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Market Analysis Report

Events of October 2004

Board of Governors Meeting
December 3, 2004

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Manager of Market Monitoring

Market Highlights

- Real-time energy market: RTMA live on October 1 concurrent with 2 key planned outages
  - Initially, volatile prices due to software problems concerning input ramp rates
    - Price spikes in SP15 exacerbated by SONGS and Pacific DC line outages
  - Market operations stabilized by mid-October and loads moderated; subsequently, frequent but short, predictable price spikes
    - Price spikes often occur during load ramp periods and near top of the hour schedule changes
  - Intrazonal congestion redispatch costs totaled $9.3 million
    - Sylmar and Miguel bank congestion
    - SCIT and Miguel bank congestion often contribute to real-time energy market prices spikes
- Ancillary Services capacity declined, resulting in bid insufficiency and price spikes
  - Temporary increase in regulation procurement for RTMA implementation
- Interzonal congestion costs totaled $9.9 million as a result of wheeling power from southwest to California and northwest

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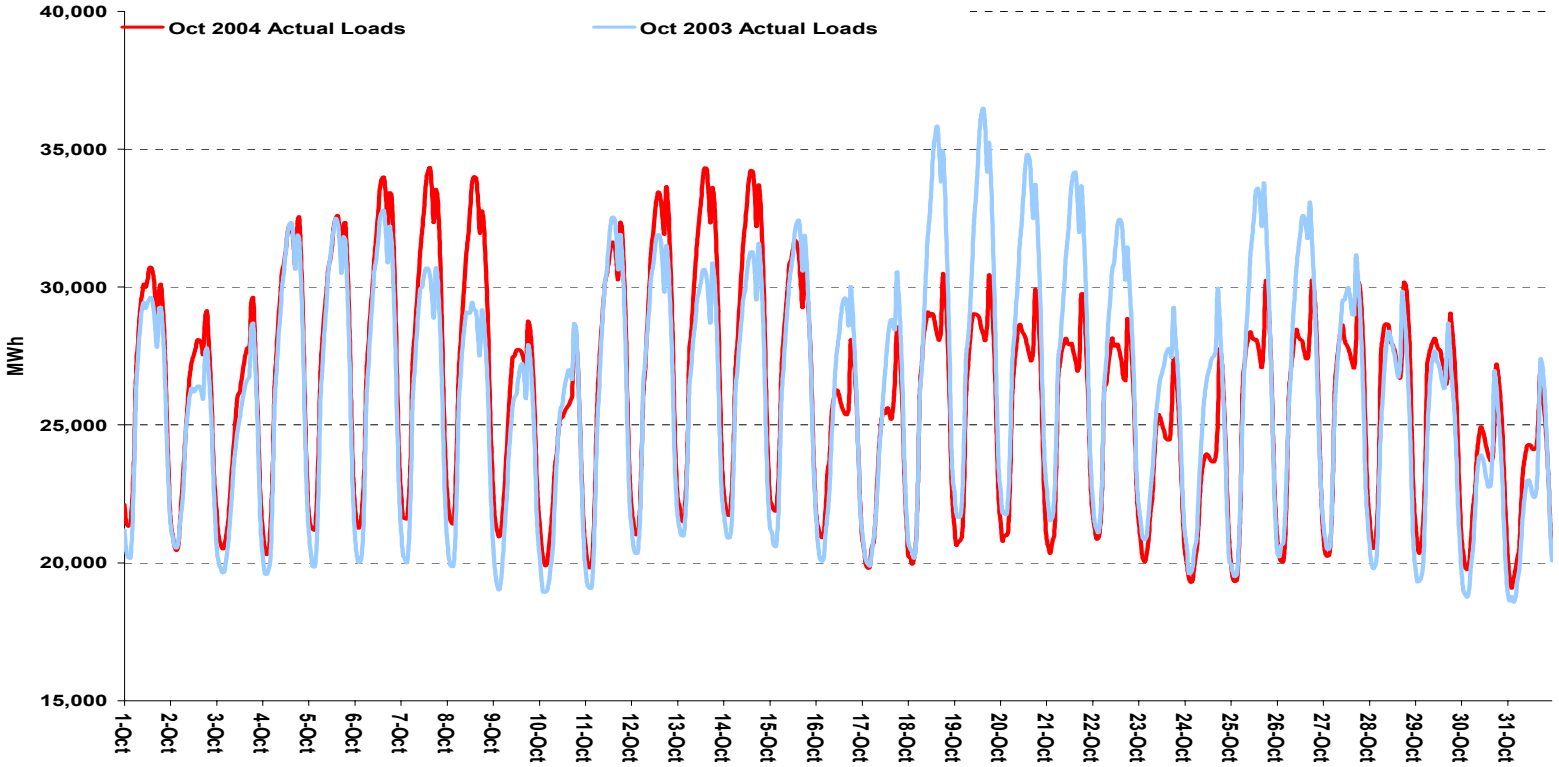
Peak and average loads lower in 2004 due to milder weather

Actual Loads: October 2004 v. October 2003



	2003	2004	Pct. Chg.
Peak Load (MW)	36,480	34,320	-5.9%
Avg. Energy (MW)	26,418	26,057	-1.4%

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Despite decrease in most load trends, daily minimum loads (less weather-dependent) still increasing slightly, indicating economy/demographic-driven growth

Load Growth Rates Compared to Same Month in the Prior Year: Monthly through Oct-04

	Avg. Hrly. Load	Avg. Daily Peak	Avg. Daily Trough	Monthly Peak
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%
July-04	0.7%	0.3%	1.9%	4.0%
August-04	1.0%	0.6%	0.6%	5.2%
September-04	3.4%	3.5%	3.4%	10.1%
October-04	-1.4%	-2.8%	1.5%	-5.9%

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

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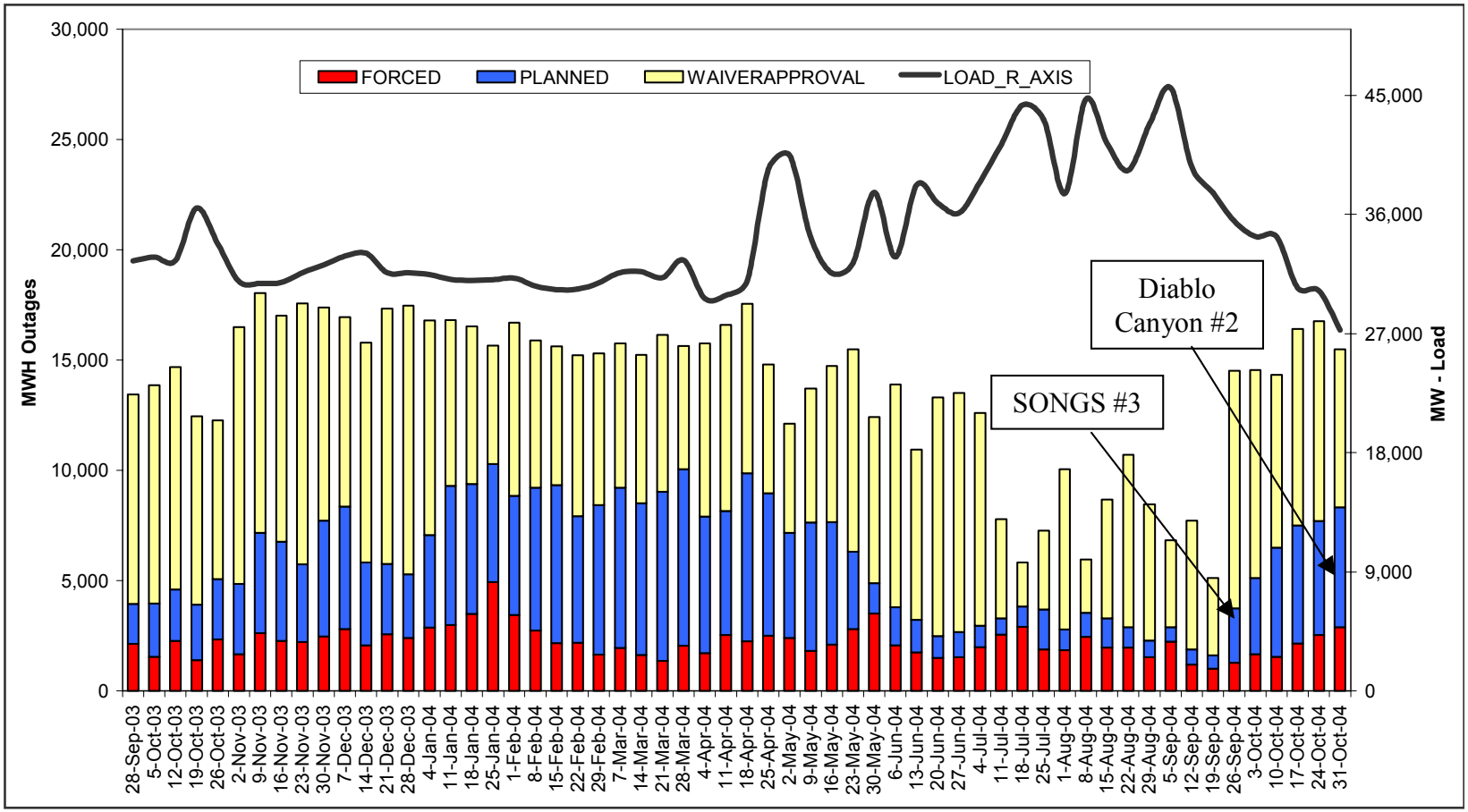
In October, many units not available due to planning maintenance outages

Weekly Average Generation Outages by Type vs. Weekly Peak Load



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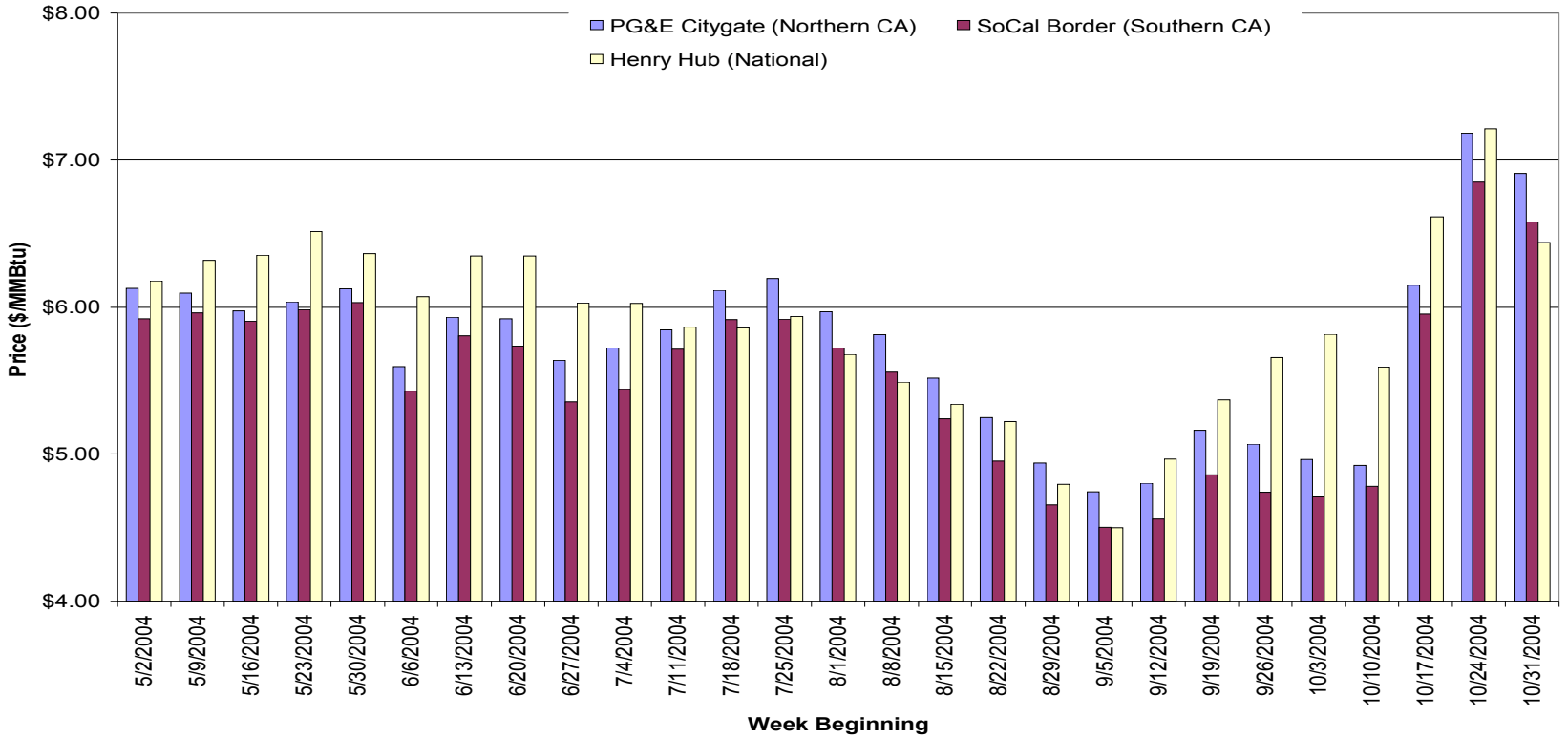
Natural Gas prices spiked in October, due to forecasts of colder weather, in line with NYMEX futures prices

Weekly Average Natural Gas Prices through October



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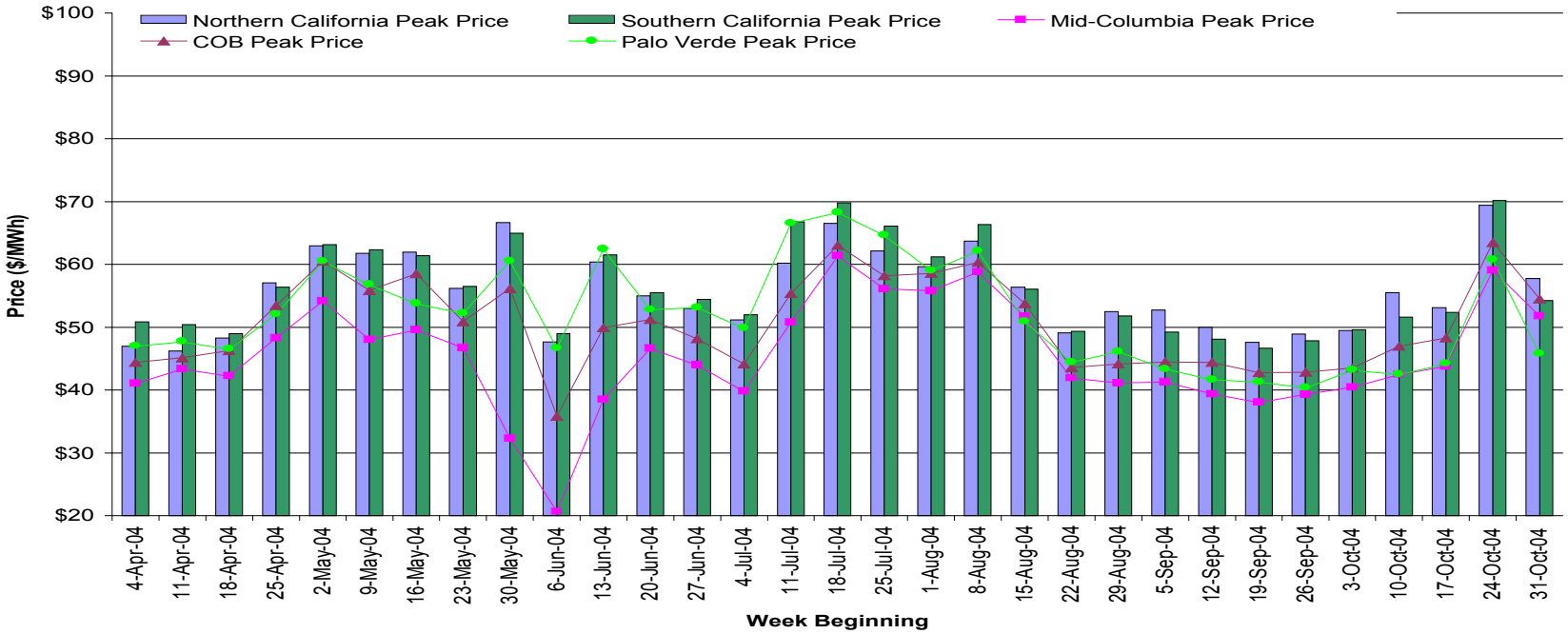
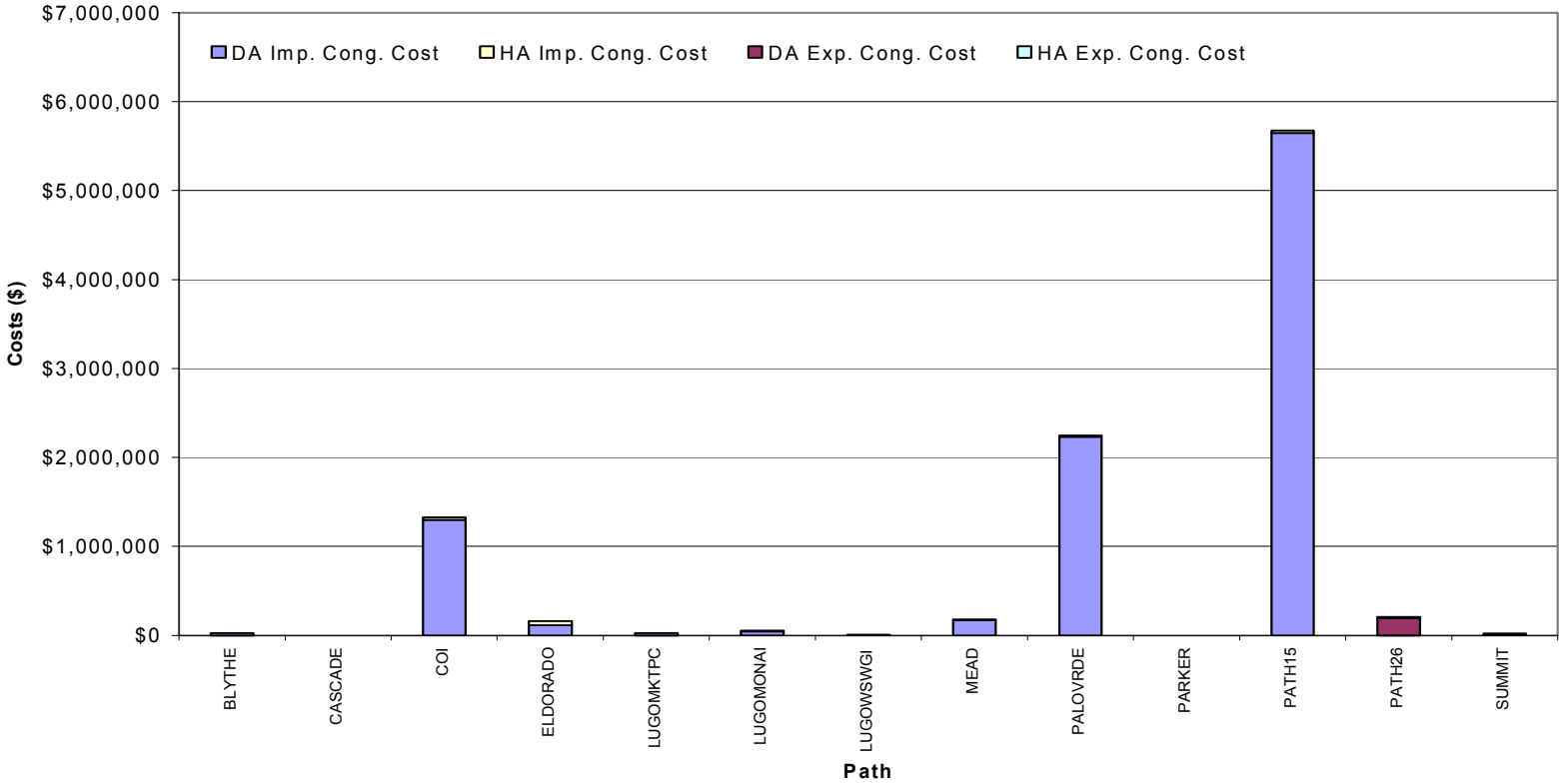
Low Palo Verde Prices due to mild weather in Southwest enabled marketers to exploit $10 price premiums in California, especially NP15

Weekly Average Day-Ahead Peak Bilateral Electricity Prices through October



Selling power from Southwest resources into NP15 has resulted in congestion costs on Palo Verde and, especially, Path 15

Monthly Congestion Costs by Transmission Path, Direction, and Market



Note: "Import" on Paths 15 and 26 indicates south-to-north direction; "Export" indicates north-to-south direction.

Real-time energy market

- RTMA software in service and operational
- Short (5-10 min.) spikes at beginning of ramp hours result from RTMA dispatch and clearing
- Longer price spikes due to SCIT/Miguel congestion mitigation

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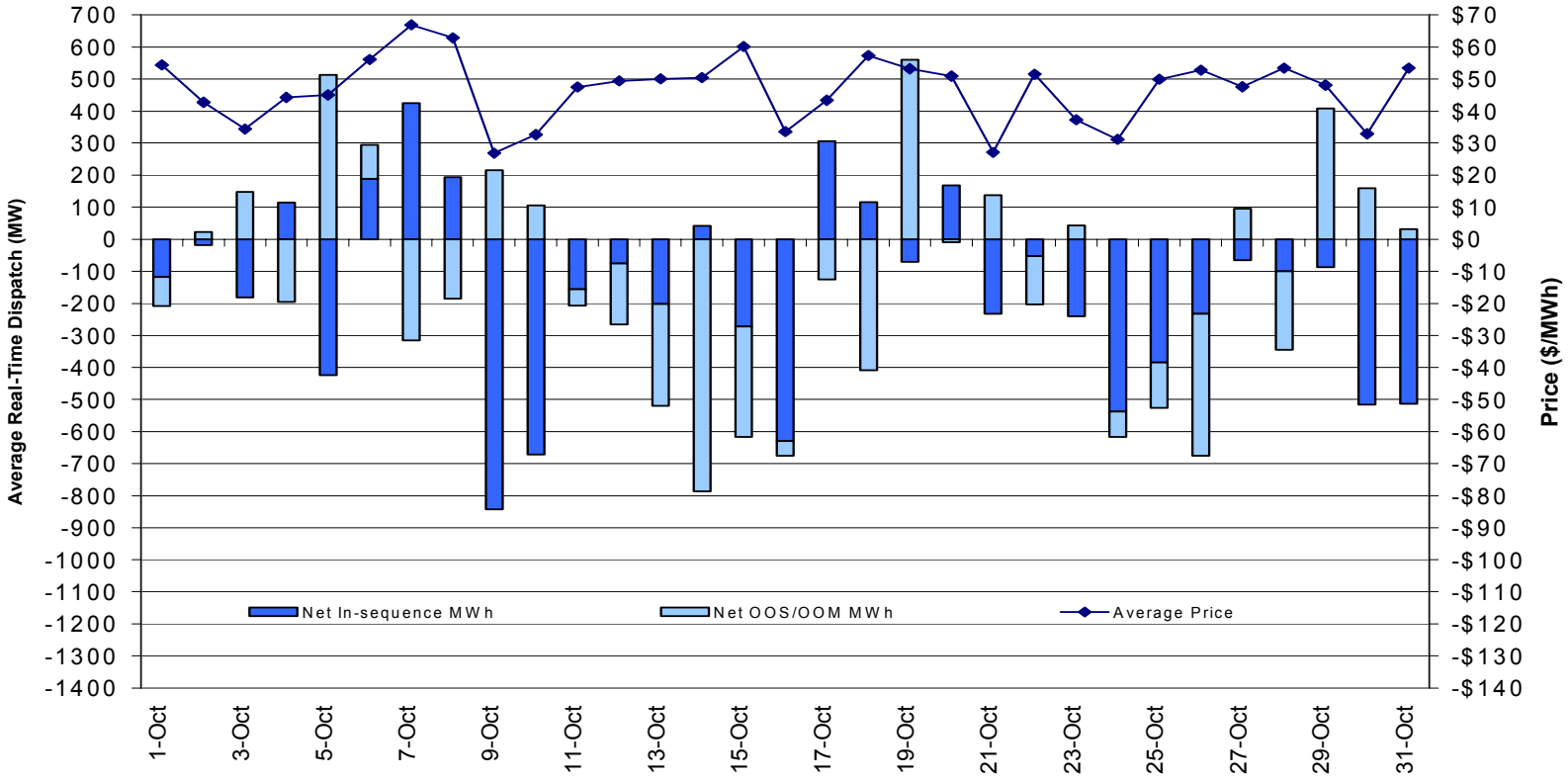
*Real-time average daily prices fluctuated generally within $30-60/MWh range; in-sequence dispatches offset OOS and cover net imbalance**

Daily Average Aggregated Real-Time Prices and Net Volumes in October



* As RTMA represents a fundamental change in the ISO's systems, the data are undergoing reviews for accuracy and may be subject to change.

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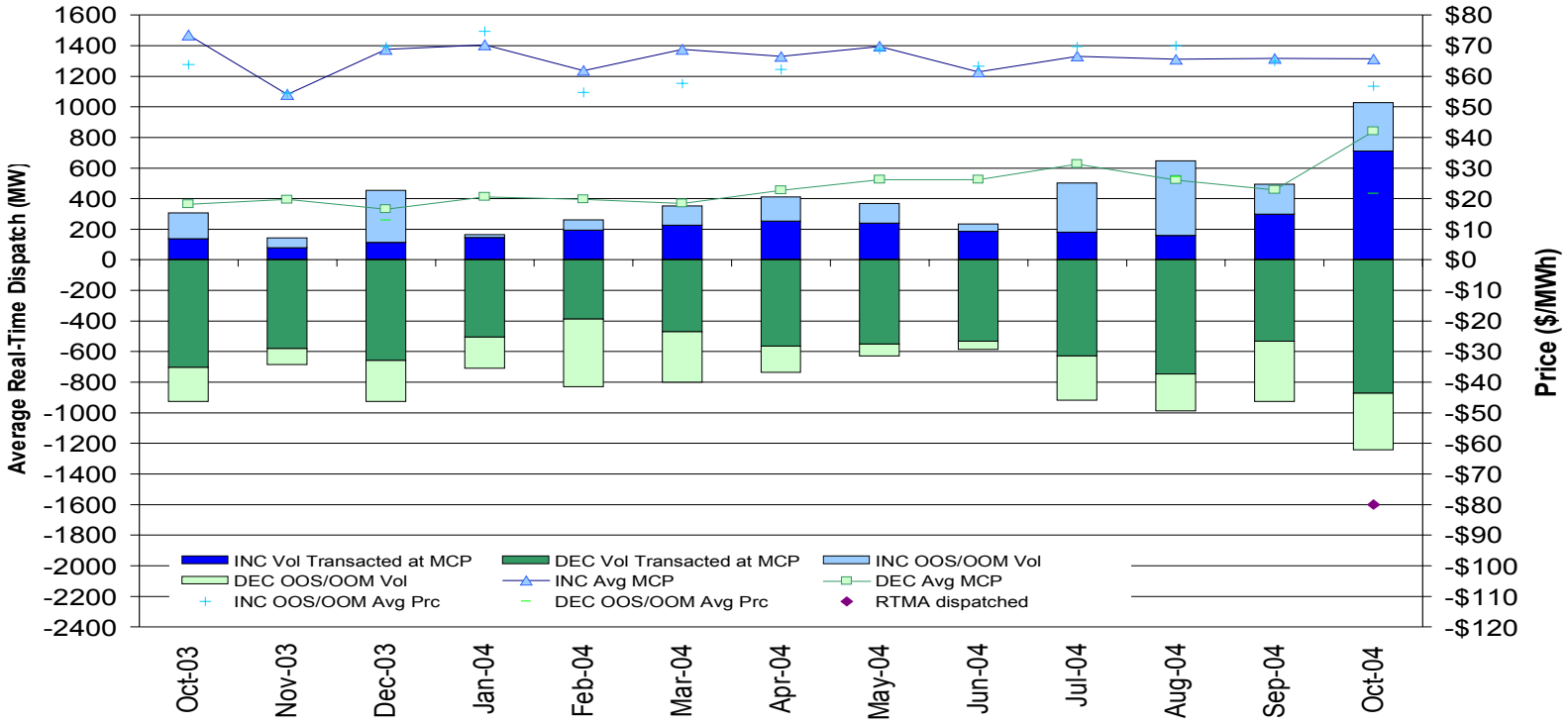
Real-time incremental and decremental volumes up significantly, with more even balance between Inc and Dec, due to improved/automated dispatch and efficient clearing by RTMA. Incremental average costs similar, decremental average costs higher*

Monthly Average Real-Time Prices and Volumes through October



* Notes: Generators pay decremental prices to avoid production. Consequently, higher decremental prices result in lower costs to load.
All of the real-time data used in this Report reflect the best and most accurate information available at the time of publication.
As RTMA represents a fundamental change in the ISO's systems, the data are undergoing reviews for accuracy and may be subject to change.

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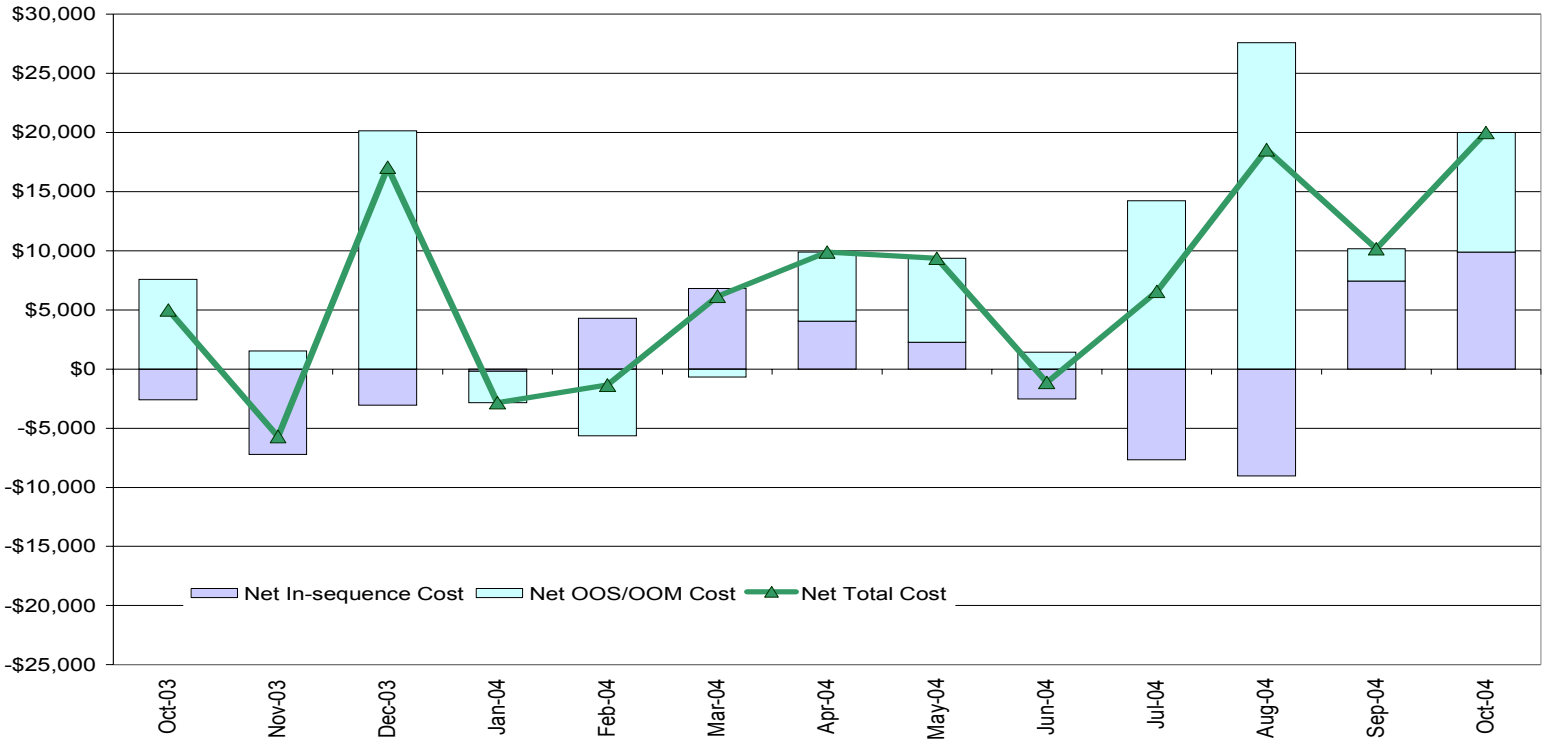
Real-time costs increased due to outages, real-time market splits between NP15 and SP15, and higher natural gas prices

Monthly Average Real-Time Market Costs through October



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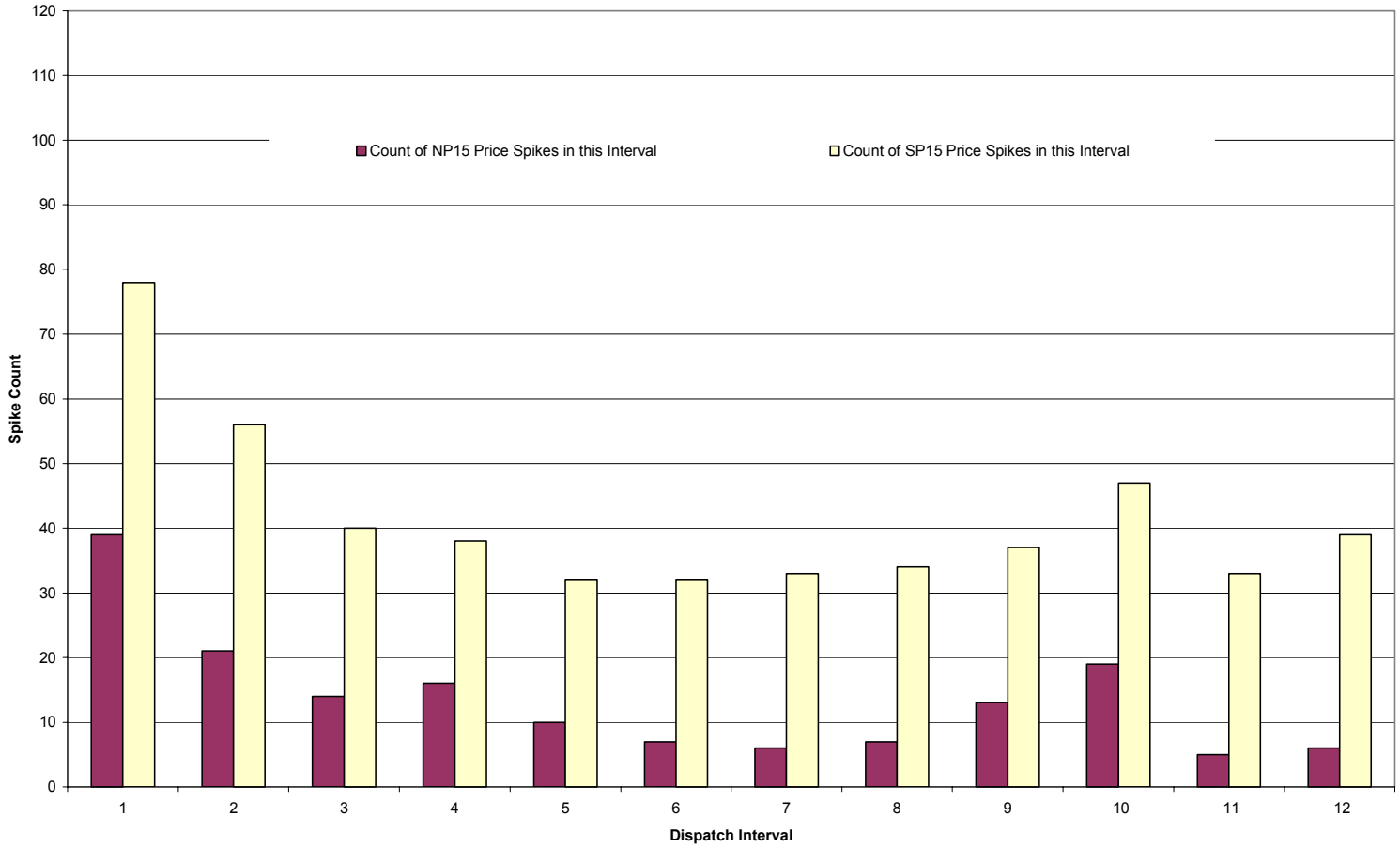
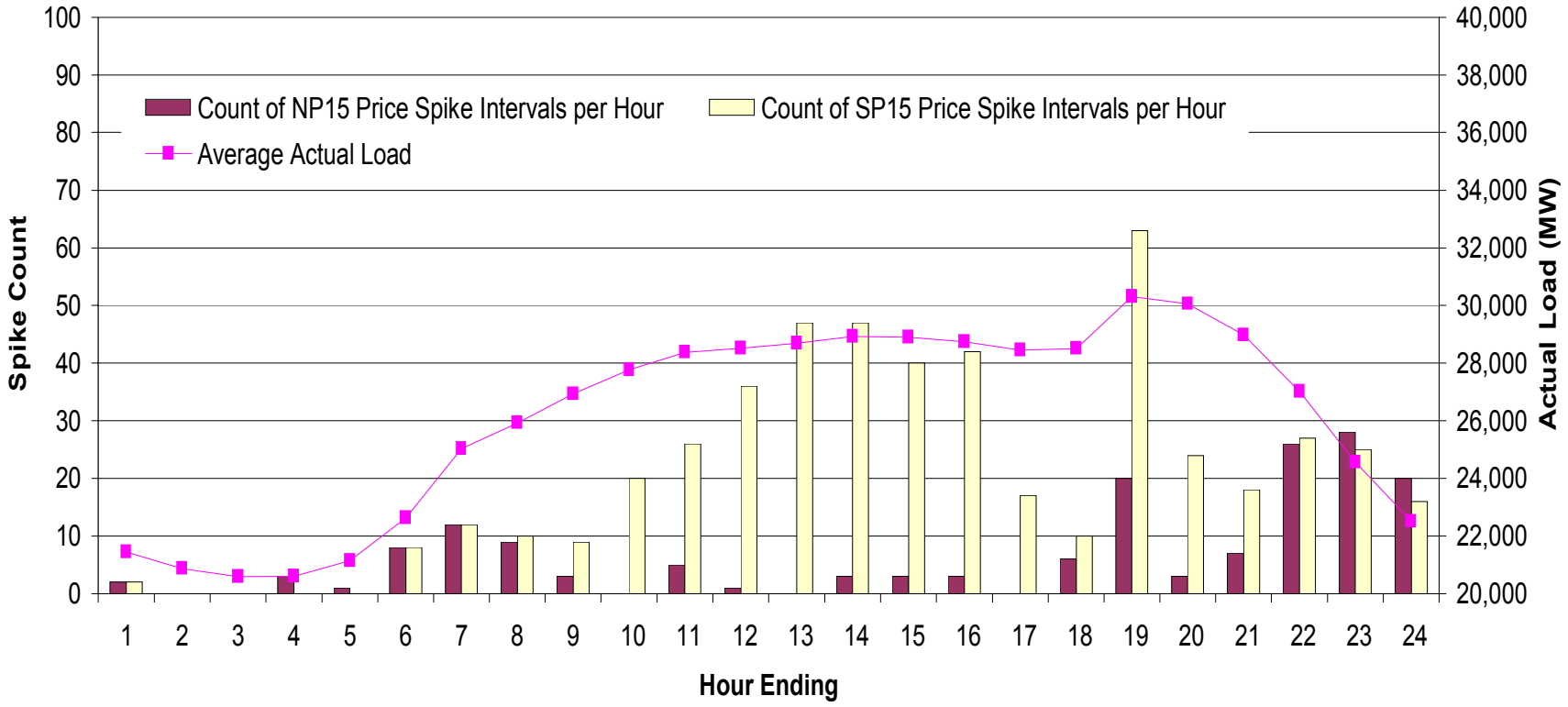
Short price spikes tend to occur at the beginning of the hour and last a single interval, and sometimes roll over into the second, then end, due to efficient economic clearing. Longer price spikes result from intrazonal congestion mitigation, and may occur at any time throughout the operating hour.

Number of Price Spikes within NP15 and SP15 by Five-Minute Dispatch Interval: Oct. 3-31



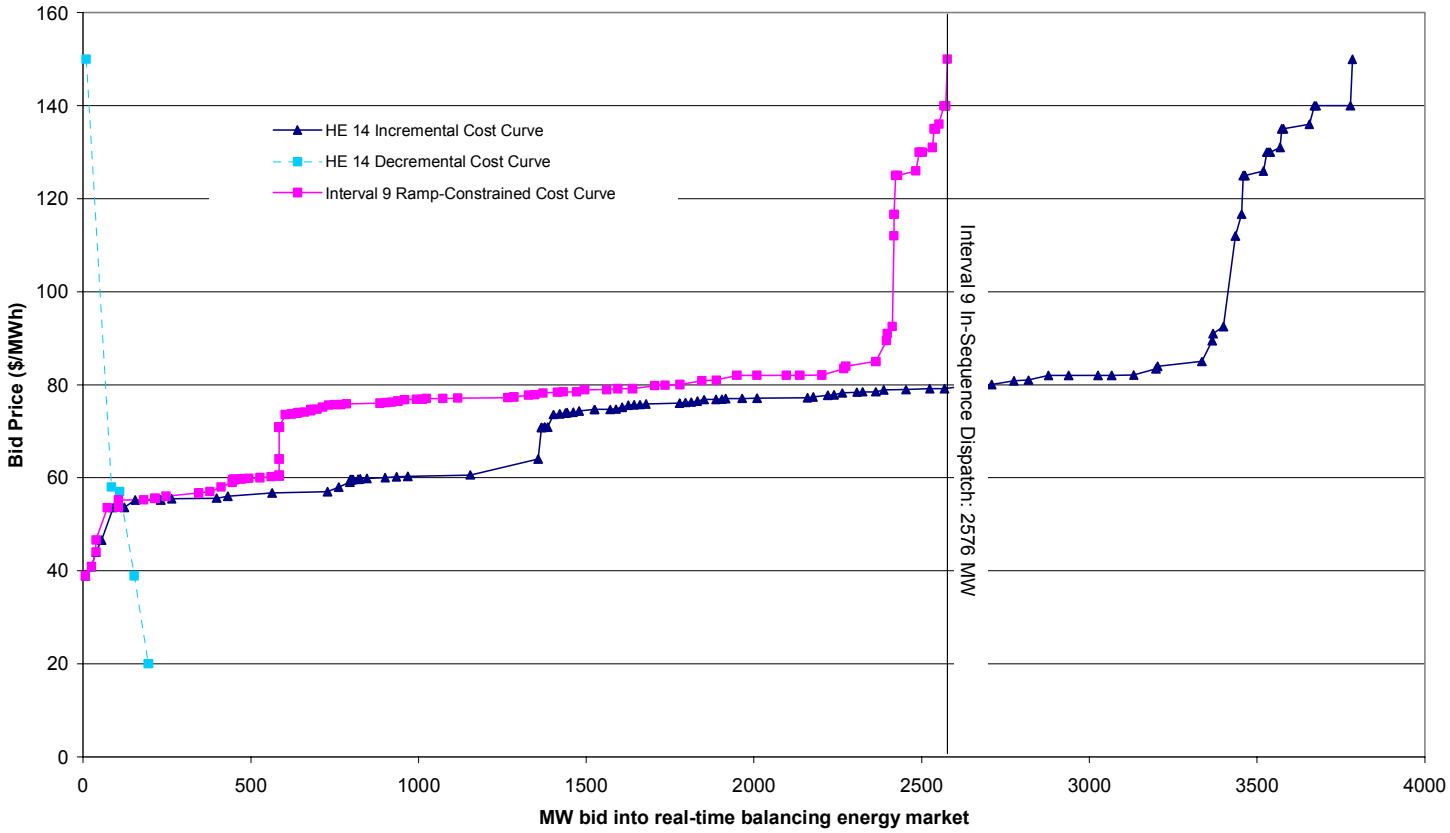
Short price spikes tend to occur during ramp periods (HE 6-8, 18-19, 22-24) and are usually system-wide.
Longer price spikes for congestion mitigation occur during peaks (HE 11-17, 19) and were limited to SP15.

Number of Price Spikes within NP15 and SP15 by Hour of Day, vs. Average Hourly Load, in October



*During price spikes, RTMA dispatches deep into available bid stack.**

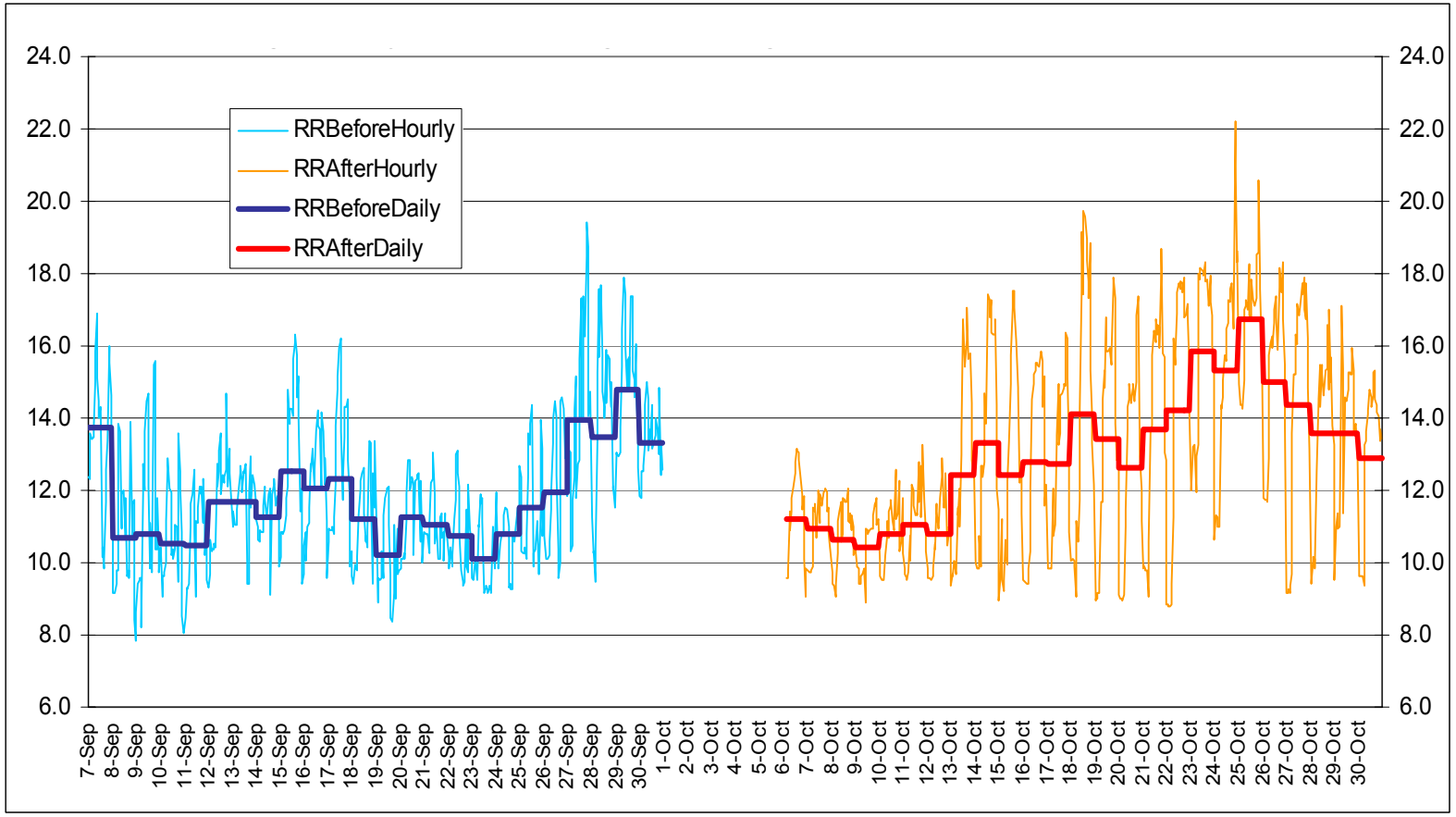
SP15 Supplemental Energy Bid Curve for 10/7/04, HE 14:00; and Interval 9 Constrained Bid Curve and In-Sequence Dispatch



* Note: Available bid stack reflects ramping and other constraints, and is usually steeper than entire list of bids.

Ramp rates available to ISO on average have increased in October; standard deviation has increased due to ability to input multiple incremental ramp rates

Daily and Hourly Average Ramp Rates of Units Bid into Real-Time Market: 9/7/04 – 10/30/04



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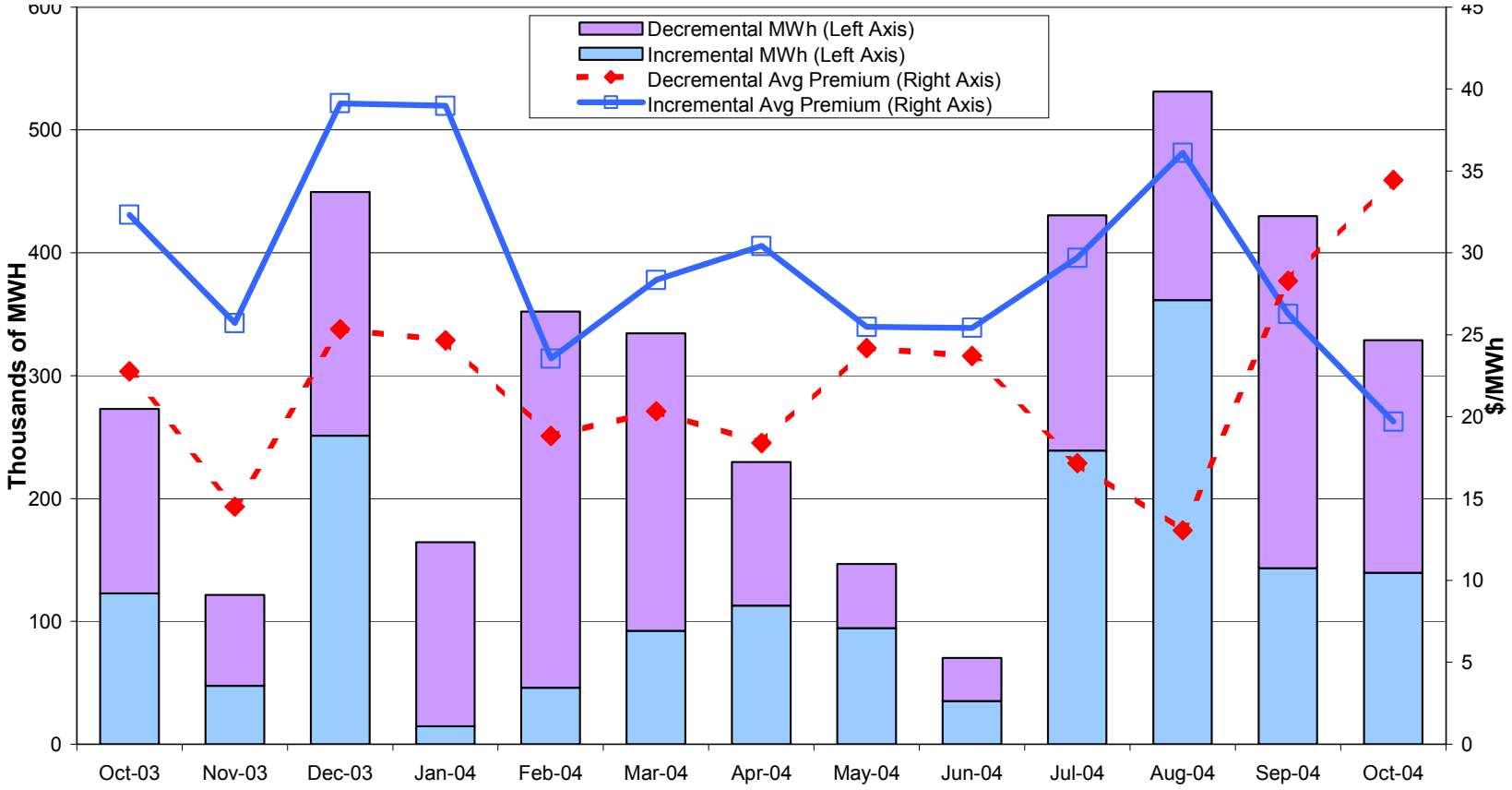
Incremental OOS redispatch costs totaled $2.7 million in October; Decremental OOS redispatch costs totaled $6.5 million

Monthly Total Out-of-Sequence Volume and Average Redispatch Premium



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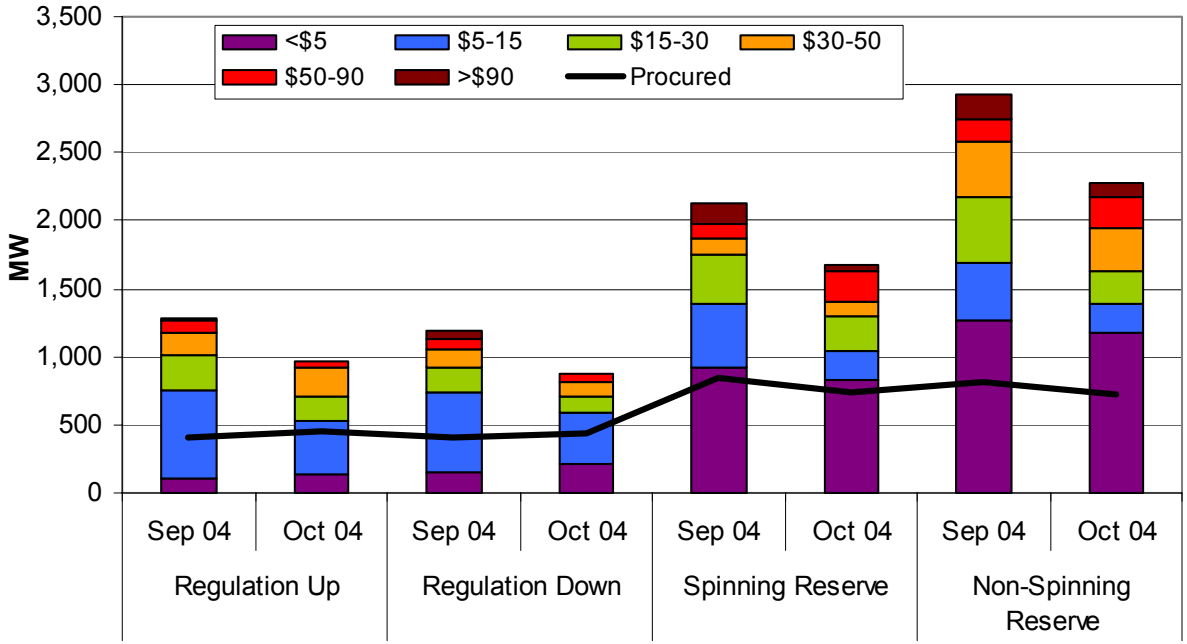
As generation has gone out of service for seasonal maintenance, supply of ancillary services has tightened, resulting in higher prices in Upward Regulation, Spinning Reserves, and Non-Spinning Reserves

A/S Day-Ahead Average Bid Volume by Price Bin and Average Awarded Prices, Sept-Oct



	Average Required (MW)				Weighted Average Price ($/MW)				
	RU	RD	SP	NS	RU	RD	SP	NS	All Services
Sep 04	407	424	910	869	$ 10.69	$ 9.14	$ 6.24	$ 4.50	$6.82
Oct 04	455	443	792	767	$ 18.88	$ 9.08	$ 10.61	$ 7.80	$10.99
Change	11.9%	4.4%	-13.0%	-11.8%	76.7%	-0.6%	70.1%	73.4%	61.1%

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Bid insufficiency increased significantly as a result of fewer available resources due to planned maintenance

Frequency of Bid Insufficiency, September - October 2004