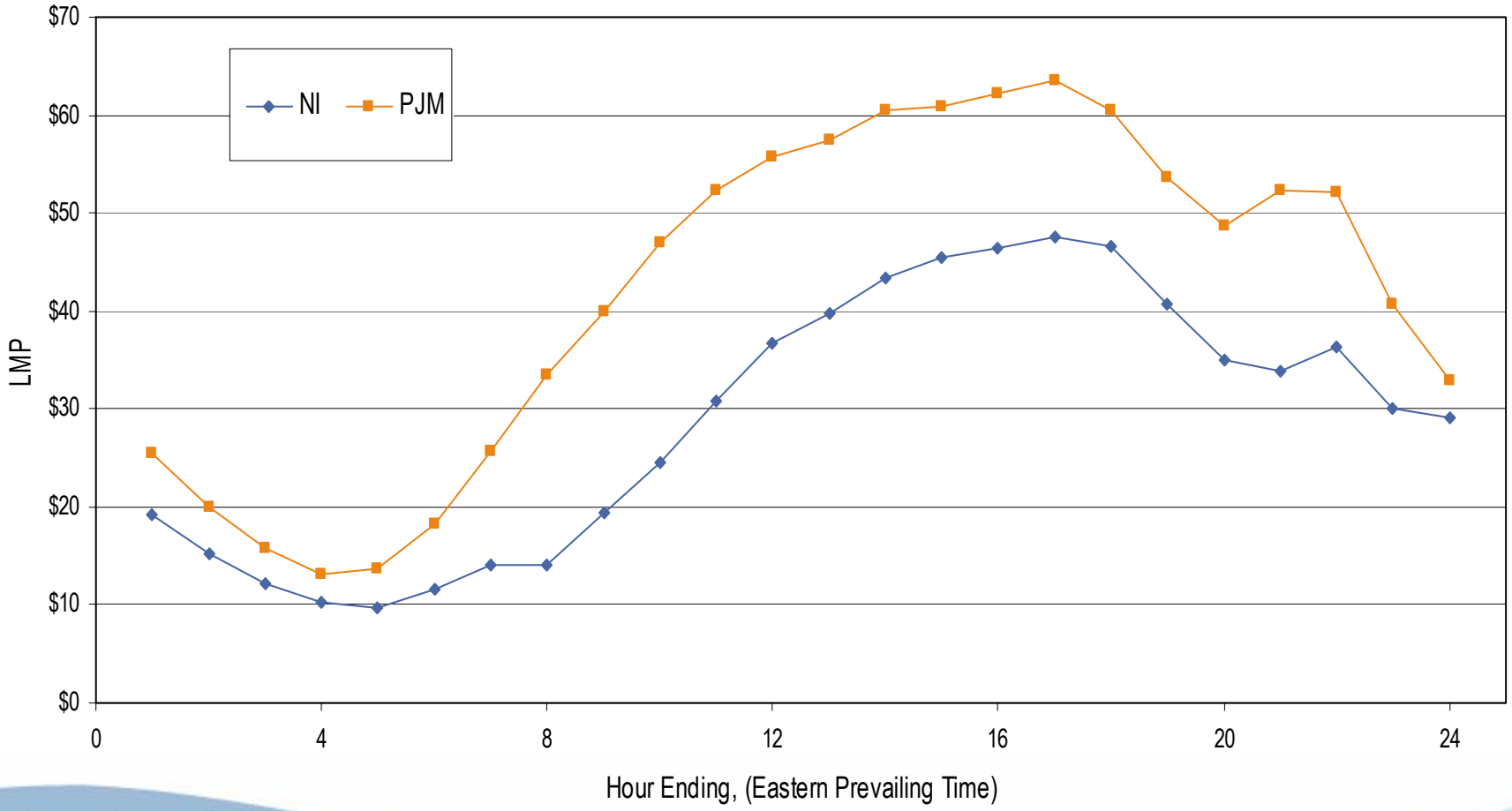
LMP ($/MWh)	FREQ.	CUM. FREQ.	PCT.	CUM. PCT.
$ 0 to $10	77	77	10.35	10.35
$10 to $20	238	315	31.99	42.34
$20 to $30	148	463	19.89	62.23
$30 to $40	107	570	14.38	76.61
$40 to $50	71	641	9.54	86.16
$50 to $60	51	692	6.85	93.01
$60 to $70	35	727	4.70	97.72
$70 to $80	13	740	1.75	99.46
$80 to $90	4	744	0.54	100.00

NICA – PJM LMPs



Average Hourly Day-Ahead LMP - August 2004

Average LMP Difference for August: $14.04



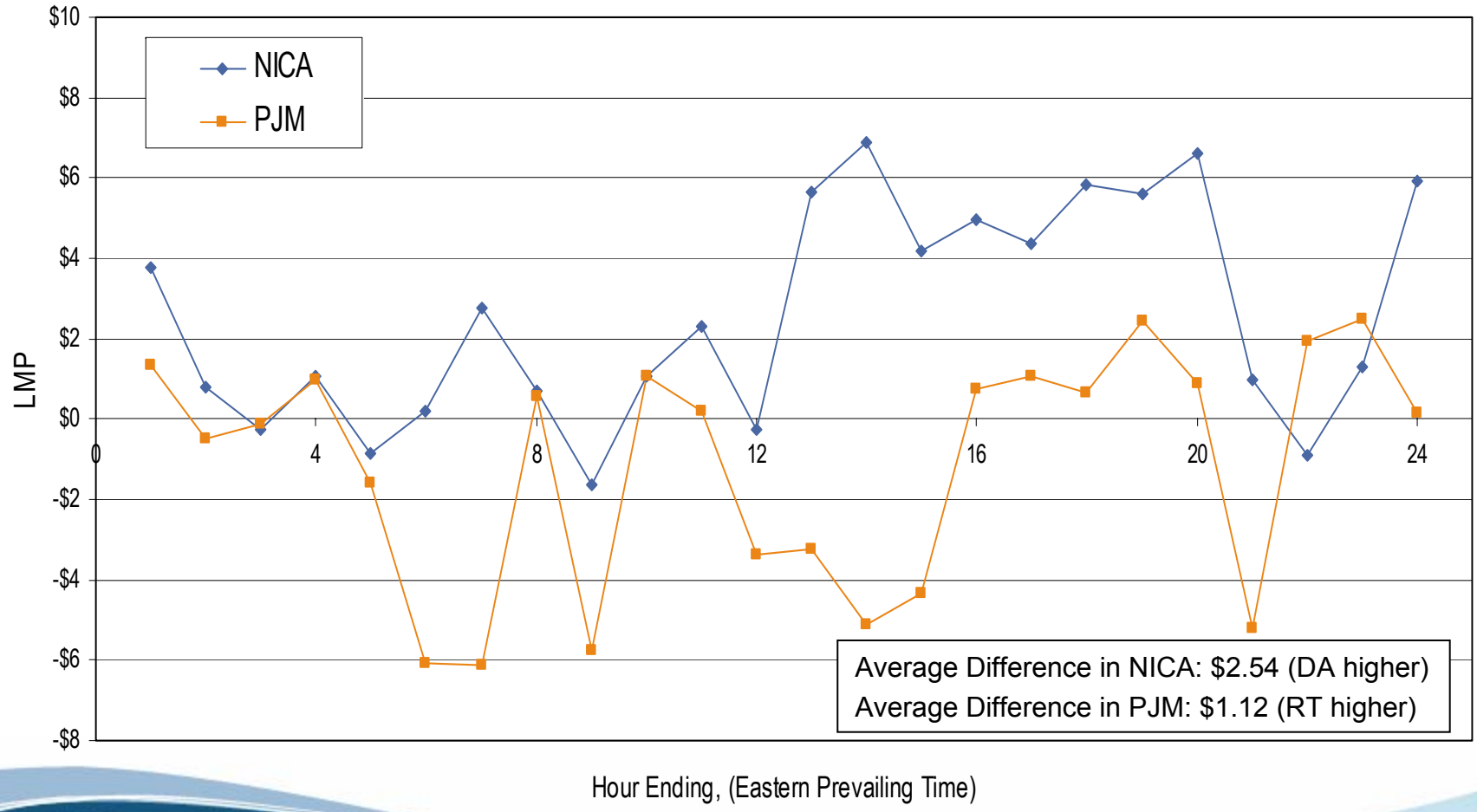
Energy Market price differentials – August 2004

- The NICA day-ahead zonal LMP was greater than the NICA real-time zonal LMP in August. The average hourly difference was $2.54 per MWh.

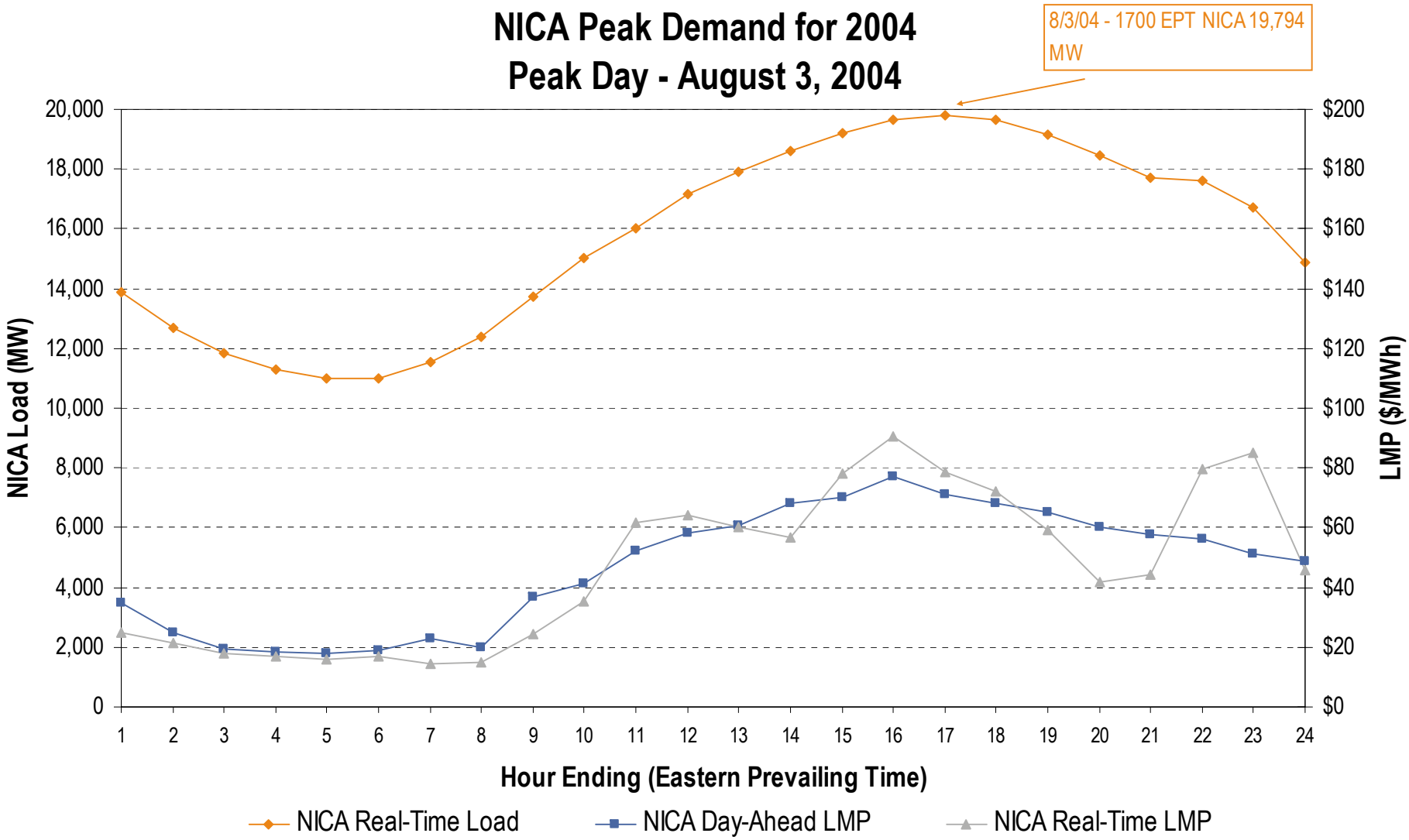
- The PJM CA day-ahead zonal LMP was less than the PJM CA real-time zonal LMP in August. The average hourly difference was $1.12 per MWh.

Day-ahead vs. Real-time LMP differentials

Average Hourly Difference of Day-Ahead and Real-Time LMPs - August 2004



NICA peak-demand day



Fuel type of the NICA marginal units

- Marginal units set price at five-minute intervals.
- In August, a NICA unit was on the margin for 4,738 out of 8,928 possible intervals (53 percent).
- Coal units accounted for 87 percent of those intervals.
- Natural gas units accounted for 13 percent of those intervals.

NICA congestion for August 2004

- Congestion was very limited in the NICA in August.
  - There was no congestion in the Day-Ahead Market.
  - Real-Time Market congestion: two event hours – Davis 345kV transformer and Tollway-Hanover one hour each.
  - No NICA units were offer-capped in the Real-Time Markets in August 2004.
  - No NICA units were offer-capped in the Day-Ahead Markets in August 2004.

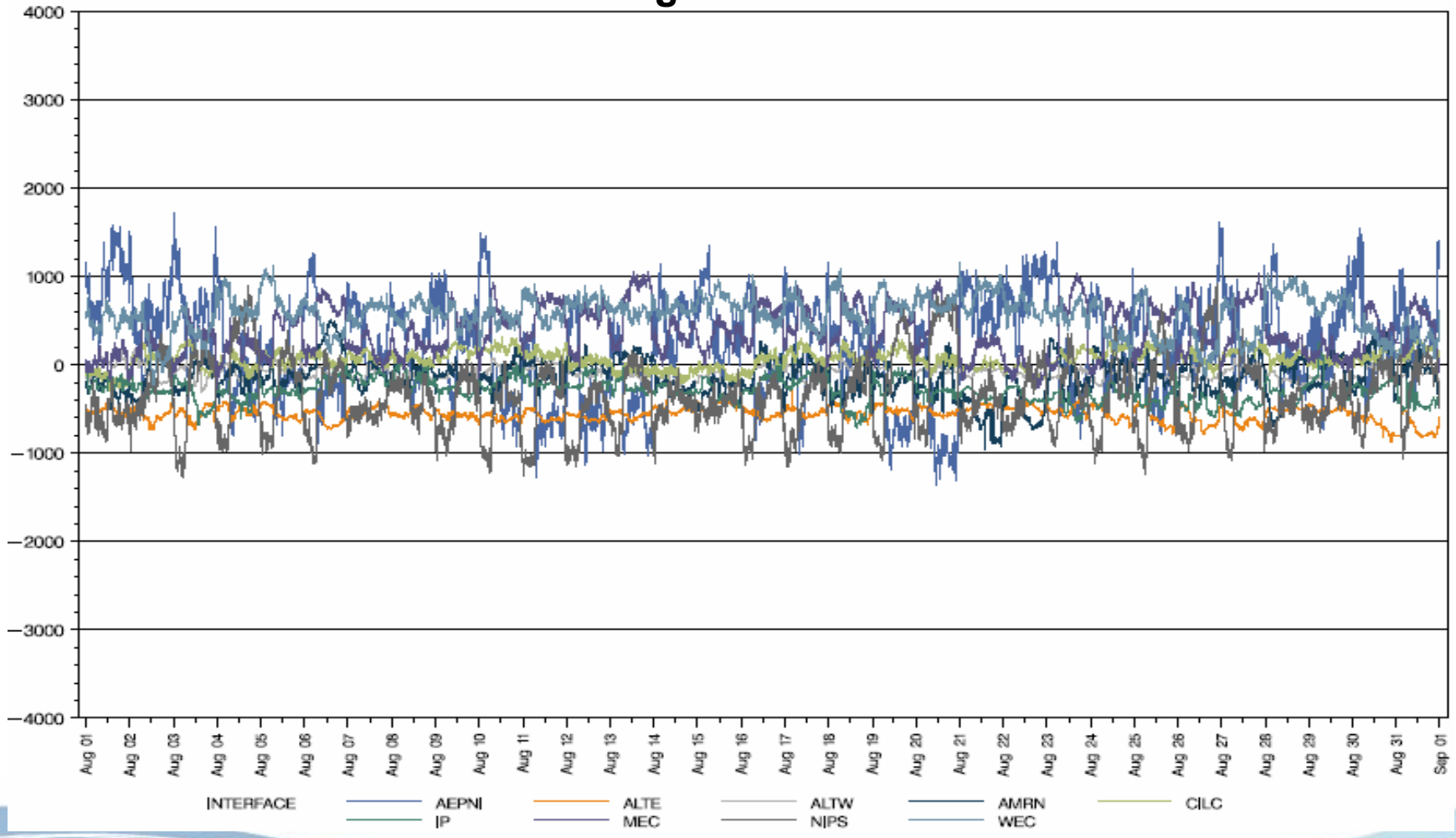
Real-time pathway statistics for August 2004

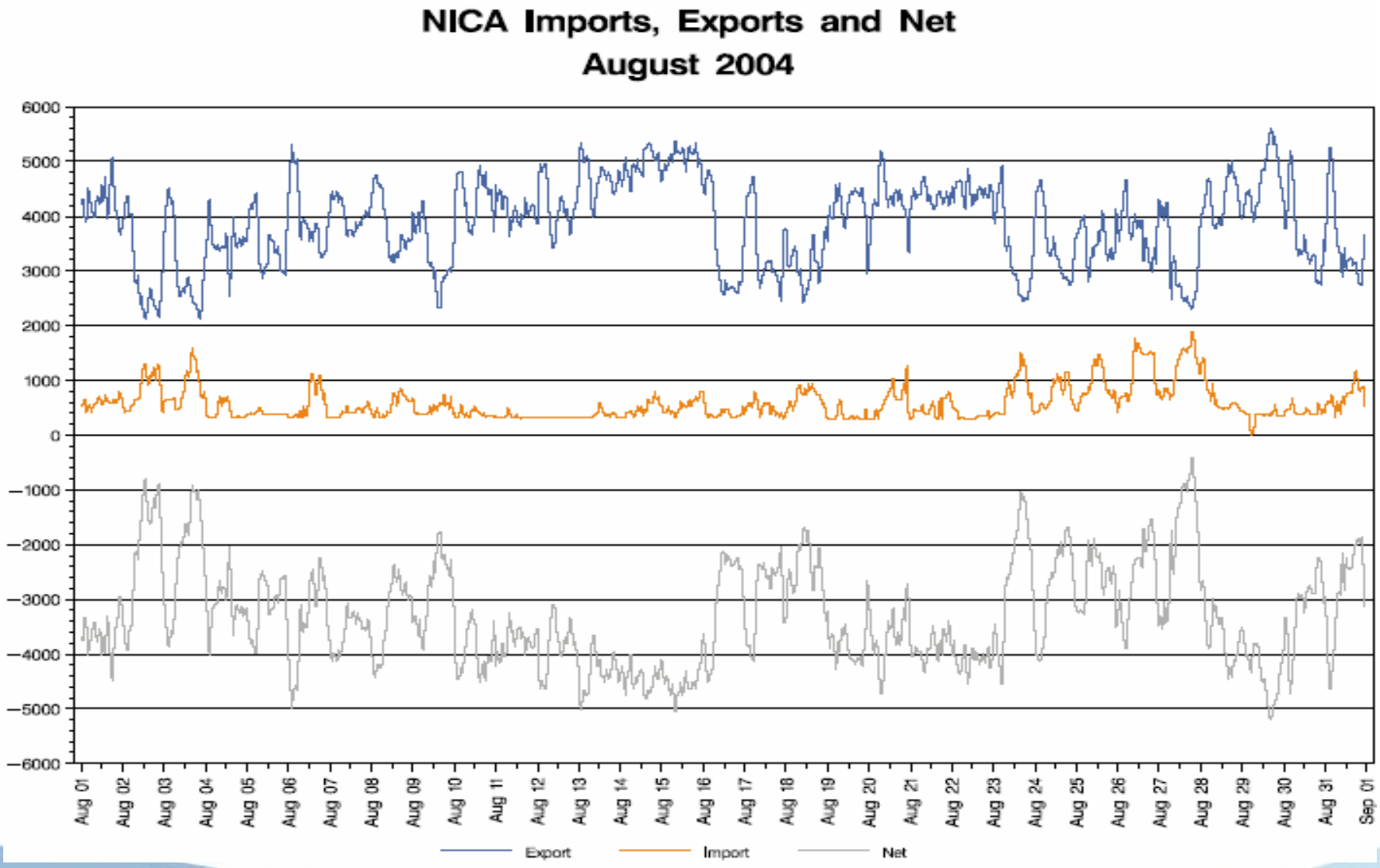
- Pathway constrained from NICA to PJM 359 hours, or 48 percent.
- Pathway constrained from PJM to NICA 50 hours, or seven percent.
- Pathway not constrained for 335 hours, or 45 percent.
- Pathway flowed from NICA to PJM for 498 hours, or 67 percent.
- Pathway flowed from PJM to NICA for 246 hours, or 33 percent.

Day-ahead pathway statistics for August 2004

- Pathway constrained from NICA to PJM 502 hours, or 67 percent.
- Pathway constrained from PJM to NICA 92 hours, or 13 percent.
- Pathway not constrained for 150 hours, or 20 percent.
- Pathway flowed from NICA to PJM for 604 hours, or 81 percent.
- Pathway flowed from PJM to NICA for 140 hours, or 19 percent.

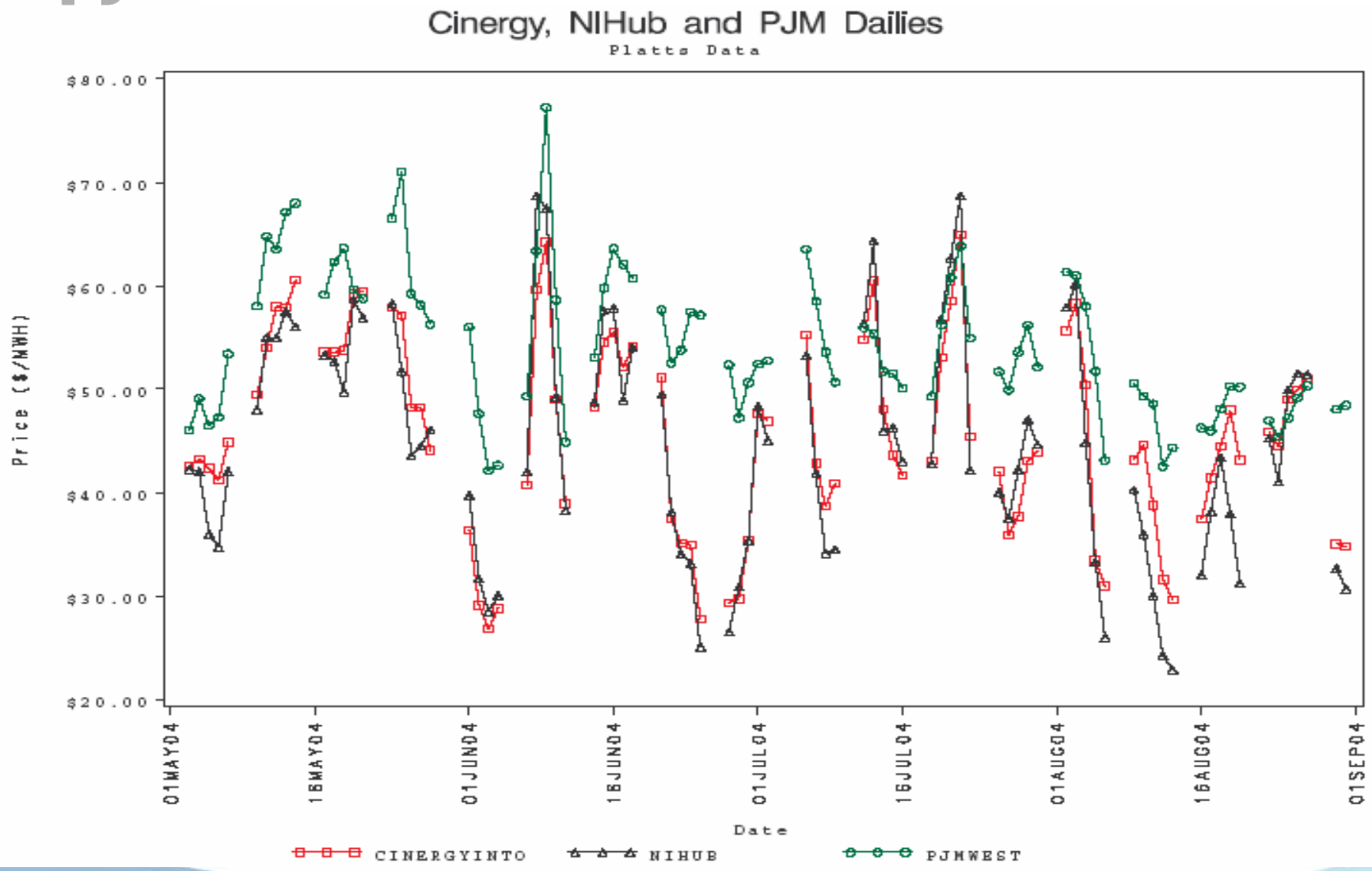
NICA Actual Minus Scheduled Tie Flows
August 2004




NICA Imports, Exports and Net
August 2004
6000
5000
4000
3000
2000
1000
0
−1000
−2000
−3000
−4000
−5000
−6000
Aug 01
Aug 02
Aug 03
Aug 04
Aug 05
Aug 06
Aug 07
Aug 08
Aug 09
Aug 10
Aug 11
Aug 12
Aug 13
Aug 14
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19
Aug 20
Aug 21
Aug 22
Aug 23
Aug 24
Aug 25
Aug 26
Aug 27
Aug 28
Aug 29
Aug 30
Aug 31
Sep 01
Export
Import
Net

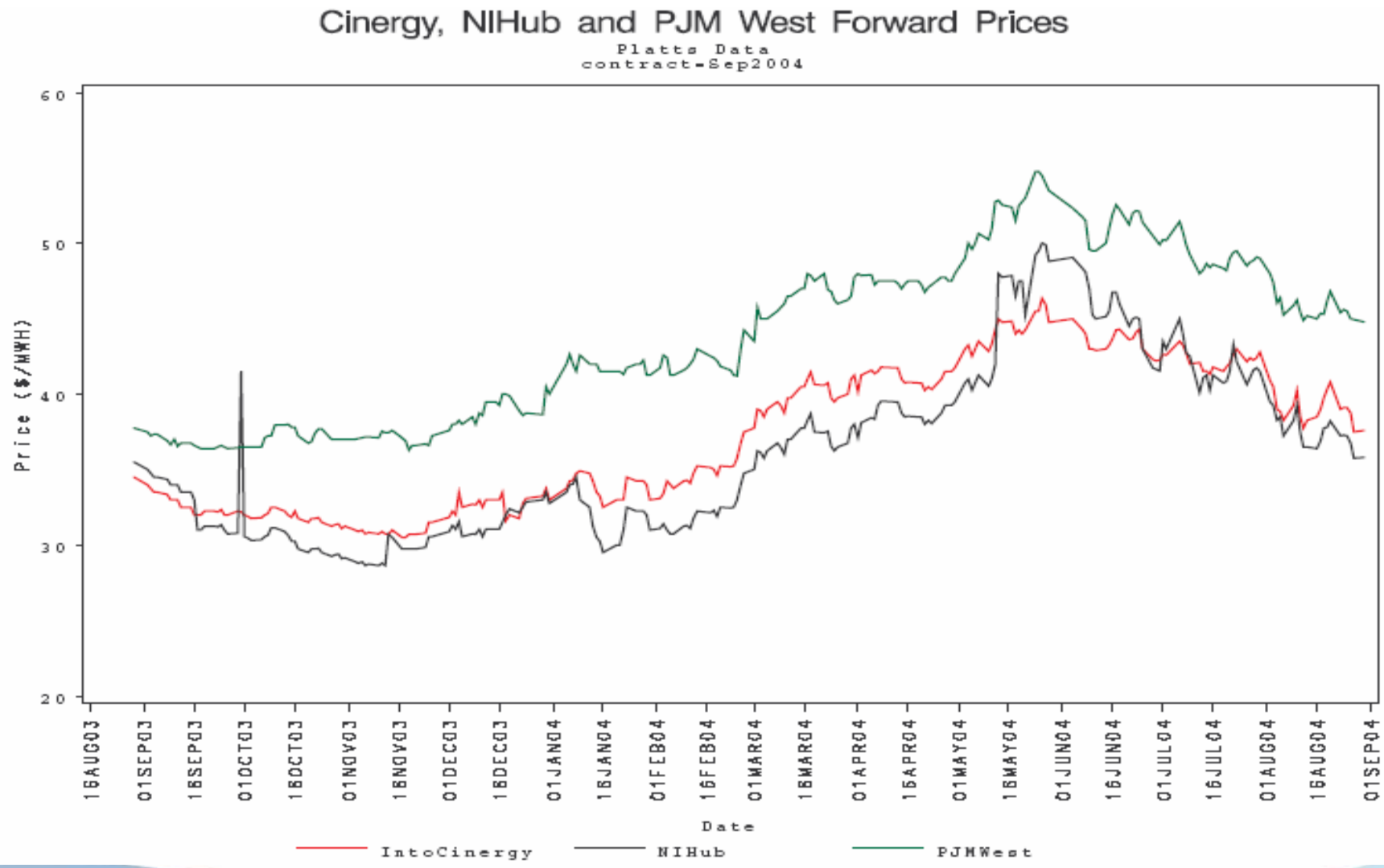
- Daily forward prices for NIHub and CINergy tracked closely in August.
  - The maximum daily NIHub–CINergy spread was $2.22 per MWh during August.
  - The minimum daily NIHub–CINergy spread was -$11.98 per MWh during August.
  - The average daily NIHub–CINergy spread was -$3.65 per MWh during August.
  - The NIHub–CINergy spread was -$4.09 per MWh on the final trading day of August.

Forward prices



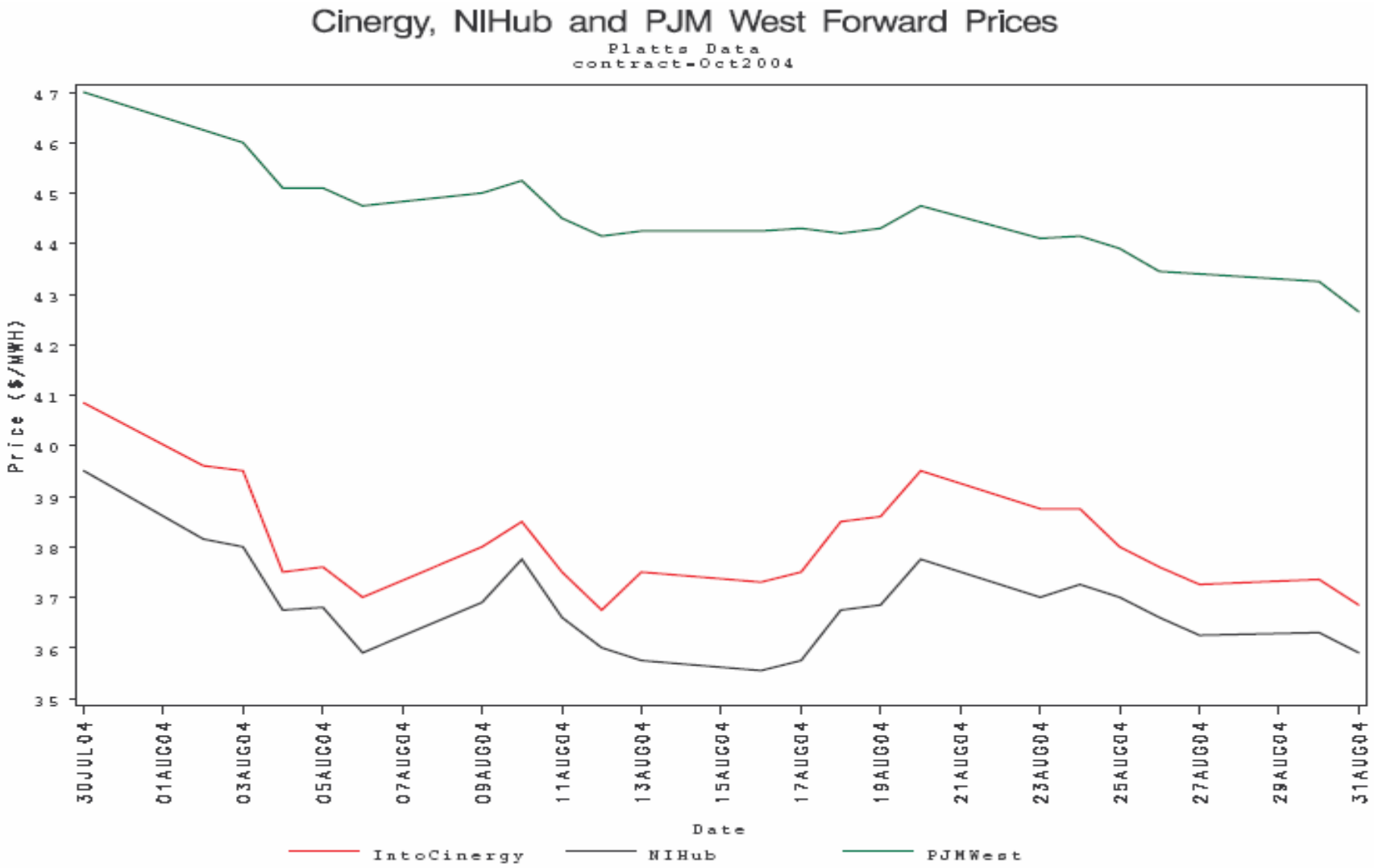
- Forward prices for the September contract showed varying spreads during August.
  - Spreads reflect traders' expectations about future prices.
  - The maximum NIHub–CINergy spread was $0.35 per MWh during August.
  - The minimum NIHub–CINergy spread was -$2.60 per MWh during August.
  - The average NIHub–CINergy spread was -$1.57 per MWh during August.
  - The NIHub–CINergy spread was -$1.80 per MWh on the final trading day for the September contract.

Forward prices

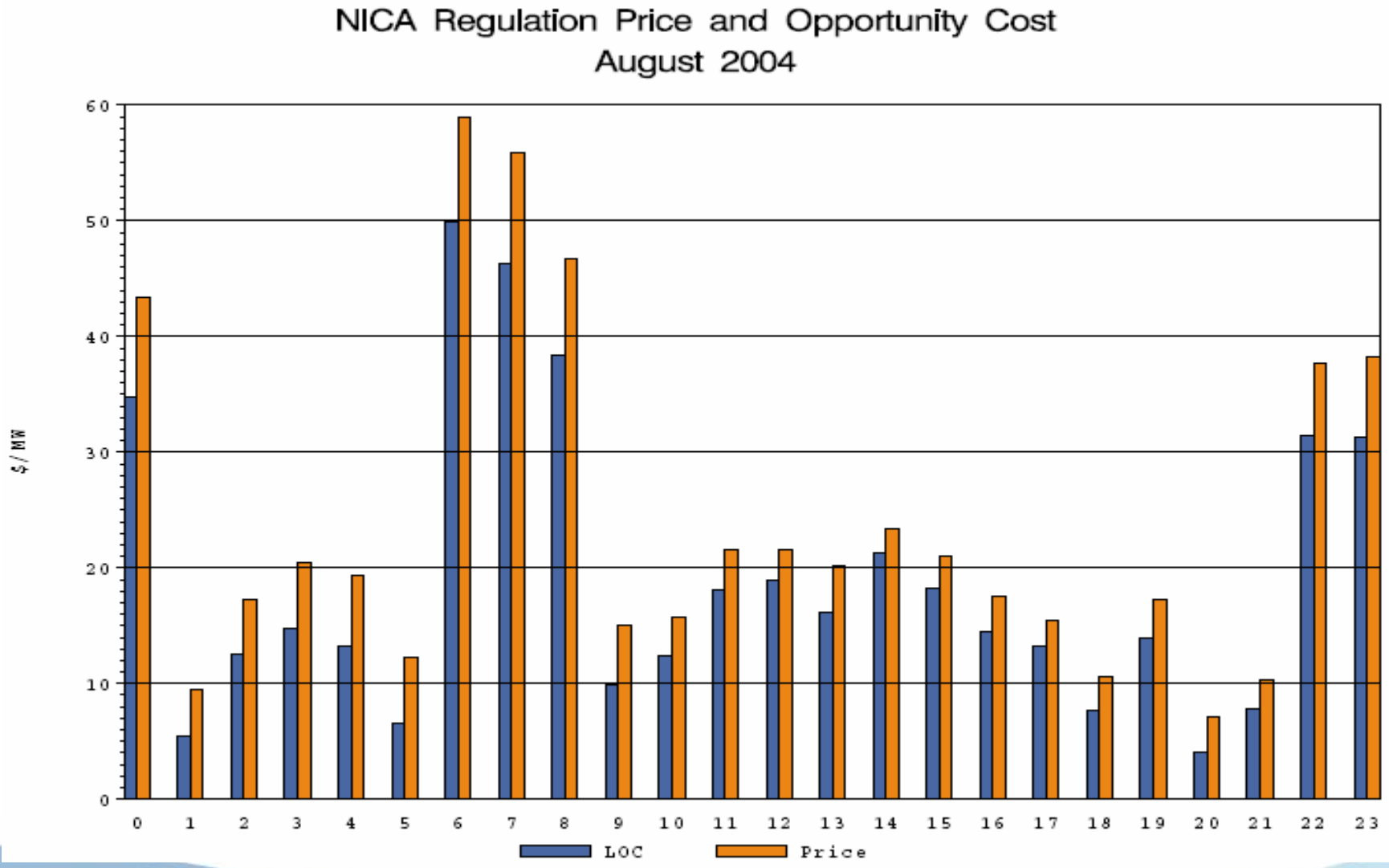


- Forward prices for the October contract showed varying spreads during August.
  - Spreads reflect traders' expectations about future prices.
  - The maximum NIHub–CINergy spread was -$0.35 per MWh during August.
  - The minimum NIHub–CINergy spread was -$1.75 per MWh during August.
  - The average NIHub–CINergy spread was -$1.27 per MWh during August.
  - The NIHub–CINergy spread for the October contract was -$0.95 per MWh on the final trading day of August.

Forward prices



Regulation prices



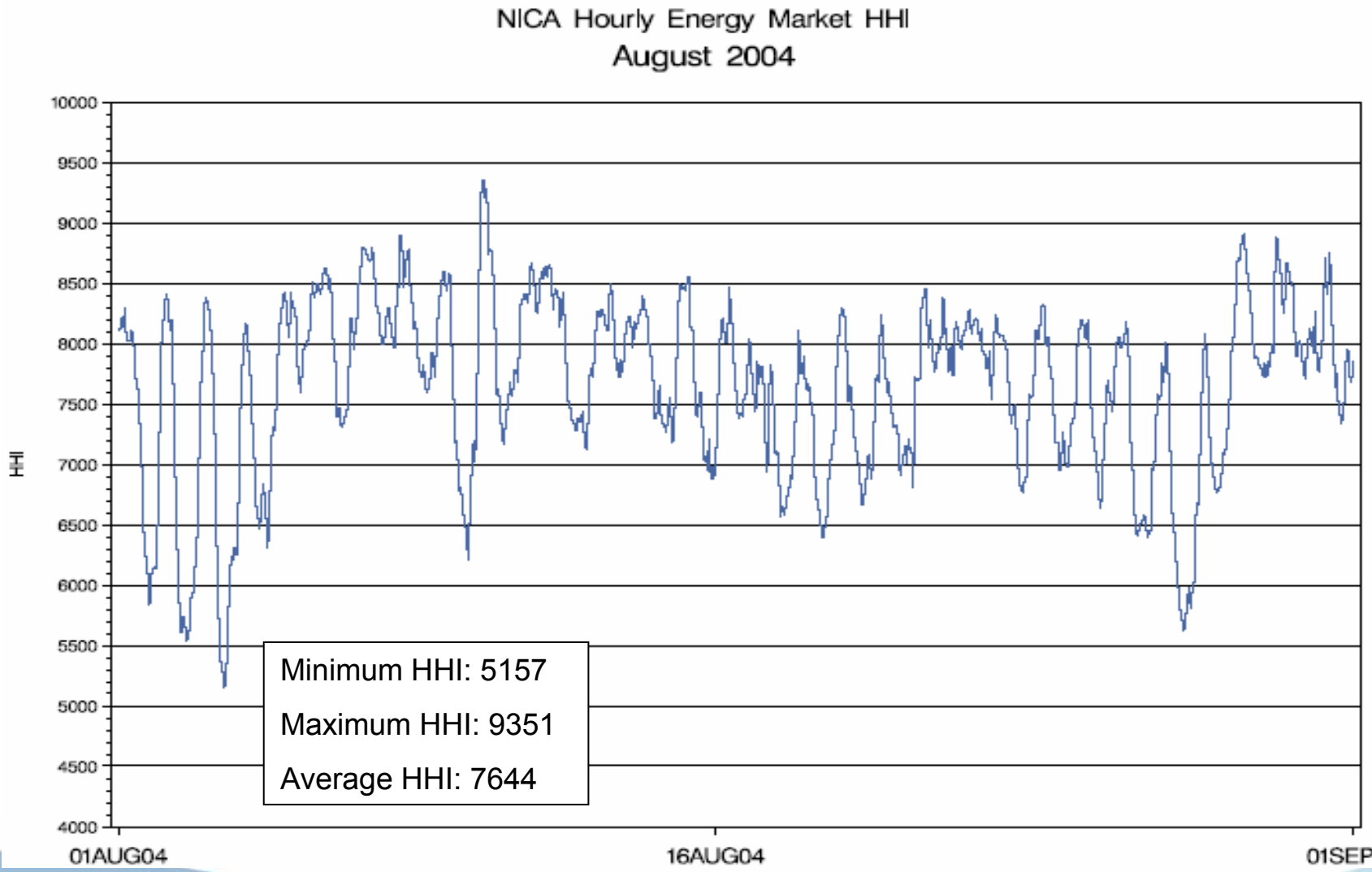
- NICA Capacity Market structural tests indicate significant potential market power.
- Results of NICA Capacity Market auctions were generally less than the proposed offer cap.

Capacity Market prices through August auctions

- Average capacity price per MW for the summer 2004 period was $29.67.
- Average capacity price per MW for the fall 2004 period was $25.80.
- Average capacity price per MW for the winter 2004/2005 period was $25.66.
- Average capacity price per MW for the full planning period was $27.68.

- The NICA energy market had high HHIs (Herfindahl-Hirschman Index) during August.
  - High HHIs reflect highly concentrated ownership of the units supplying energy on an hourly basis.
- The NICA energy market had low RSIs (Residual Supply Index) during August.
  - RSIs less than 1.0 indicate that a single supplier is pivotal during the hour.
- The pathway flows served to provide competitive pressures in the NICA energy market, offsetting the stand-alone structural market power concerns.

Market Herfindahl-Hirschman Index (HHI)



Note: Includes net imports

NICA Residual Supply Index – August 2004

Number of Hours RSI < 1.10	Number of Hours RSI < 1.00	Percent of Hours RSI < 1.10	Percent of Hours RSI < 1.00	Overall Average RSI	Overall Minimum RSI
569	472	76%	63%	0.87	0.54