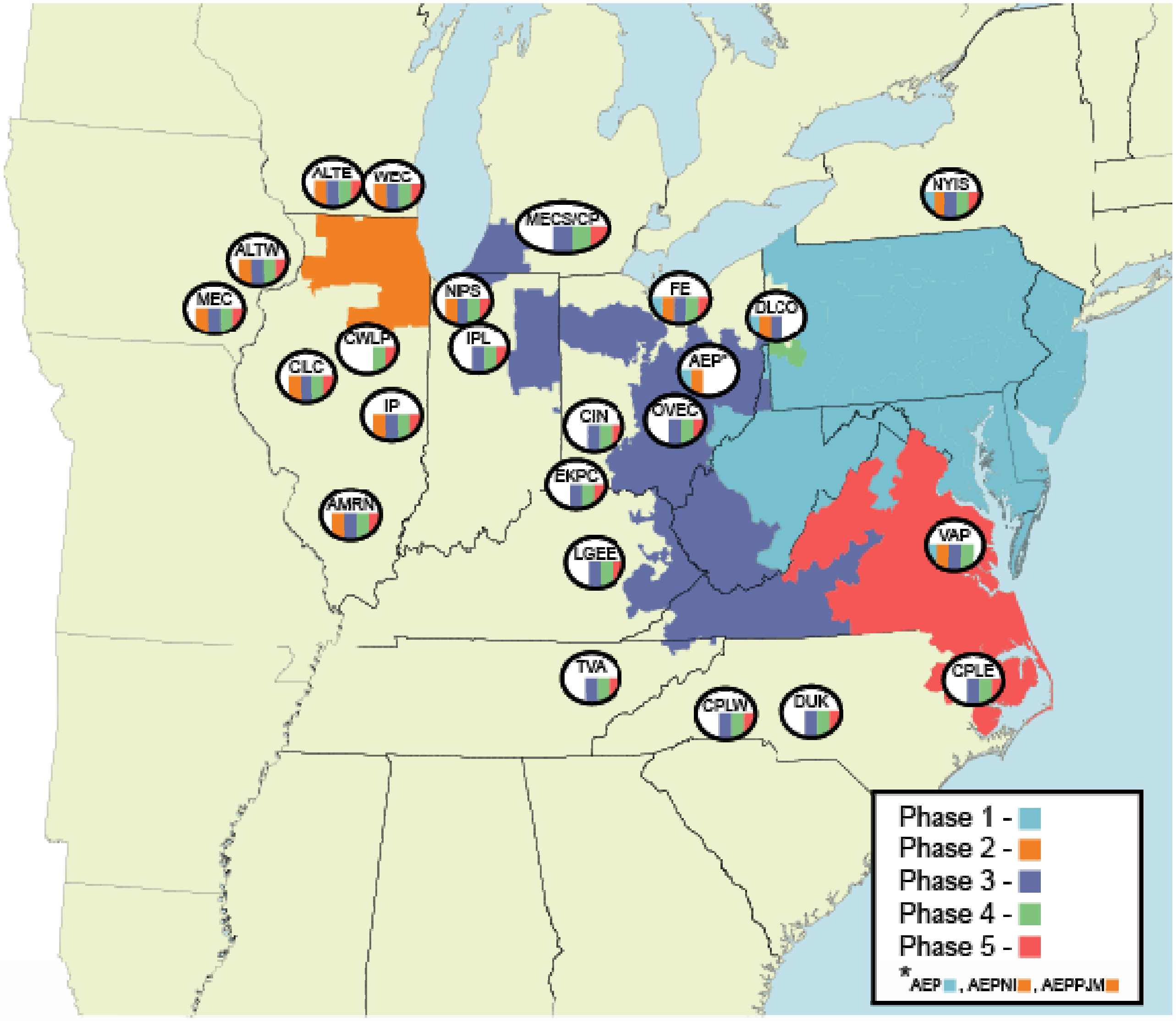
STATE OF THE MARKET REPORT 2005

MRC
Baltimore, MD
March 15, 2006

Joseph E. Bowring
Market Monitor

Figure 4-4 - PJM's evolving footprint and its interfaces



- Independent Internal Market Monitoring
  - Independent System Operator
  - ISO/RTO has no financial stake in market outcomes
  - ISO/RTO has independent Board
  - ISO and MMU are independent from all market participants
  - MMU is independent from ISO

- MMU Accountability
  - To FERC (per FERC MMU Orders and MM Plan).
  - To PJM Board.

- Monitor **compliance with rules**, standards, procedures and practices of PJM.
- Monitor **actual or potential design flaws** in rules, standards, procedures and practices of PJM.
- Monitor **structural problems** in the PJM market that may inhibit a robust and competitive market.
- Monitor the potential of Market Participants to **exercise undue market power**.

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

- Enhancement of Capacity Market design
- Modification of operating reserves rules
- Improvement in cost-benefit analysis for transmission investments
- Improvement in loop flow analysis
- Enhancement of market data posting
- Modification of unit outage rules

Figure 2-12 - PJM average hourly load and Spot Market volume: Calendar year 2005

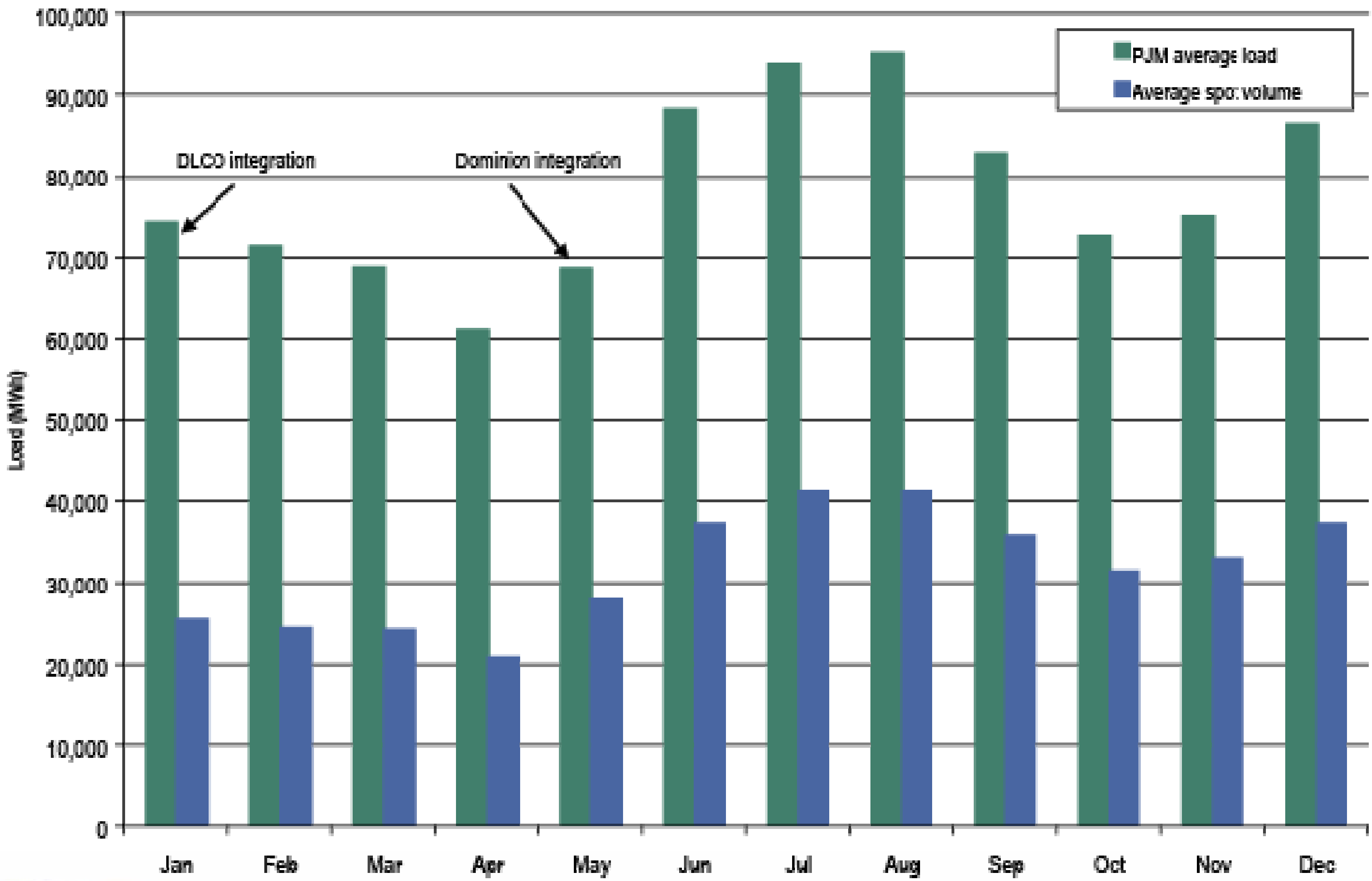


Figure 3-2 - PJM capacity (By fuel source): At January 1, 2005

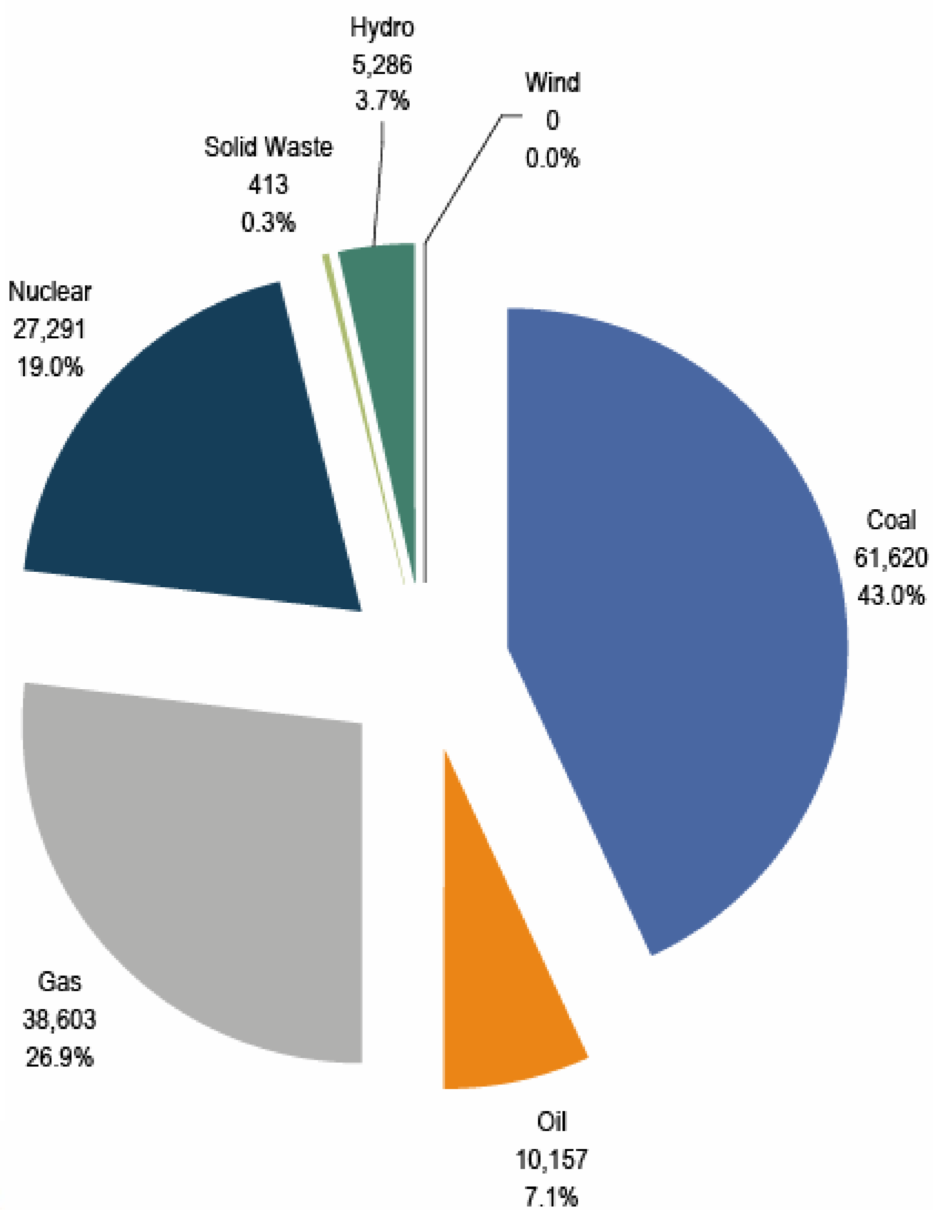


Figure 3-4 - PJM capacity (By fuel source): At December 31, 2005

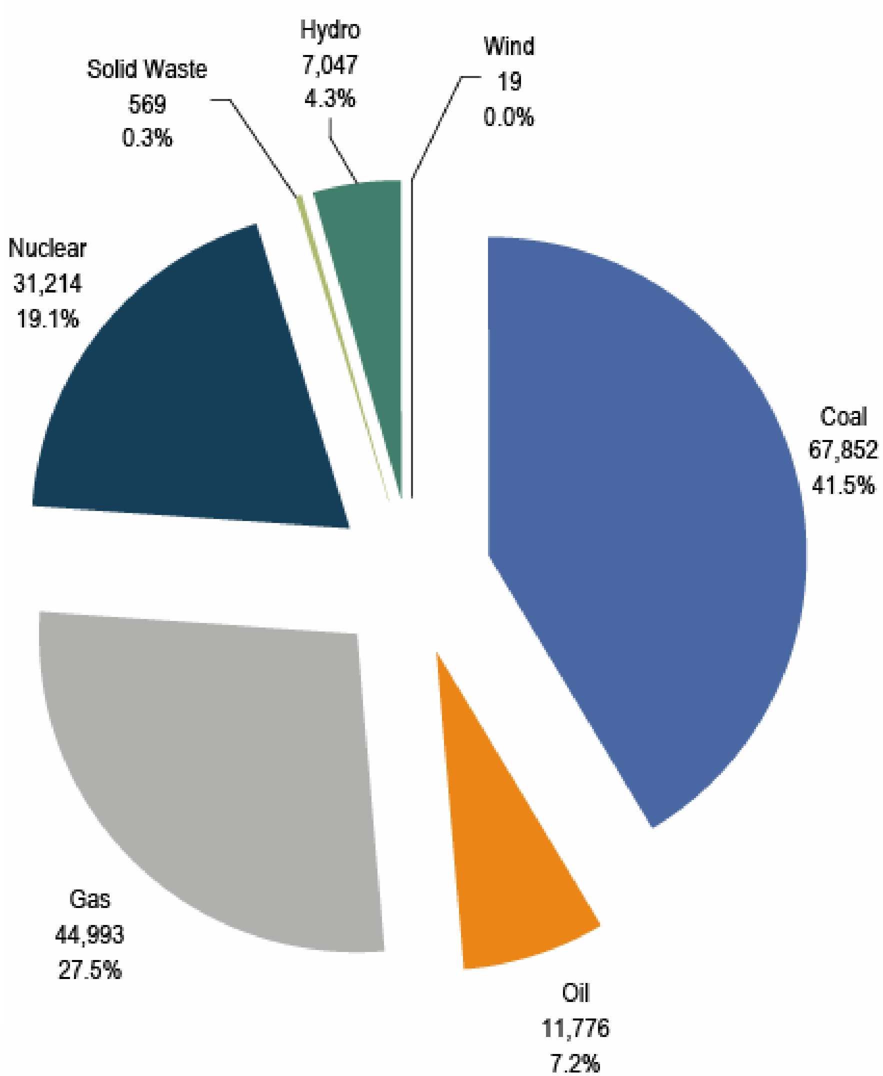


Figure 3-5 - PJM generation [By fuel source (In GWh)]: 2005

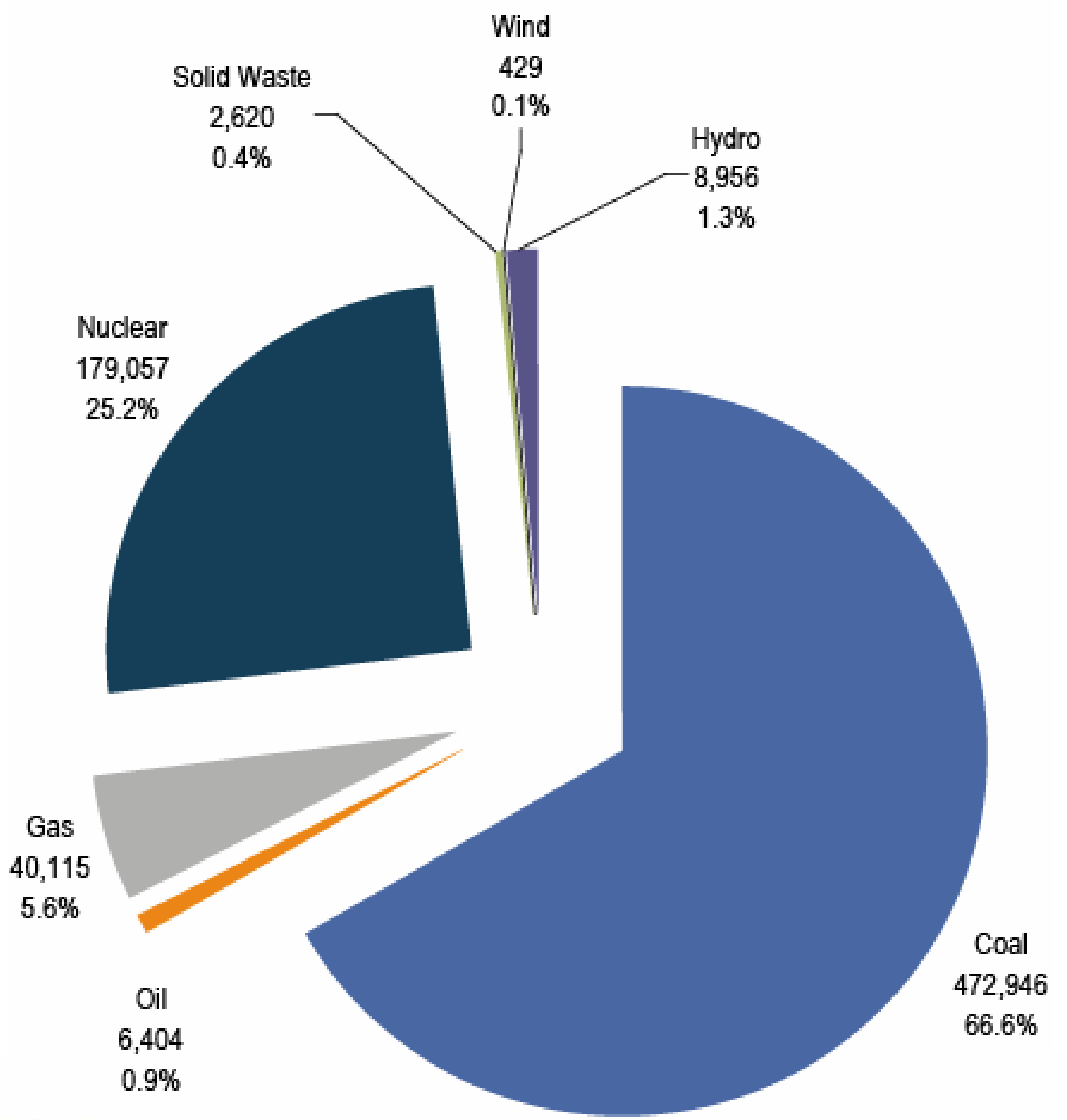


Figure 2-1 - Average PJM aggregate supply curves: Summers 2004 and 2005

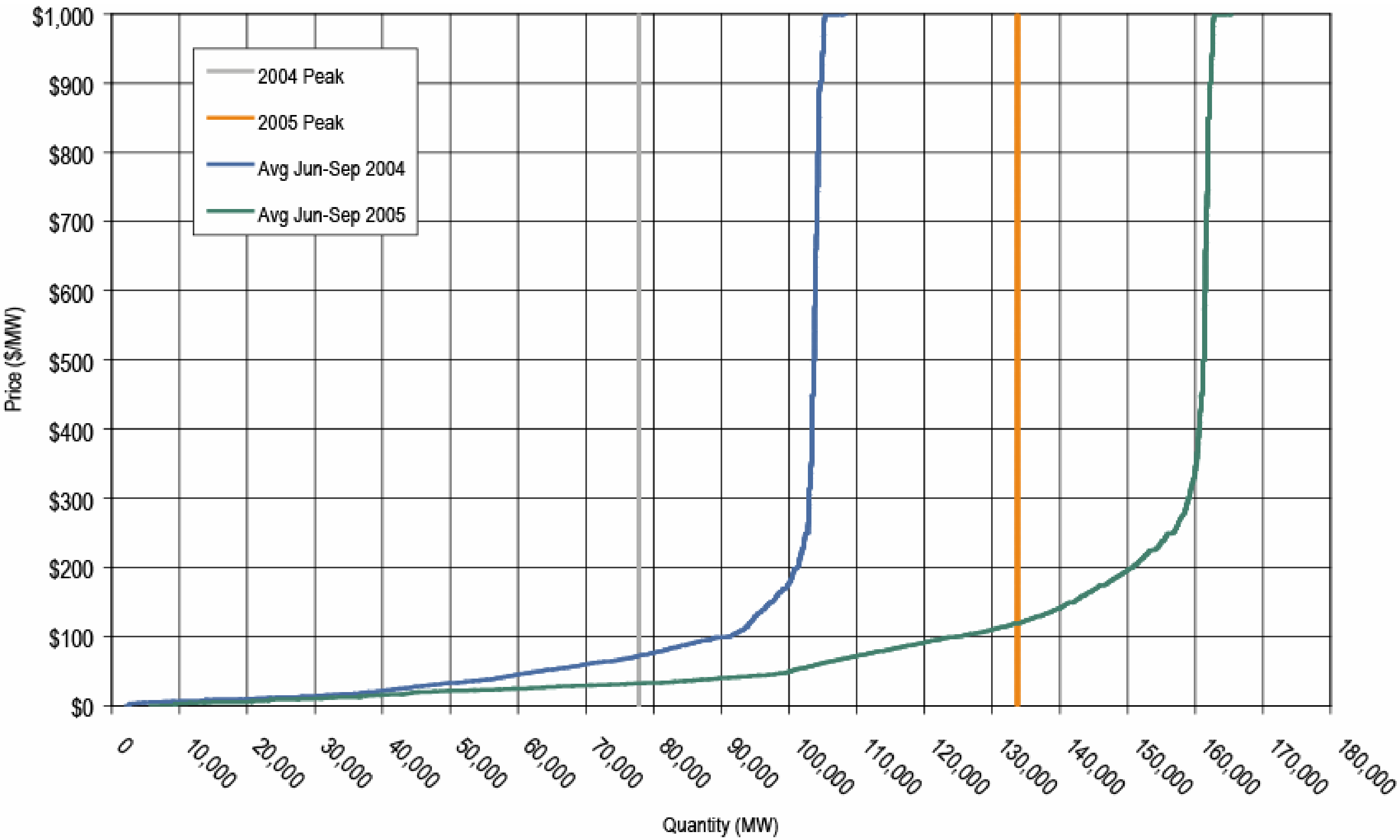


Figure 2-2 - PJM summer peak-load comparison: Tuesday, July 26, 2005, and Tuesday, August 3, 2004

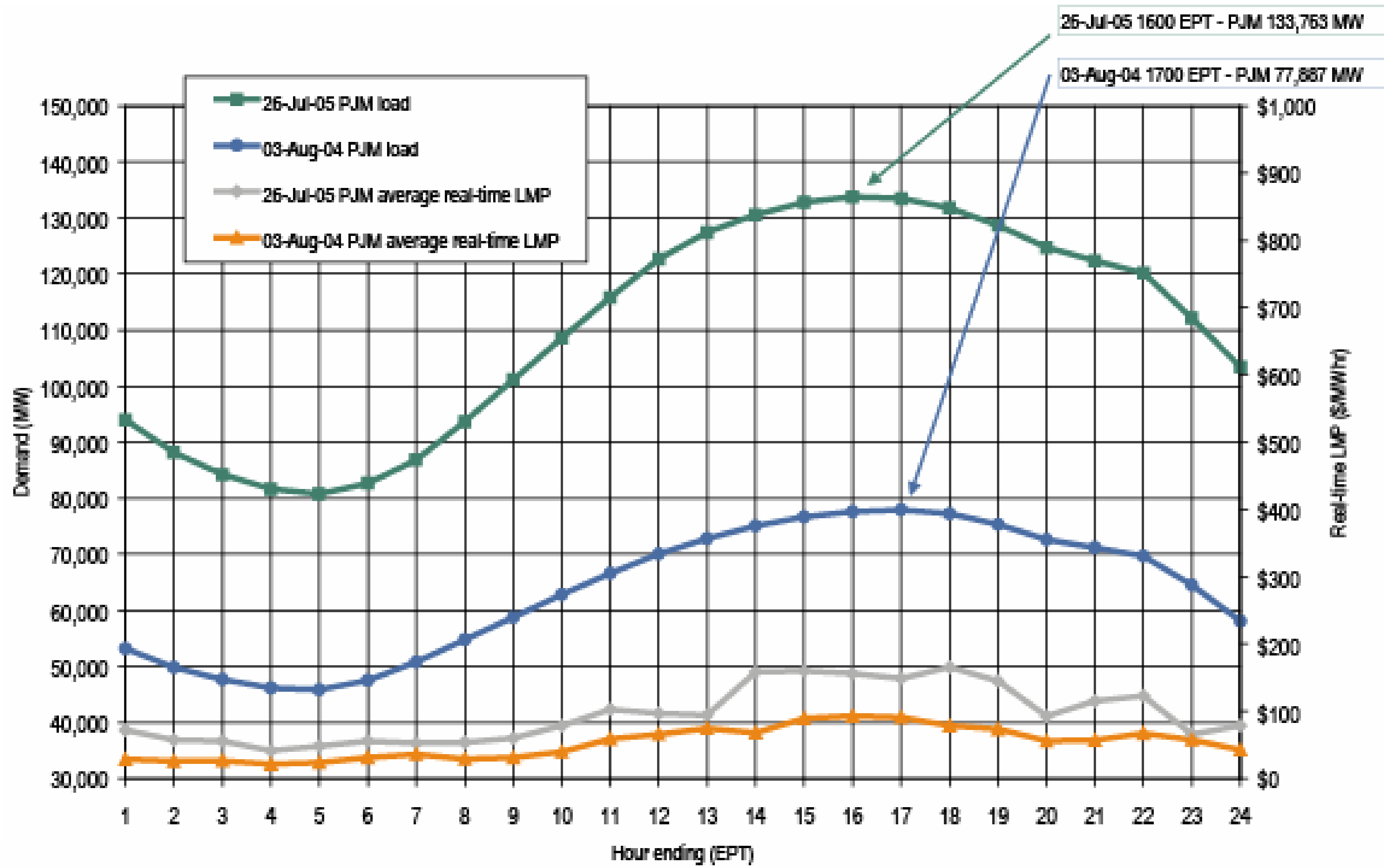


Table 2-32 - PJM average hourly LMP (Dollars per MWh): Calendar years 1998 through 2005

	Locational Marginal Prices (LMPs)			Year-to-Year Changes		
	Average	Median	Standard Deviation	Average	Median	Standard Deviation
1998	$21.72	$16.60	$31.45	NA	NA	NA
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%	46.1%	10.3%
2004	$42.40	$38.30	$21.12	10.8%	24.4%	(14.5%)
2005	$58.08	$47.18	$35.91	37.0%	23.2%	70.0%

Figure 2-17 - Price duration curves for the PJM Real-Time Energy Market: Calendar years 2001 through 2005

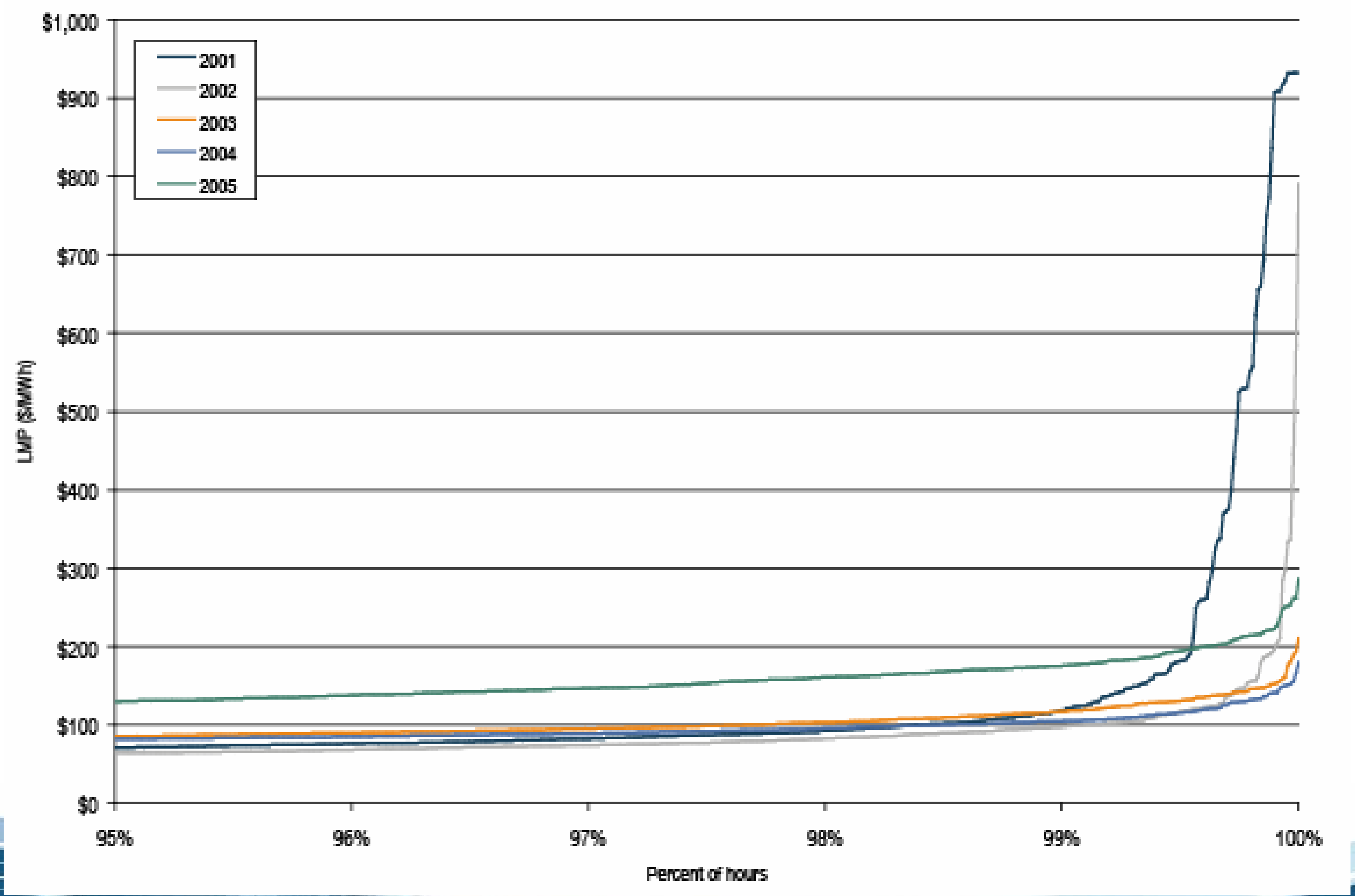


Table 2-34 - PJM load-weighted, average LMP (Dollars per MWh): Calendar years 1998 through 2005

	Load-Weighted, Average LMP			Year-to-Year Changes		
	Average	Median	Standard Deviation	Average	Median	Standard Deviation
1998	$24.16	$17.60	$39.29	NA	NA	NA
1999	$34.07	$19.02	$91.49	41.0%	8.1%	132.9%
2000	$30.72	$20.51	$28.38	(9.8%)	7.8%	(69.0%)
2001	$36.65	$25.08	$57.26	19.3%	22.3%	101.8%
2002	$31.58	$23.40	$26.73	(13.8%)	(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%)
2005	$63.46	$52.93	$38.10	43.1%	31.8%	79.3%

Figure 2-13 - Monthly load-weighted, average LMP: Calendar years 1999 through 2005

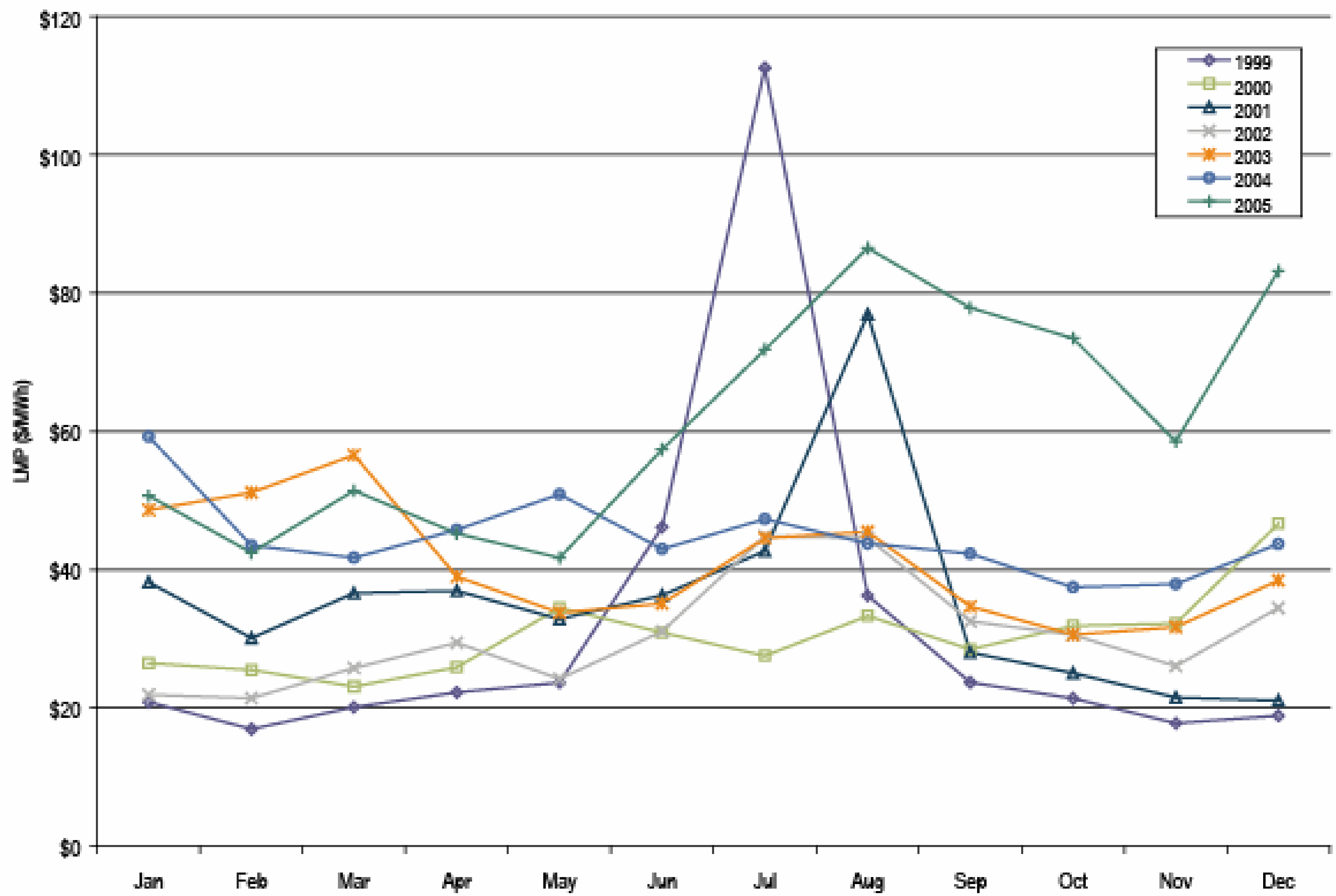


Figure 2-14 - Spot coal and natural gas price comparison: Calendar years 2004 through 2005

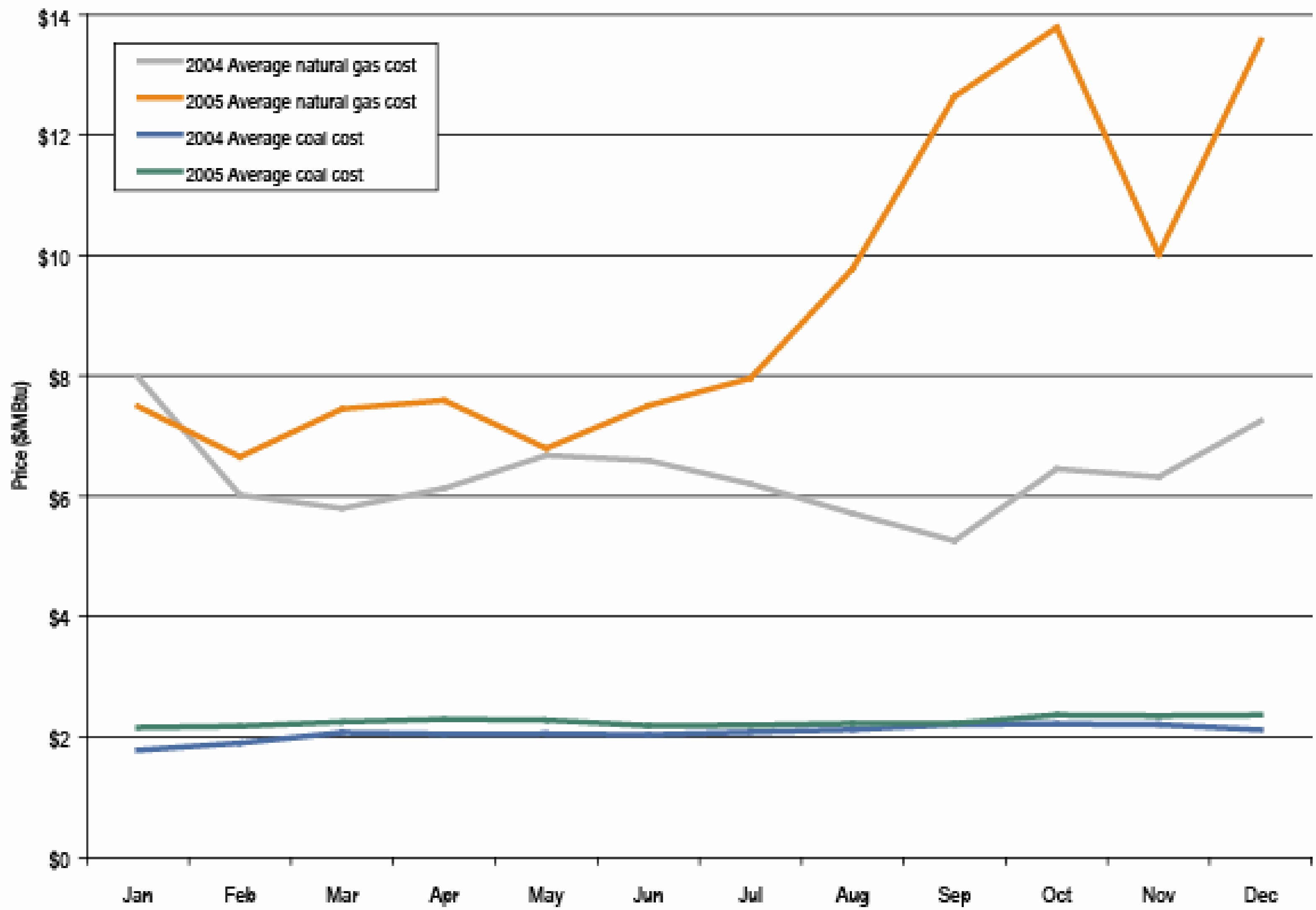


Figure 2-15 - Spot oil price comparison: Calendar years 2004 through 2005

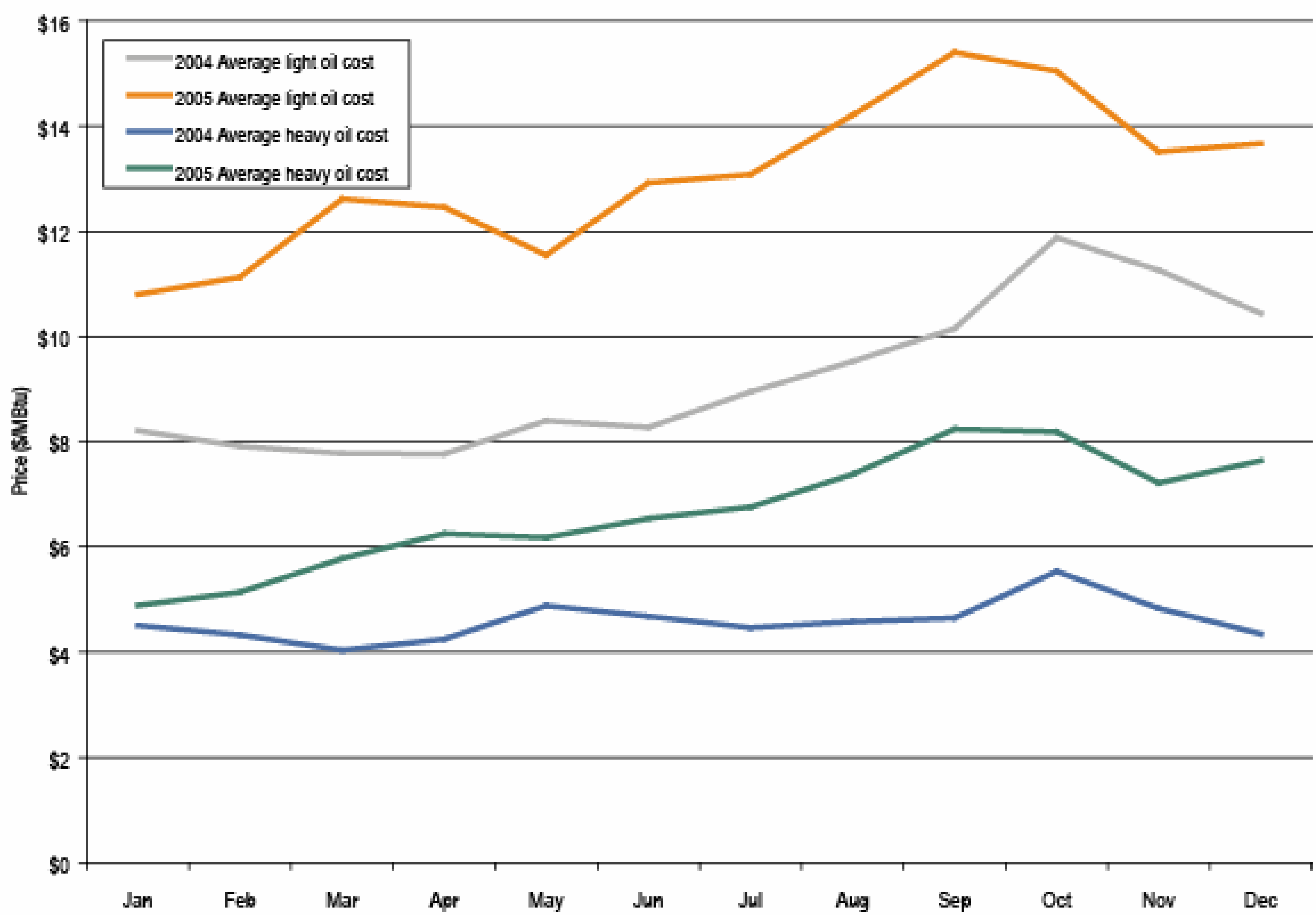


Table 2-18 - Type of fuel used by marginal units: Calendar years 2001 to 2005

Fuel Type	2001	2002	2003	2004	2005
Coal	49%	55%	52%	56%	62%
Misc	0%	0%	0%	0%	0%
Natural gas	18%	23%	29%	31%	26%
Nuclear	1%	0%	1%	0%	0%
Petroleum	32%	21%	18%	12%	11%

Table 2-35 - PJM fuel-cost-adjusted, load-weighted LMP (Dollars per MWh): Year-over-year method

	2004	2005	Change
Average	$44.34	$45.02	1.5%
Median	$40.16	$38.75	(3.5%)
Standard Deviation	$21.25	$25.68	20.8%

Figure 2-16 - PJM average load: Calendar years 2004 through 2005

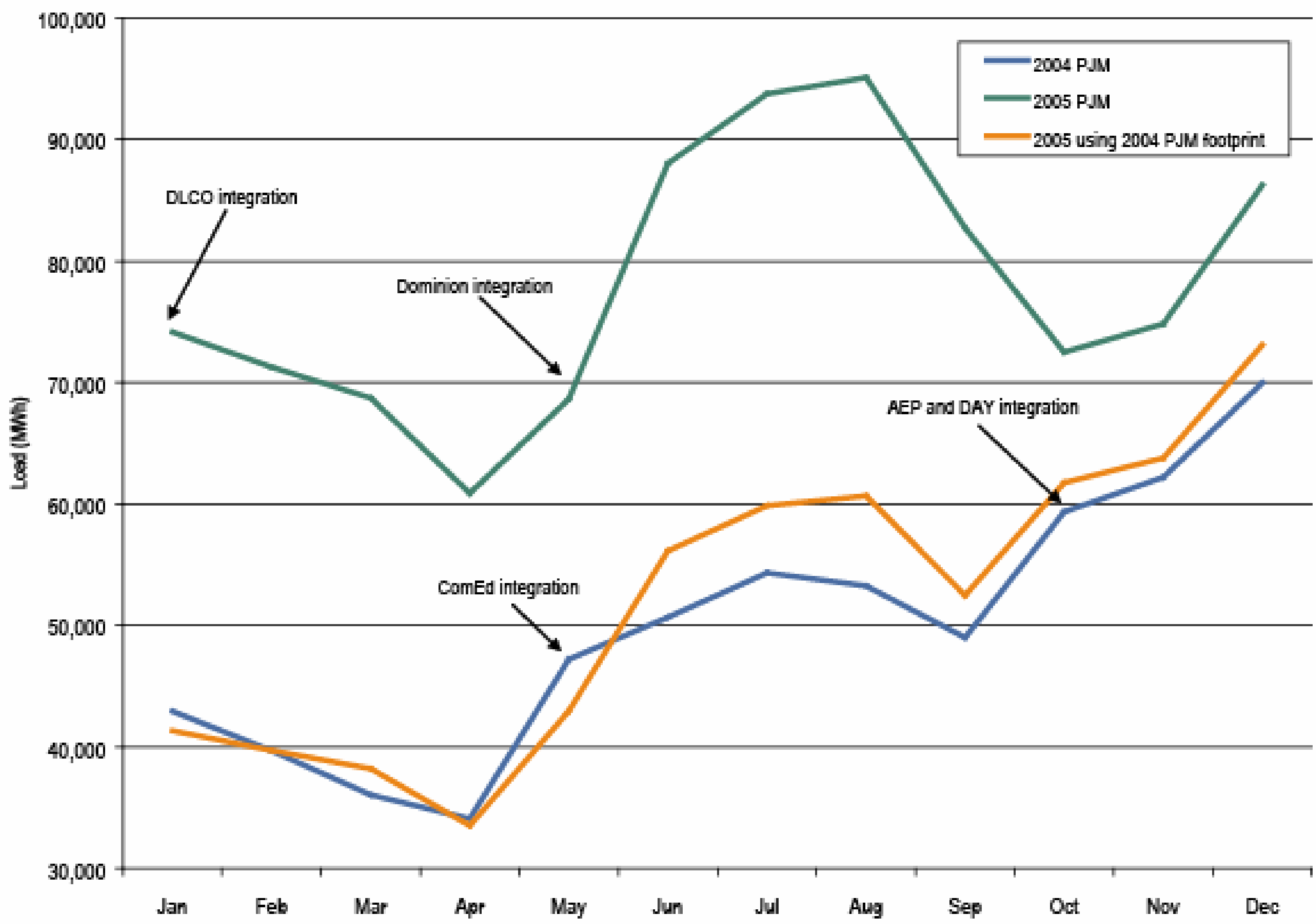


Figure 3-10 - PJM load and LMP: For July 27, 2005

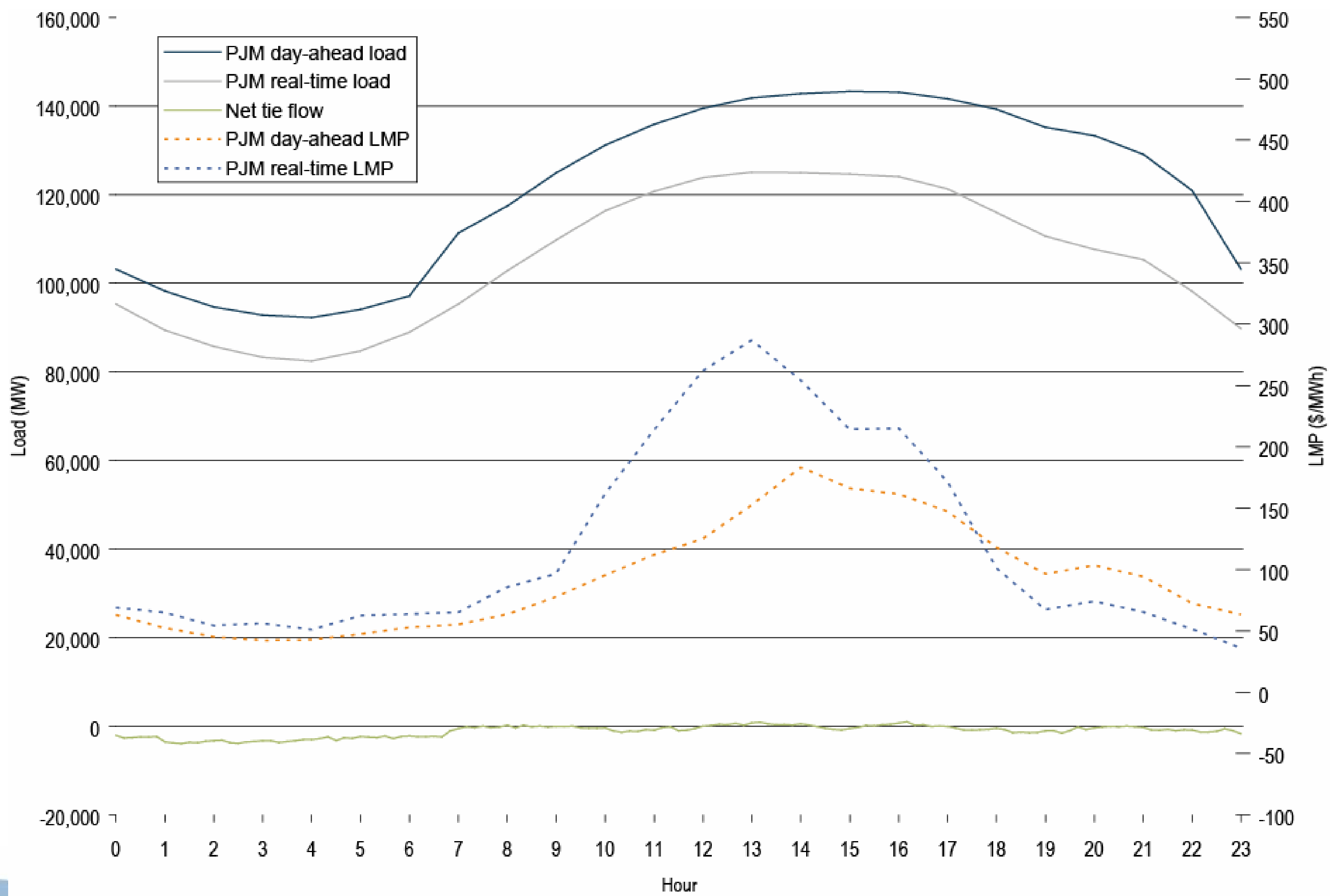


Figure 3-7 - Zonal hourly LMP: For July 26, 2005

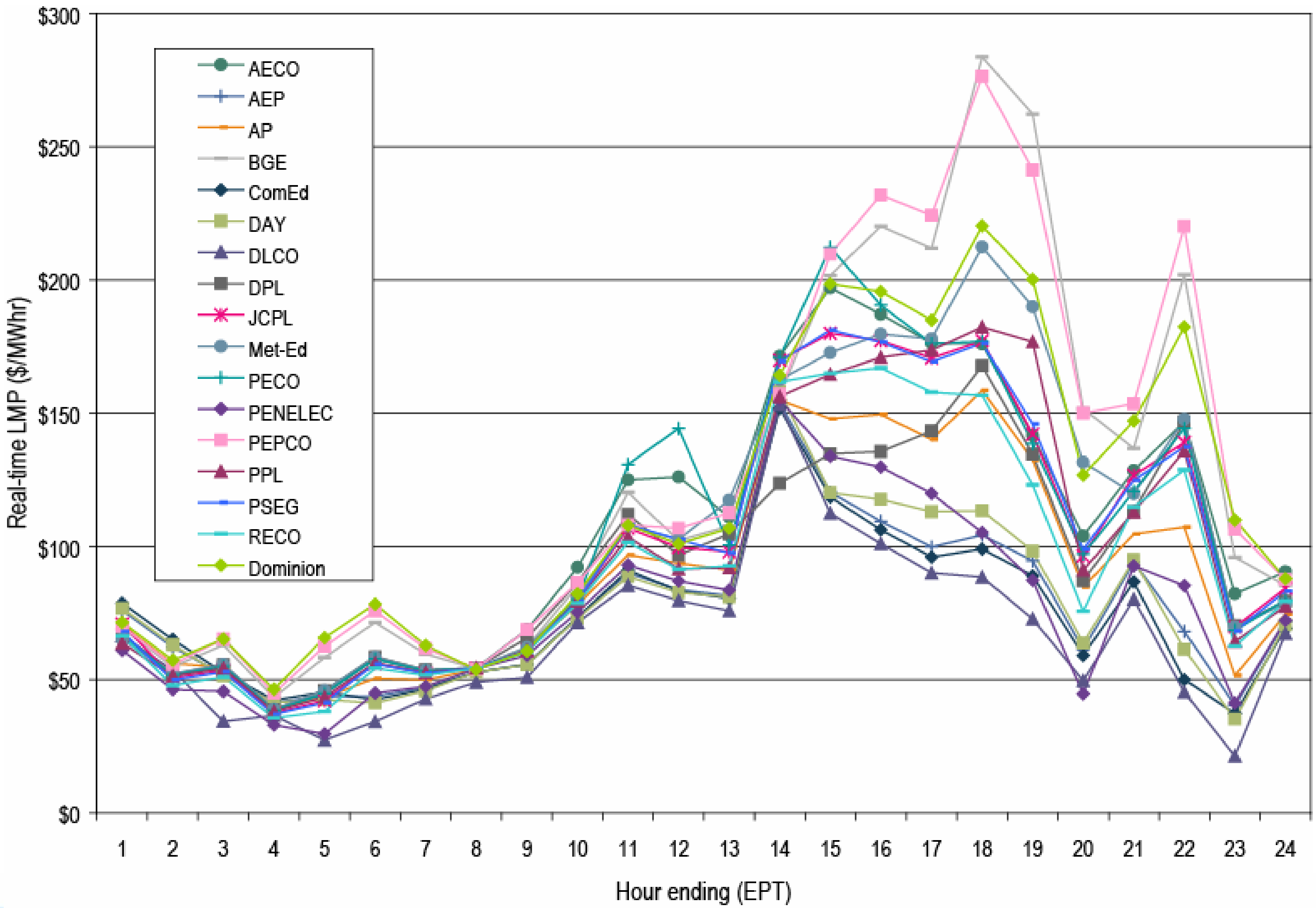


Figure 2-3 - PJM hourly Energy Market HHI: Calendar years 2004 and 2005

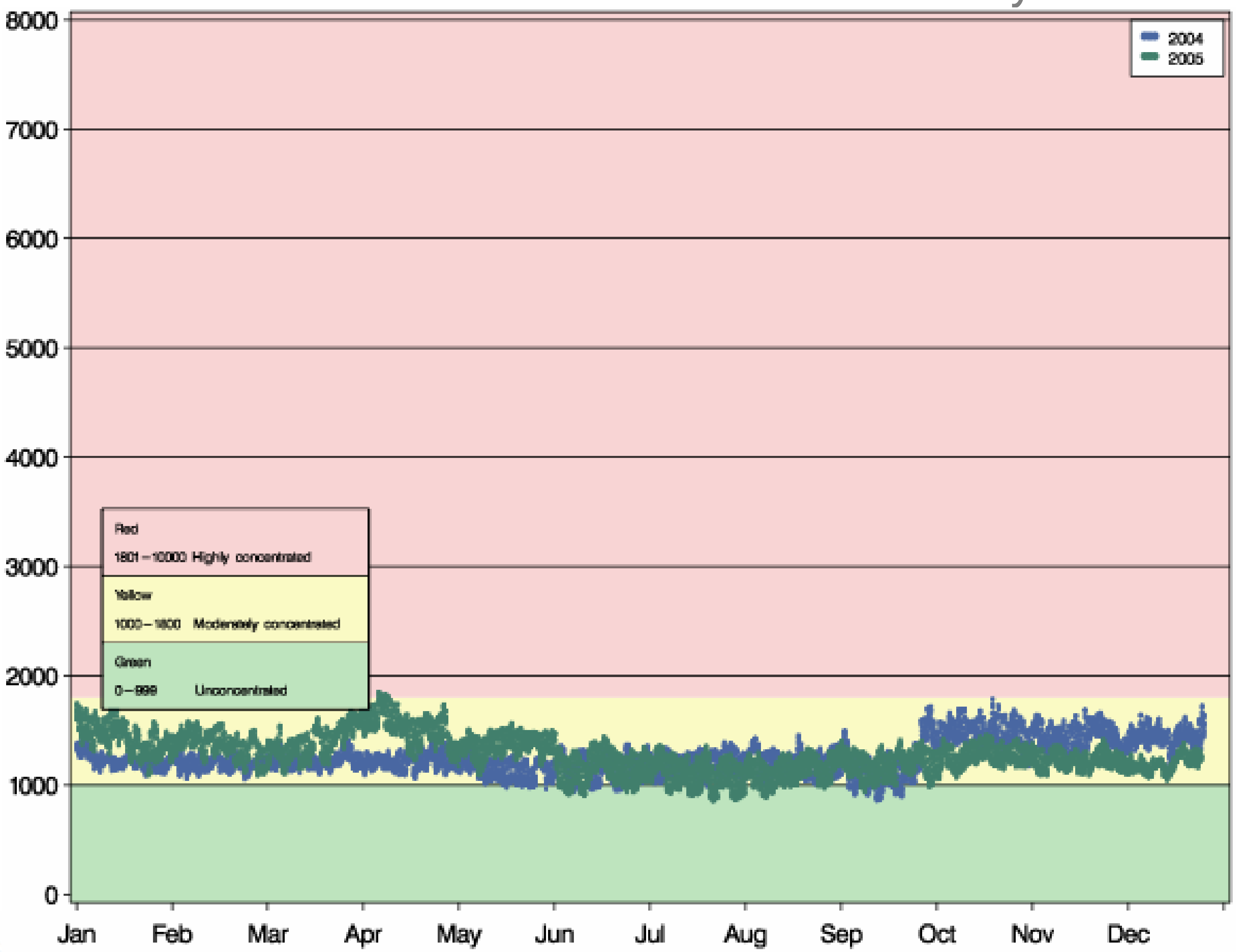


Figure 2-4 - PJM RSI duration curve: Calendar years 2004 and 2005

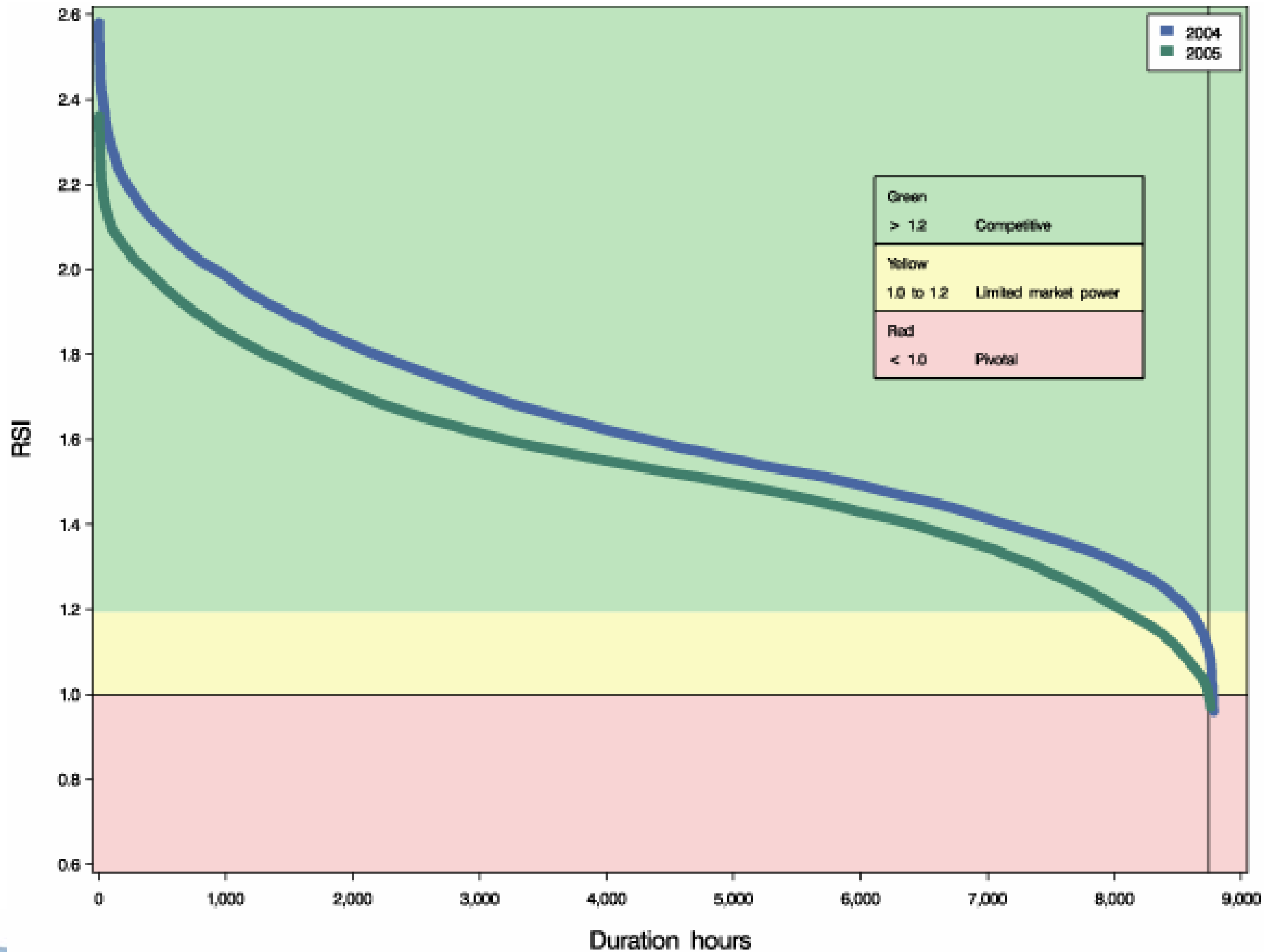


Figure 2-8 - Load-weighted, average monthly markup indices: Calendar year 2005

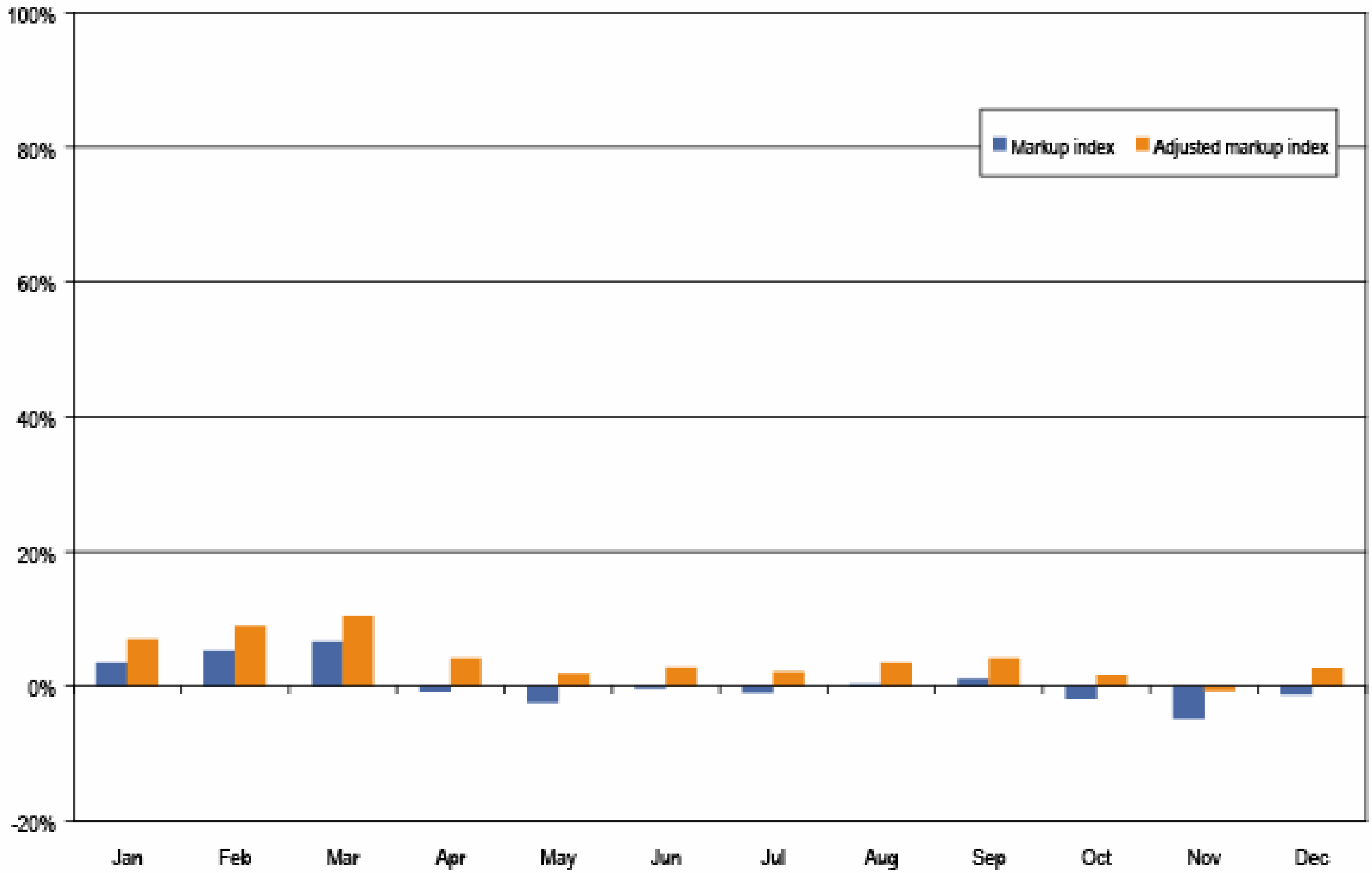


Table 2-22 - Average day-ahead, offer-capped MW: Calendar years 2001 to 2005

	2001		2002		2003		2004		2005	
	Avg. MW Capped	Percent	Avg. MW Capped	Percent	Avg. MW Capped	Percent	Avg. MW Capped	Percent	Avg. MW Capped	Percent
Jan	32	0.1%	40	0.1%	37	0.1%	51	0.1%	87	0.1%
Feb	16	0.0%	30	0.1%	27	0.1%	68	0.1%	75	0.1%
Mar	101	0.3%	6	0.0%	4	0.0%	48	0.1%	58	0.1%
Apr	286	1.0%	48	0.1%	38	0.1%	41	0.1%	34	0.0%
May	286	1.0%	14	0.0%	52	0.1%	52	0.1%	14	0.0%
Jun	591	1.7%	48	0.1%	69	0.2%	49	0.1%	28	0.4%
Jul	203	0.6%	77	0.1%	132	0.3%	243	0.4%	52	0.0%
Aug	91	0.2%	106	0.2%	148	0.3%	348	0.5%	63	0.1%
Sep	332	1.0%	78	0.2%	139	0.3%	221	0.4%	13	0.0%
Oct	193	0.6%	57	0.1%	100	0.2%	34	0.0%	16	0.0%
Nov	192	0.6%	30	0.1%	21	0.1%	28	0.0%	26	0.0%
Dec	18	0.1%	25	0.1%	25	0.1%	35	0.0%	48	0.0%

Figure 3-11 - Monthly average balancing operating reserve rate: June 1, 2000, through December 31, 2005

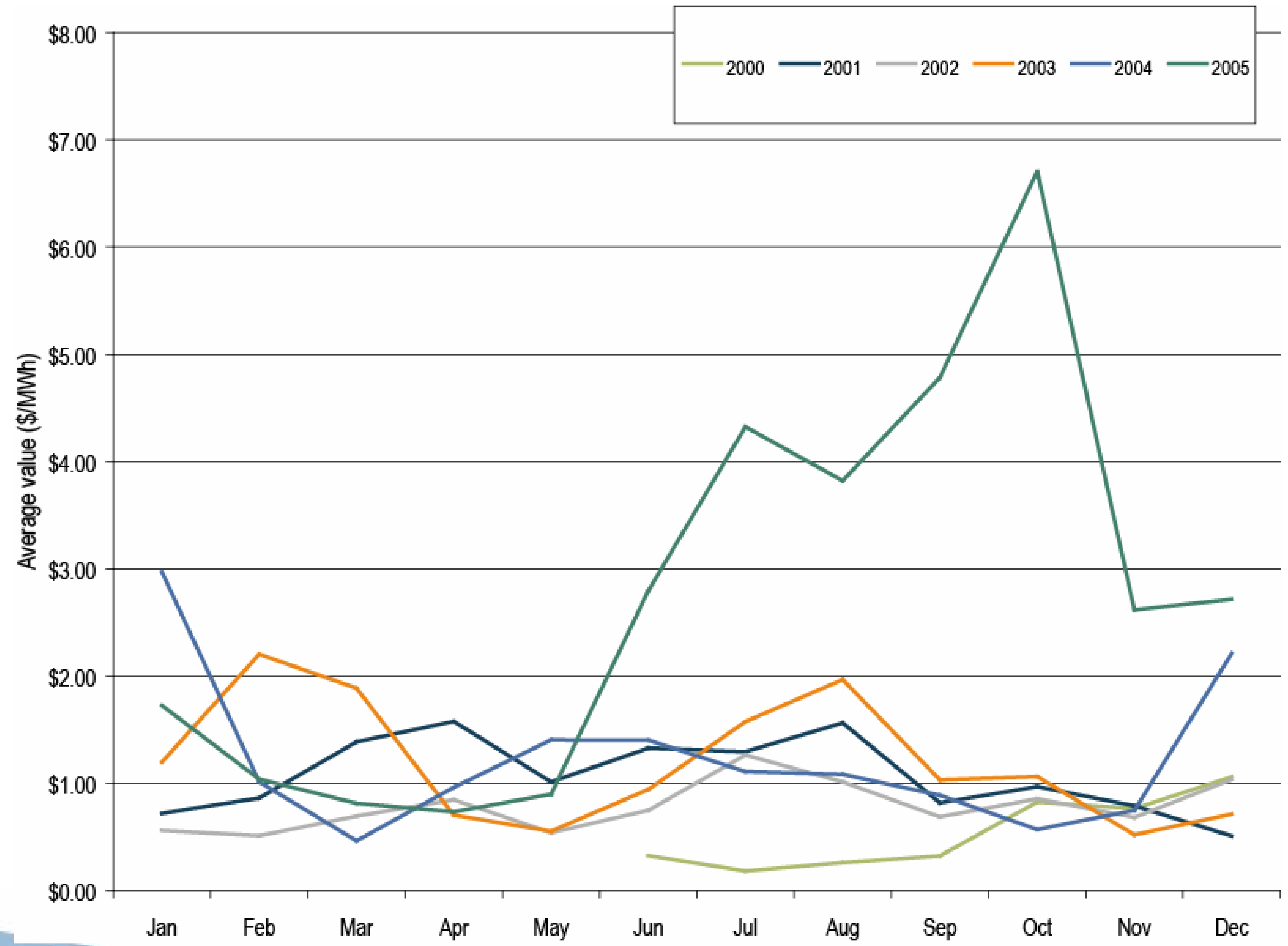


Figure 5-1 - PJM Capacity Market load obligation served (Percent): Calendar year 2005

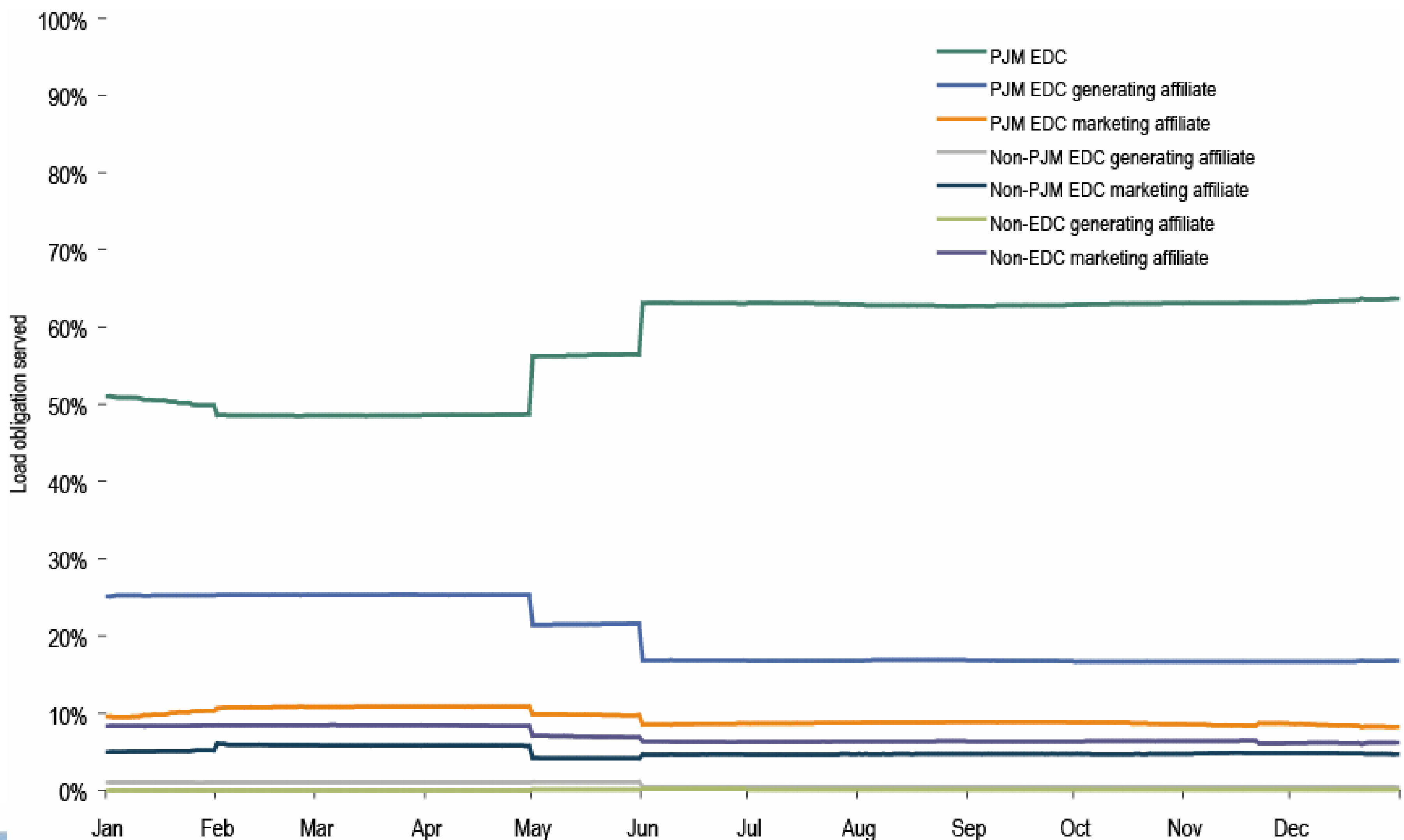


Figure 5-2 - Capacity obligation for the PJM Capacity Market: Calendar year 2005

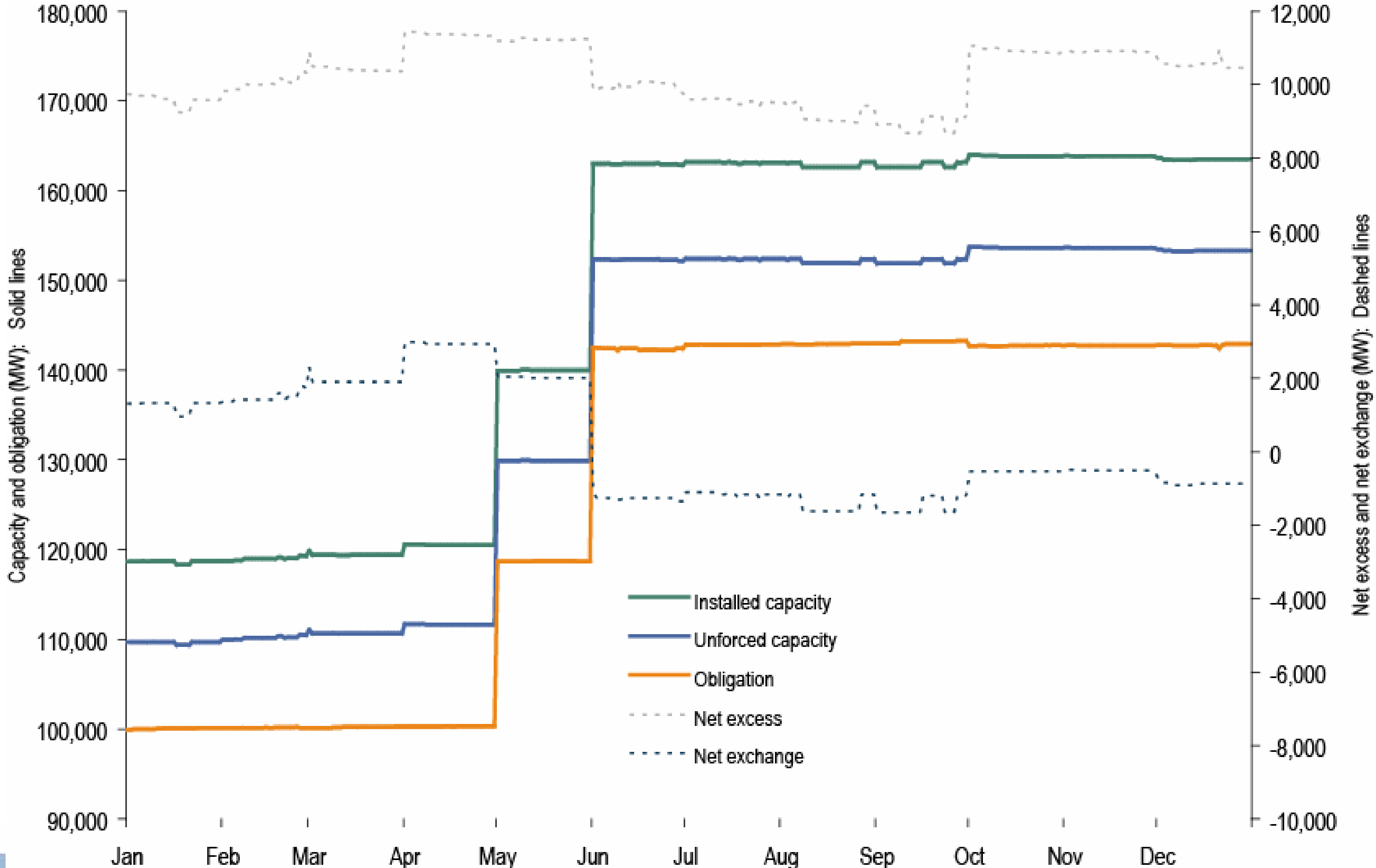


Figure 5-3 - External PJM Capacity Market transactions: Calendar year 2005

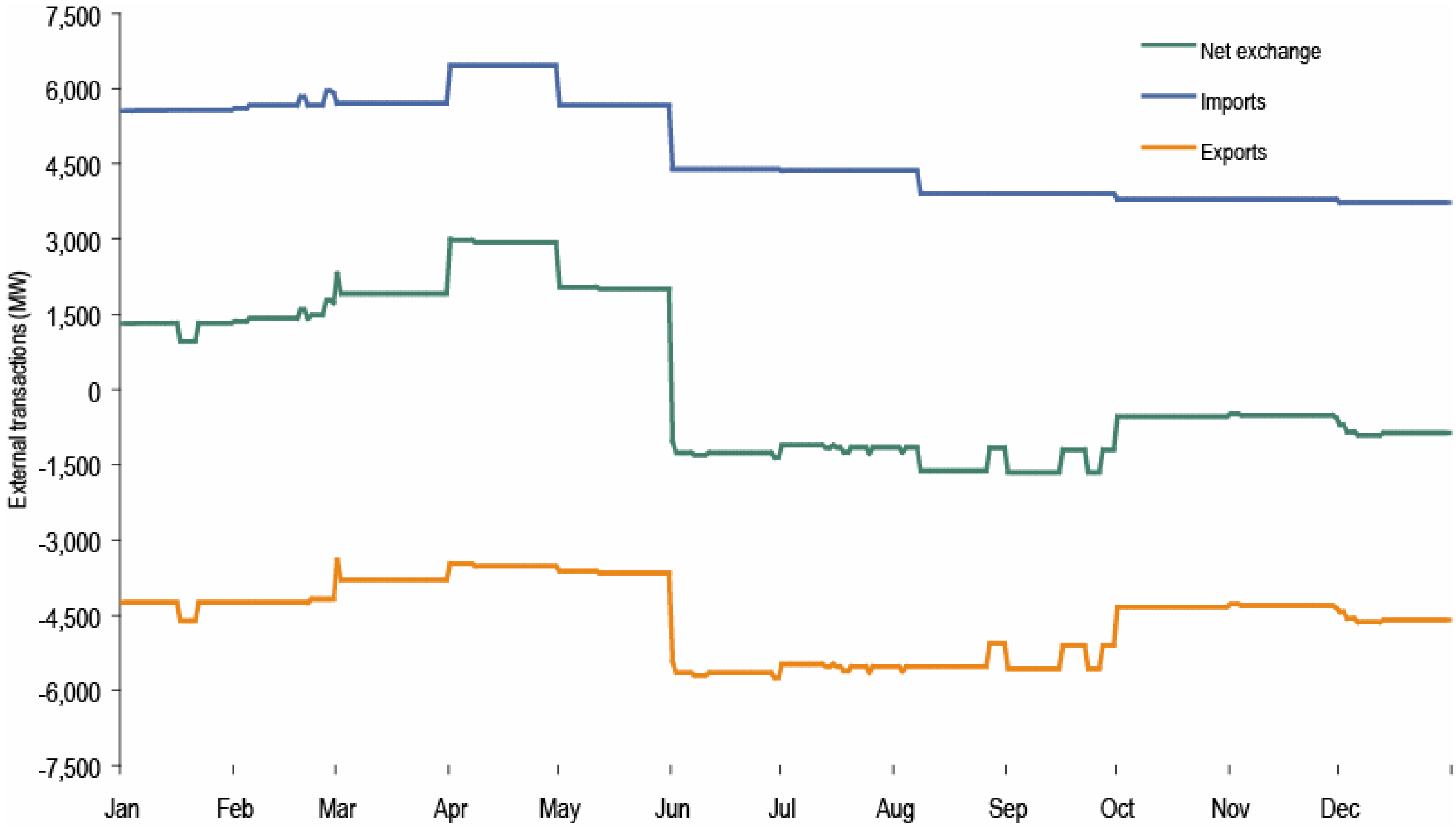


Figure 5-5 - PJM Daily and Monthly Capacity Credit Market (CCM) performance: Calendar year 2005

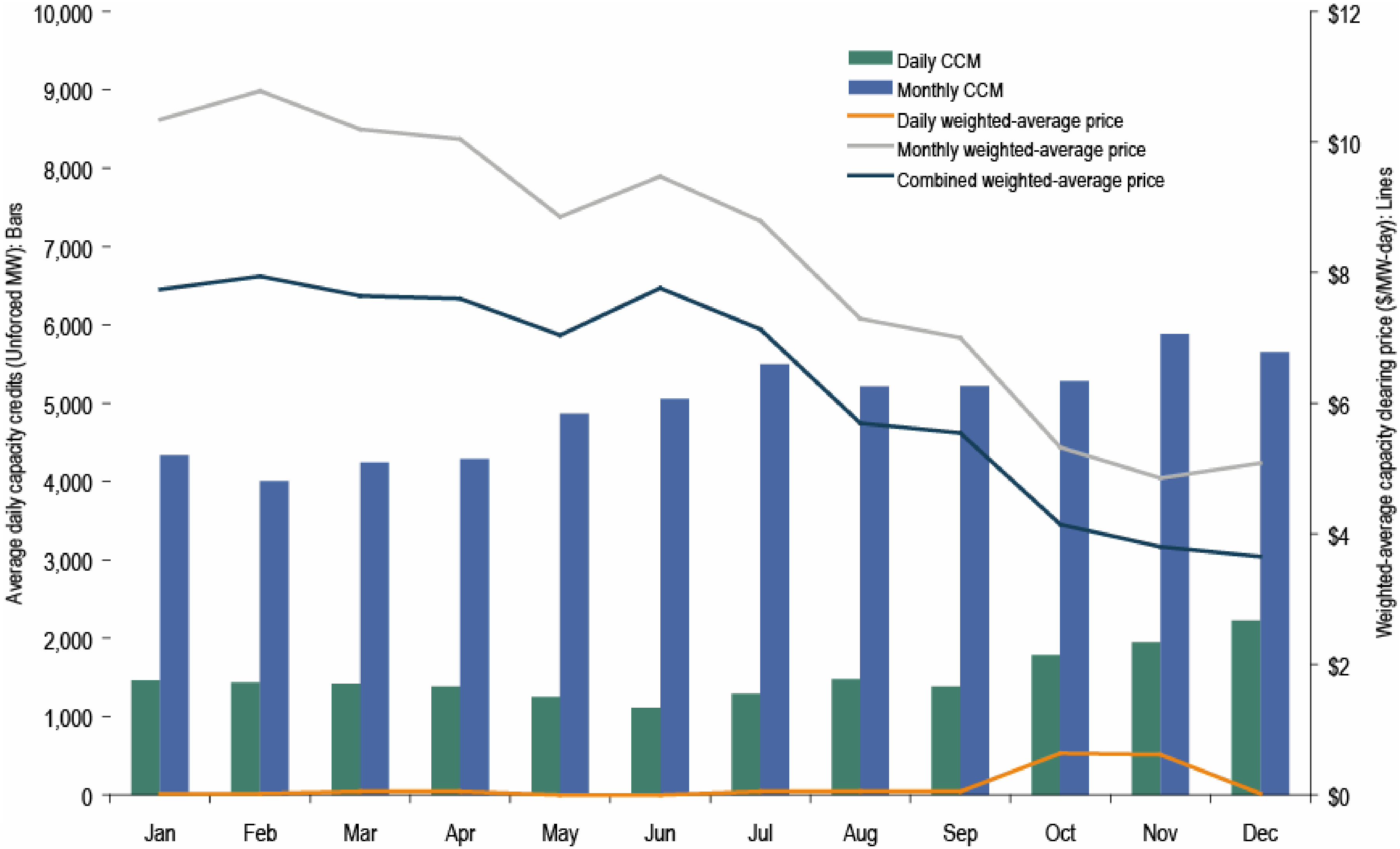


Figure 5-6 - PJM Daily and Monthly Capacity Credit Market (CCM) performance: June 1999 through December 2005

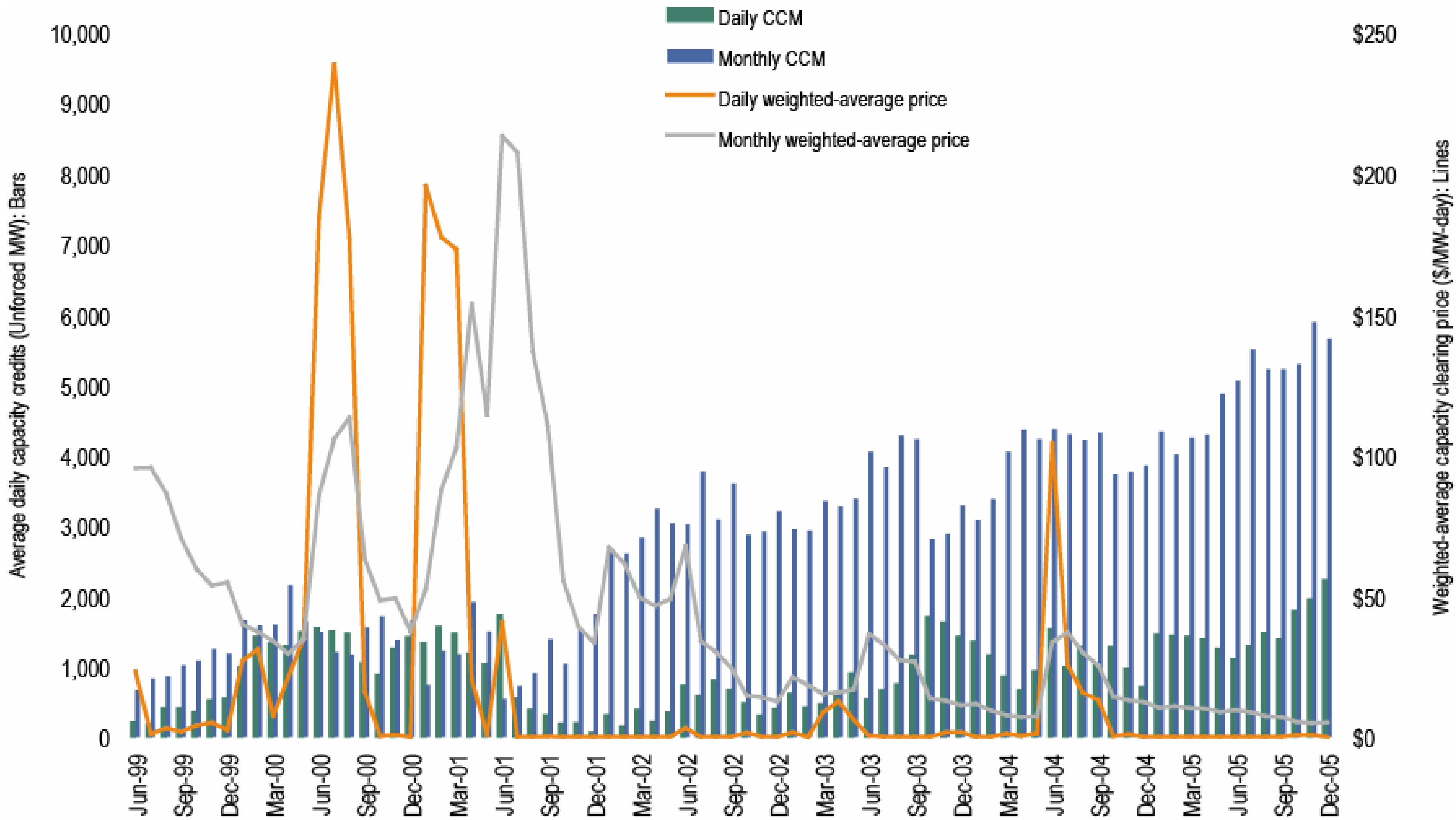


Figure 5-11 - Trends in PJM equivalent demand forced outage rate (EFORd): Calendar years 1994 to 2005

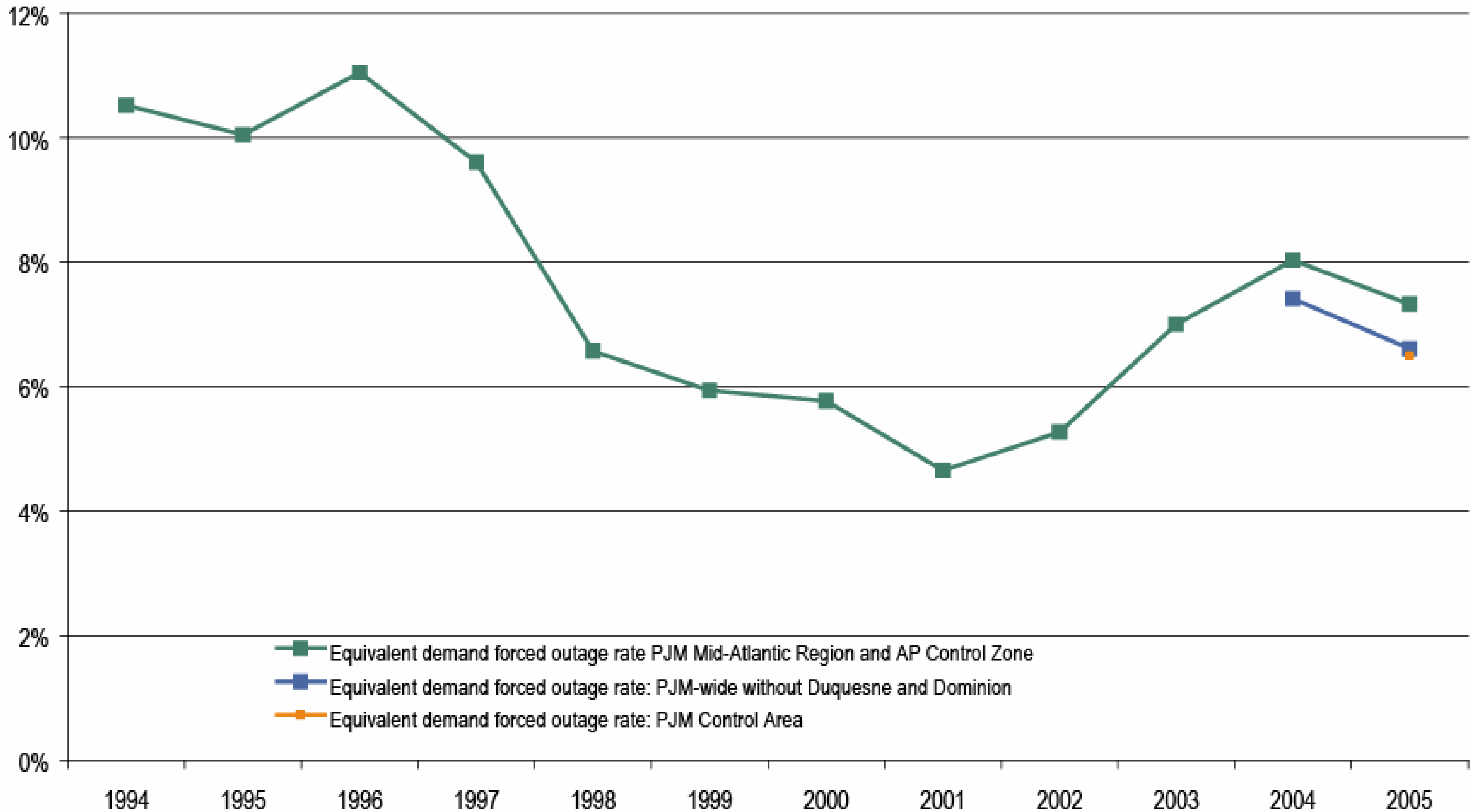
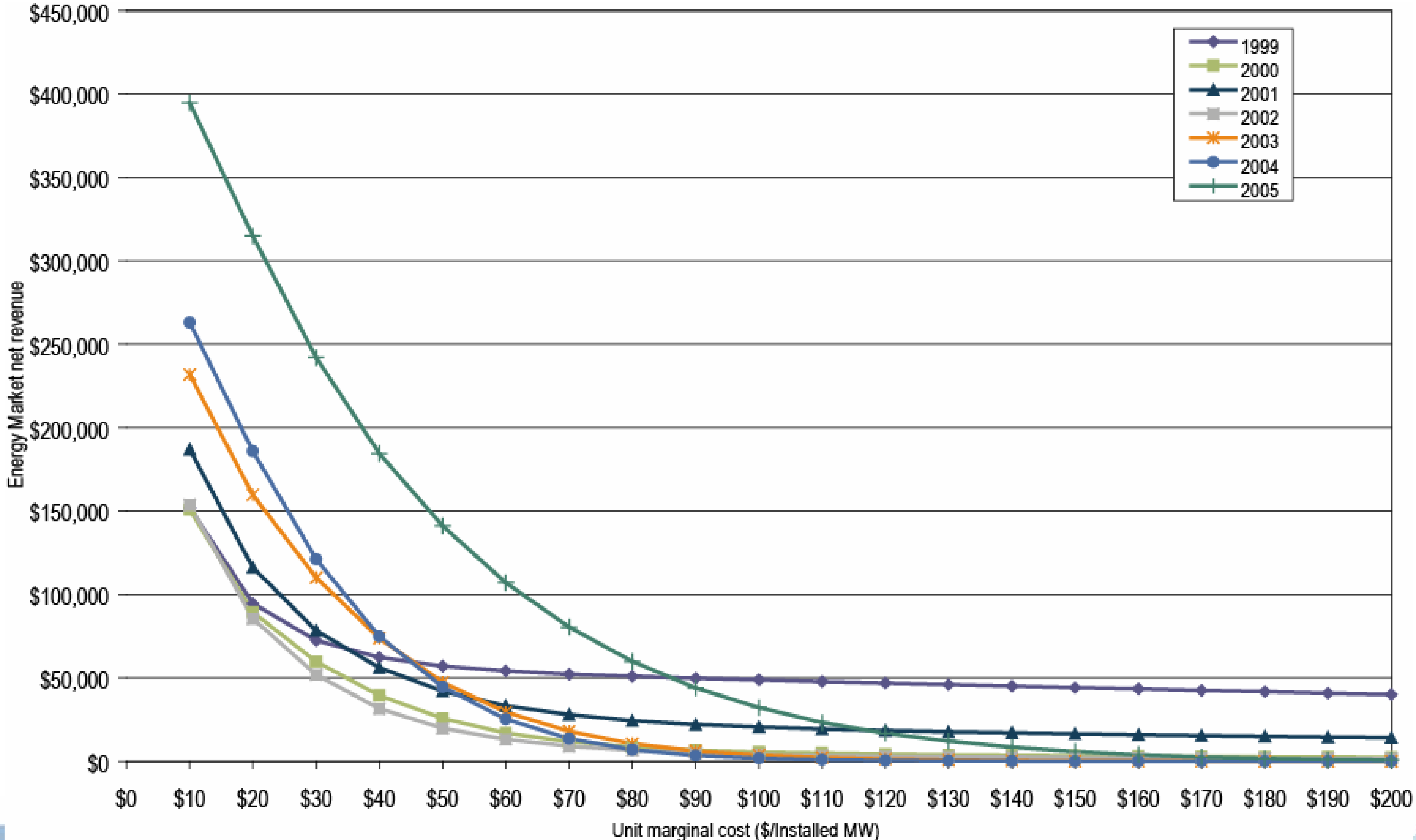


Figure 3-1 - PJM Energy Market net revenue (By unit marginal cost): Calendar years 1999 to 2005



PJM net revenue

Unit Type	First Year Operating Fixed Cost	20-Year Levelized Fixed Cost	Perfect Dispatch Average Net Revenue 1999 to 2005	Realistic Dispatch Average Net Revenue 1999 to 2005
Combustion Turbine (CT)	$61,726	$72,207	$40,724	$32,393
Combined Cycle (CC)	$79,969	$93,549	$76,028	$57,061
Pulverized Coal (CP)	$178,019	$208,247	$154,368	$146,436

Unit Type	First Year Operating Fixed Cost	20-Year Levelized Fixed Cost	Perfect Dispatch Average Net Revenue 2005	Realistic Dispatch Average Net Revenue 2005
Combustion Turbine (CT)	$61,726	$72,207	$20,037	$10,437
Combined Cycle (CC)	$79,969	$93,549	$73,517	$40,817
Pulverized Coal (CP)	$178,019	$208,247	$237,870	$228,430

Table 3-16 - Year-to-year capacity additions: Calendar years 1999 through 2005

	Capacity Additions (MW)
1999	38
2000	230
2001	915
2002	5,350
2003	3,712
2004	3,106
2005	2,892

Table 3-17 - Queue comparison (In MW): Calendar year 2004 vs. 2005

	MW in the Queue 2004	MW in the Queue 2005	Year-to-Year Change (MW)	Year-to-Year Change
2005	4,906	3,151	(1,755)	(36%)
2006	5,250	5,931	681	13%
2007	1,051	5,425	4,374	416%
2008	4,263	6,462	2,199	52%
2009	0	1,735	1,735	NA
2010	0	4,875	4,875	NA
Total	15,470	27,579	12,109	NA

Table 3-23 - Comparison of generators 40 years and older with slated capacity additions (In MW): Through 2010

Area	UnitType	Capacity of Generators 40 Years or Older	Percent of Area Total	Capacity of Generators All Ages	Percent of Area Total	Additional Capability through 2010	Estimated Capacity 2010	Percent of Area Total
East	Combined Cycle	675	7.3 %	10,638	20.7 %	4,618	14,581	29.8 %
	Combustion Turbine	168	1.8 %	9,178	17.8 %	177	9,187	18.7 %
	Diesel	27	0.3 %	143	0.3 %	91	207	0.4 %
	Run of River Hydro	946	10.2 %	1,146	2.2 %	0	1,146	2.3 %
	Nuclear	0	0.0 %	11,539	22.4 %	0	11,539	23.5 %
	Pumped Storage Hydro	400	4.3 %	1,470	2.9 %	0	1,470	3.0 %
	Steam	7,039	76.1 %	17,362	33.7 %	1	10,324	21.1 %
	Wind	0	0.0 %	0	0.0 %	574	574	1.2 %
	East Total	9,255	100.0 %	51,476	100.0 %	5,461	49,028	100.0 %
South	Combined Cycle	0	0.0 %	3,369	15.6 %	1,275	4,644	22.5 %
	Combustion Turbine	0	0.0 %	3,226	15.0 %	0	3,226	15.6 %
	Diesel	0	0.0 %	105	0.5 %	29	134	0.6 %
	Run of River Hydro	562	18.0 %	562	2.6 %	431	993	4.8 %
	Nuclear	0	0.0 %	3,432	16.0 %	0	3,432	16.6 %
	Pumped Storage Hydro	0	0.0 %	2,646	12.3 %	0	2,646	12.8 %
	Steam	2,552	82.0 %	8,162	38.0 %	0	5,610	27.1 %
	Wind	0	0.0 %	0	0.0 %	0	0	0.0 %
	South Total	3,114	100.0 %	21,502	100.0 %	1,735	20,685	100.0 %
West	Combined Cycle	0	0.0 %	7,692	7.2 %	1,274	8,966	8.4 %
	Combustion Turbine	0	0.0 %	15,671	14.7 %	193	15,864	14.8 %
	Diesel	10	0.1 %	163	0.2 %	28	181	0.2 %
	Run of River Hydro	348	2.0 %	608	0.6 %	147	755	0.7 %
	Nuclear	0	0.0 %	16,837	15.8 %	0	16,837	15.7 %
	Pumped Storage Hydro	240	1.4 %	990	0.9 %	0	990	0.9 %
	Steam	16,404	96.5 %	64,364	60.6 %	7,407	55,367	51.7 %
	Wind	0	0.0 %	0	0.0 %	8,103	8,103	7.6 %
	West Total	17,002	100.0 %	106,325	100.0 %	17,152	107,063	100.0 %
Grand Total		29,371		179,303		24,348	176,776	

Figure 4-3 - PJM import and export transaction volume history: Calendar years 1999 to 2005

Figure 4-9 - PJM/MECS interface average actual minus scheduled volume: Phase 5

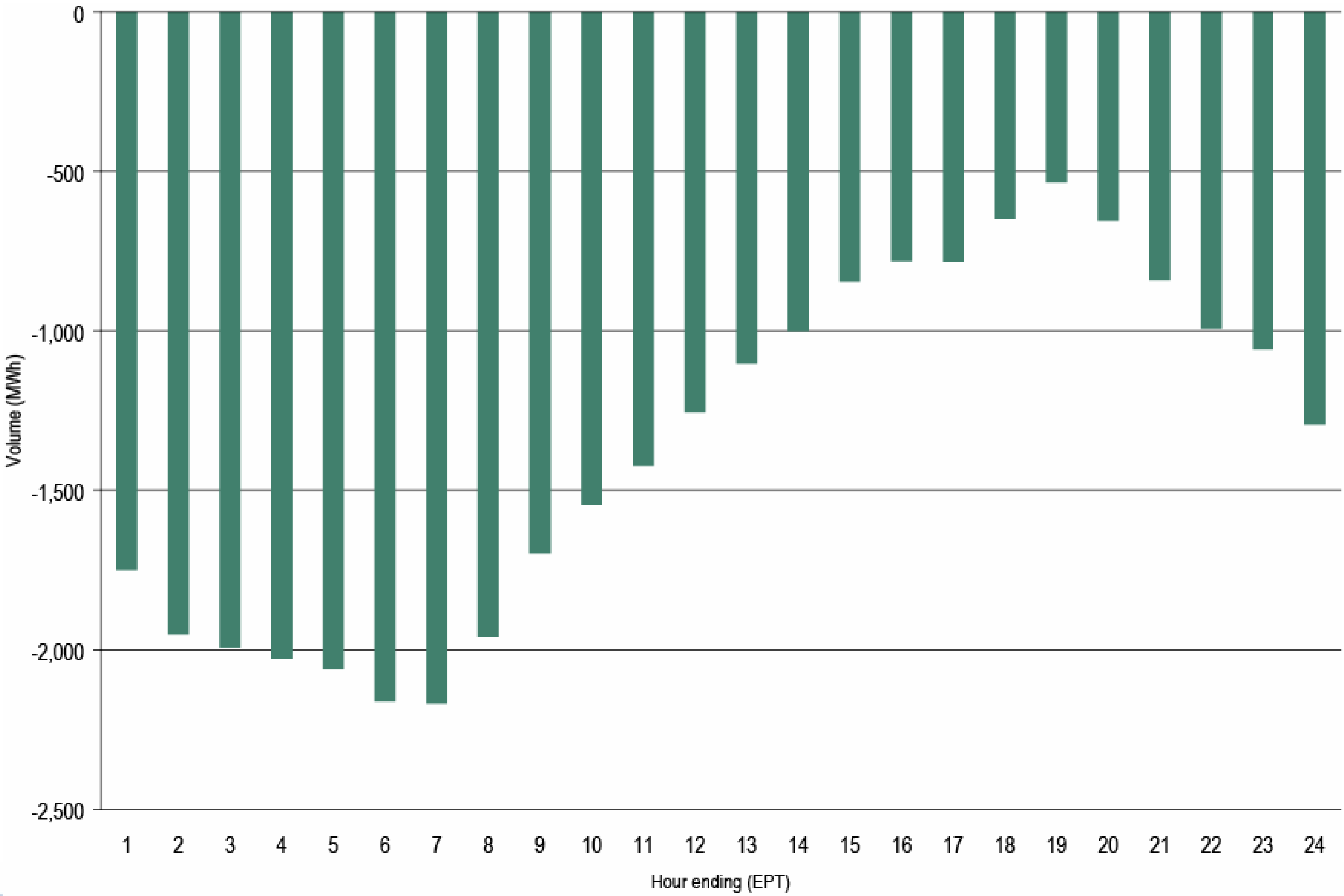


Figure 4-11 - PJM/TVA average flows: Phase 5

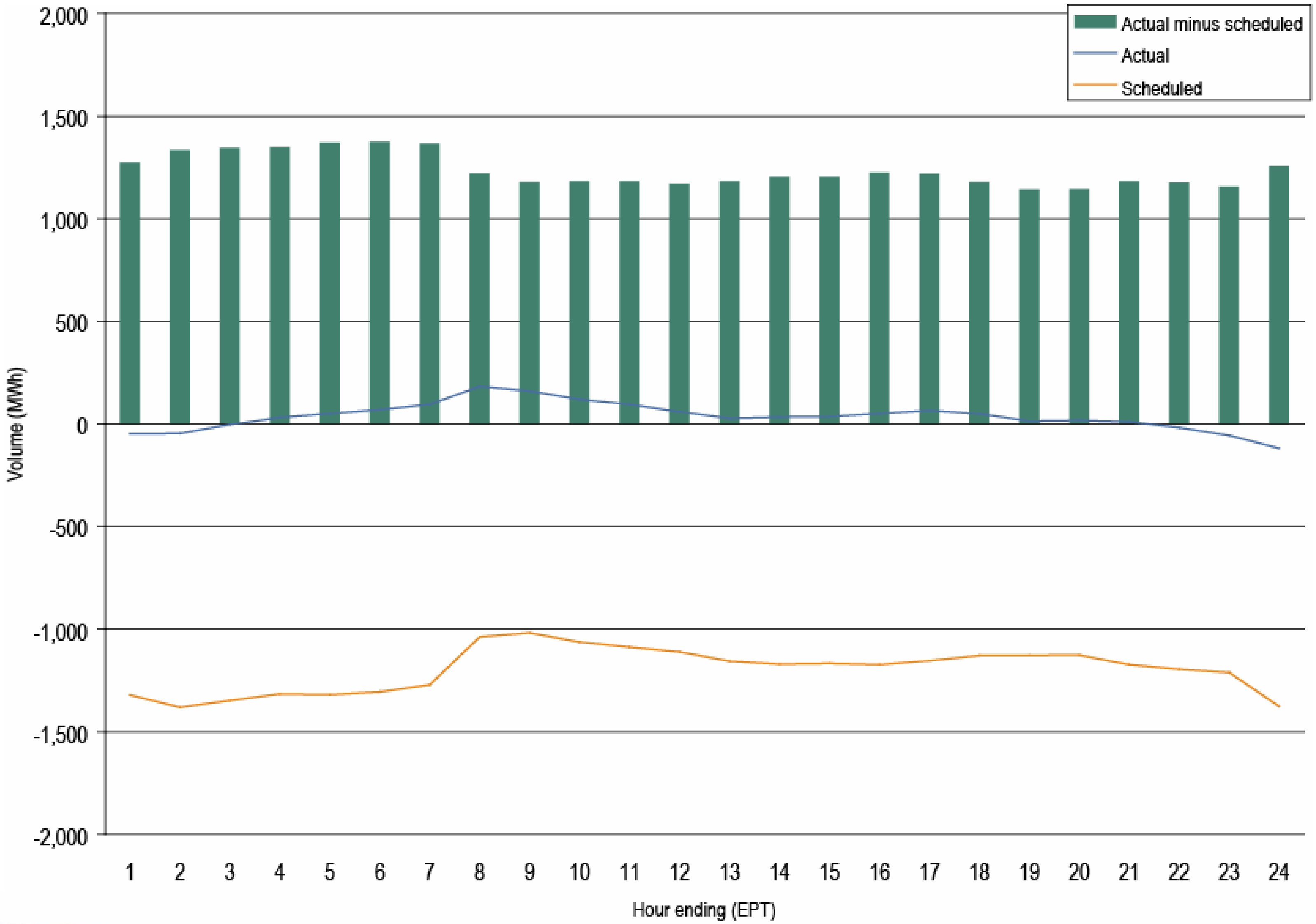


Figure 6-8 - Monthly regulation MW and regulation cost per MW: Calendar year 2005

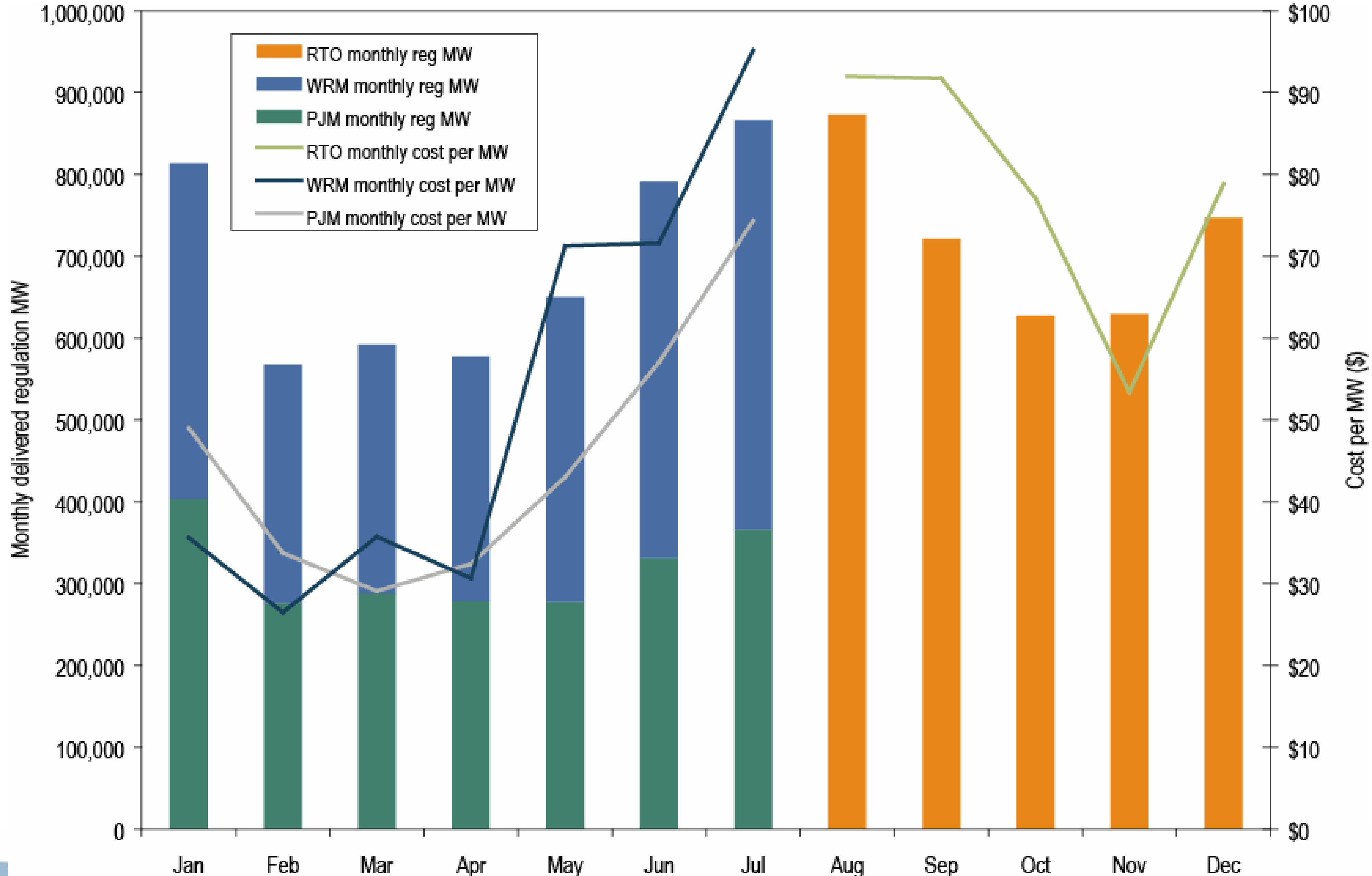


Figure 6-19 - Tier 2 spinning market-clearing price and cost per MW: Calendar year 2005

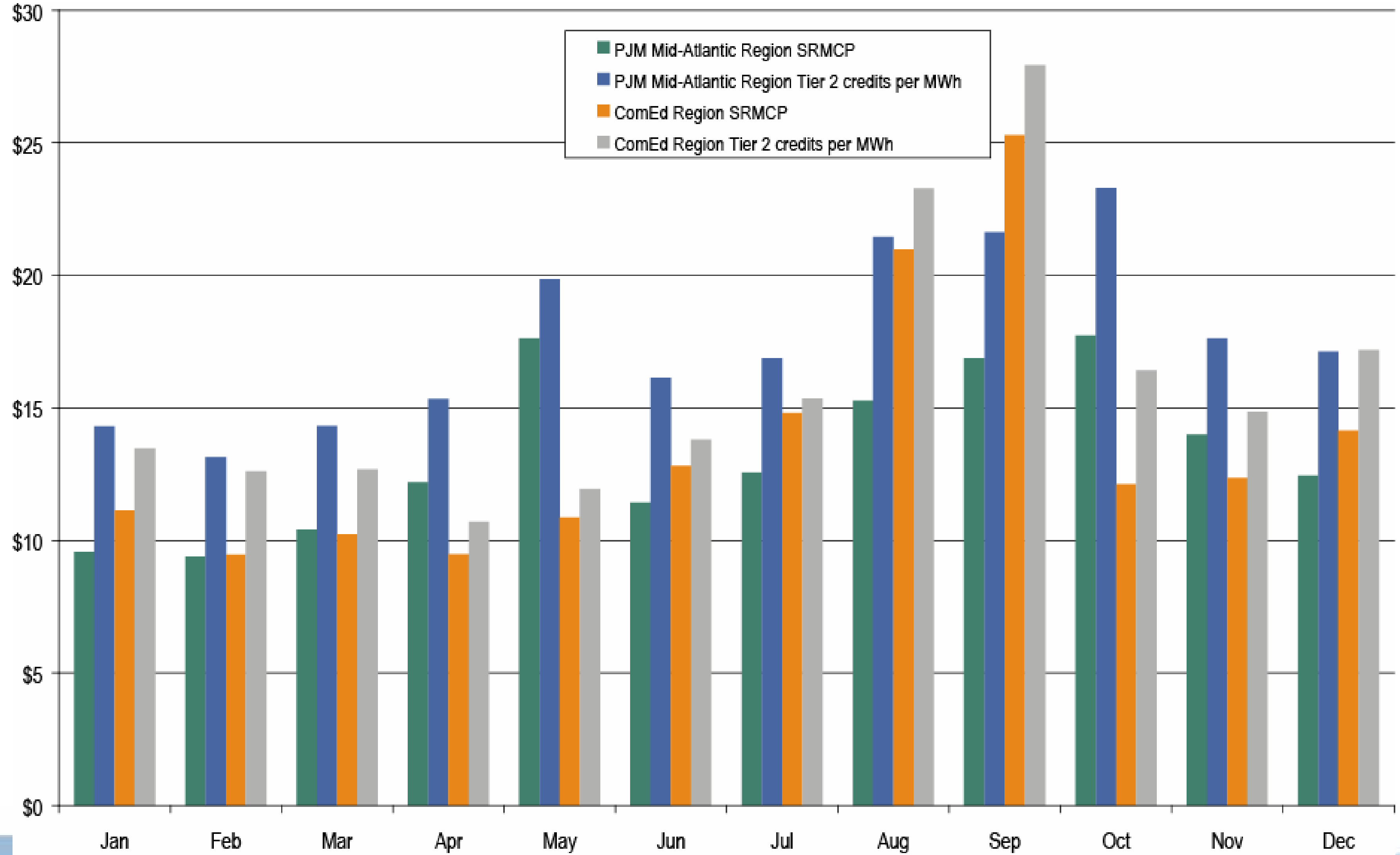


Figure 7-5 - Regional constraints and congestion-event hours (By facility): Calendar years 2002 to 2005

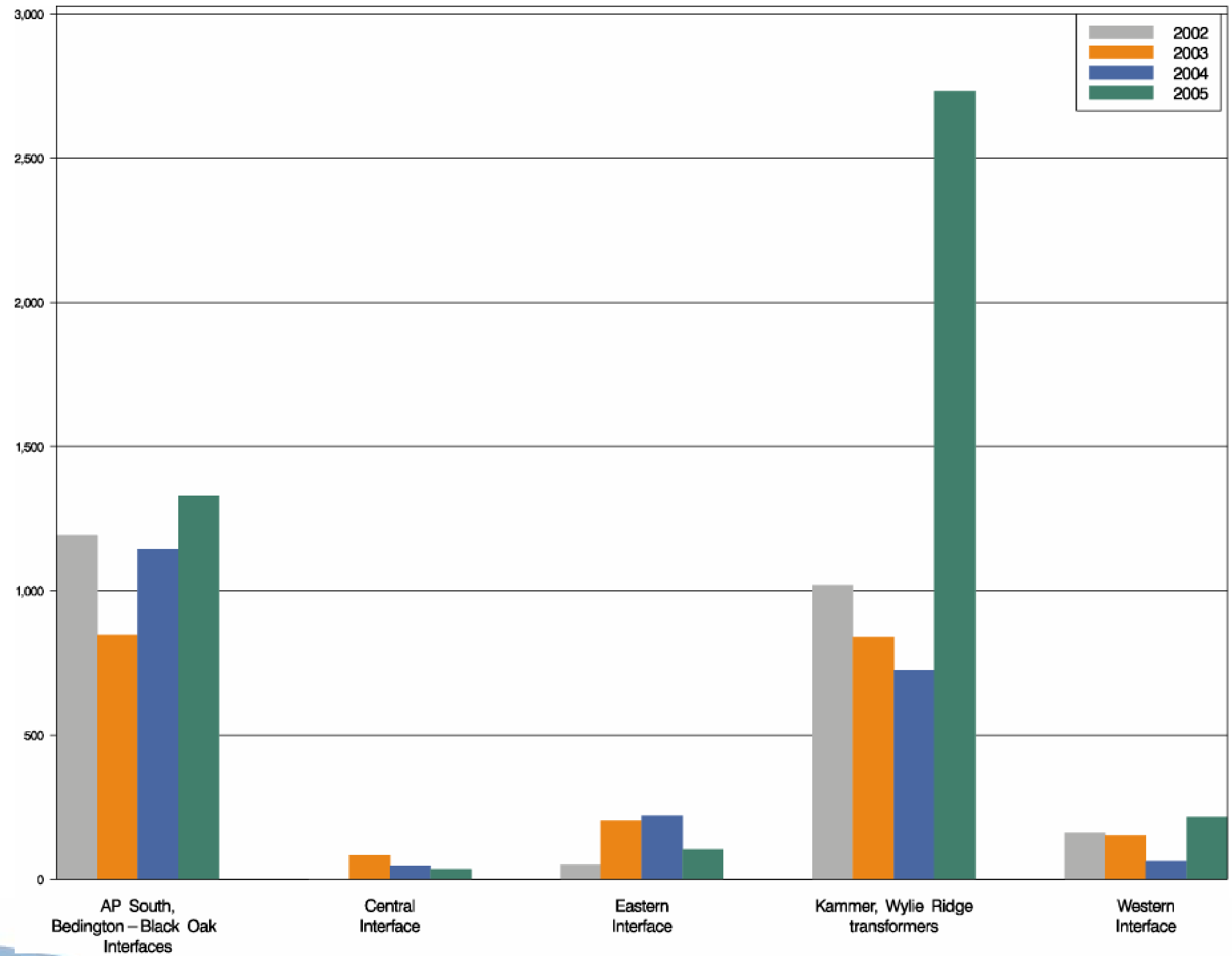


Figure 7-1 - Annual average zonal LMP differences (Reference to Western Hub): Calendar years 2002 to 2005

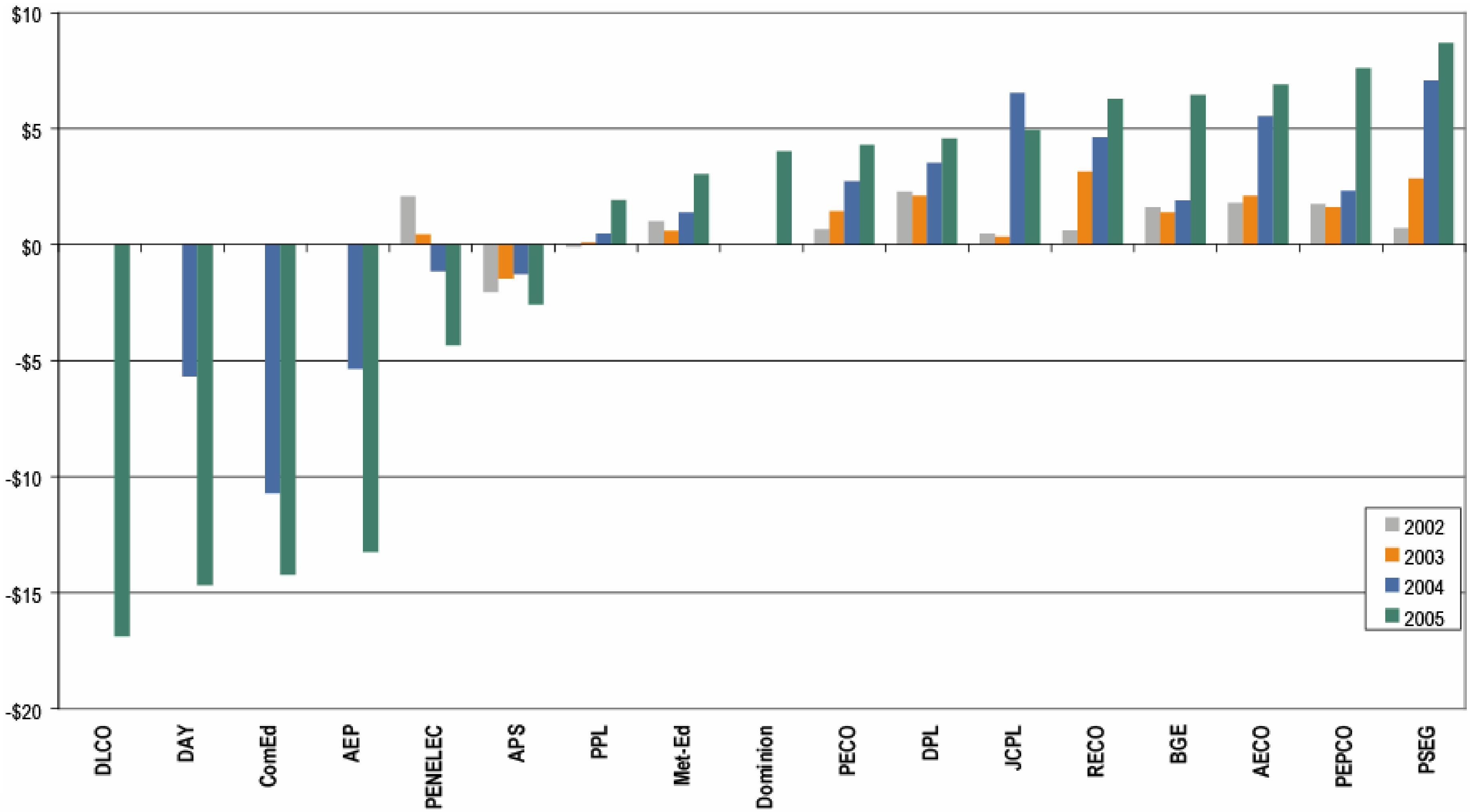


Table 7-2 - Total annual PJM congestion [Dollars (millions)]: Calendar years 1999 to 2005

	Congestion Charges	Percent Increase	Total PJM Billing	Percent of PJM Billing
1999	$65	NA	NA	NA
2000	$132	103%	$2,300	6%
2001	$271	106%	$3,400	8%
2002	$453	67%	$4,700	10%
2003	$464	2%	$6,900	7%
2004	$750	62%	$8,700	9%
2005	$2,092	179%	$22,630	9%
Total	$4,163		$48,630	9%

Table 7-5 – Monthly PJM congestion accounting summary [Dollars (millions)]:by planning period

		FTR Revenues	FTR Target Allocations	FTR Credits	FTR Payout Ratio	Credits Deficiency	Credits Excess
Planning Year 2004 to 2005	Jun-04	$67	$67	$67	100%	$0	$0
	Jul-04	$116	$114	$114	100%	$0	$1
	Aug-04	$128	$128	$128	100%	$0	$0
	Sep-04	$47	$47	$47	100%	$0	$0
	Oct-04	$46	$39	$39	100%	$0	$7
	Nov-04	$81	$81	$81	100%	$0	$0
	Dec-04	$159	$150	$150	100%	$0	$8
	Jan-05	$144	$118	$118	100%	$0	$26
	Feb-05	$80	$65	$65	100%	$0	$15
	Mar-05	$75	$59	$59	100%	$0	$16
	Apr-05	$88	$80	$80	100%	$0	$8
	May-05	$88	$79	$79	100%	$0	$9
	Total	$1,118	$1,028	$1,028	100%	$0	$91
	Values After Excess Revenues Distributed						
		$1,118	$1,028	$1,028	100%	$0	$91
Planning Year 2005 to 2006 (through December 31, 2005)	Jun-05	$180	$187	$180	97%	$7	$0
	Jul-05	$319	$326	$319	98%	$7	$0
	Aug-05	$335	$336	$335	99%	$2	$0
	Sep-05	$224	$259	$224	86%	$35	$0
	Oct-05	$224	$280	$224	80%	$57	$0
	Nov-05	$108	$143	$108	75%	$35	$0
	Dec-05	$282	$315	$282	90%	$33	$0
	Total	$1,672	$1,847	$1,672	91%	$175	$0