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Market Analysis Report

Events of July-August 2004

Board of Governors Meeting

September 15, 2004

Greg Cook

Manager of Market Monitoring

Overview

- Loads, schedules, market fundamentals
- Real-time market activity during load peaks
- Ancillary services developments

Market Highlights: Loads and Schedules

- Hot weather contributed to successive actual load record peaks on July 20-21, August 9-11
- New peak 44,723 MW (hourly average) set Aug 11, 2004: 5.2% above Aug-03 peak
- Total energy (MWh) in Aug-04 was 1.7% above Aug-03
  - Aug-03 had prolonged heat waves, especially in Southern CA load growth areas: Ontario – 10 days above 100°F
  - Aug-04 heat waves shorter: Ontario – 1 day above 100°F
- Forward Scheduled energy + generation held on per "Must-Offer" almost always more than sufficient to cover load

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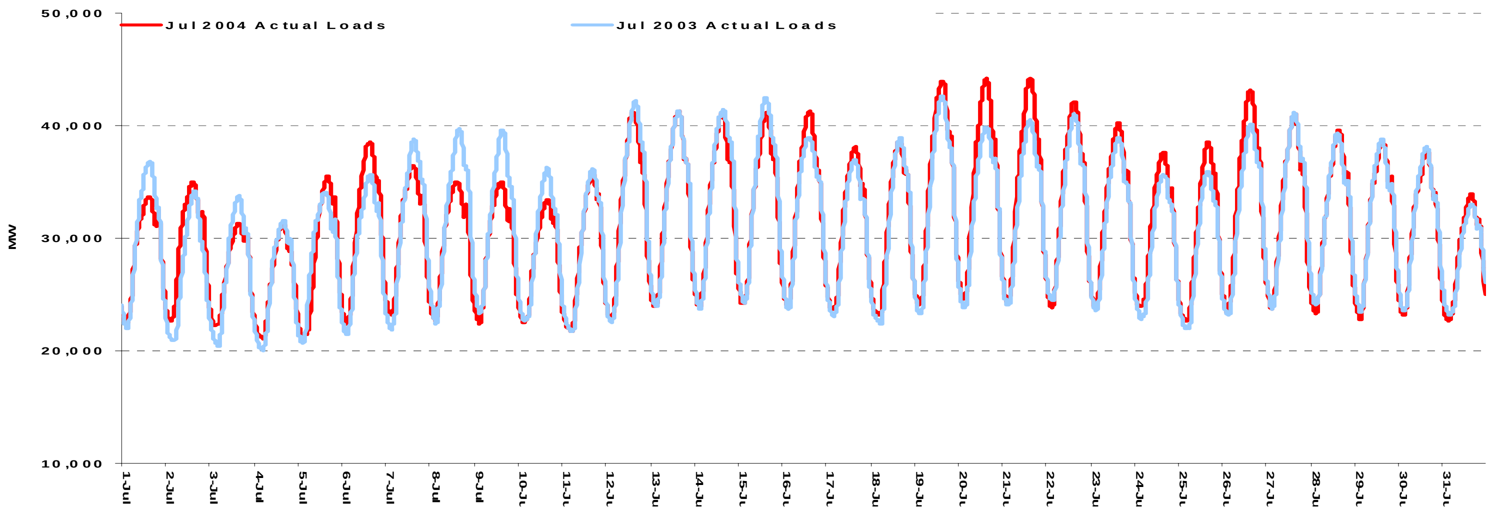
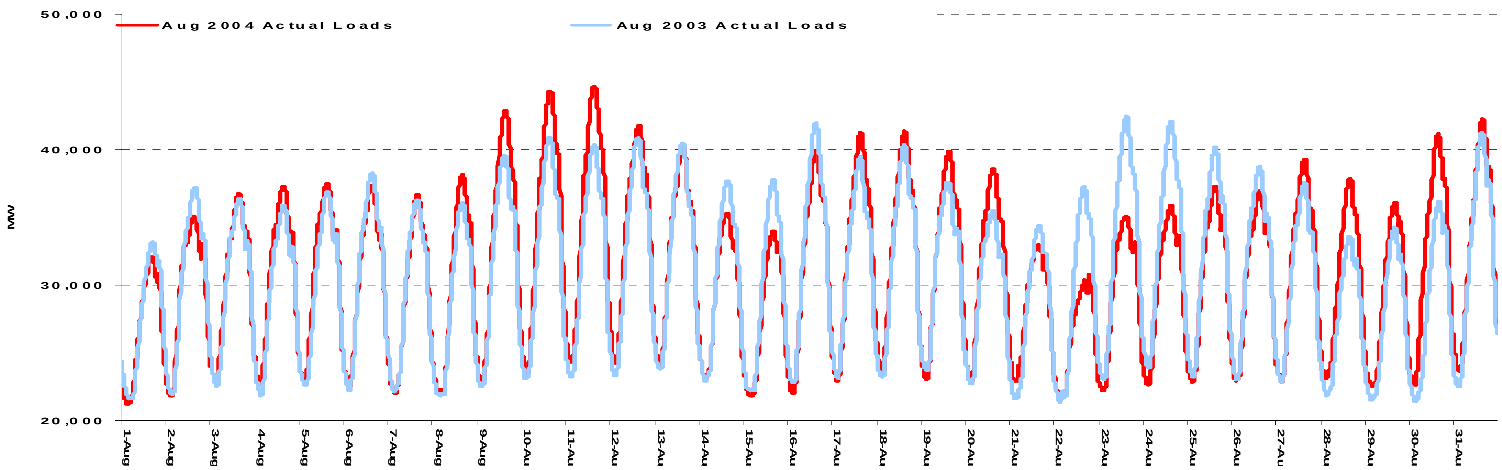
Record peak loads set July 19-21; August 9-11

Comparison of Loads: July (top) and August (bottom), 2003 v. 2004





2003: Mild spring; hot summer with prolonged heat waves
2004: Hot spring; milder summer with brief heat waves

Load Growth Rates Compared with Same Month Prior Year

	January-03	-2.7%	-2.3%	-3.6%	-4.1%
	February-03	-2.6%	-1.9%	-5.0%	-1.4%
	March-03	0.7%	1.6%	-2.7%	4.7%
Q1-Q2 2003: Mild	April-03	-2.7%	-2.2%	-5.3%	0.2%
	May-03	-0.8%	0.7%	-2.8%	10.5%
	June-03	-1.6%	-1.1%	-3.7%	3.6%
Q3 2004: Hot	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%
Q3 2003 – Q1 2004: Growth	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%
Q2 2004: Hot	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%
Q3 2004: Similar to Q3 2003	July-04	0.7%	0.3%	1.9%	4.0%
	August-04	1.0%	0.6%	0.6%	5.2%

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

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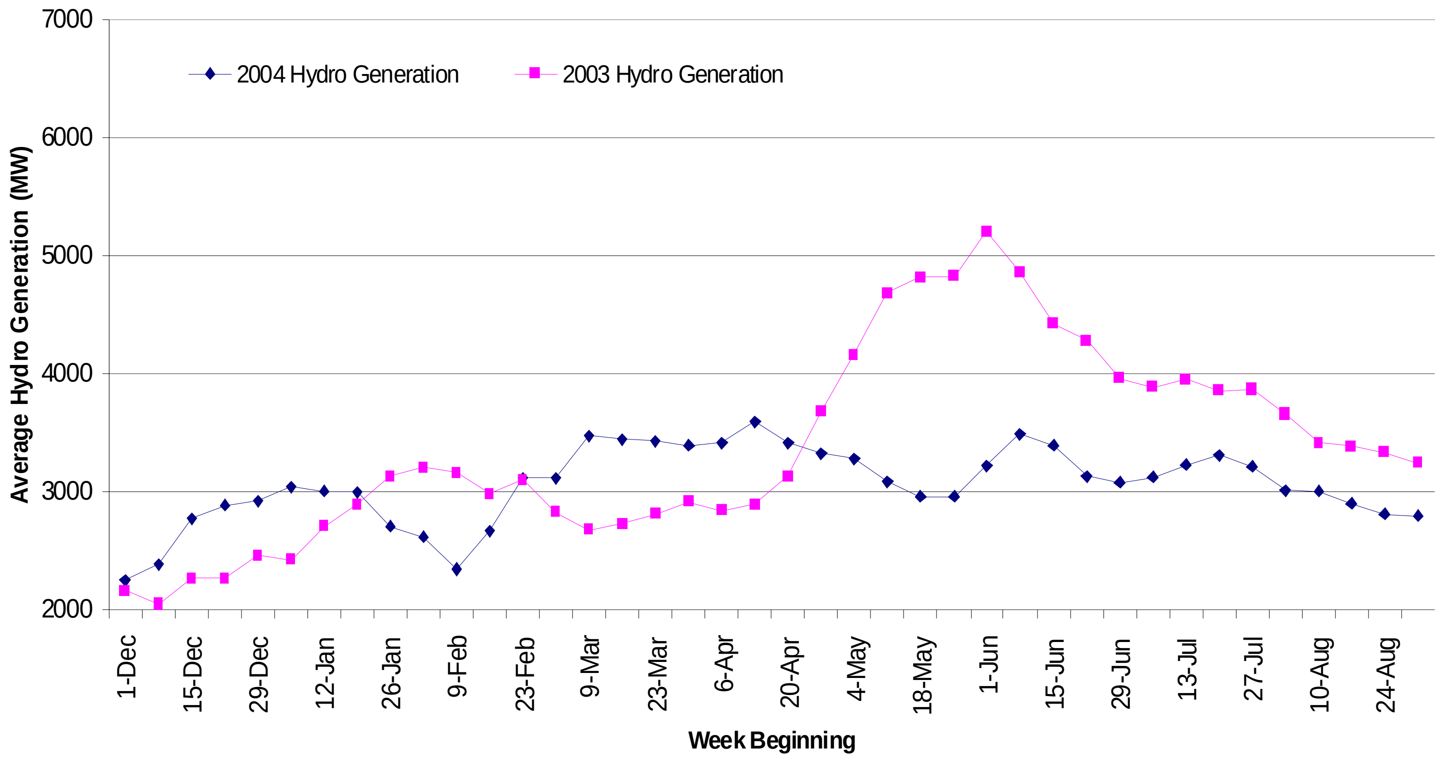
Hydro season usually slows by August; dry year should not have significant impact on supply this fall

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



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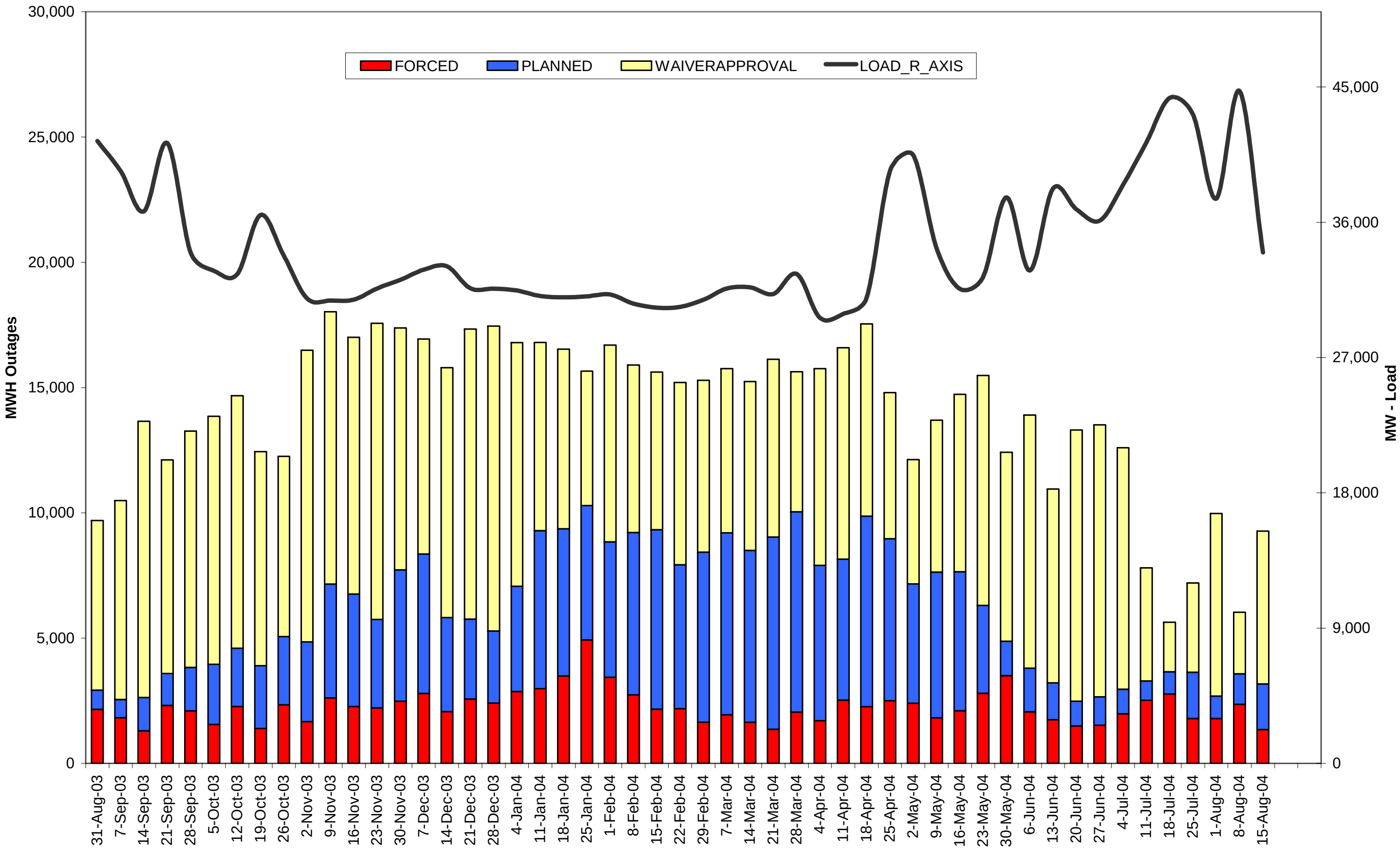
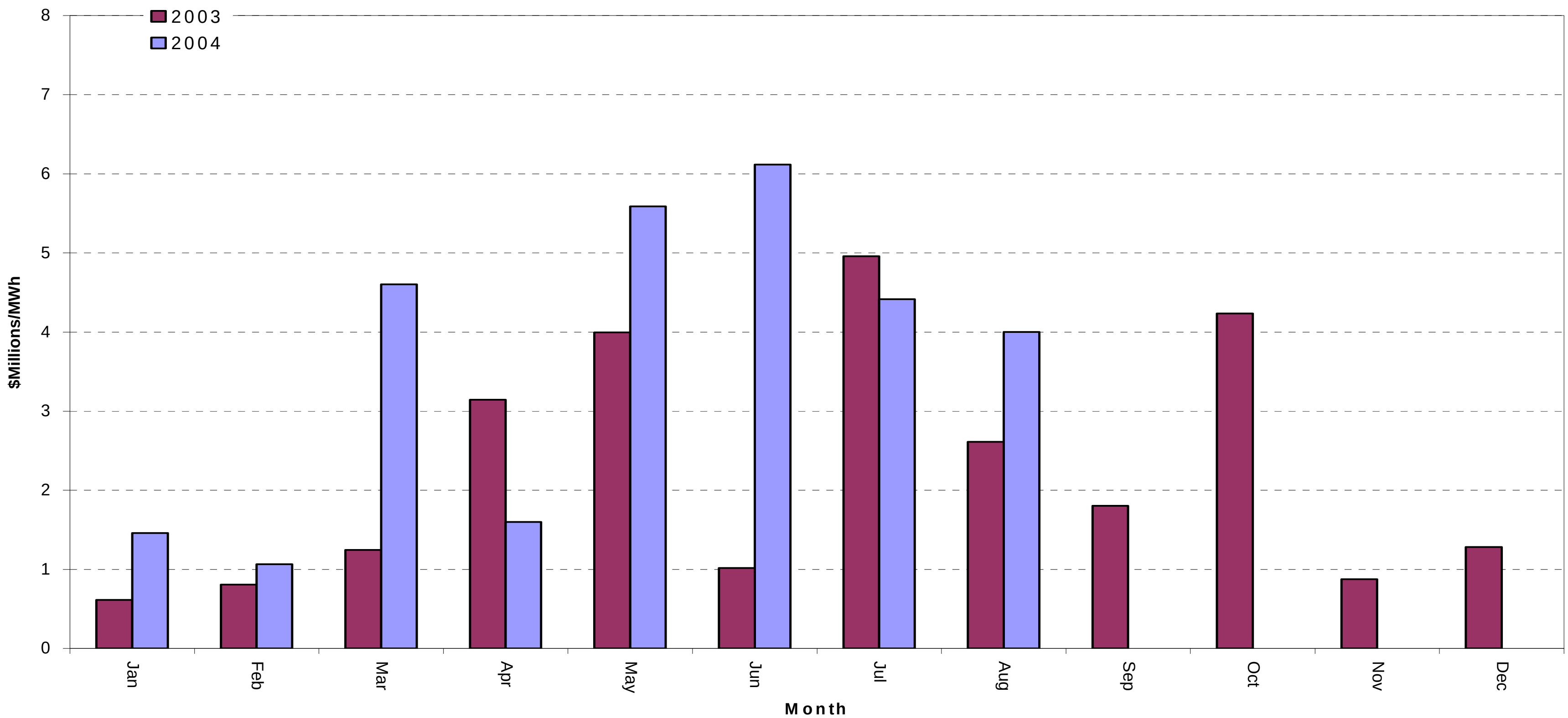
Forced outages uncharacteristically low throughout summer

Outages: Weekly Averages through week beginning 8/15/04



Interzonal congestion costs in summer 2004 similar to summer 2003; due primarily to transmission derates (PDCI, COI); congestion into SP15 on Palo Verde and Path 26 during peaks; and congestion into NP15 on Path 15 in off-peak hours

Monthly Congestion Costs: 2004 v. 2003



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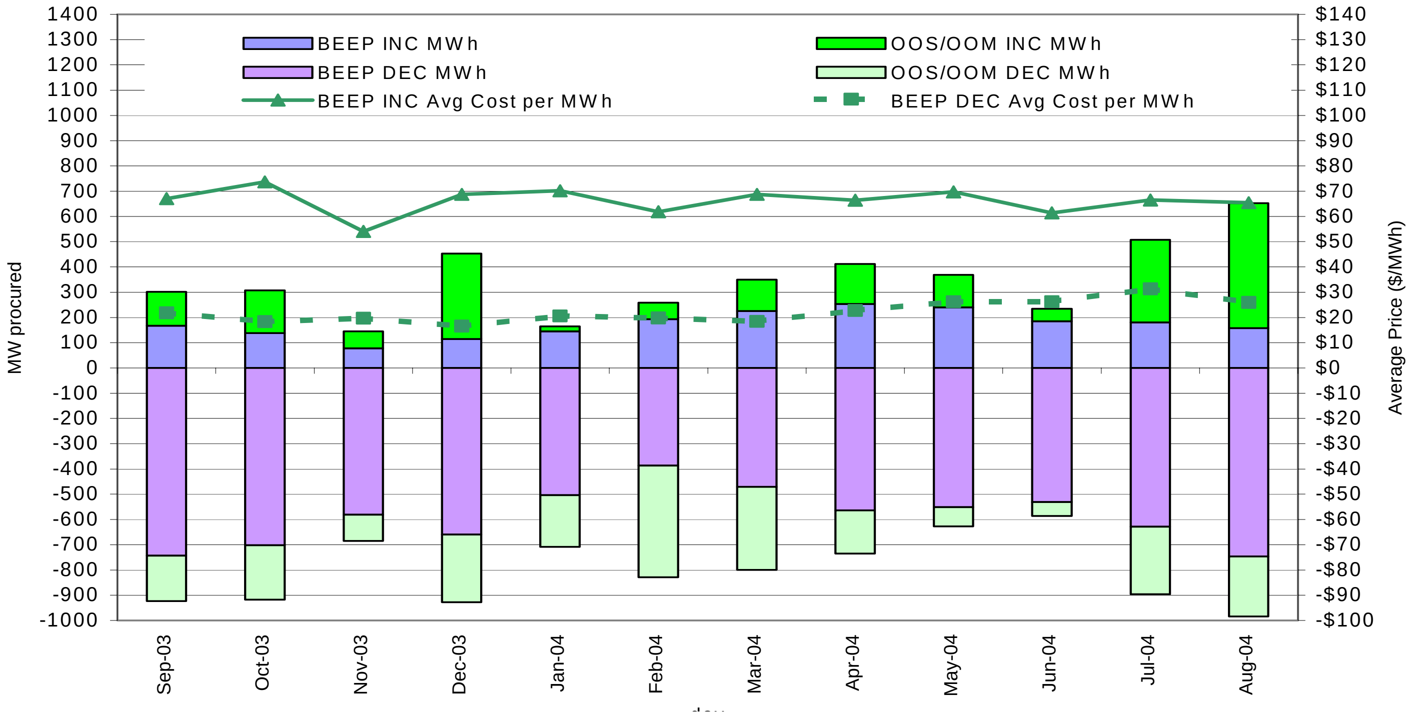
OOS calls to manage intrazonal congestion dominate INC market, offset by market DEC calls

Monthly Average BEEP Volumes and Prices, and OOS/OOM Volumes: Sep-03 through Aug-04



Despite high volume of OOS calls for intrazonal congestion in August, overall average prices remain stable

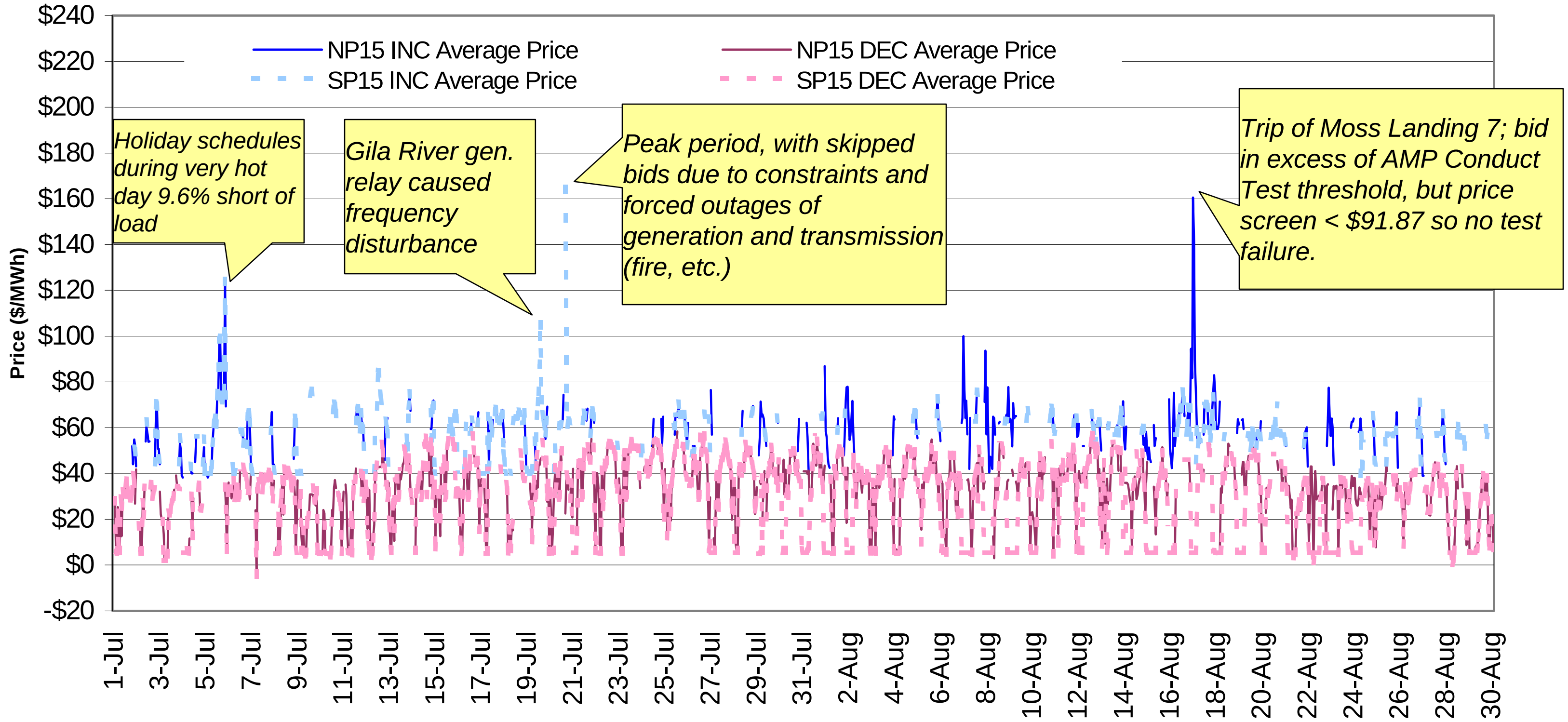
Real-time Prices and Volumes in July and August 2004

		Avg. BEEP Price and Total Volume		Avg. OOS/OOM 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	
Jul-04	Peak	$ 71.51 98 GWh	$ 34.67 357 GWh	$ 68.89 173 GWh	$ 30.90 177 GWh	$ 69.84 271 GWh	$ 33.42 535 GWh	34,269 MW 2.2%
	Off-Peak	$ 53.00 36 GWh	$ 20.36 110 GWh	$ 68.36 72 GWh	$ 22.32 17 GWh	$ 63.22 109 GWh	$ 20.62 128 GWh	25,002 MW 3.0%
	All Hours	$ 66.49 134 GWh	$ 31.29 468 GWh	$ 68.73 246 GWh	$ 30.14 194 GWh	$ 67.94 380 GWh	$ 30.95 662 GWh	31,180 MW 2.4%
Aug-04	Peak	$ 62.92 69 GWh	$ 29.97 409 GWh	$ 69.89 272 GWh	$ 28.85 157 GWh	$ 68.48 341 GWh	$ 29.66 565 GWh	34,004 MW 1.7%
	Off-Peak	$ 69.09 48 GWh	$ 14.90 147 GWh	$ 68.53 93 GWh	$ 11.50 21 GWh	$ 68.72 142 GWh	$ 14.48 168 GWh	24,686 MW 2.0%
	All Hours	$ 65.47 117 GWh	$ 25.98 555 GWh	$ 69.54 365 GWh	$ 26.81 178 GWh	$ 68.55 483 GWh	$ 26.19 733 GWh	30,898 MW 1.8%

Note: OOS average INC prices are not always higher than BEEP prices at market on an average basis, since OOS INC calls are generally at times when there are many BEEP DEC calls, but relatively few BEEP INC market calls. The opposite is the case for OOS DECs and BEEP INCs.

Four significant price spikes; only one during a near-peak period

Real-Time Zonal Hourly Average Prices: Aug-04



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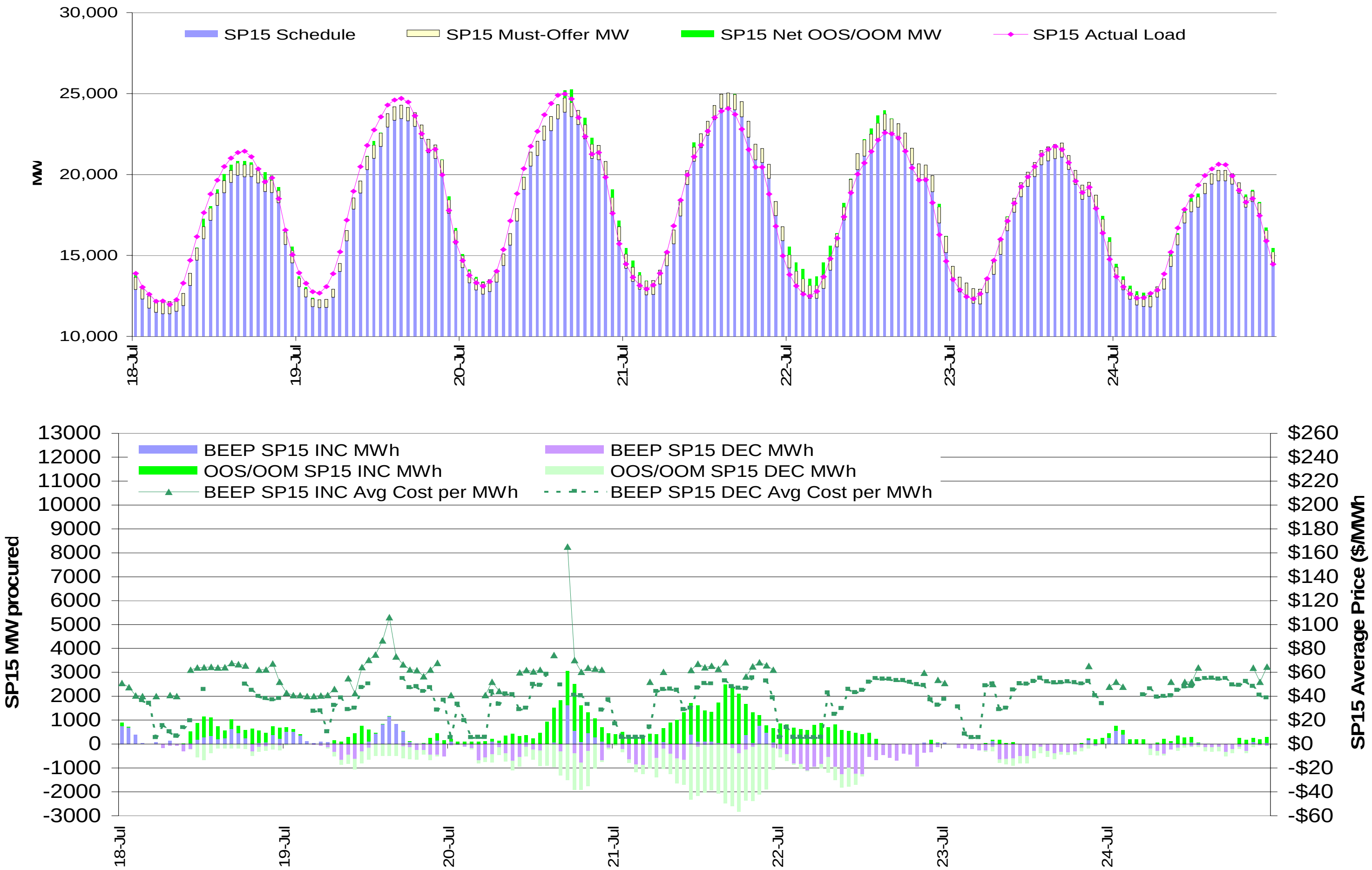
July 20 spike in SP15 during derates and transmission outages due to fire; Scheduling and Must-Offer commitment on July 21 avoided similar problem

Schedules v. Actual Load (top) and Real-time Volumes and Prices (bottom) For SP15, July 18-24, 2004



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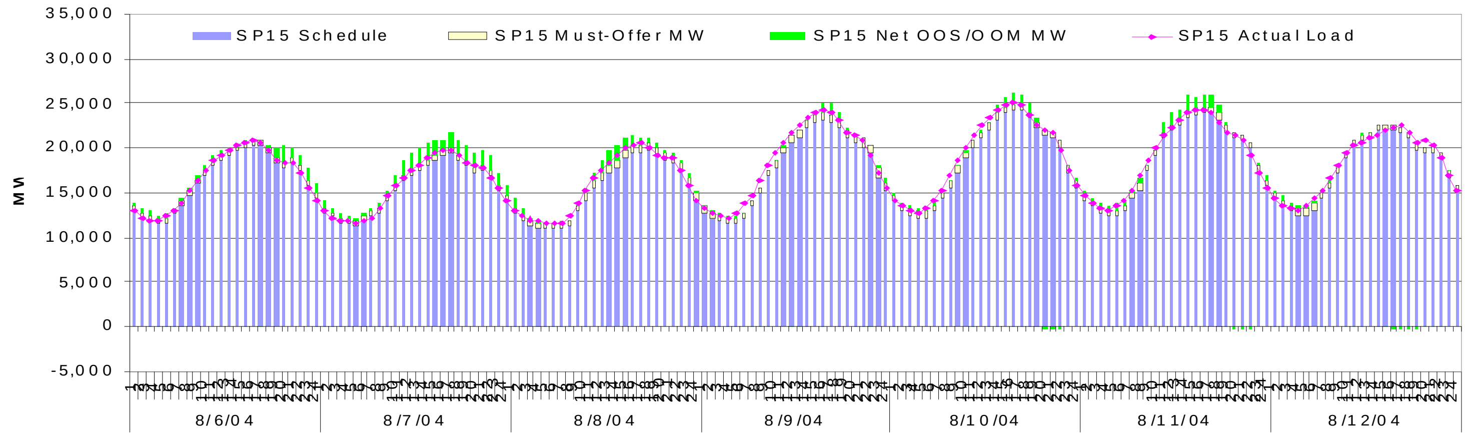
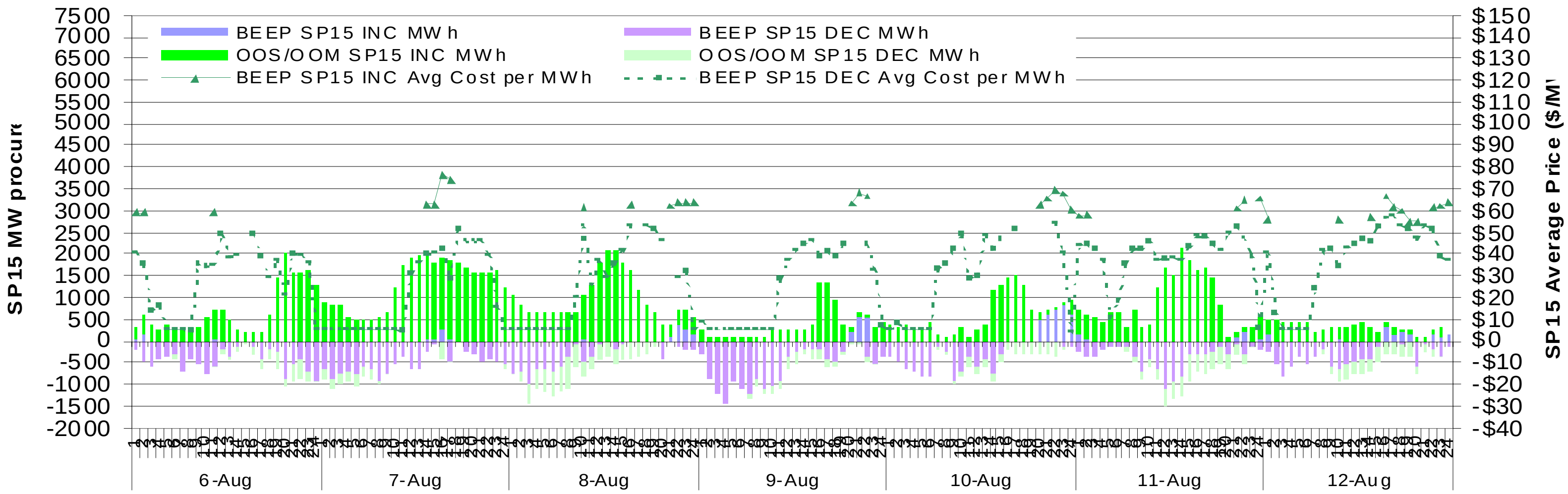
Actual load 1500 MW below forecast and committed Must-Offer units resulted in schedules sufficient to meet load on August 11 peak

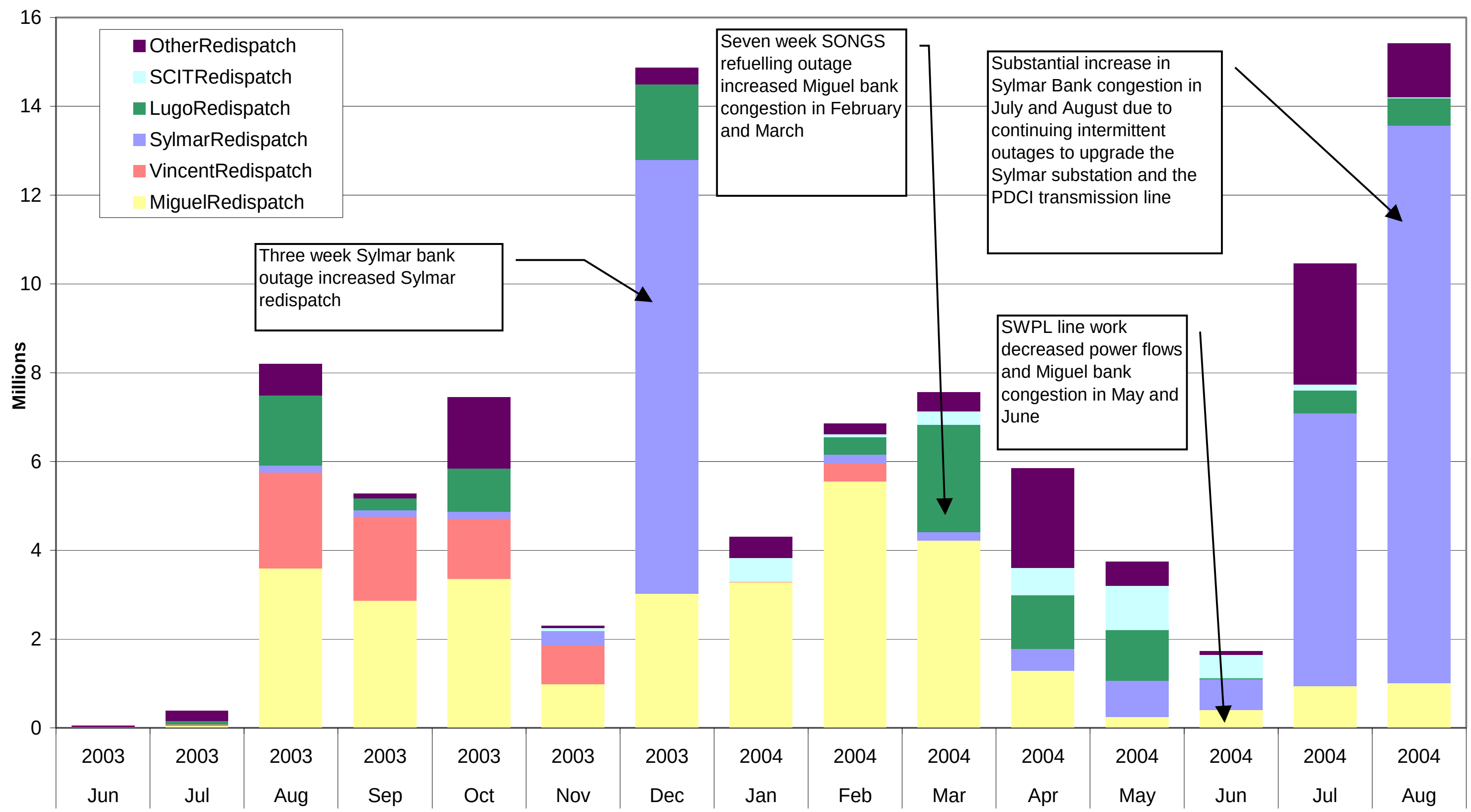
Schedules v. Actual Load (top) and Real-time Volumes and Prices (bottom) For SP15, August 6-12, 2004





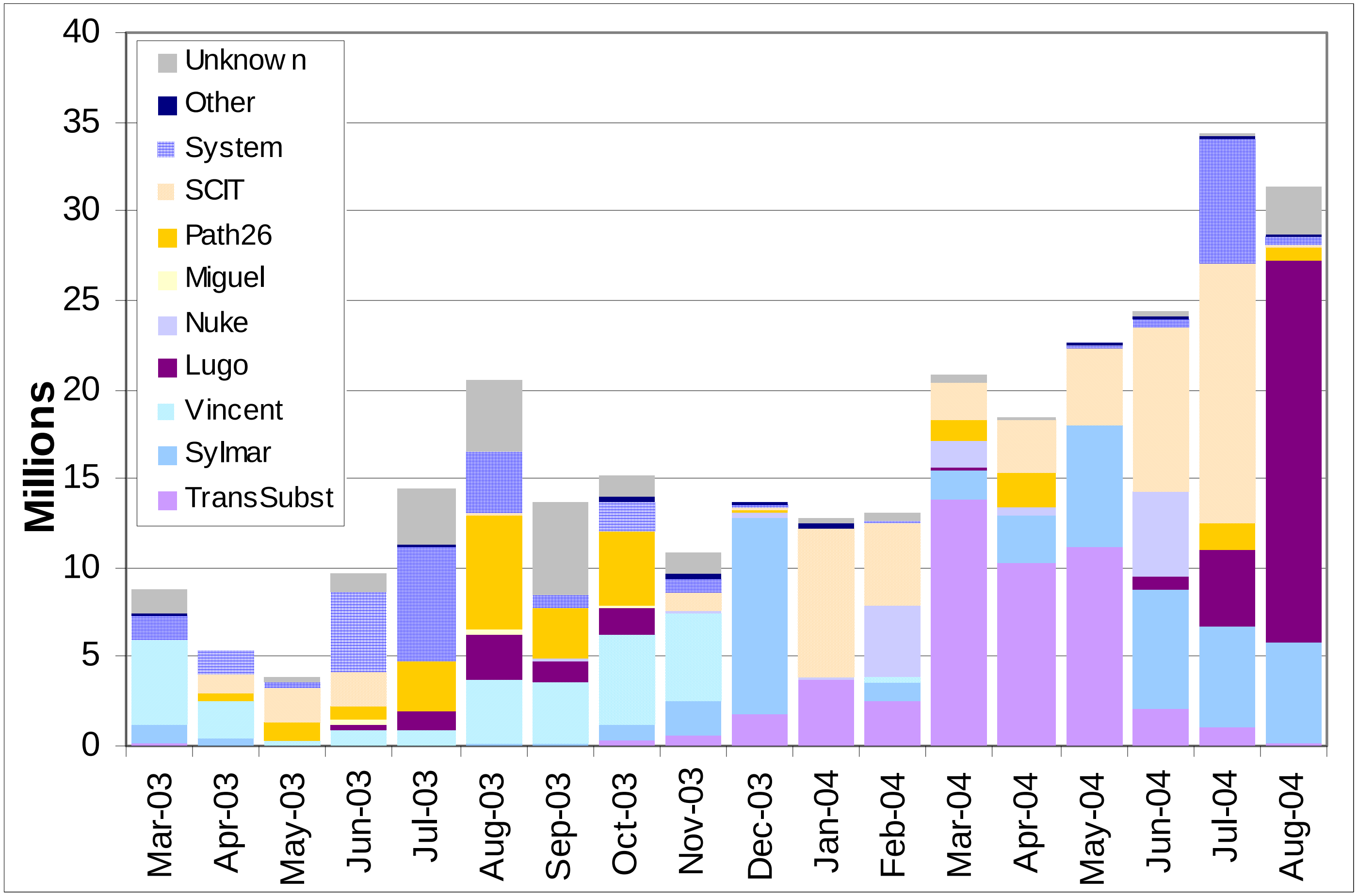
Sylmar derates due to PDCI upgrade outage continue to be primary intrazonal choke point

Monthly Intrazonal Congestion by Location and/or Cause



Minimum Load Cost Compensation Costs Surpassed $30 million in July and August

MLCC Costs by Constraint



Market Highlights: Ancillary Services

- Amendment 60 to ISO Tariff approved 7/8/04
  - Units that provide A/S now entitled to keep minimum-load payments for Must-Offer (MO) commitment
  - Earlier notification of MO waivers enabling units to bid into day-ahead AS markets implemented on September 2
- Zonal procurement and pricing of operating reserves began 8/7/04
  - Applies whenever day-ahead congestion will render A/S undeliverable
  - Has resulted in frequent bid insufficiency and price spikes in SP15

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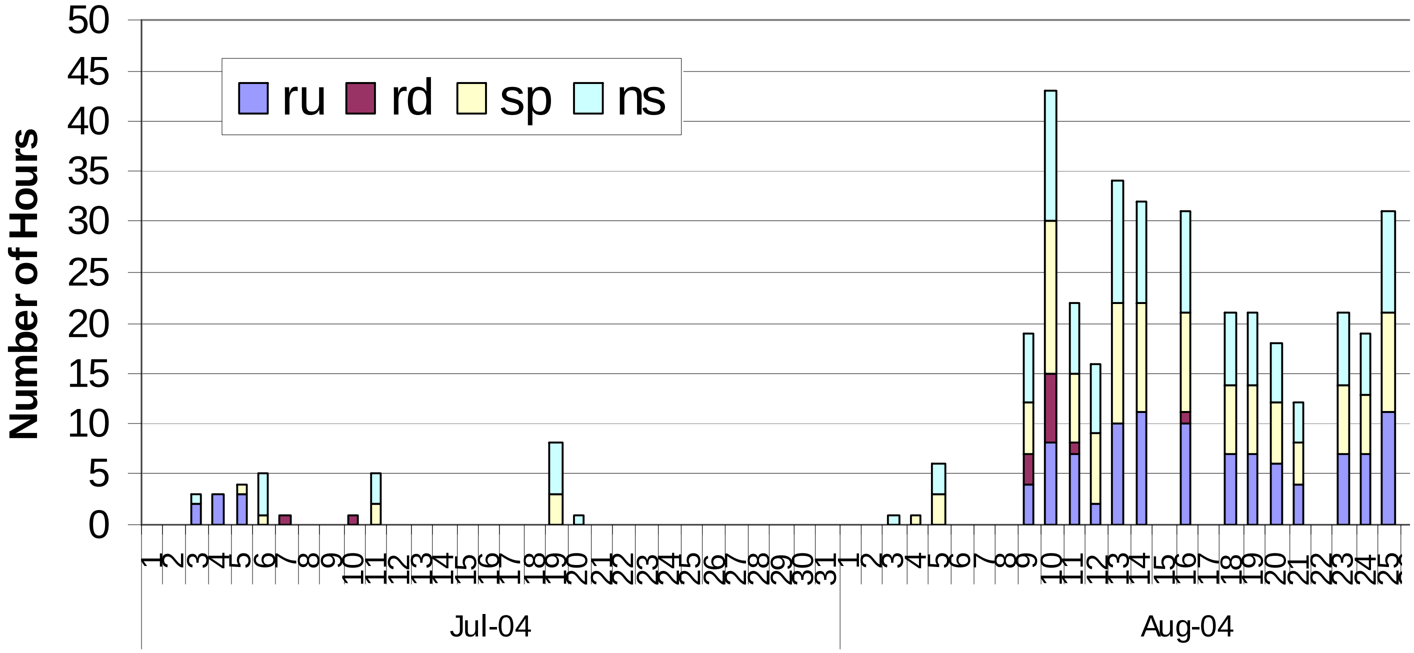
Zonal procurement has resulted in increase in bid insufficiency since implementation on 8/7/04

Frequency of Bid Insufficiency, Jul 1 – Aug 25, 2004



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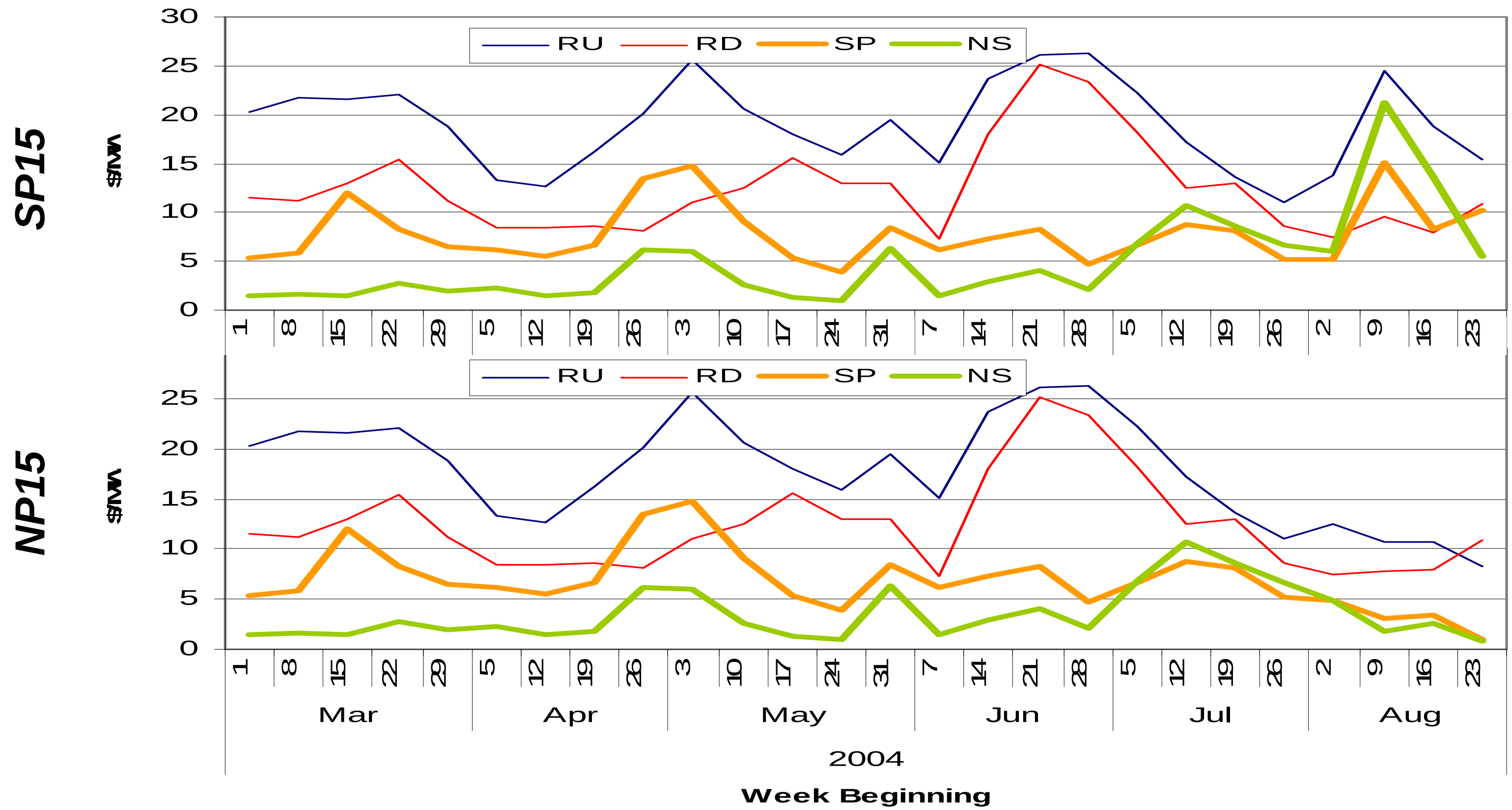
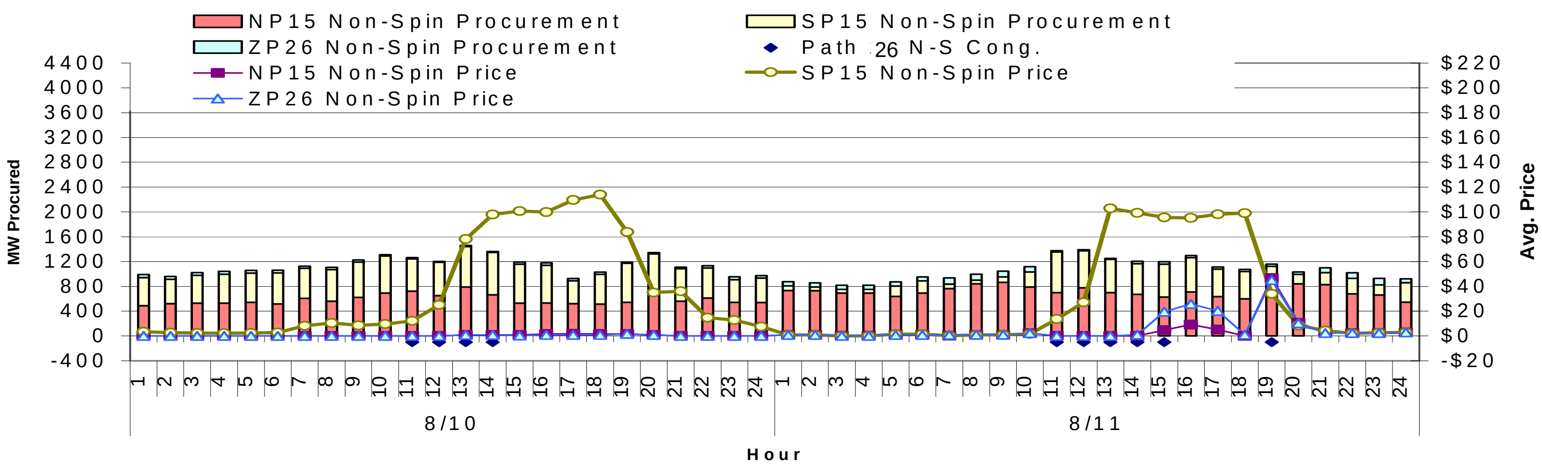
Bid insufficiency has resulted in higher Spin and Non-Spin prices within SP15, and lower prices within NP15

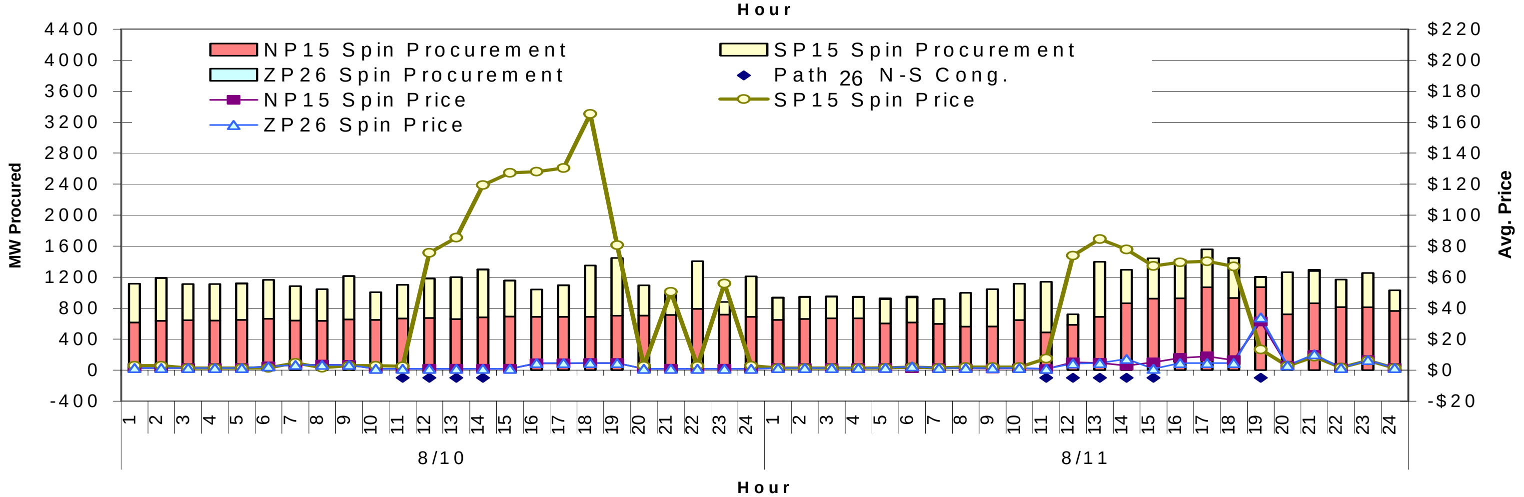
SP15 (top) and NP15 (bottom) weekly average prices through 8/29/04



Zonal procurement and SP15 bid insufficiency results in price spikes almost every weekday afternoon

Procurement of Non-Spin (Top) and Spin (Bottom) by Zone, Aug 10-11





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