

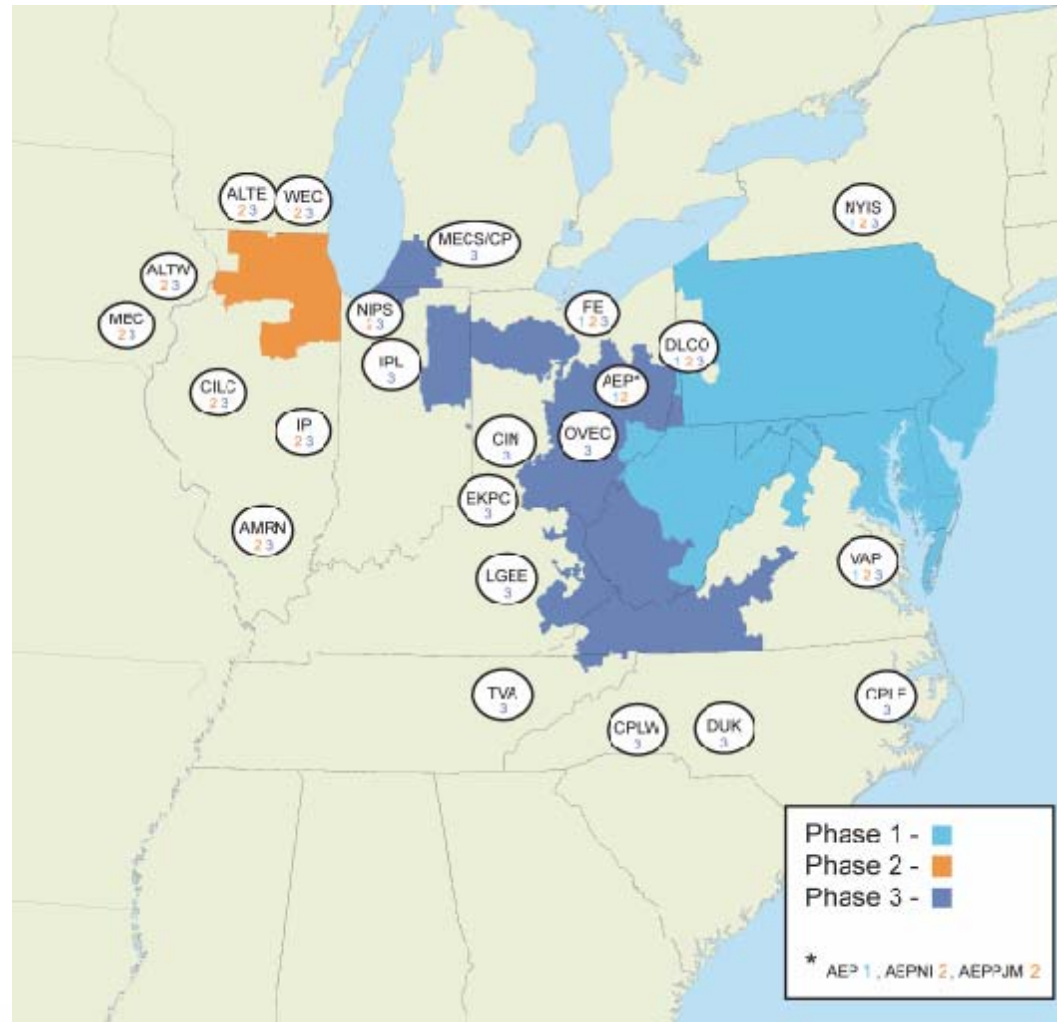


# STATE OF THE MARKET REPORT 2004

EMC  
April 12, 2005

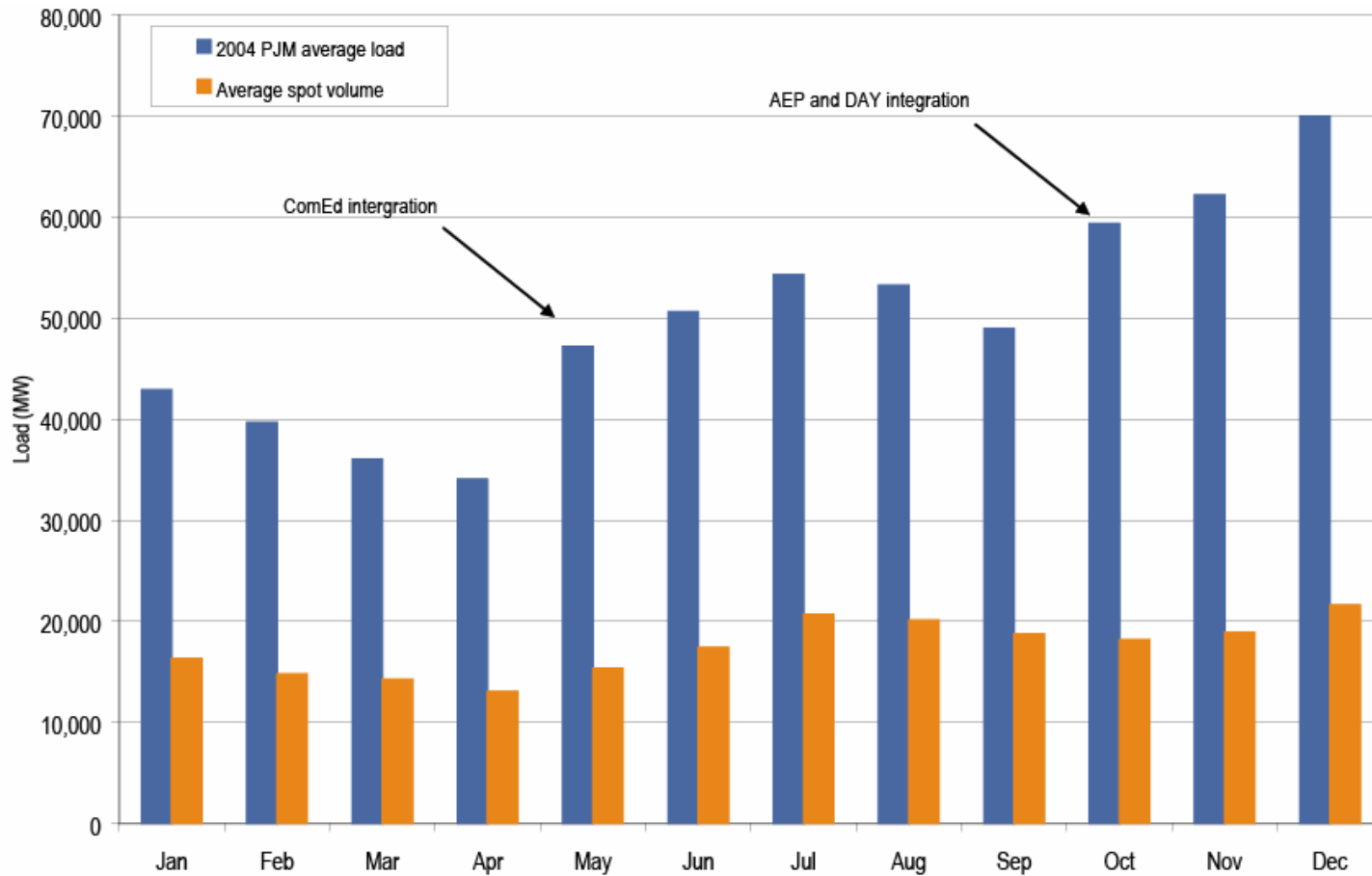
Joseph E. Bowring  
Market Monitor

- **Energy Market** results were competitive
- **PJM Capacity Market** results were competitive
- **ComEd Capacity Market** results were reasonably competitive
- **Regulation market** results were competitive
  - Price based
  - Cost based
- **Spinning market** results were competitive
  - Cost based
- **FTR market** results were competitive



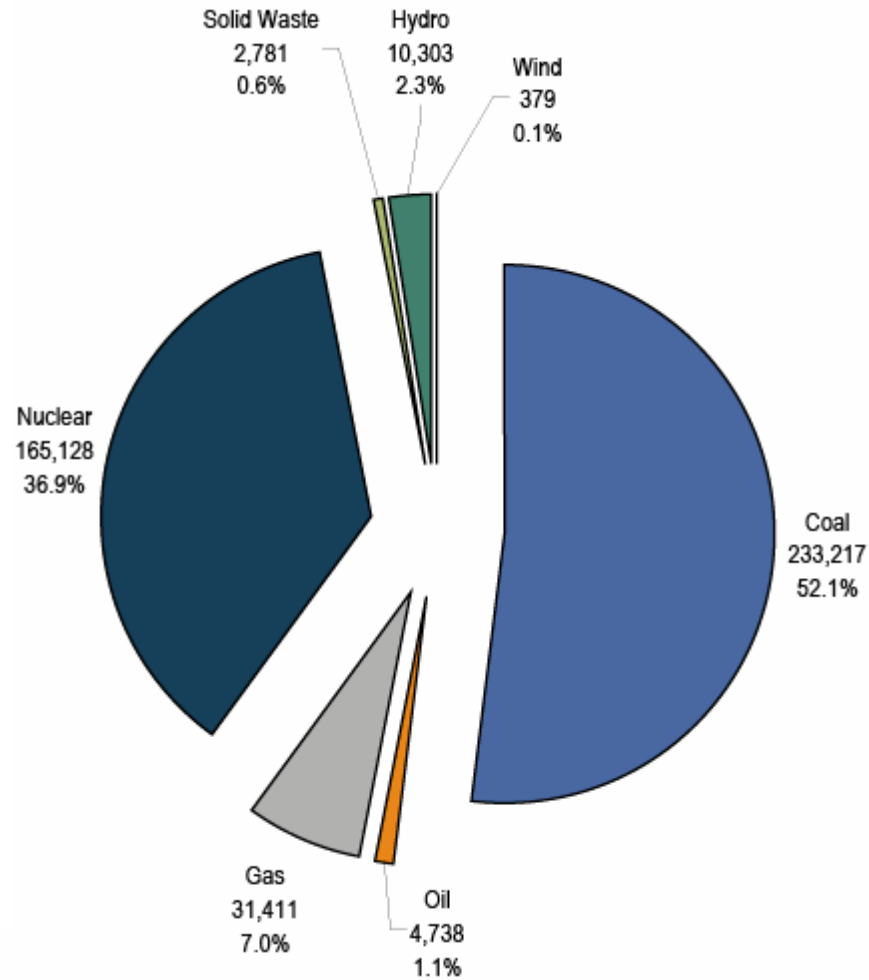


# PJM average hourly load and spot market volume: Calendar year 2004



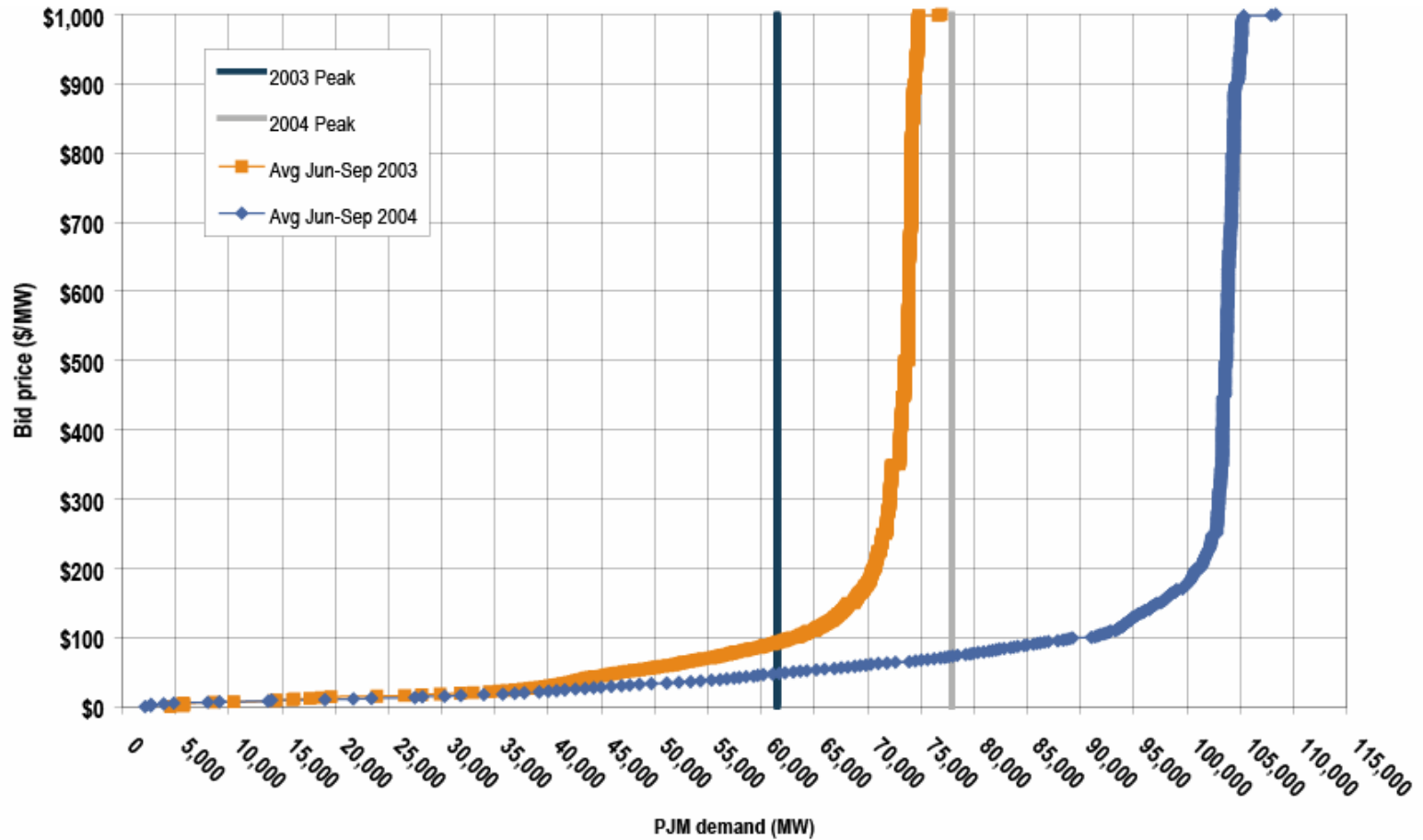


# PJM generation by fuel source (GWh): Calendar year 2004



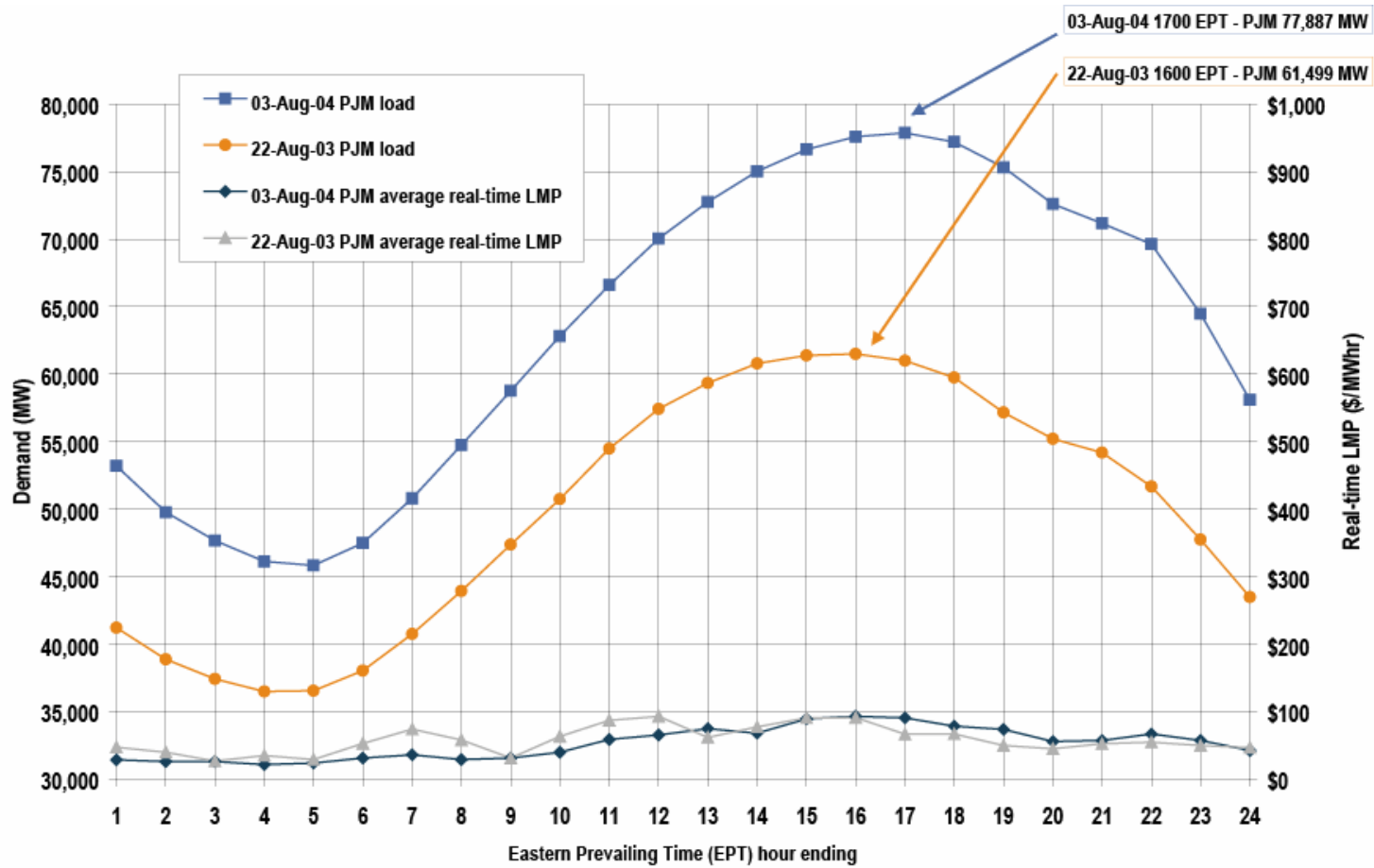


# Average PJM aggregate supply curves: Summers 2003 and 2004





# PJM peak-load comparison: Tuesday, August 3, 2004, and Friday, August 22, 2003





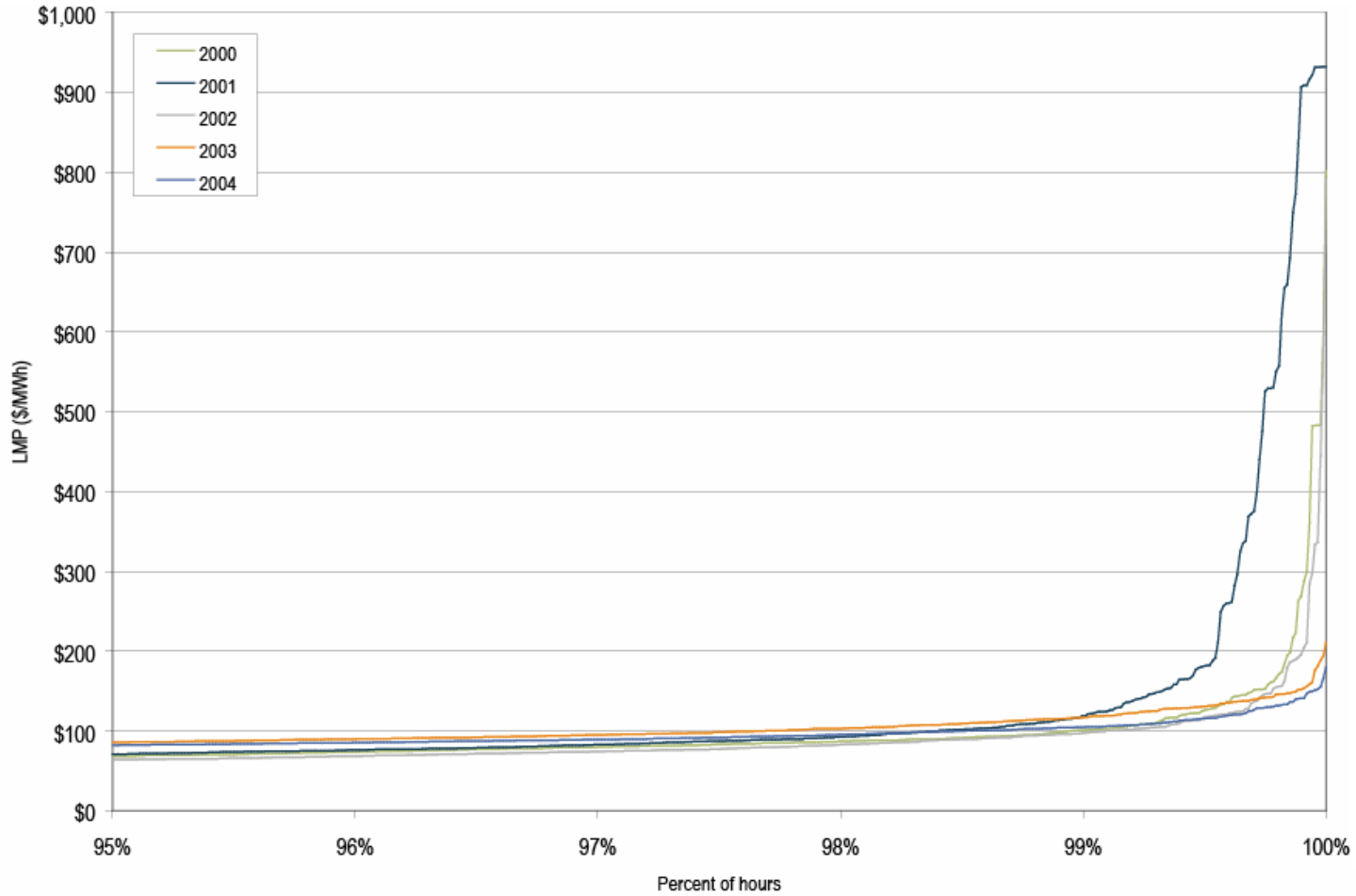
# PJM average hourly LMP (Dollars per MWh): Calendar years 1998 to 2004

	Locational Marginal Prices (LMPs)			Year-to-Year Changes		
	Average	Median	Standard Deviation	Average LMP	Median LMP	Standard Deviation
1998	\$21.72	\$16.60	\$31.45	N/A	N/A	N/A
1999	\$28.32	\$17.88	\$72.42	30.4%	7.7%	130.3%
2000	\$28.14	\$19.11	\$25.69	-0.6%	6.9%	-64.5%
2001	\$32.38	\$22.98	\$45.03	15.1%	20.3%	75.3%
2002	\$28.30	\$21.08	\$22.40	-12.6%	-8.3%	-50.3%
2003	\$38.27	\$30.79	\$24.71	35.2%	46.0%	10.3%
2004	\$42.40	\$38.30	\$21.12	10.8%	24.4%	-14.5%





# Price duration curves for the PJM Real-Time Energy Market during hours above the 95th Percentile: Calendar years 2000 to 2004



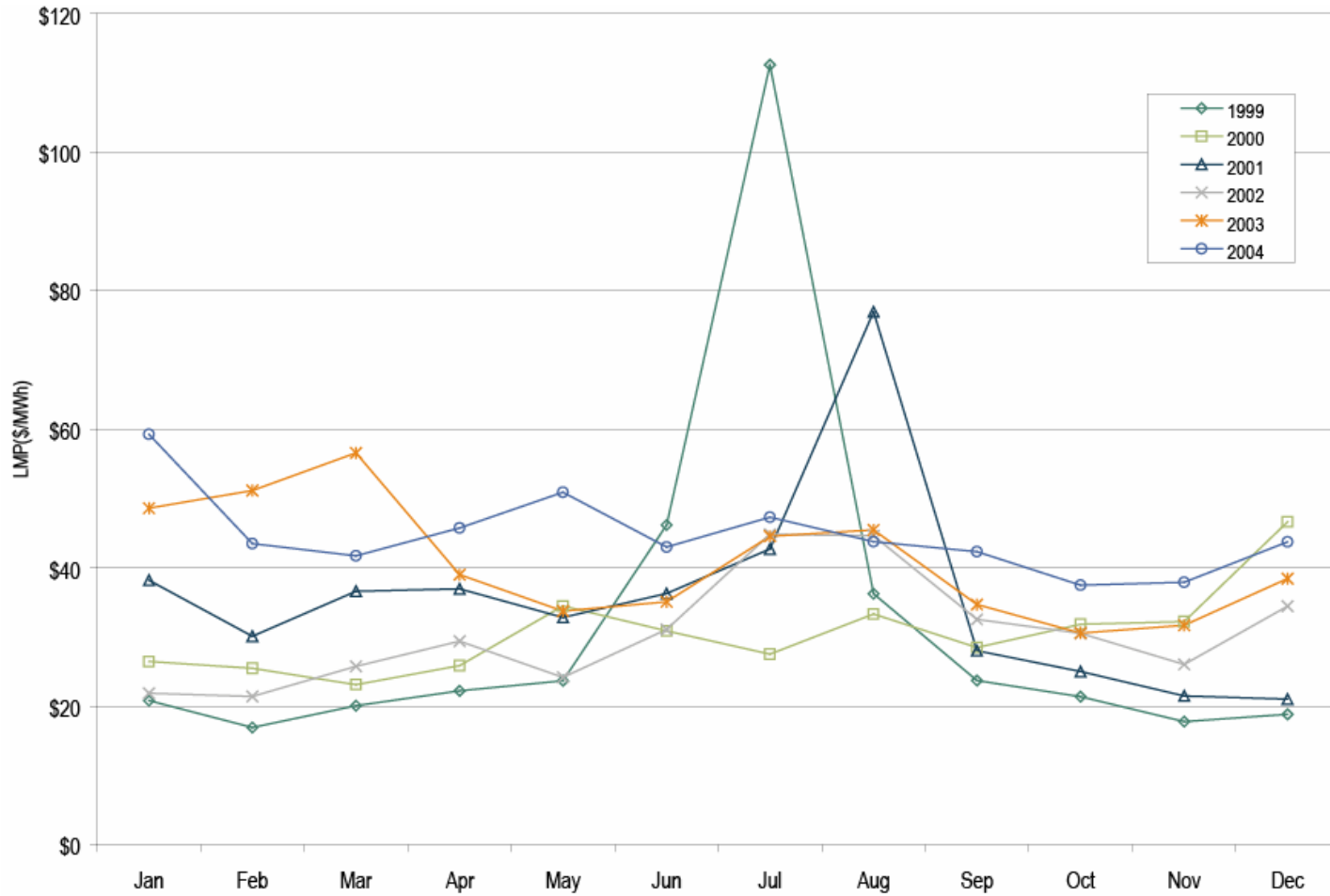


PJM load-weighted, average LMP (Dollars per MWh):  
Calendar years 1998 to 2004

	Load-Weighted Average LMP			Year-to-Year Changes		
	Average	Median	Standard Deviation	Average LMP	Median LMP	Standard Deviation
1998	\$24.16	\$17.60	\$39.29	N/A	N/A	N/A
1999	\$34.07	\$19.02	\$91.49	41.0%	8.1%	132.8%
2000	\$30.72	\$20.51	\$28.38	-9.8%	7.9%	-69.0%
2001	\$36.66	\$25.08	\$57.26	19.3%	22.3%	101.8%
2002	\$31.58	\$23.40	\$26.73	-13.9%	-6.7%	-53.3%
2003	\$41.23	\$34.95	\$25.40	30.6%	49.4%	-5.0%
2004	\$44.34	\$40.16	\$21.25	7.5%	14.9%	-16.3%



Figure 2-15 Monthly load-weighted, average LMP:  
Calendar years 1999 to 2004



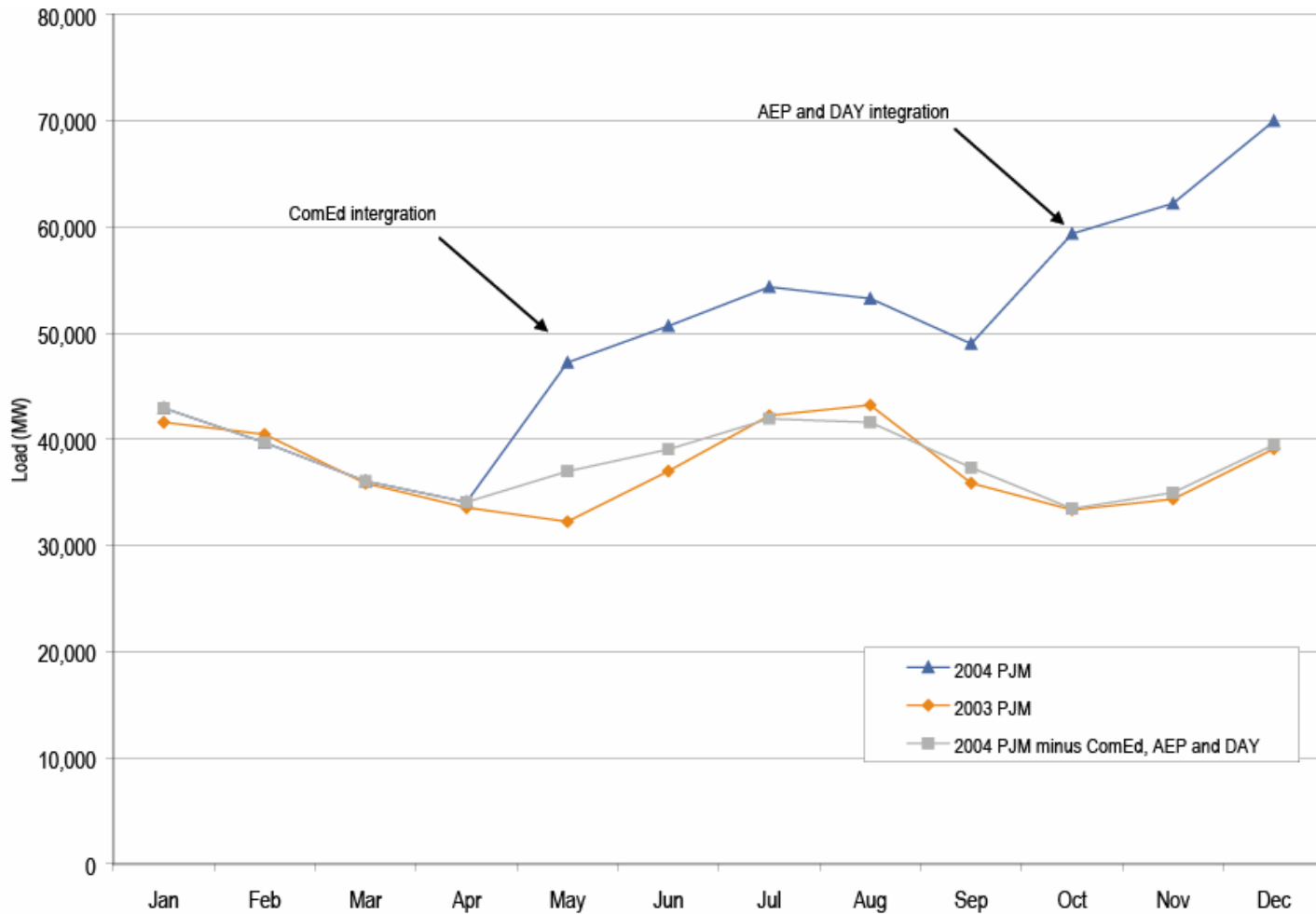


## PJM fuel-cost-adjusted, load-weighted LMP (Dollars per MWh): Calendar years 2003 to 2004

	2003	2004	Change
<b>Average LMP</b>	\$41.23	\$39.49	-4.2%
<b>Median LMP</b>	\$34.95	\$34.47	-1.4%
<b>Standard Deviation</b>	\$25.40	\$20.81	-18.1%

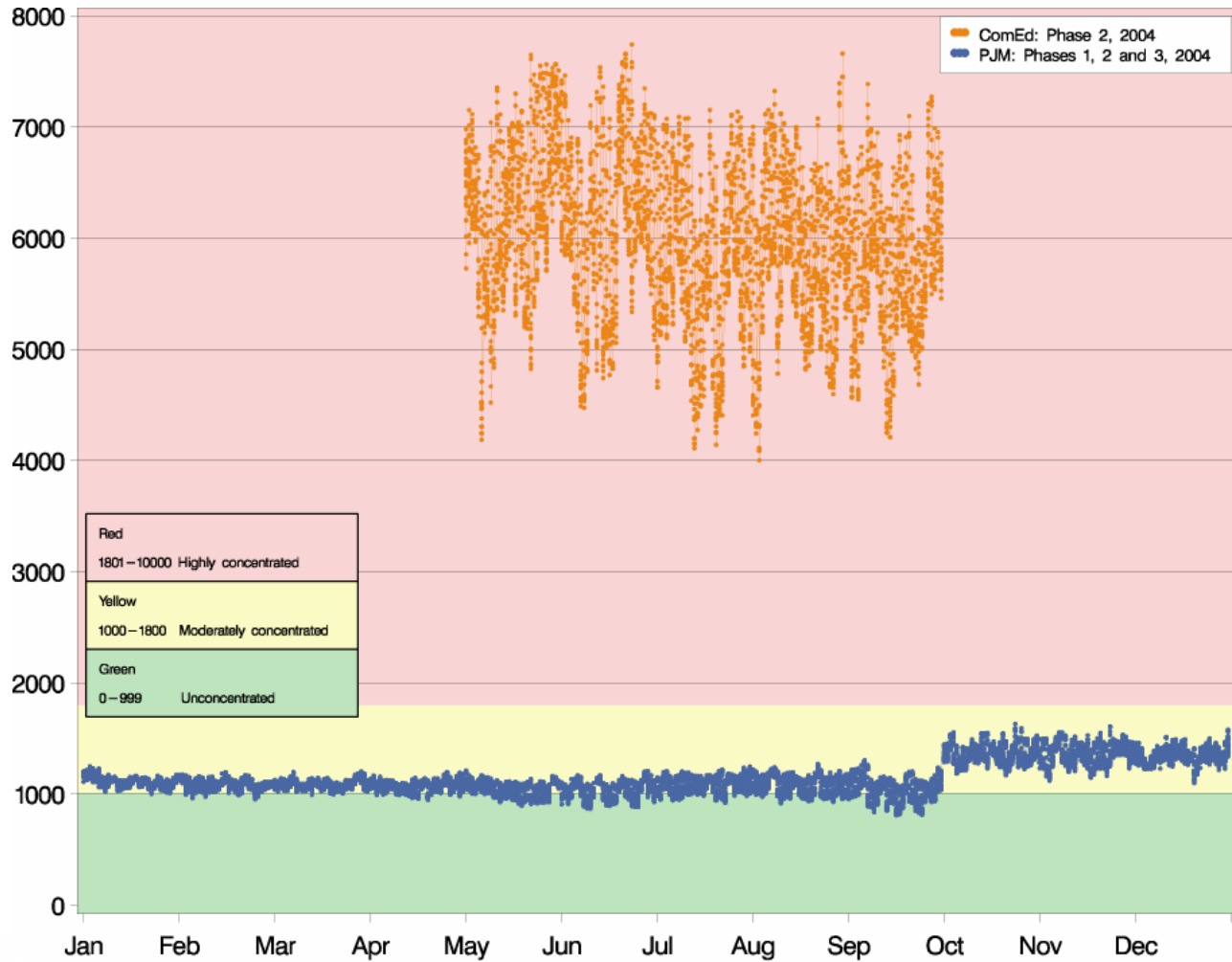


# PJM average load: Calendar years 2003 to 2004



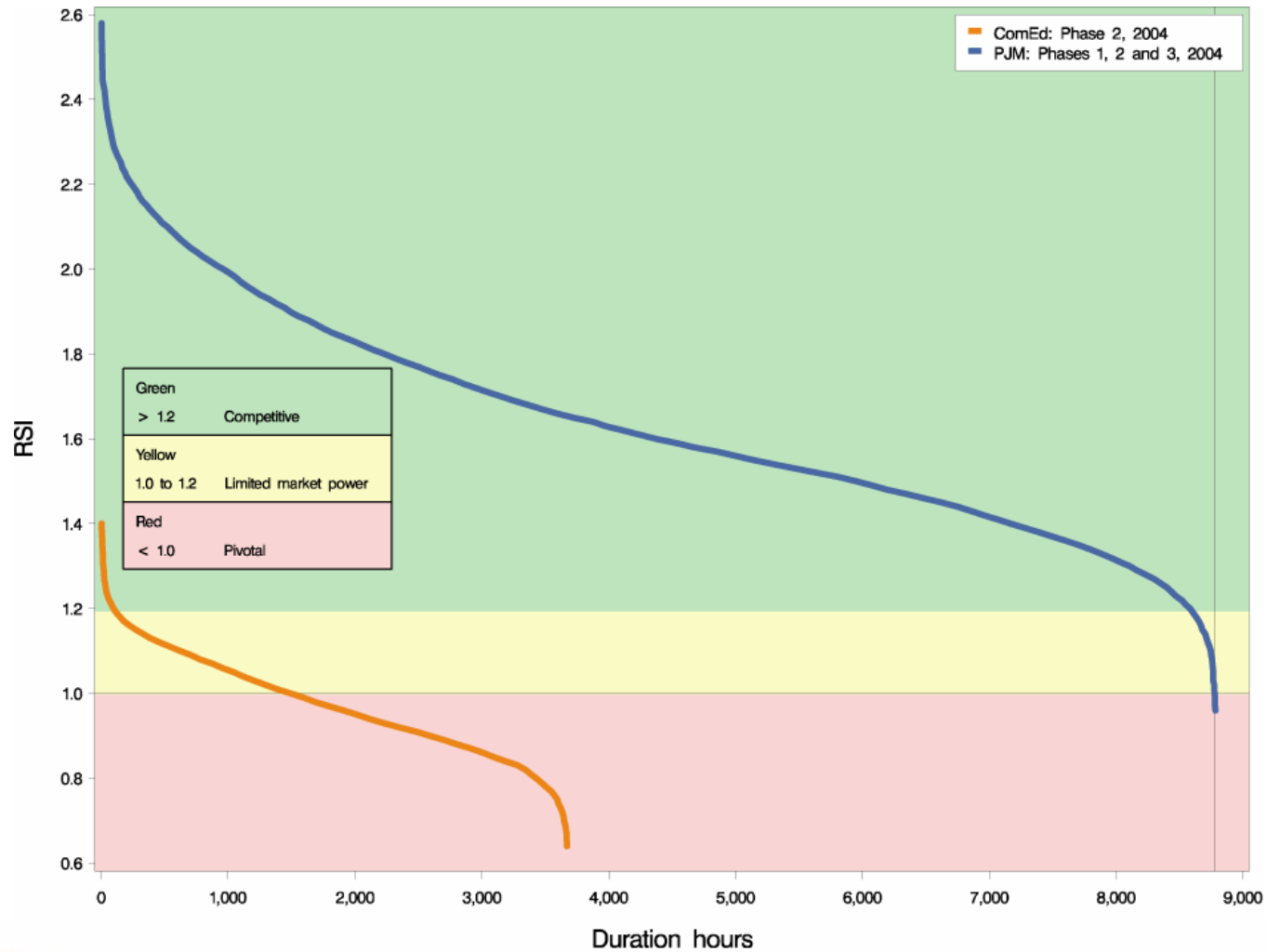


# PJM and ComEd hourly Energy Market HHI: Phases 1, 2 and 3, 2004



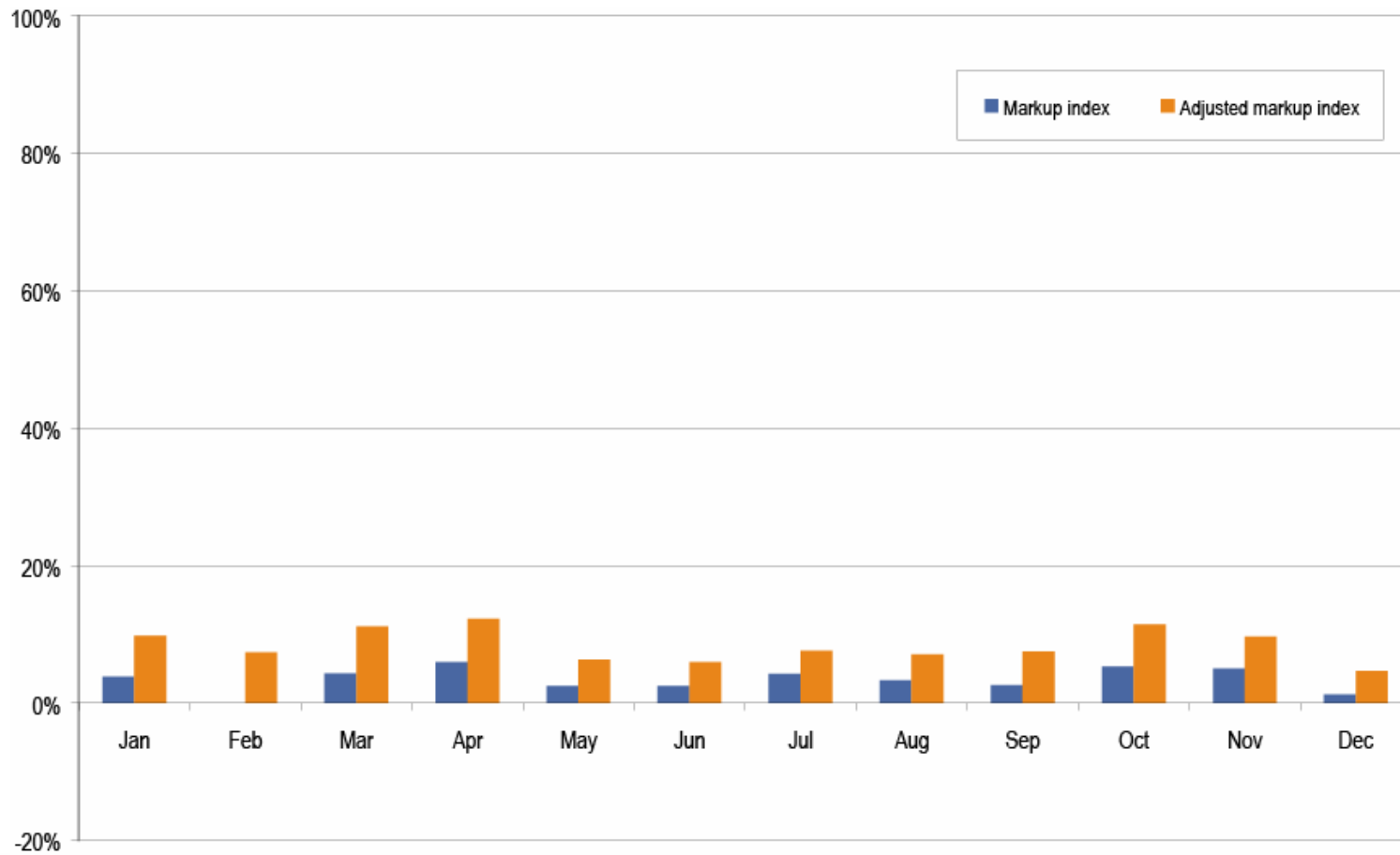


# PJM and ComEd RSI duration curve: Calendar year 2004





# Average monthly load-weighted markup indices: Calendar year 2004





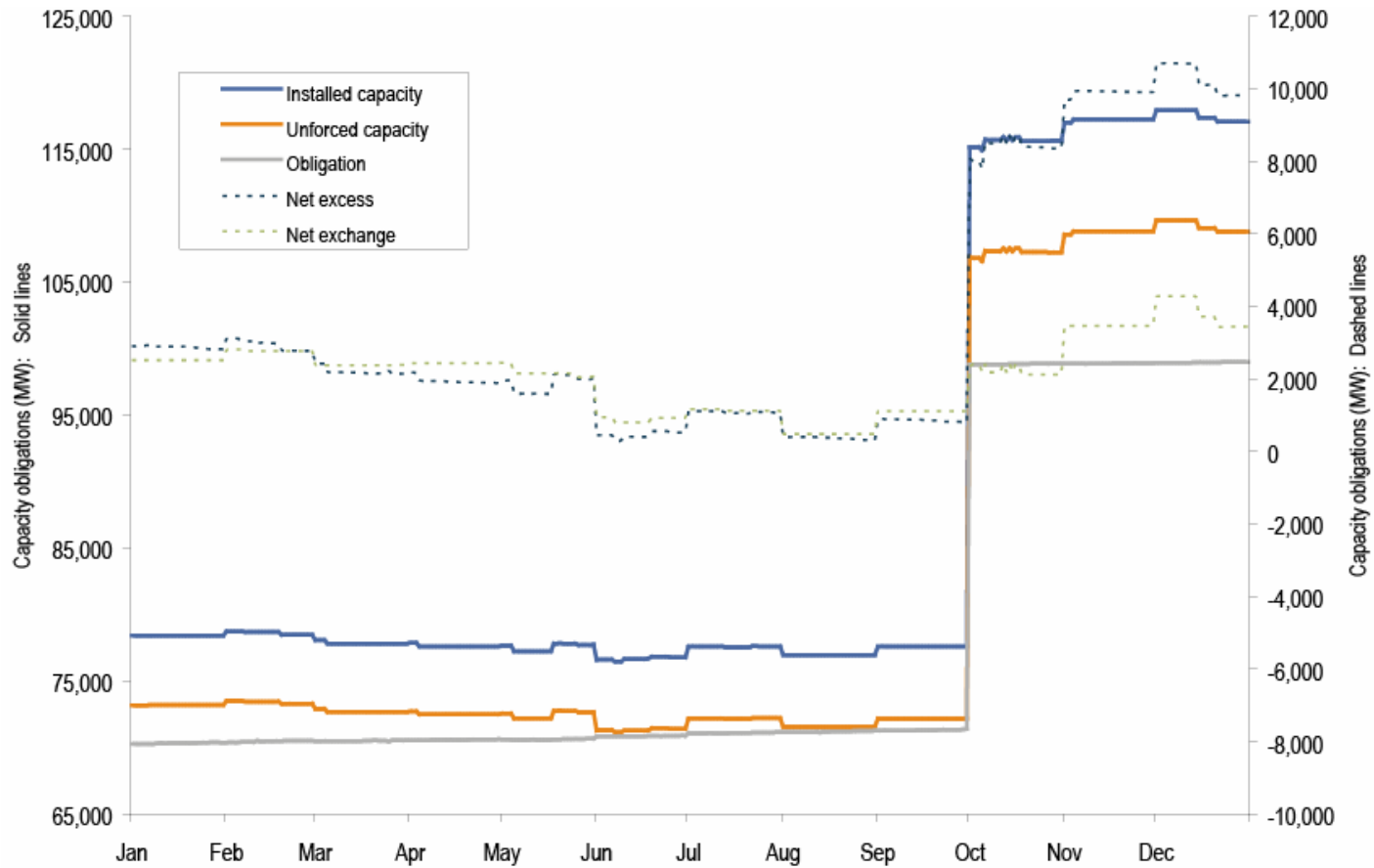


## Average real-time, offer-capped MW: Calendar years 2001 to 2004

	2001		2002		2003		2004	
	Average MW Capped	Percent	Average MW Capped	Percent	Average MW Capped	Percent	Average MW Capped	Percent
Jan	46	0.1%	90	0.3%	87	0.2%	175	0.4%
Feb	7	0.0%	46	0.2%	74	0.2%	87	0.2%
Mar	84	0.3%	24	0.1%	44	0.1%	76	0.2%
Apr	248	0.9%	62	0.2%	29	0.1%	115	0.3%
May	291	1.1%	63	0.2%	101	0.3%	257	0.5%
Jun	455	1.4%	105	0.3%	110	0.3%	167	0.3%
Jul	247	0.8%	218	0.6%	252	0.6%	332	0.6%
Aug	372	1.0%	311	0.7%	294	0.7%	450	0.8%
Sep	553	1.9%	177	0.5%	241	0.7%	268	0.5%
Oct	571	2.1%	92	0.3%	96	0.3%	77	0.1%
Nov	410	1.5%	55	0.2%	53	0.2%	110	0.2%
Dec	90	0.3%	52	0.1%	44	0.1%	202	0.3%

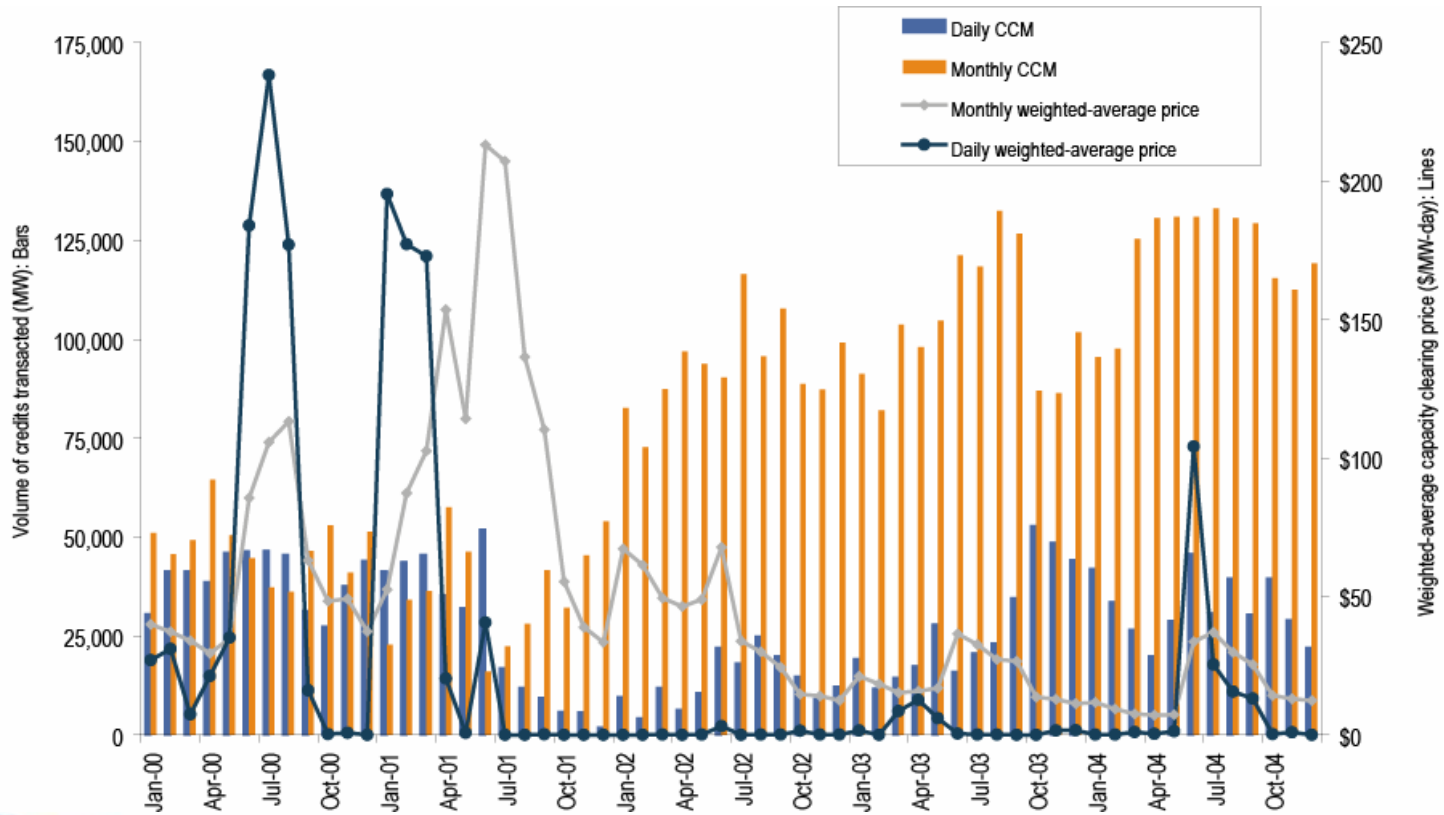


# Capacity obligations to the PJM Capacity Market: Calendar year 2004



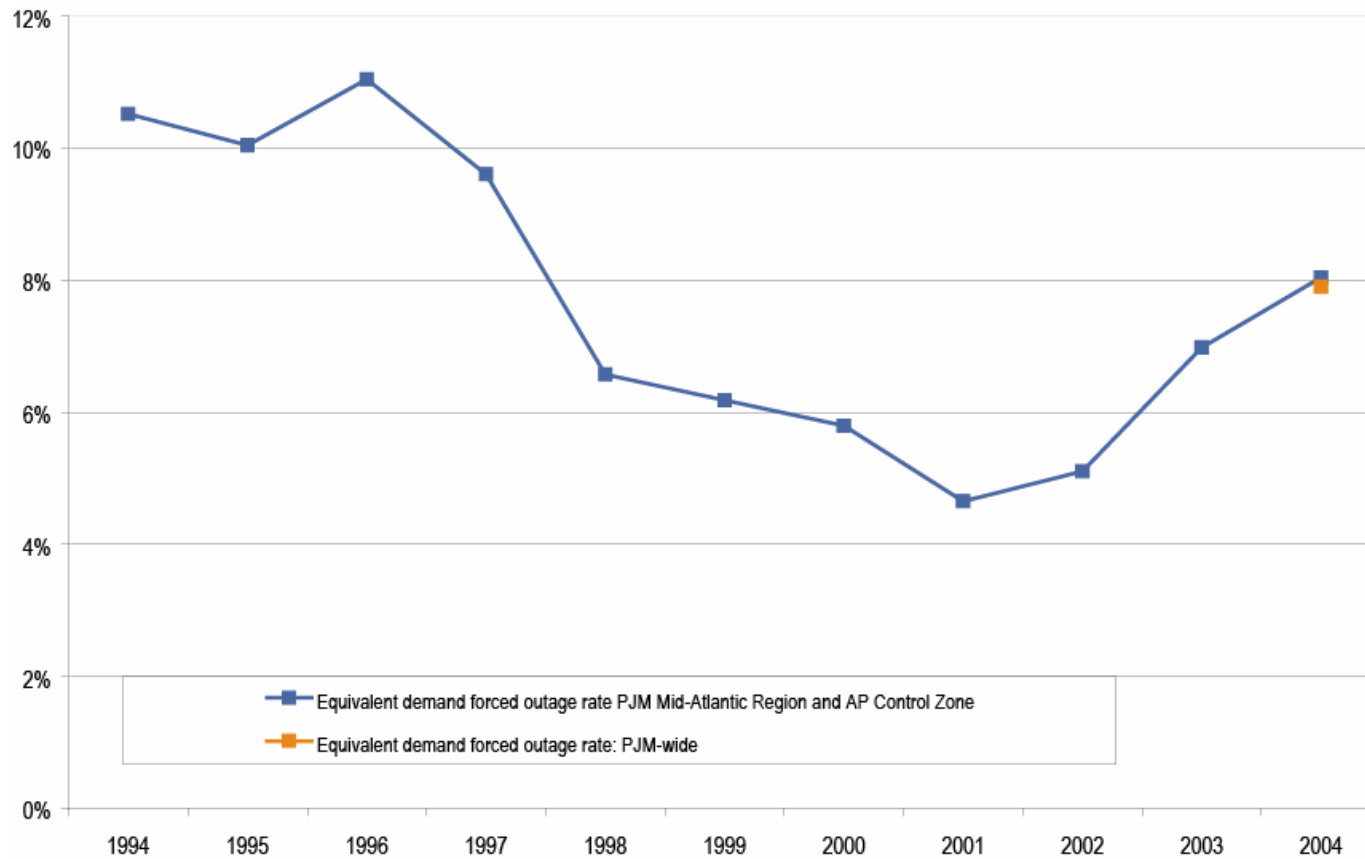


# PJM Daily and Monthly Capacity Credit Market (CCM) performance: Calendar years 2000 to 2004





# Trends in PJM equivalent demand forced outage rate (EFORd): Calendar years 1994 to 2004





# PJM Net Revenue

Table 1.

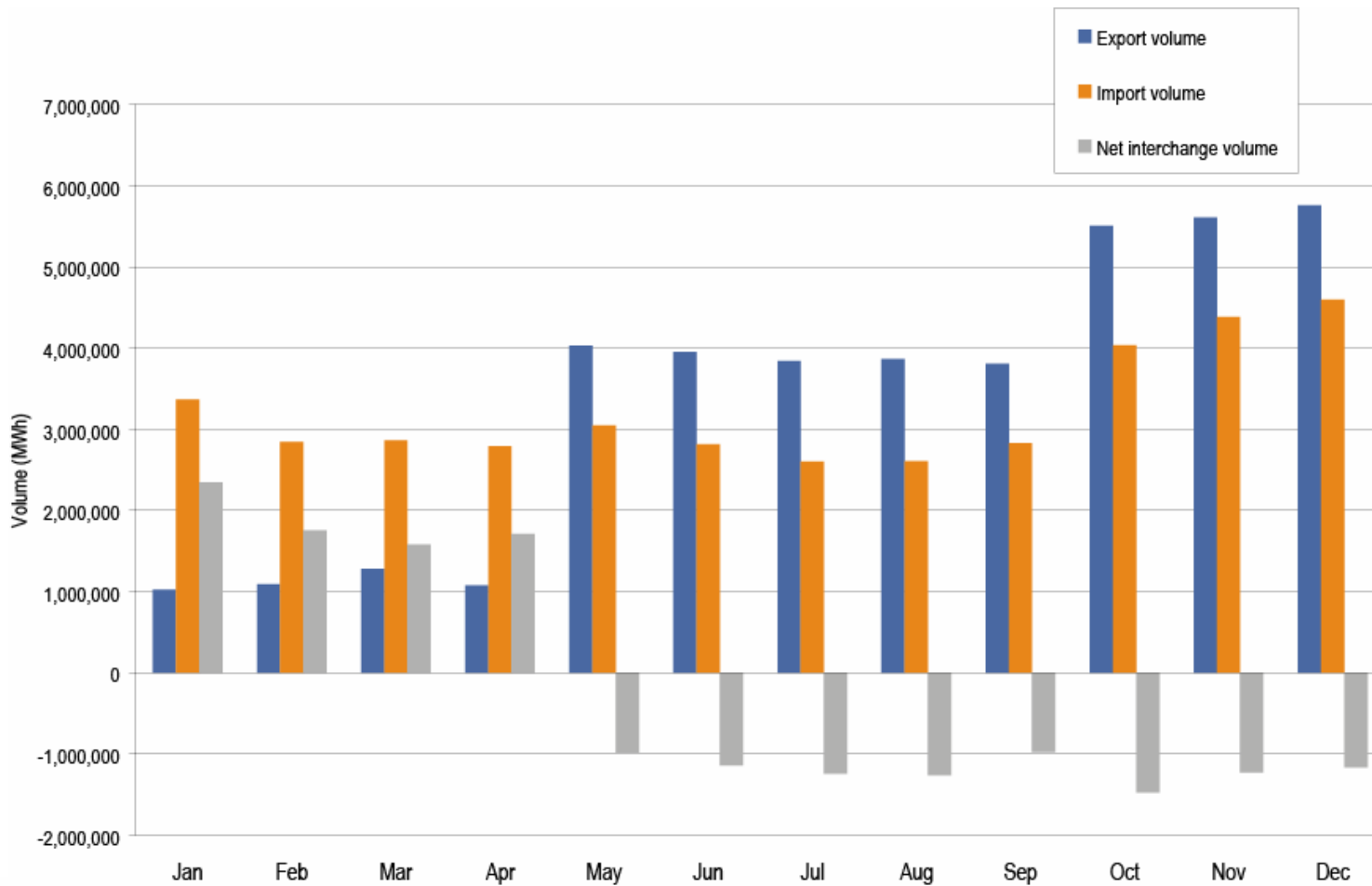
Unit Type	First Year Operating Fixed Cost	20 Year Levelized Fixed Cost	Perfect Dispatch Average Net Revenue 1999 to 2004	Realistic Dispatch Average Net Revenue 1999 to 2004
Combustion Turbine (CT)	\$61,726	\$72,207	\$44,314	\$36,195
Combined Cycle (CC)	\$79,969	\$93,549	\$77,107	\$52,243
Pulverized Coal (CP)	\$178,019	\$208,247	\$141,747	\$137,015

Table 2.

Unit Type	First Year Operating Fixed Cost	20 Year Levelized Fixed Cost	Perfect Dispatch Net Revenue 2004	Realistic Dispatch Net Revenue 2004
Combustion Turbine (CT)	\$61,726	\$72,207	\$15,829	\$8,685
Combined Cycle (CC)	\$79,969	\$93,549	\$58,657	\$36,446
Pulverized Coal (CP)	\$178,019	\$208,247	\$146,203	\$134,420

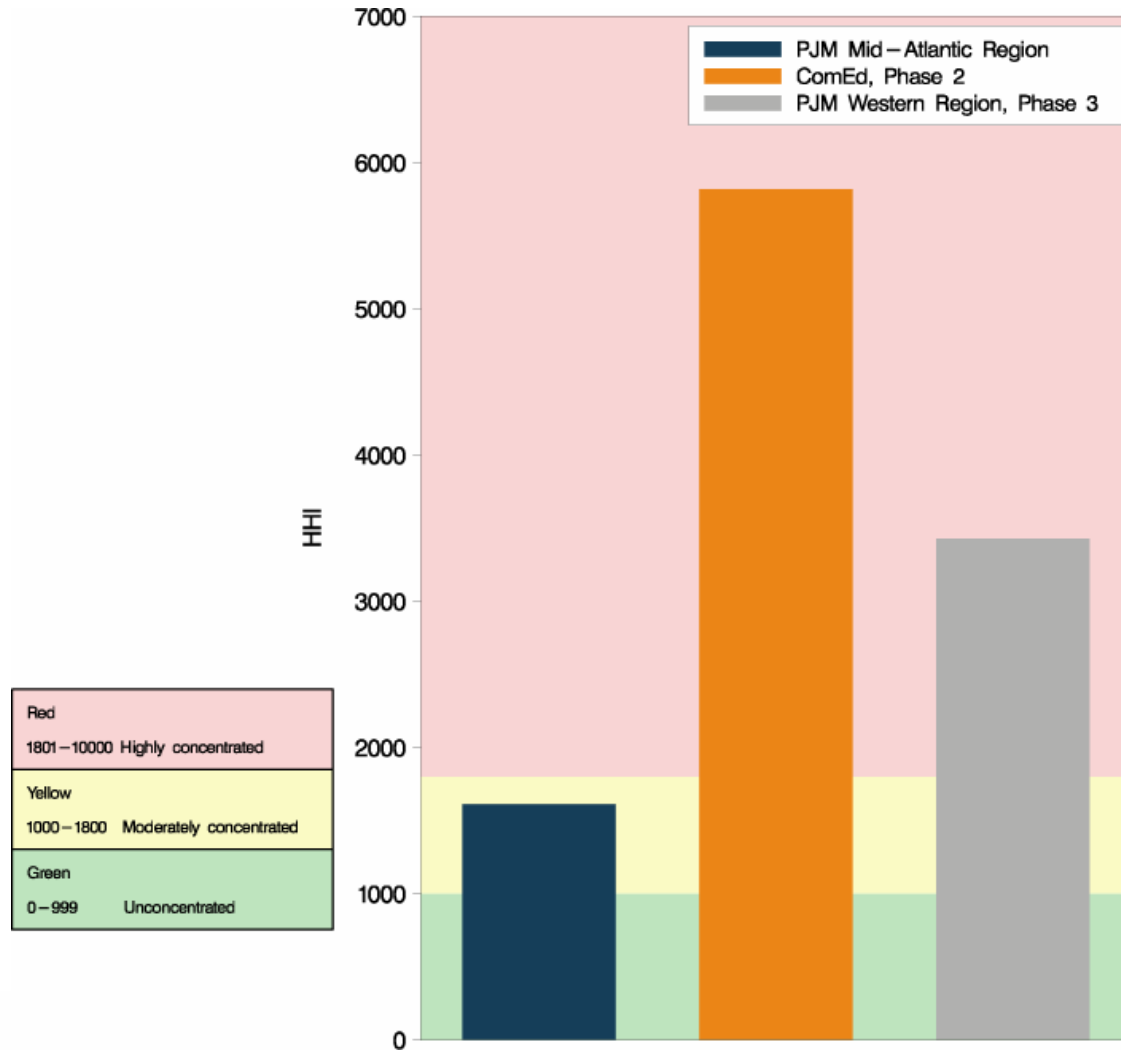


# PJM real-time imports and exports: Calendar year 2004



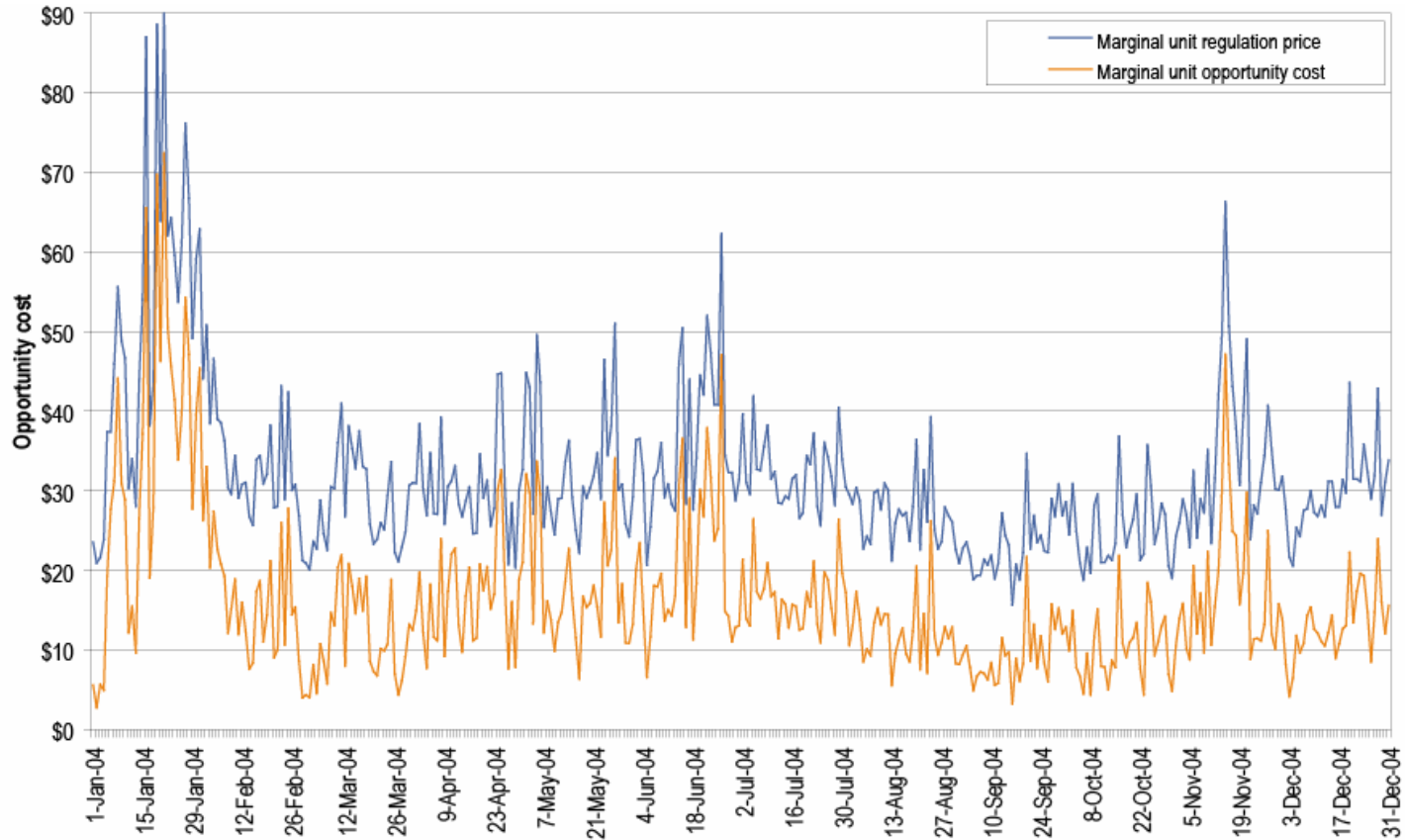


# PJM system Regulation Market HHI: Calendar year 2004





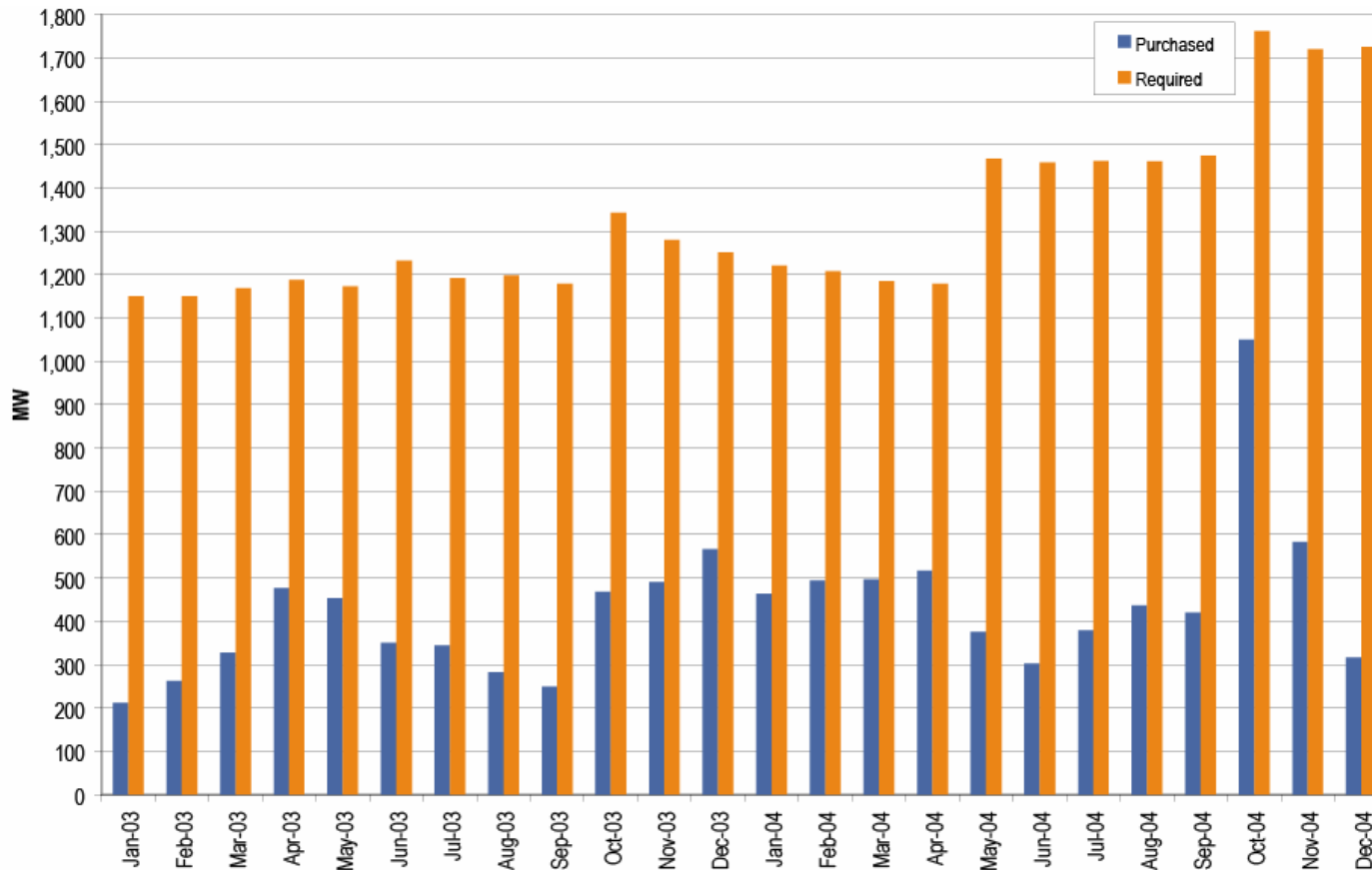
# PJM Mid-Atlantic Region daily average regulation clearing price and estimated opportunity costs: Calendar year 2004







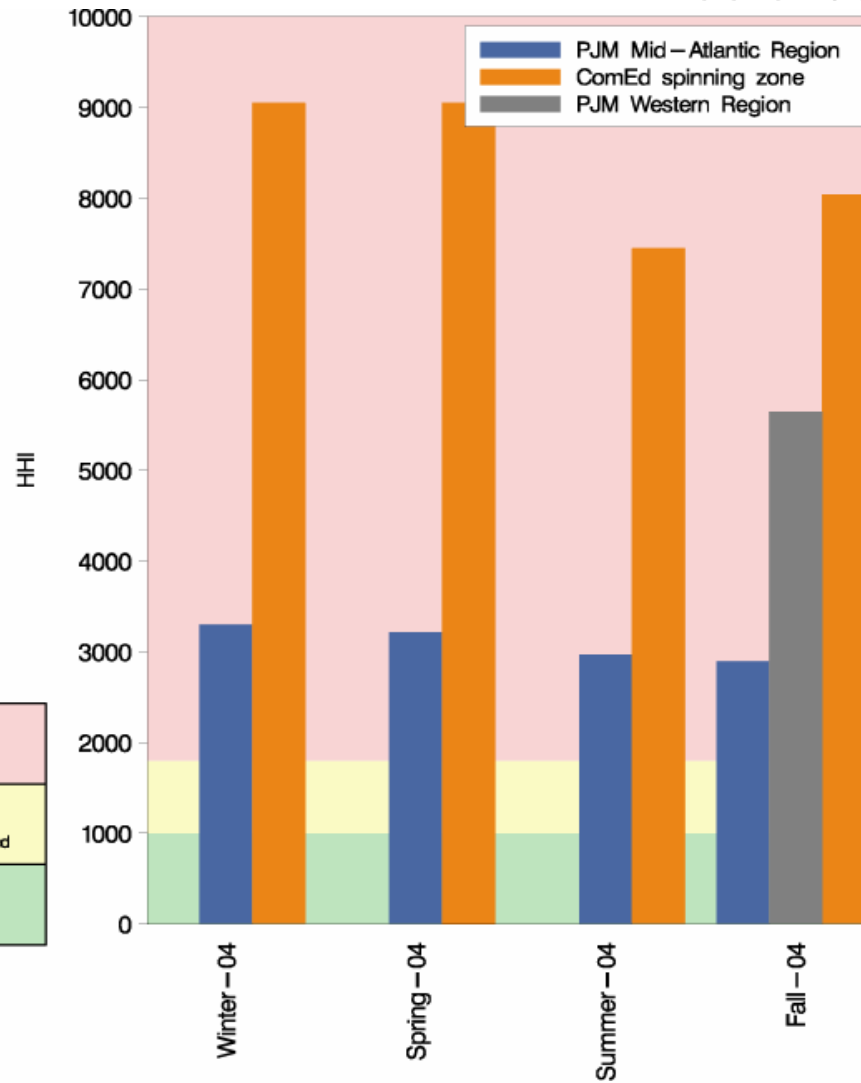
# PJM Control Area average hourly required spinning vs. Tier 2 spinning purchased: Calendar years 2003 to 2004





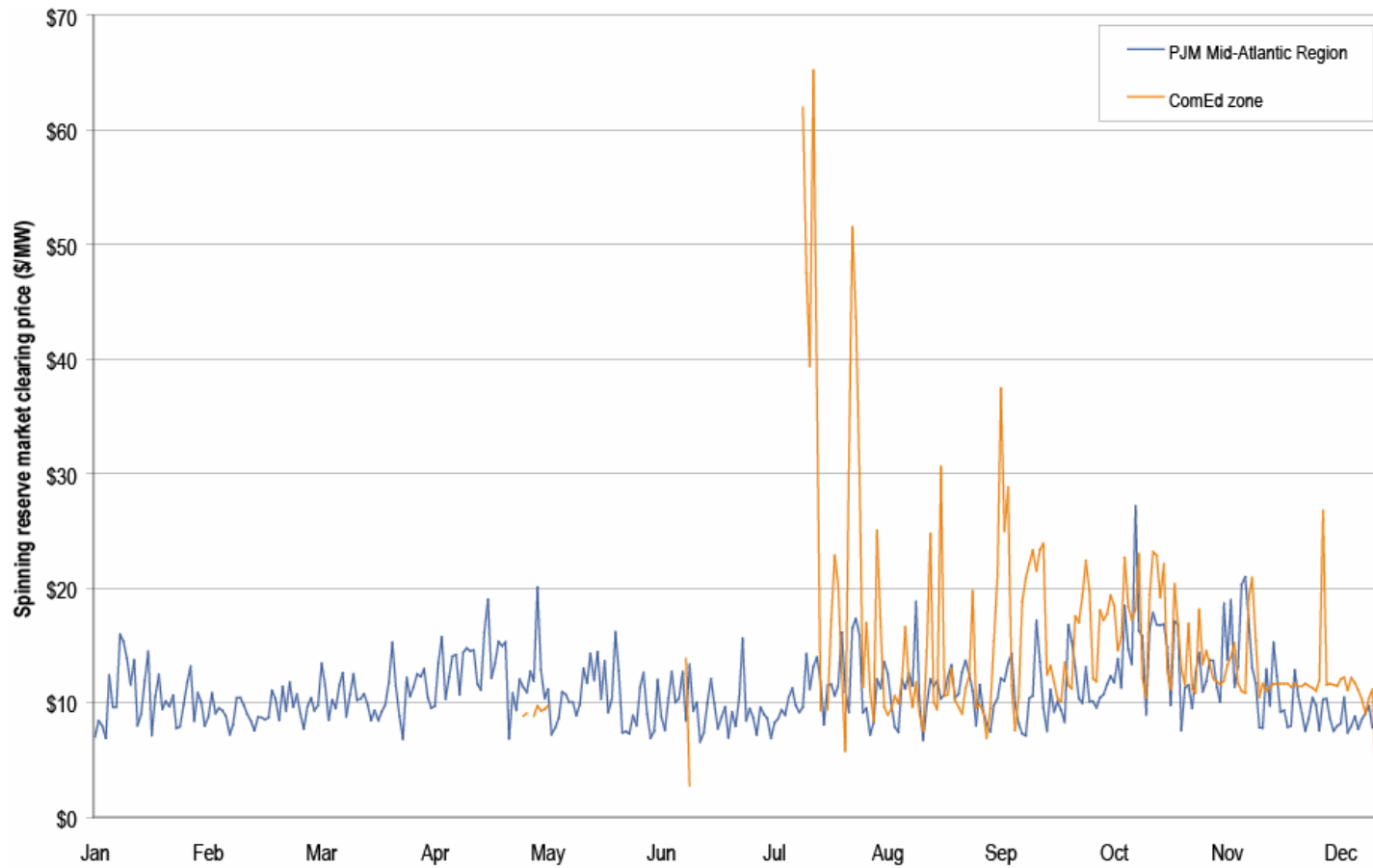
# PJM system Spinning Reserve Market HHI: Calendar year 2004

Red	1801–10000 Highly concentrated
Yellow	1000–1800 Moderately concentrated
Green	0–999 Unconcentrated





# PJM daily average spinning reserve market-clearing prices: Calendar year 2004





Total annual PJM congestion [Dollars (millions)]:  
Calendar years 1999 to 2004

	<b>Congestion Charges</b>	<b>Percent Increase</b>	<b>Total PJM Billing</b>	<b>Percent of PJM Billing</b>
<b>1999</b>	\$53	N/A	N/A	N/A
<b>2000</b>	\$132	149%	\$2,300	6%
<b>2001</b>	\$271	105%	\$3,400	8%
<b>2002</b>	\$430	59%	\$4,700	9%
<b>2003</b>	\$499	16%	\$6,900	7%
<b>2004</b>	\$808	62%	\$8,700	9%
<b>Total</b>	\$2,193	N/A	N/A	N/A