California ISO

California Independent
System Operator

Market Analysis Report

Events of June 2004

Board of Governors Meeting

July 29, 2004

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June Highlights

- Load growth, despite mild weather
  - Average energy consumption increased 6.6% since June-03
  - Monthly peak lower by 4.7% due to mild weather
- Minimal real-time balancing market energy volumes
- Interzonal congestion totaled $6.1 million
  - Highest since Summer 2002
  - Due largely to high imports and derates on major interties
- Intrazonal congestion totaled $1.7 million
  - Lowest monthly total since Summer 2003
  - Due largely to changes in transmission infrastructure

June Highlights

- High prices in Regulation A/S during off-peak hours
  - Fewer hydro units available due to low hydro conditions
  - Many units operating at minimum load
  - Addressed in part through Amendment 60
- 6/14 Cascading Generation Outages in Arizona
  - 4,000 MW (including Palo Verde nukes) and several transmission lines lost
  - Minimal impact on ISO's RT balancing market: Max. price was $79.98/MWh, a typical price level
  - Hour-ahead transmission charges reached $391/MWh, due in part to transmission derates

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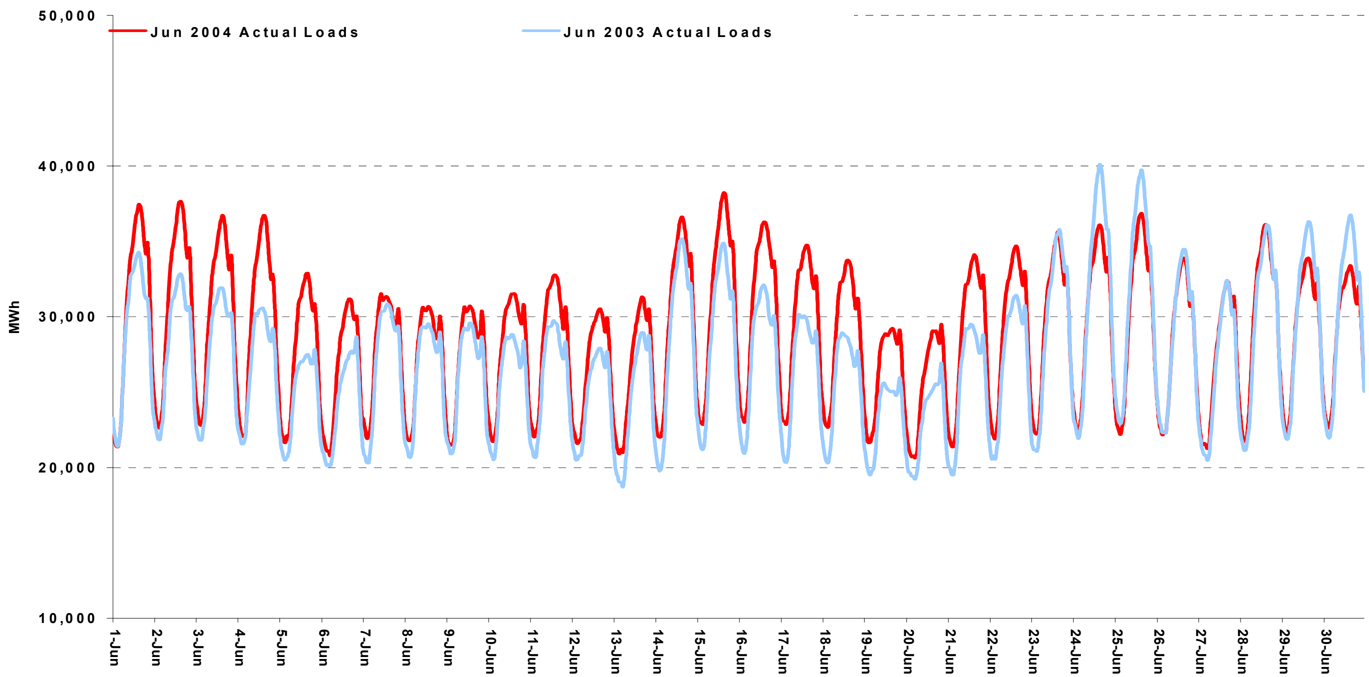
Comparison of Loads: Jun-04 to Jun-03

Strong economic growth led to a 6.6% increase in energy consumption Jun-04 v. Jun-03; mild weather meant lower peak load



	2003	2004	Pct. Chg.
Peak Load (MW)	40,117	38,233	-4.7%
Avg. Energy (MW)	26,913	28,676	6.6%

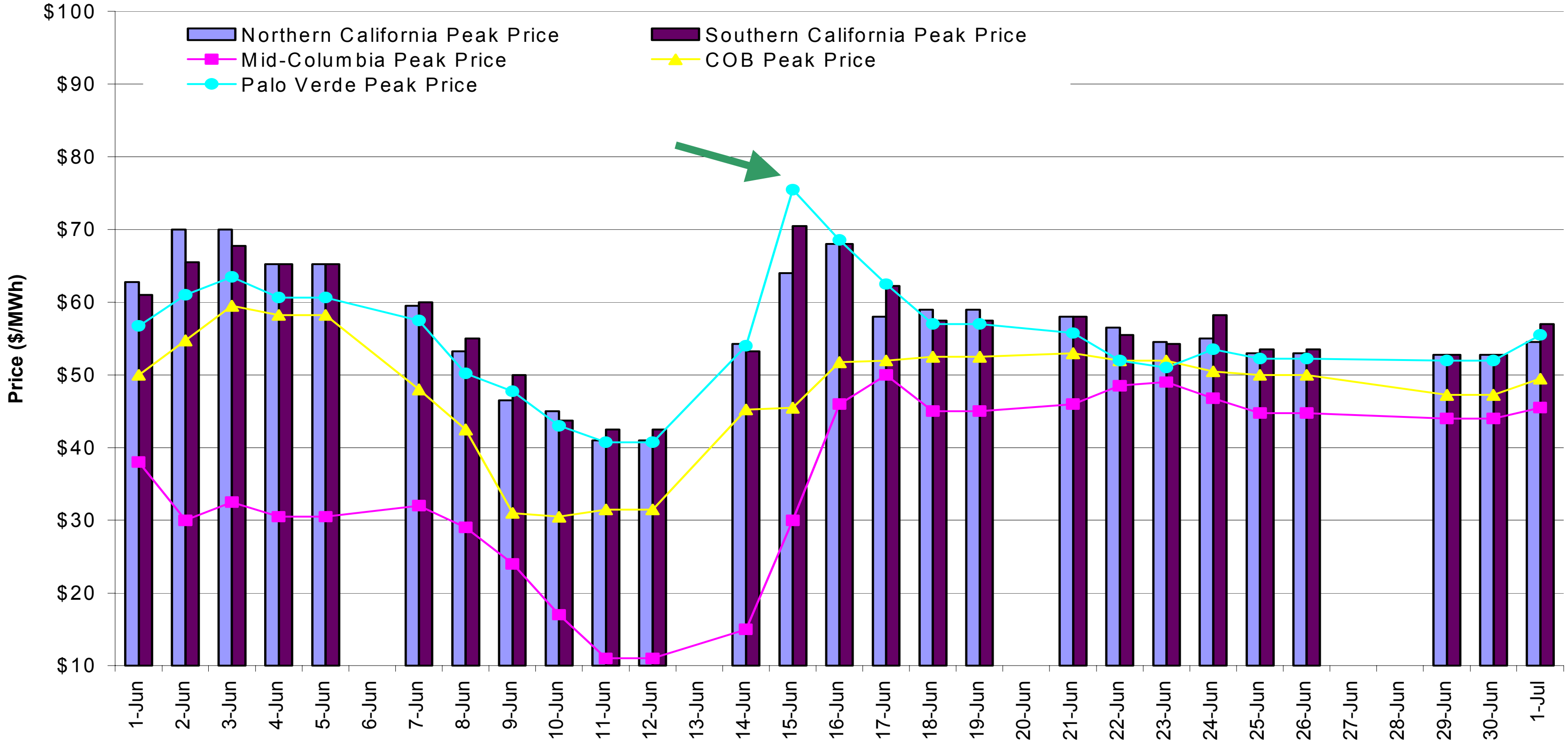
Load Growth Rates Compared to Same Month in Prior Year

	Avg. Hrly. Load	Avg. Daily Peak	Avg. Daily Trough	Monthly Peak
July-03	4.3%	6.9%	0.1%	0.5%
August-03	5.4%	8.5%	1.5%	4.3%
September-03	2.2%	3.3%	0.2%	0.3%
October-03	5.4%	7.0%	2.6%	3.7%
November-03	-0.2%	1.0%	-0.8%	0.2%
December-03	2.8%	3.1%	1.5%	2.7%
January-04	4.3%	3.1%	5.1%	3.2%
February-04	4.5%	3.9%	5.4%	4.5%
March-04	4.4%	5.1%	2.5%	4.5%
April-04	7.1%	8.3%	4.8%	31.1%
May-04	7.3%	7.7%	5.5%	2.5%
June-04	6.6%	6.9%	6.1%	-4.7%

Notes: Through 7/10/03: Actual loads at top of hour. Since 7/11/03: Hourly average loads.

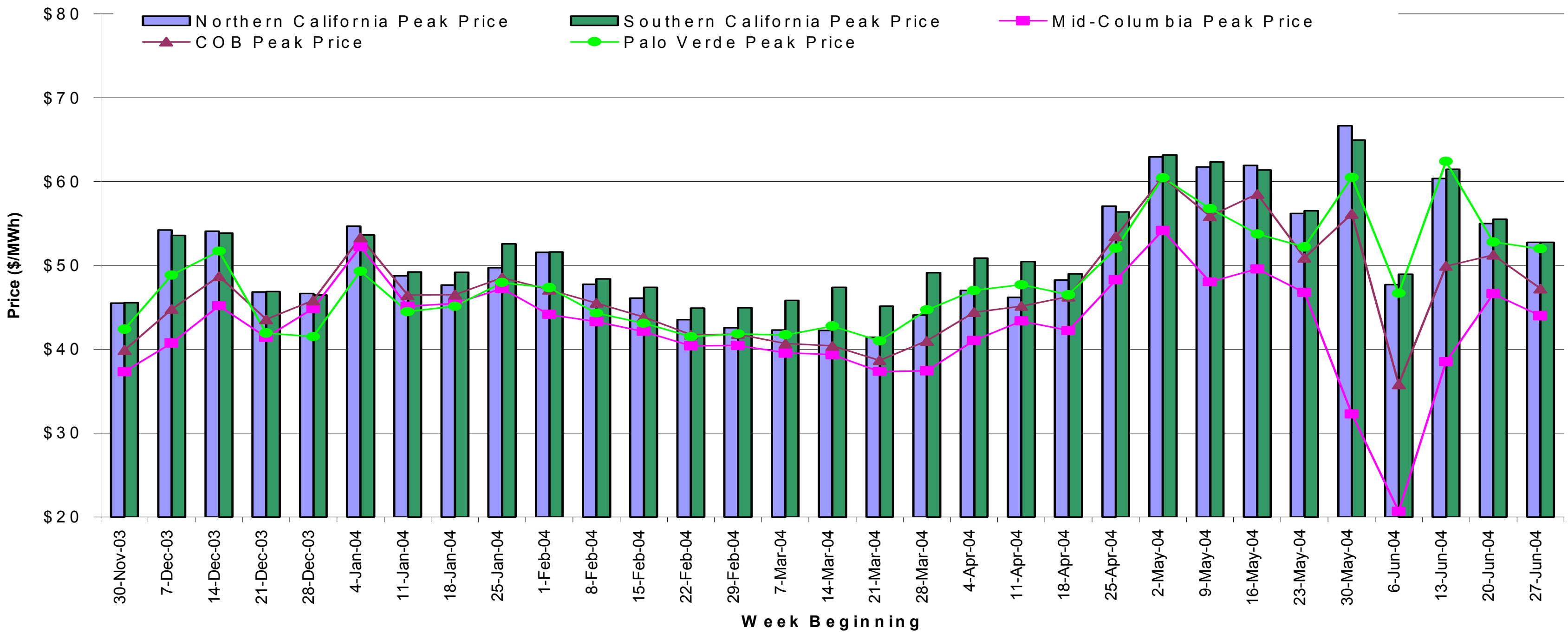
Generation outage in Arizona (4,000 MW) on July 14 sent Palo Verde Day-ahead* prices up approx. $20/MWh in one day; Divergence between regional prices reflects congestion

Regional Day-Ahead Bilateral Electric Prices: 6/1/04 – 7/1/04



* July 15 deliveries were traded on July 14.

Regional Day-Ahead Bilateral Electric Prices Trend Upwards in Summer Months
Weekly Averages Dec-03 to June-04



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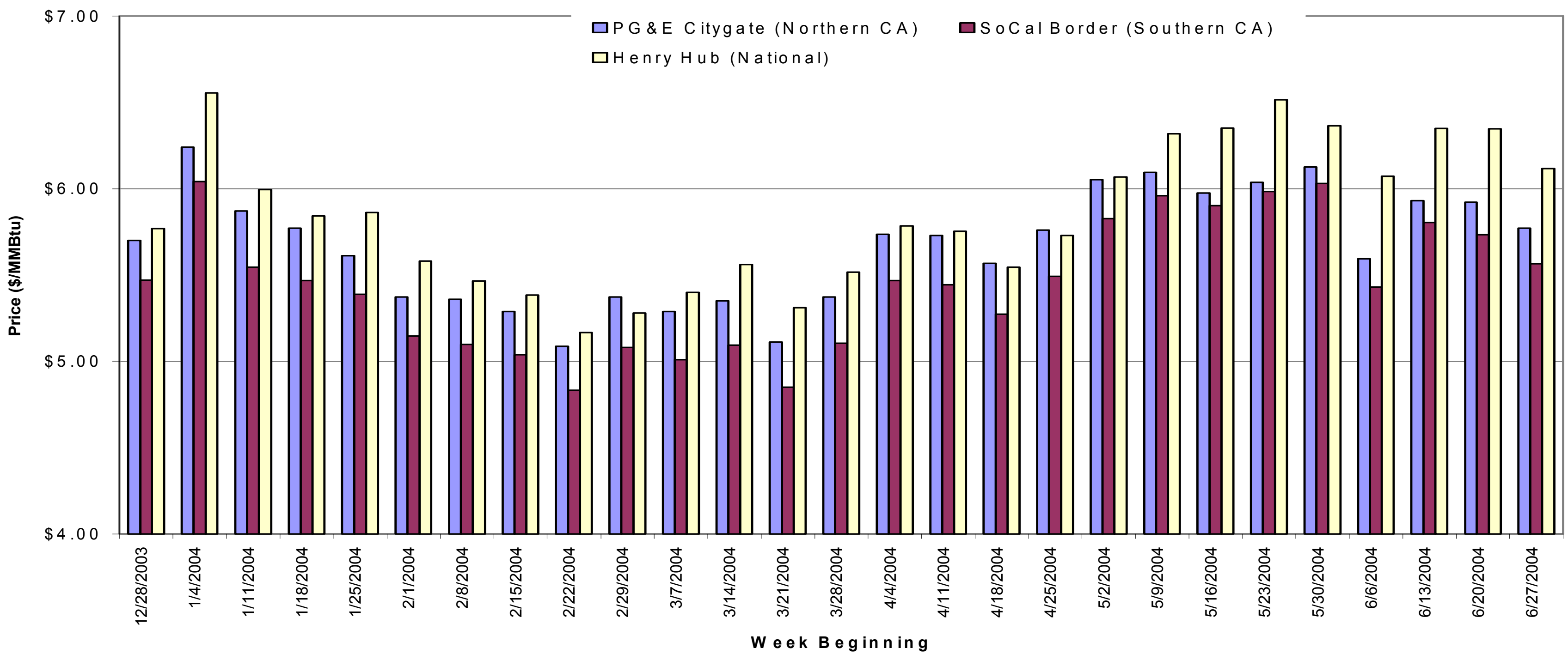
Gas prices remain in $5.50 to lower $6/MMBtu range
Weekly Average Gas Prices through June



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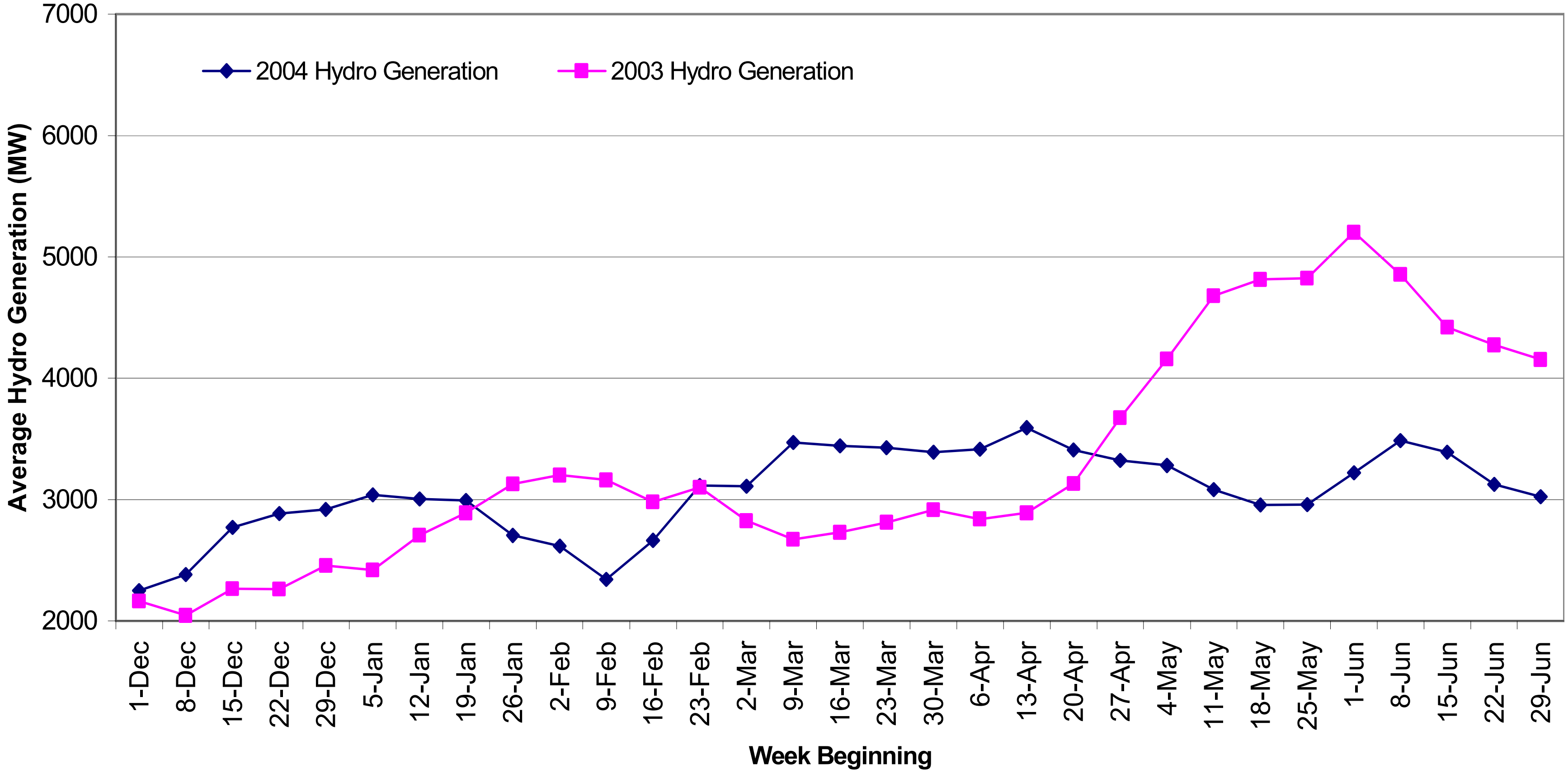
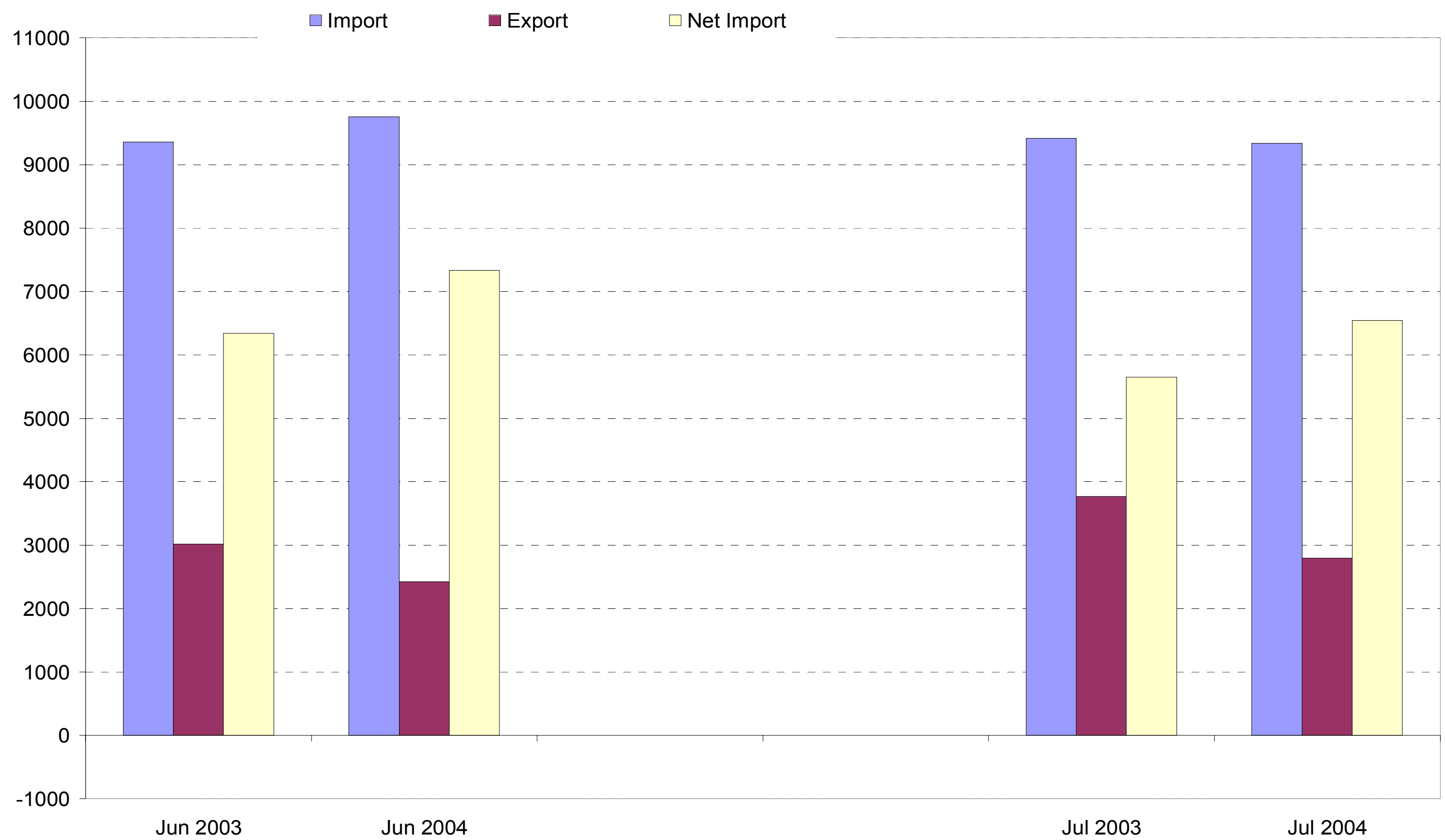
Lower California hydro generation in 2004

Approximate Weekly Average Hydro Generation Within ISO Control Area: 2004 v. 2003 Hydro Seasons



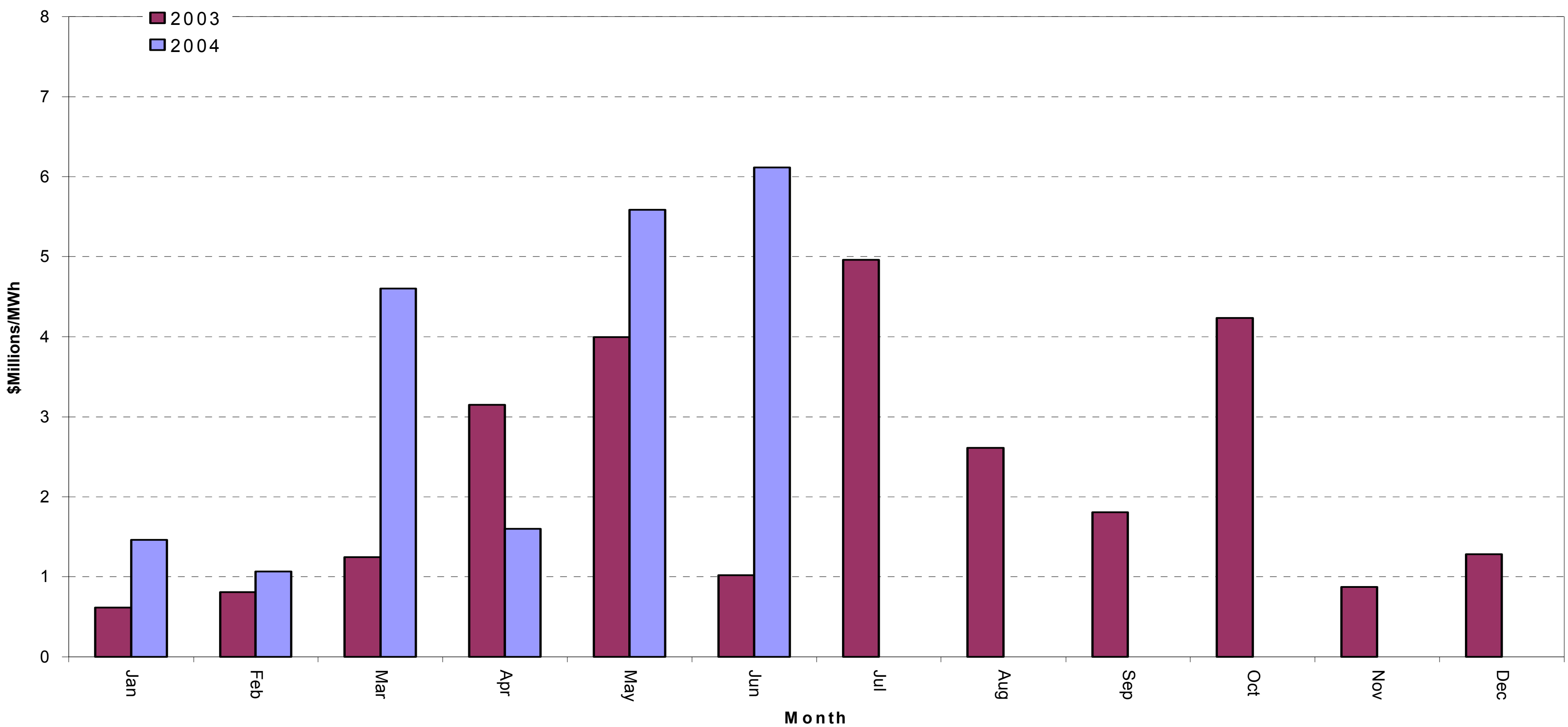
Increases in imports from Pacific Northwest and Southwest resulted in highest monthly average imports to date

Imports And Exports in Peak Hours (2003 vs 2004)



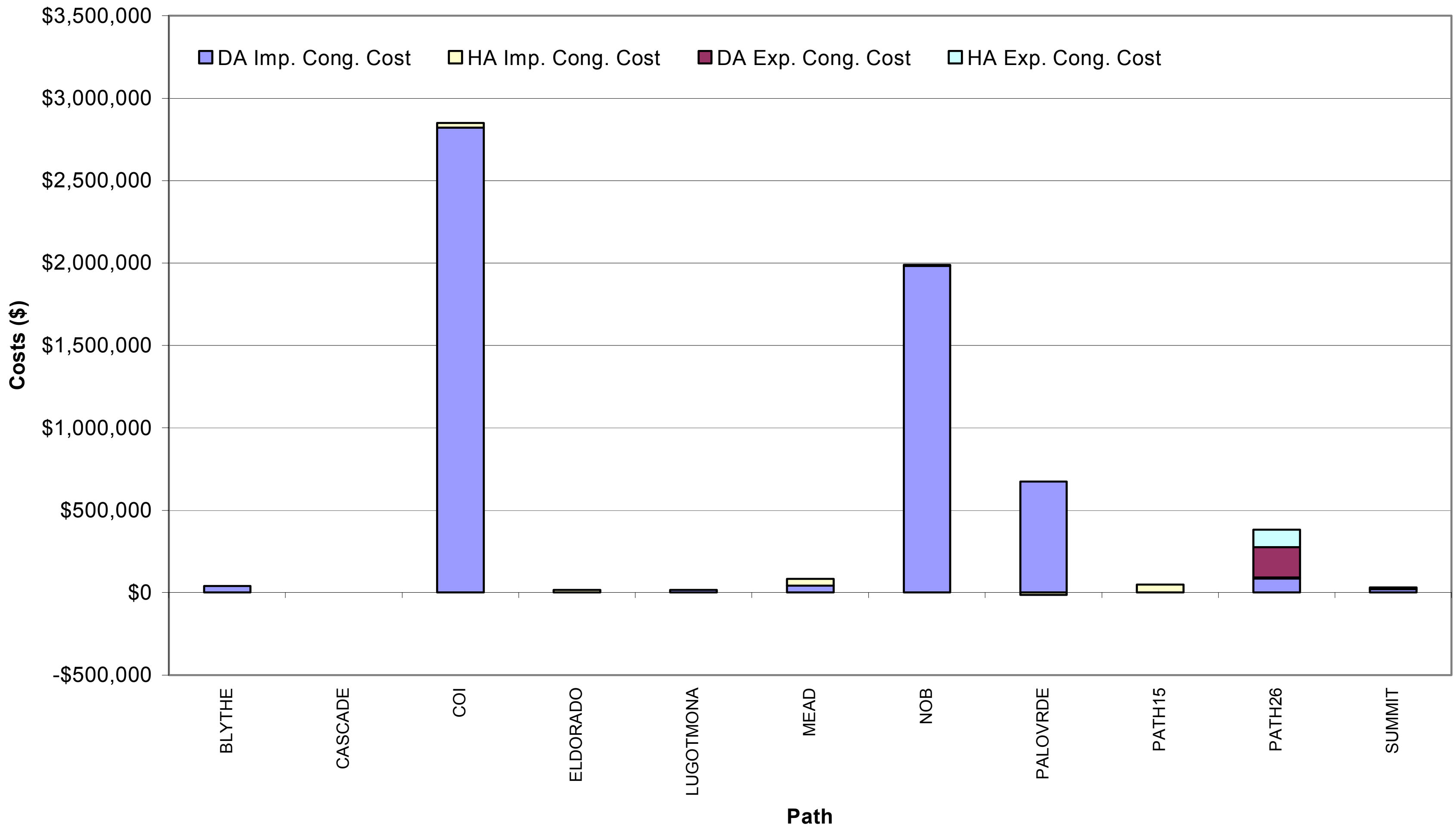
However, imports combined with derates due to line maintenance resulted in highest congestion costs since Jul-02

Monthly Congestion Costs: 2004 vs 2003



Congestion Costs by Path

Day Ahead & Hour Ahead Markets
June 2004



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Real-time energy prices were moderate, due to low real-time volume and unseasonably low peak loads

Average Real-Time Energy Prices, Volumes, Loads, and Underscheduling for 30-Jun-2004

	Avg. BEEP Price and Total Volume		Avg. Out-of-Market Price and Total Volume		Overall Avg. Real-Time Price and Total Volume		Avg. System Loads (MW) and Pct. Underscheduling
	Inc	Dec	Inc	Dec	Inc	Dec	
Peak	$ 65.69 79 GWh	$ 28.03 326 GWh	$ 42.25 *	$ 30.30 2 GWh	$ 65.68 79 GWh	$ 28.04 329 GWh	31,267 MW 2.3%
Off-Peak	$ 55.23 55 GWh	$ 15.26 56 GWh	$ 41.39 *	$ 56.35 *	$ 55.22 55 GWh	$ 15.56 56 GWh	23,493 MW 3.7%
All Hours	$ 61.41 134 GWh	$ 26.17 382 GWh	$ 41.83 *	$ 34.31 3 GWh	$ 61.40 134 GWh	$ 26.22 385 GWh	28,676 MW 2.7%

Real-time imbalance may differ from deviation between schedule and actual load due to units on minimum load, real-time uninstructed deviations, unaccounted-fo
* Indicates total dispatched energy below 1 GWh

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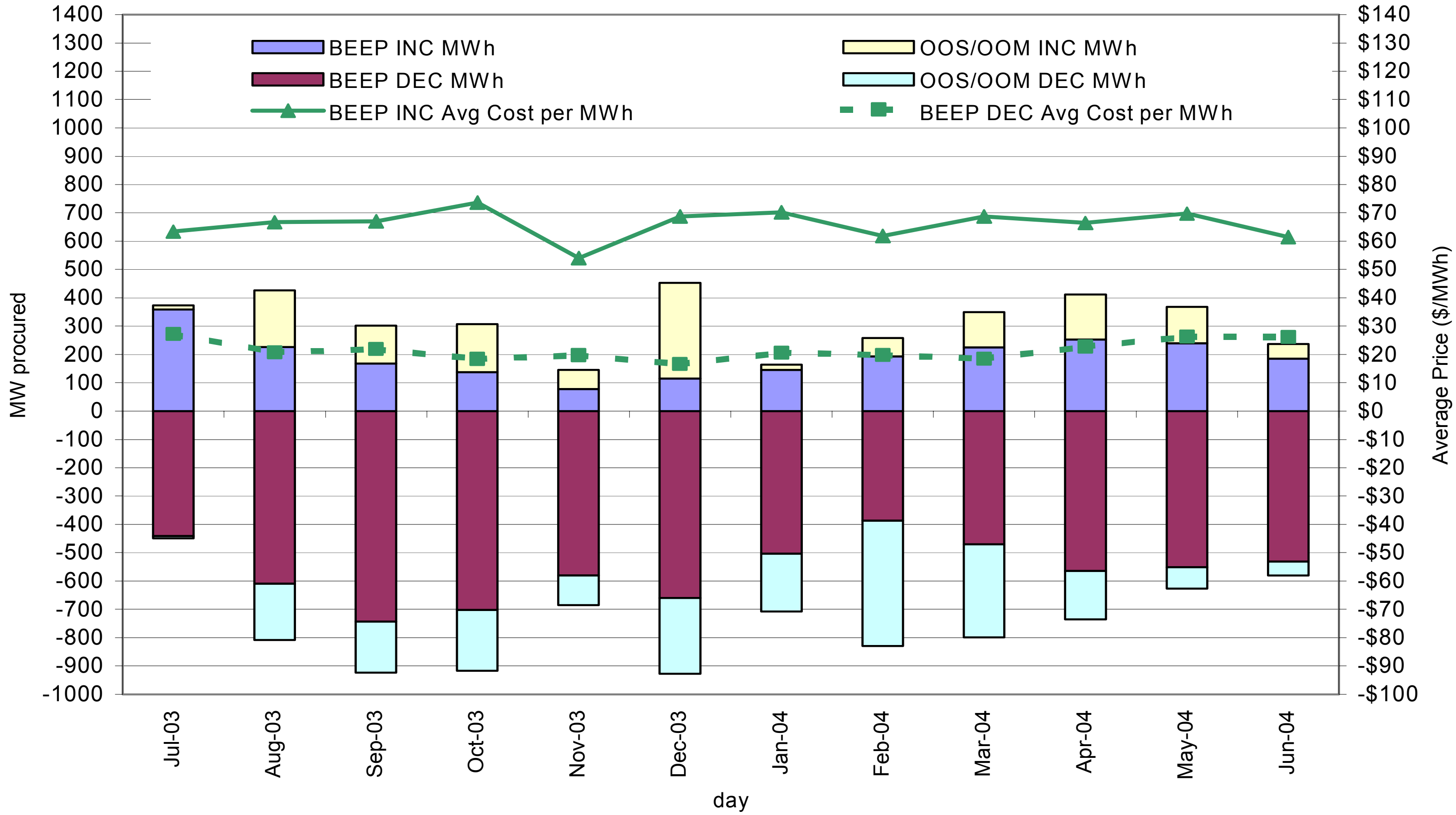
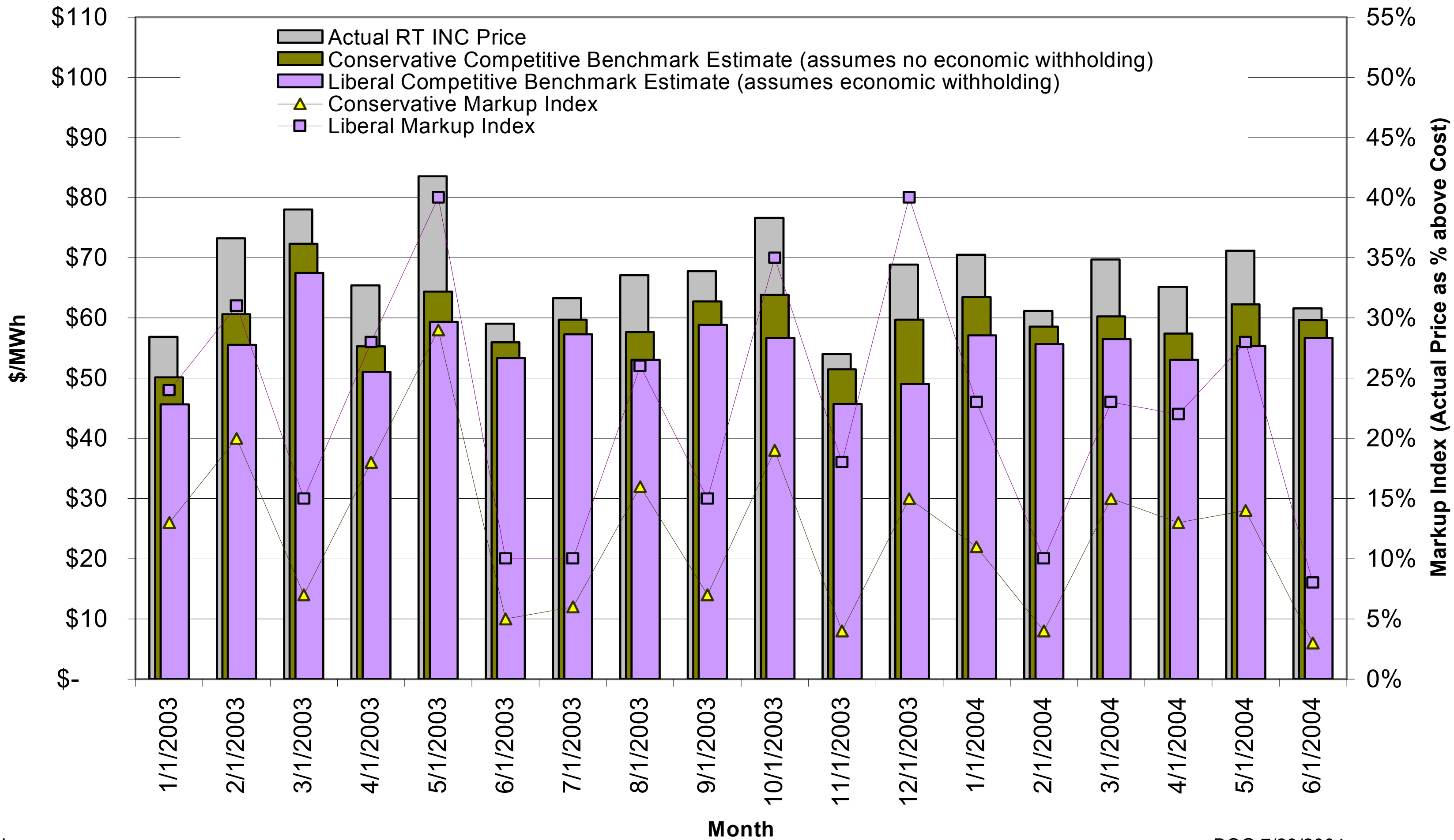
Monthly Average BEEP Volumes and Prices, and OOS/OOM Volumes: Jul-03 through Jun-04



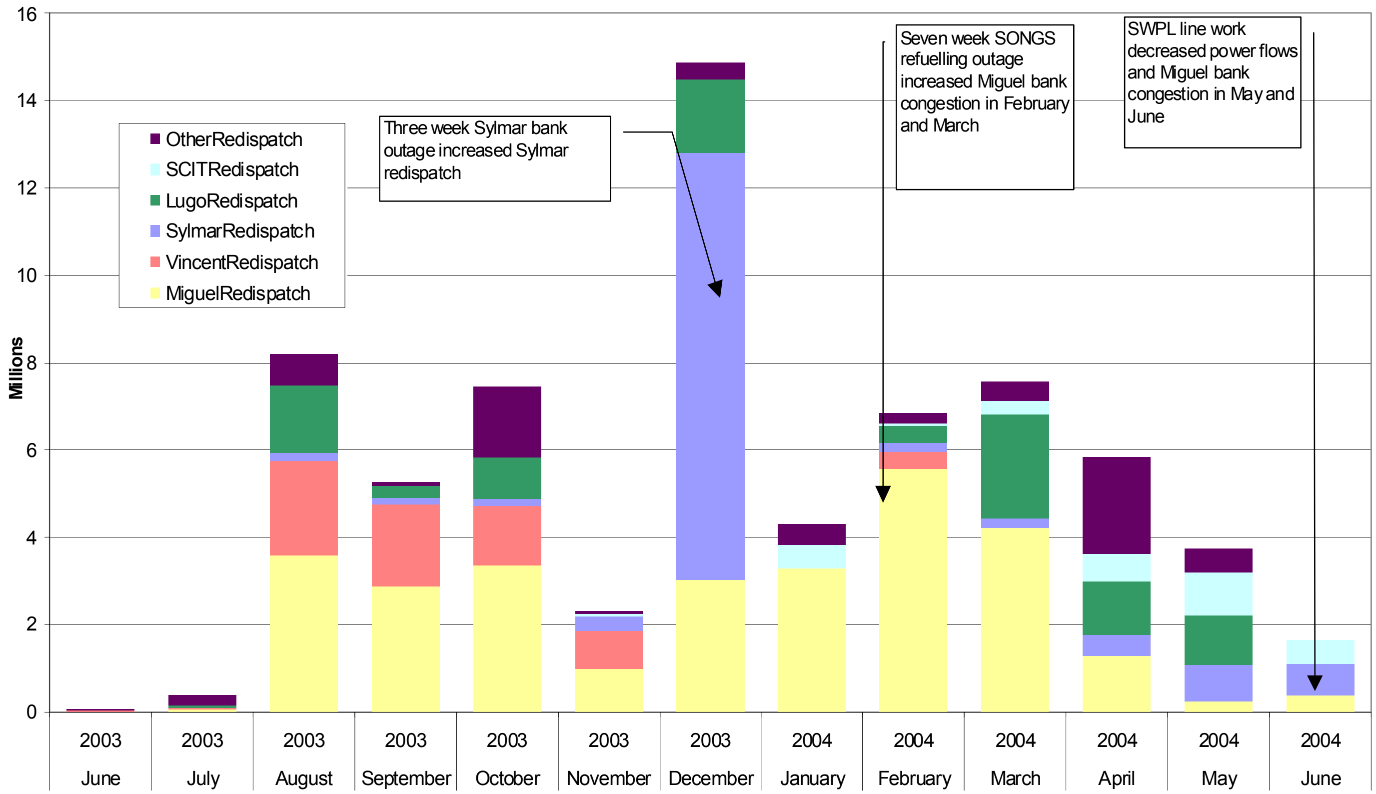
Good supply conditions resulted in competitive conditions and low mark-up in real-time in June -04

Monthly Average Competitive Market Clearing Prices and Markups



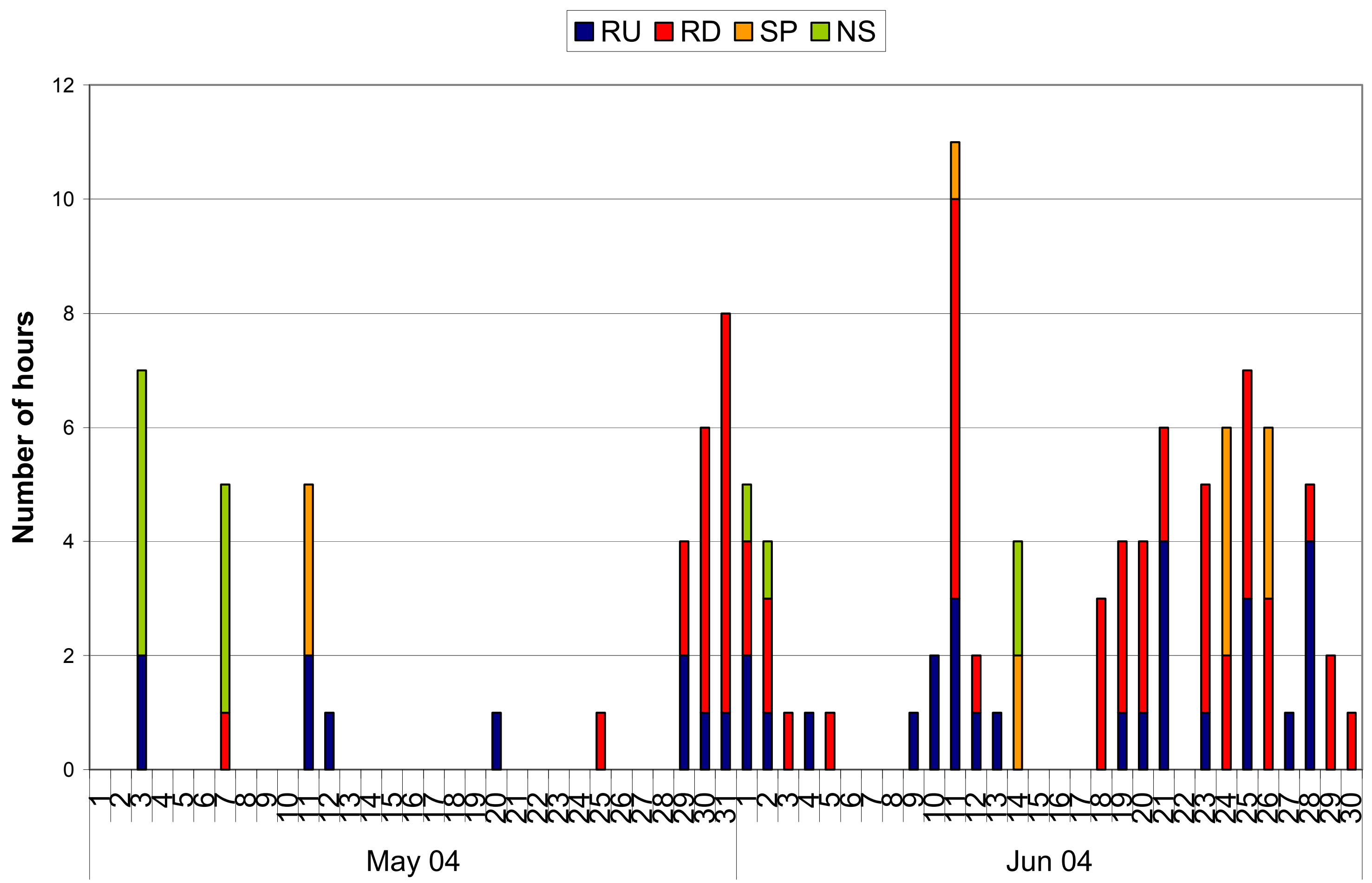
Intrazonal Congestion was at its lowest since July 2003

Monthly Total Intrazonal Congestion Costs by Location and/or Cause: June-03 to June-04

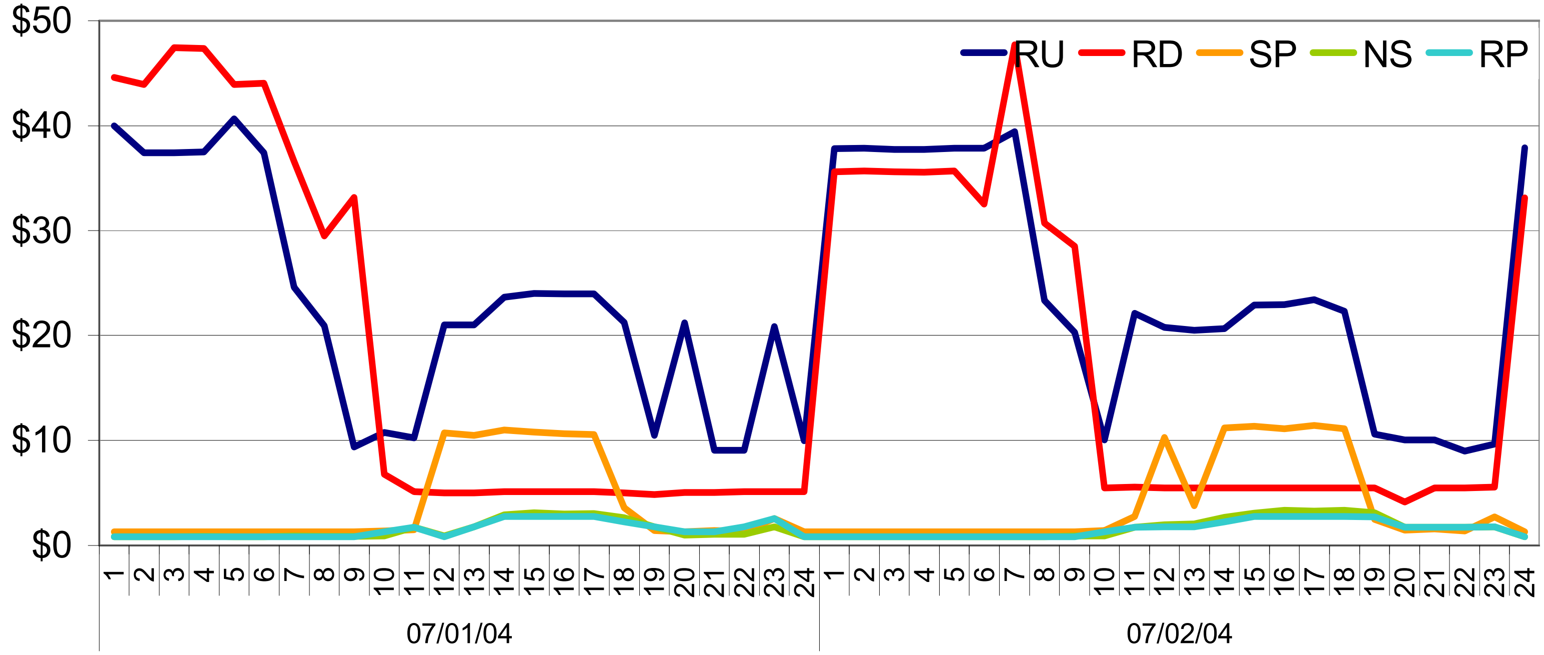


Lack of bids in upward and downward regulation services (RU, RD), particularly during offpeak hours

Frequency of Bid Insufficiency, May – June 2004



A/S Weighted Average Prices - July 1 - 2, 2004



Weekly Weighted Average A/S Prices through June 2004