



California ISO

California Independent
System Operator

Market Analysis Report

Events of January 2004

Board of Governors Meeting
February 26, 2004

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January Highlights

- Ample supply helped to yield market outcomes close to competitive baselines
- Average load up 4.3% from Jan-03, due colder to weather and a recovering economy
- Energy prices consistent with those in recent months: ISO's Real-time Imbalance market - \$70/MWh (inc dispatches); day-ahead bilateral \$50/MWh
- Instances of ancillary reserve service bid insufficiency decreased from December levels
- Real-time intrazonal congestion costs declined to \$5 million, from \$16 million in Dec-03
 - Sylmar substation back to full capacity: INC congestion \$500,000 in Jan-04, vs. \$9.7 million in Dec-03

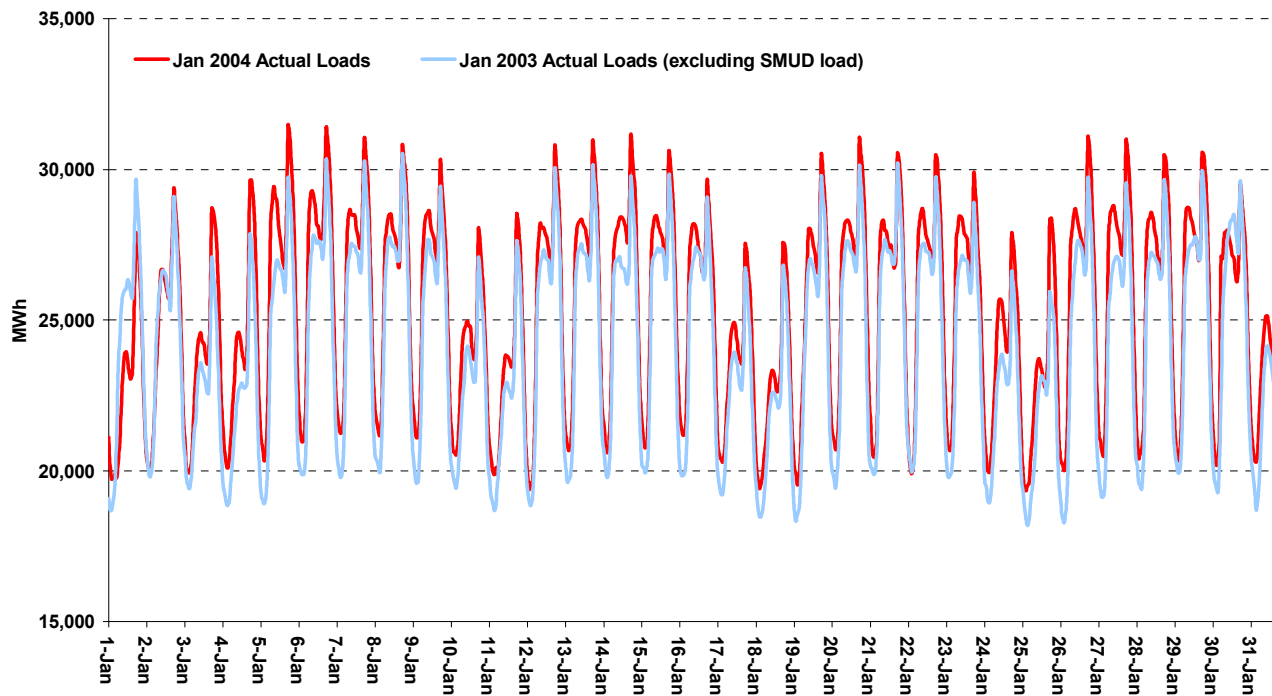


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Jan-04 loads 4.3% higher ; the 5-7pm load ramp accounts for 5000 MW, or up to 20% of daily load, and often results in price spikes

Actual Hourly Loads: Jan-04 v. Jan-03

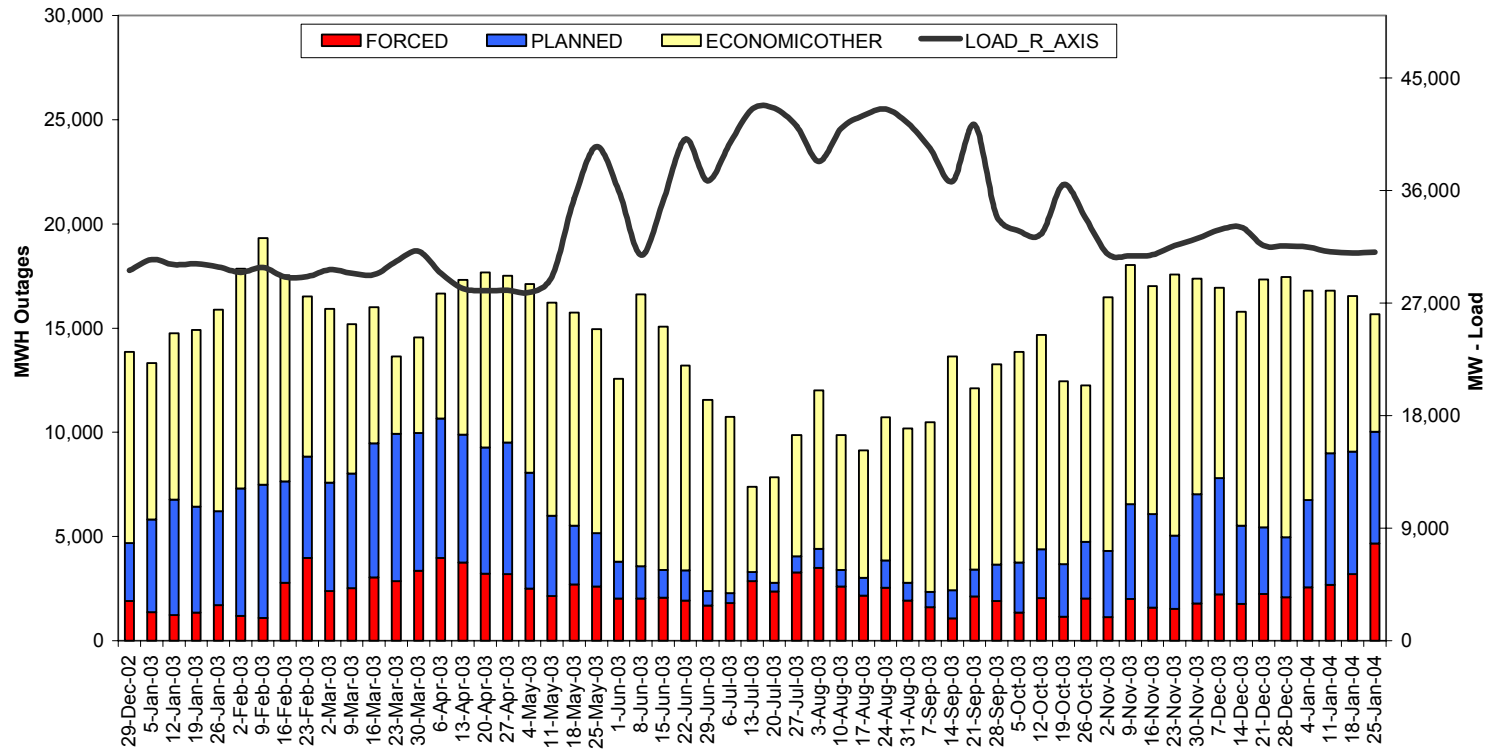


	2003	2004	Pct. Chg.
Peak Load (MW)	30,477	31,460	3.2%
Avg. Energy (MW)	24,182	25,211	4.3%



January is shoulder maintenance season; higher scheduled outages and three large base load units in SP15 forced out in late Jan-04

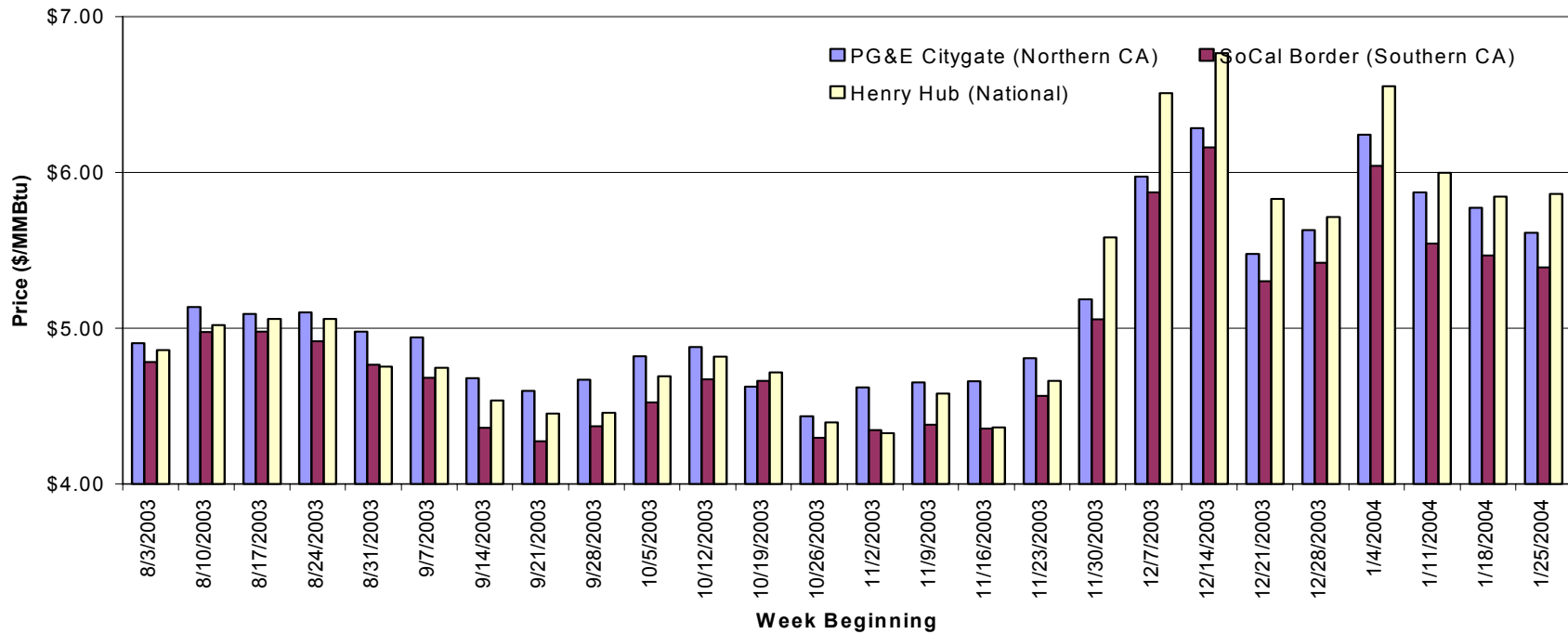
Average Weekly Outages: Jan-03 through Jan-04





Northeastern freeze pulled gas prices up in early Jan; softened by month's end

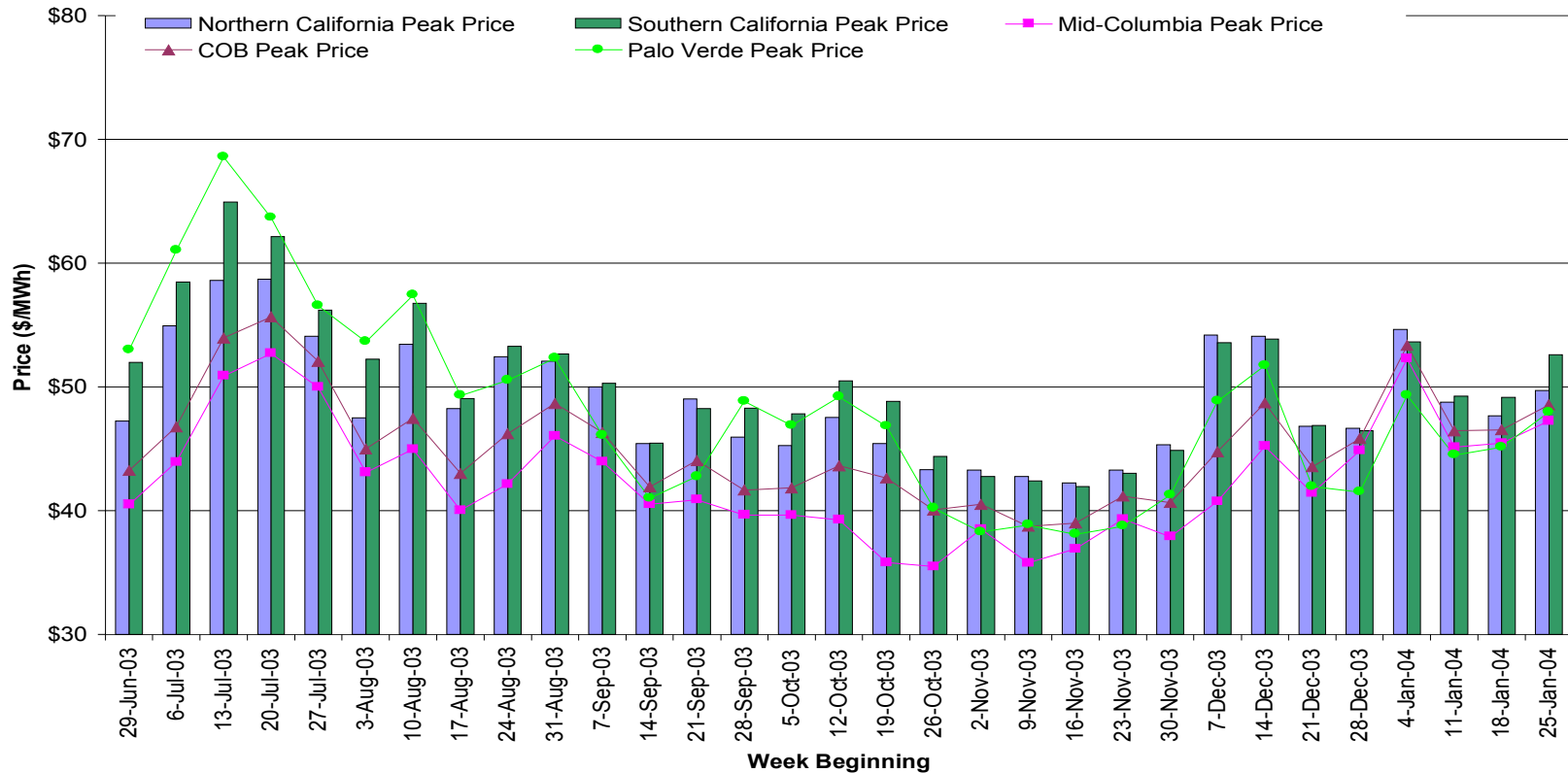
Weekly Average Natural Gas Prices through Jan-04





Day-ahead electric bilateral prices followed natural gas prices

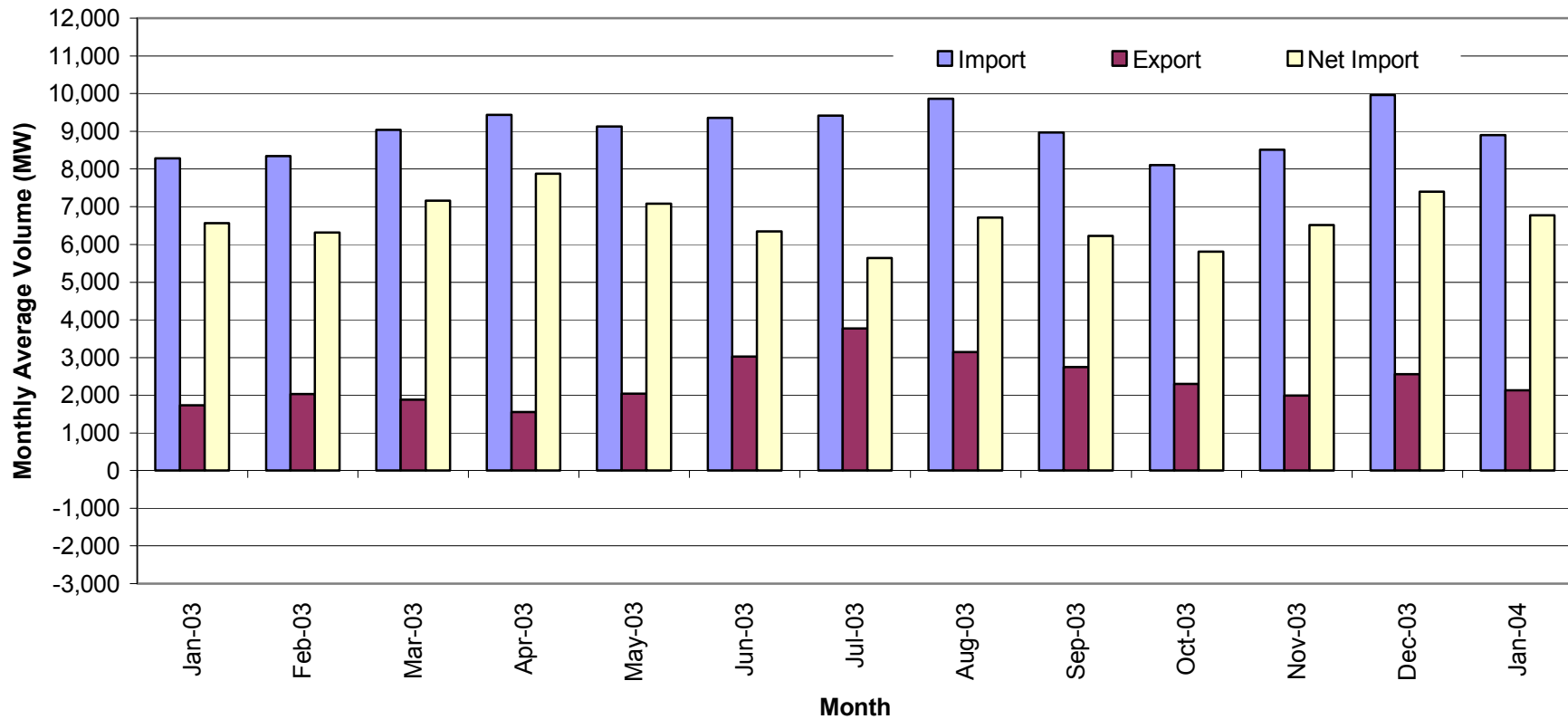
Weekly Average Day-Ahead Bilateral Electricity Contract Prices through Jan-04





Imports fell in Jan-04 due to higher demand in the Pacific Northwest

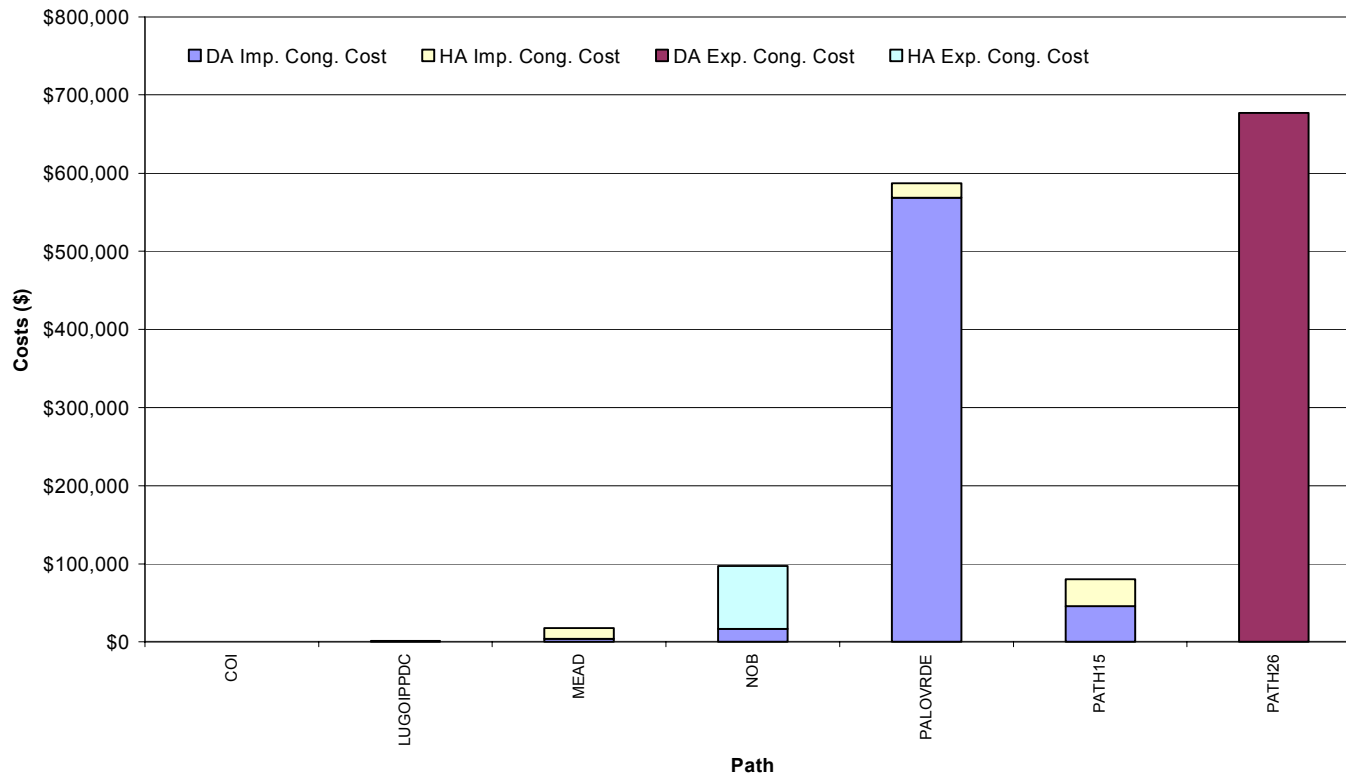
Scheduled Imports and Exports during Peak Hours - Monthly Averages





Congestion costs on Major interfaces Winter peaks in Northwest led to high import loading on Palo Verde and north-to-south (“export”) loading on Path 26

Interzonal Congestion Costs by Path: Day Ahead & Hour Ahead Markets, Jan-04

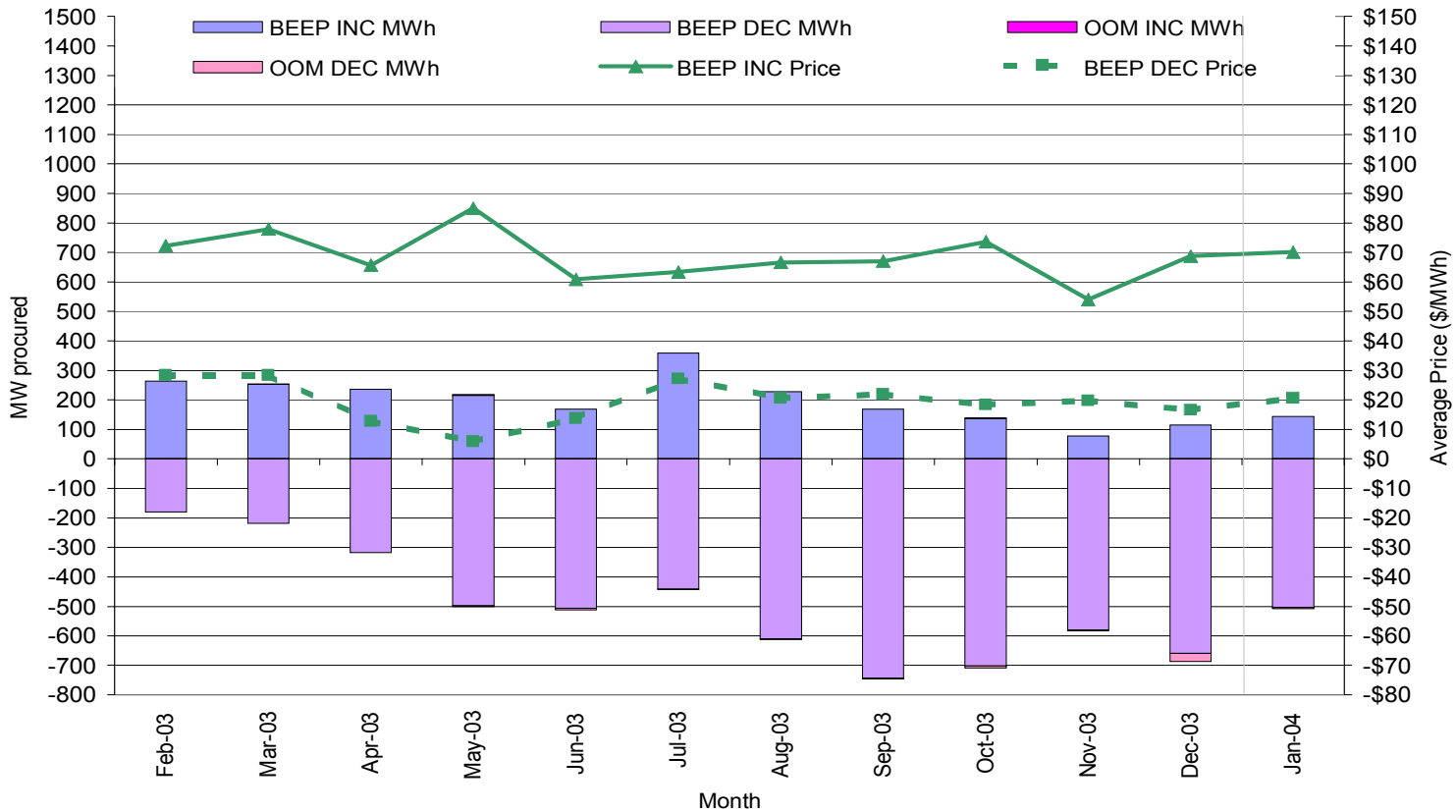




Real-time balancing market

Volumes remain in decremental direction; average prices have been similar across months...

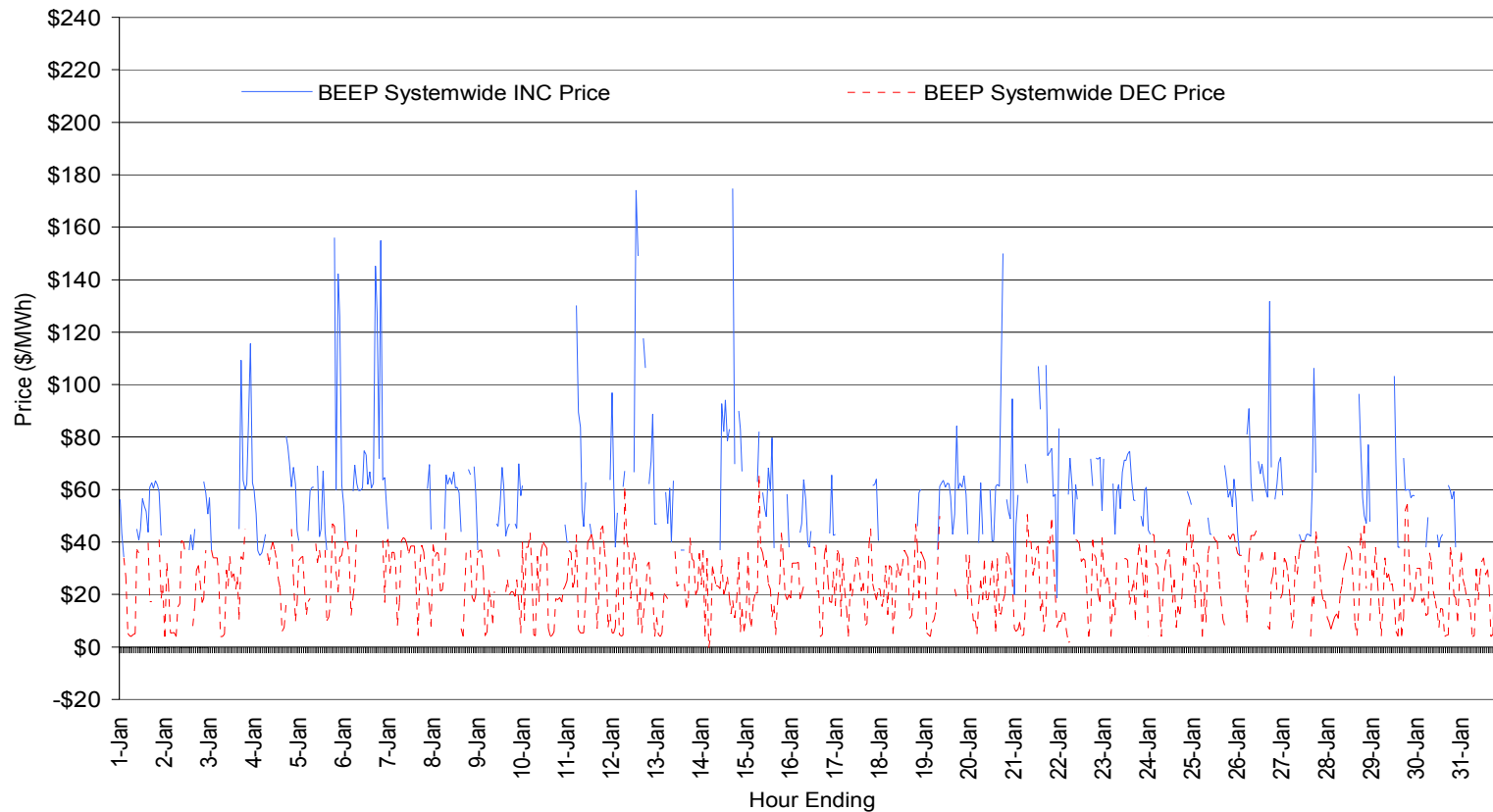
Monthly Average Real-Time Prices and Volumes through Jan-04





... But price spikes persist, particularly during the 5-7pm evening ramp

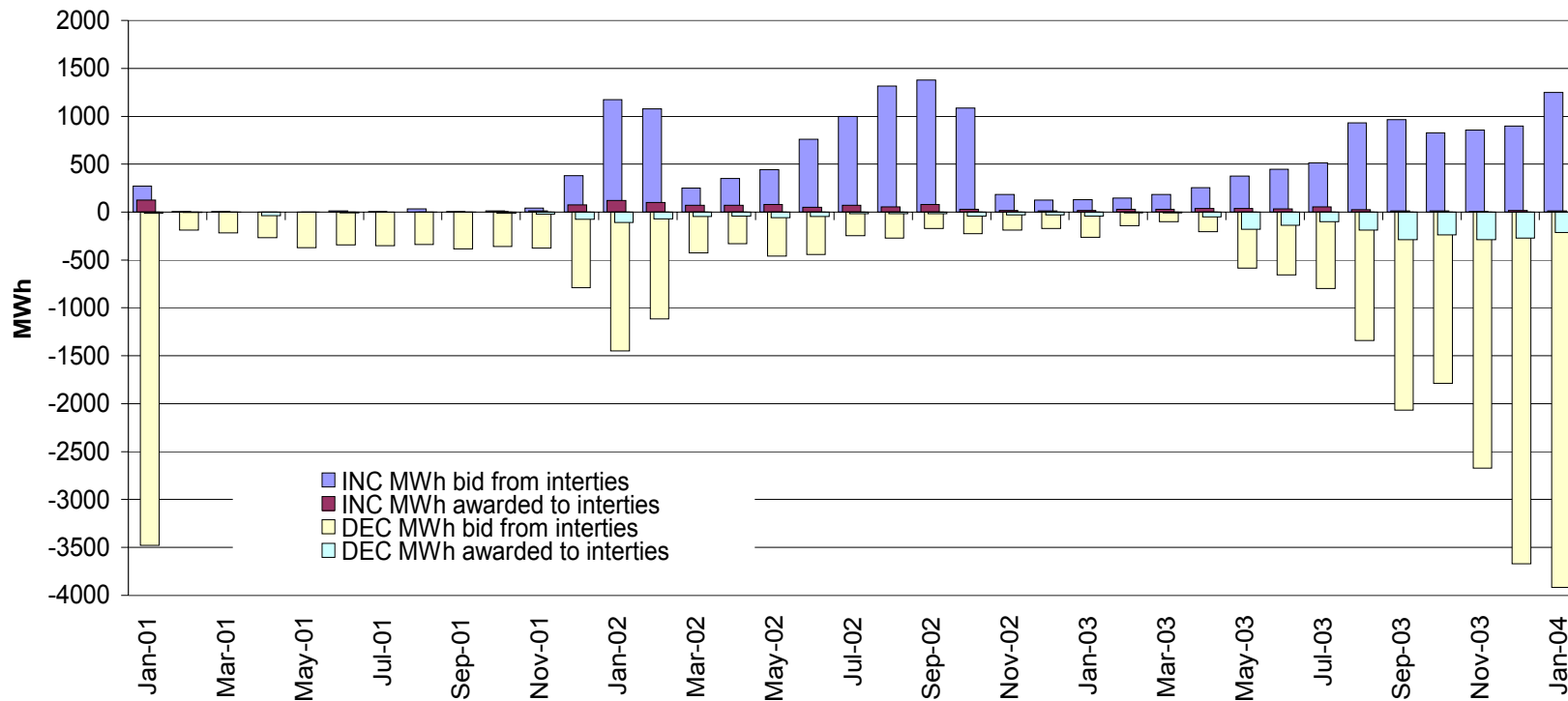
Hourly Average Real-Time Prices and Volumes in Jan-04





Real-time INC import bid volume within 10% of 3-year high in Jan-04

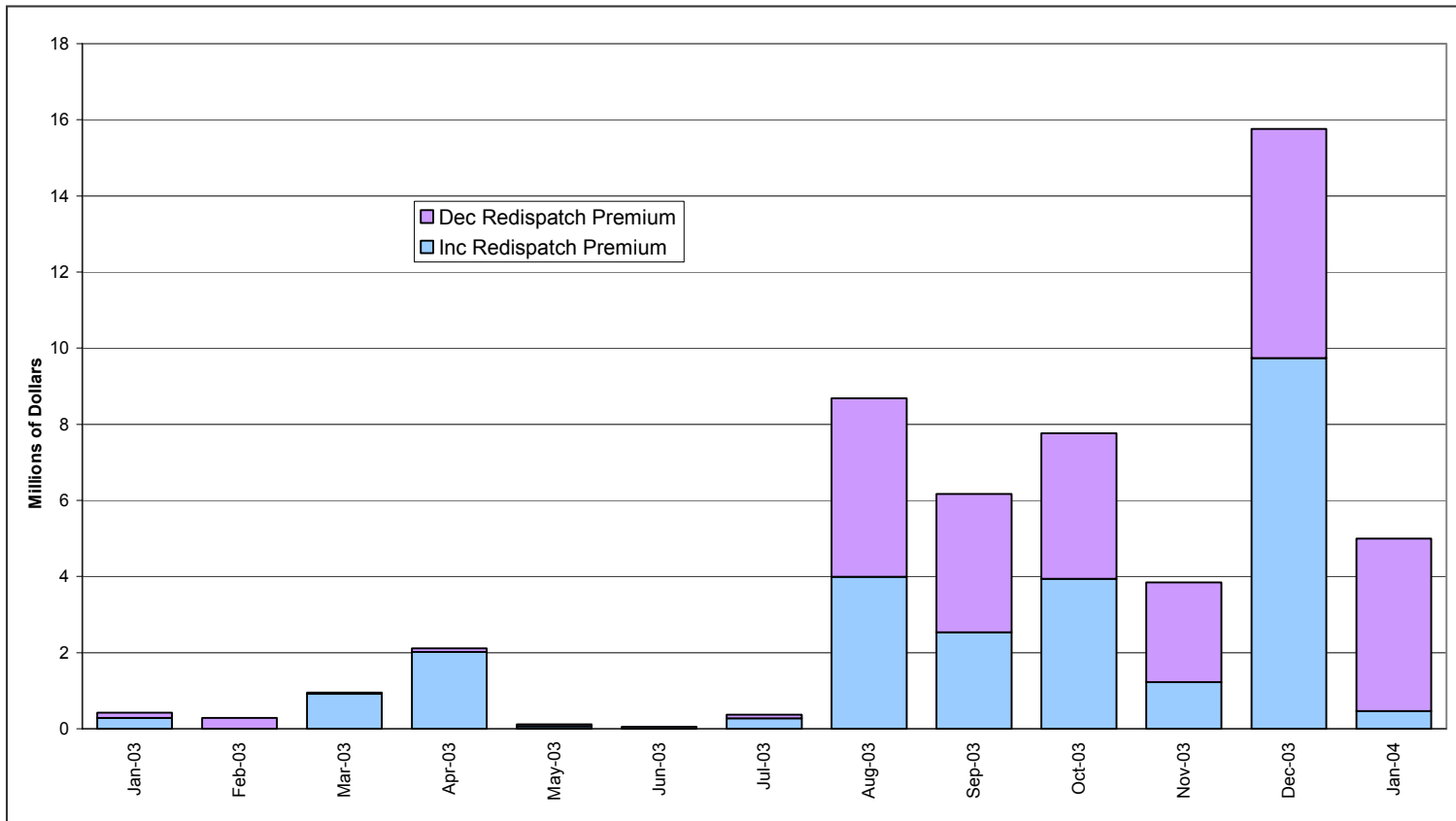
Monthly Average INC and DEC Import Bid Volume





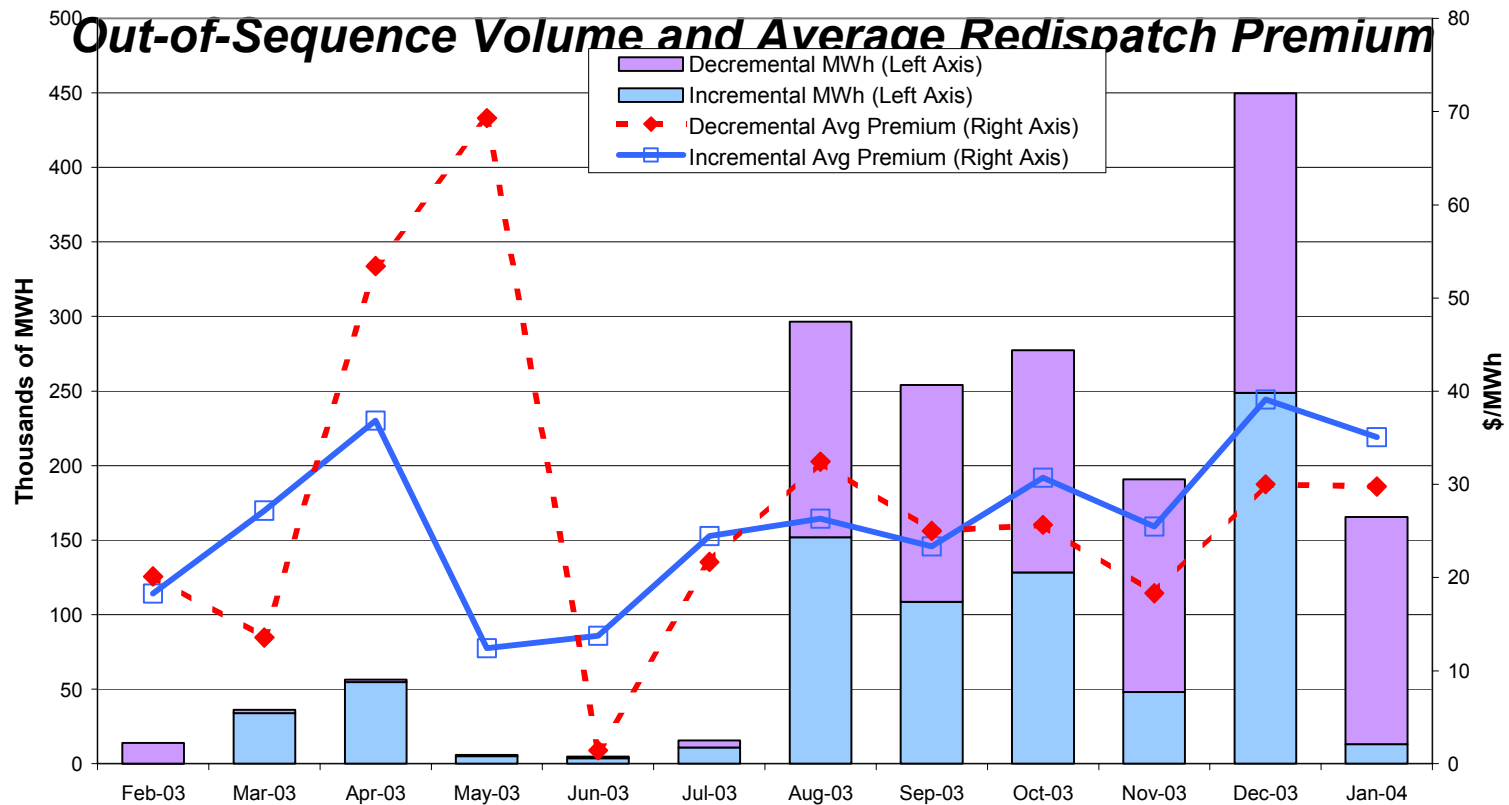
Real-time Intrazonal Congestion Costs down significantly in January

Monthly Total Intrazonal Congestion Costs





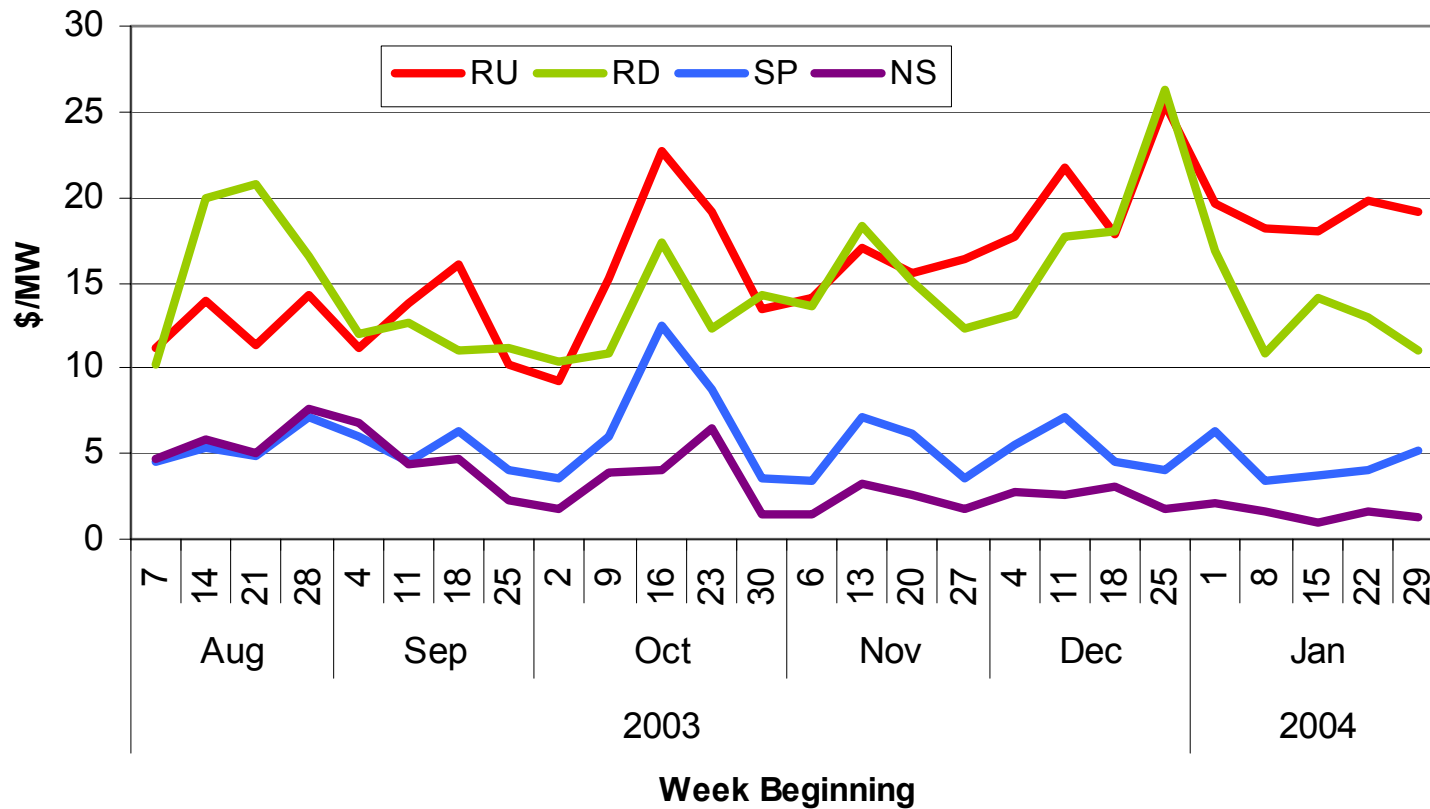
Price and Volume Components of Resolving Real-time Incremental Intra-zonal Congestion Lower due to return of Sylmar Substation





Ancillary service prices decreased 19% on average, despite increase in requirements due to higher loads

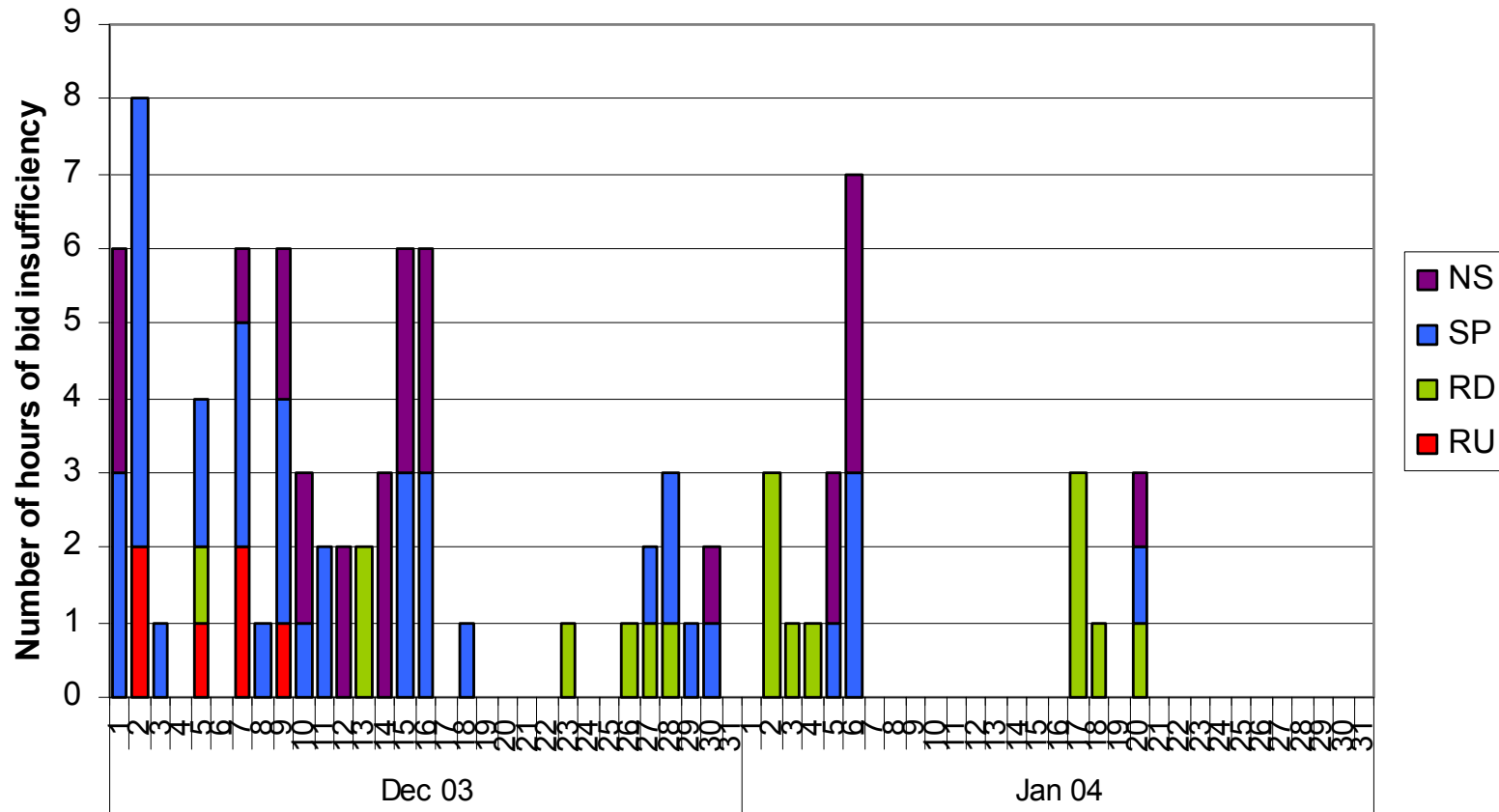
A/S Weekly Weighted Average Prices





Ancillary Services Bid Insufficiency decreased substantially in Jan-03

Frequency of A/S Bid Insufficiency by Day and Service Type





Issues under Review

- Review of DEC bid insufficiency in overnight hours showed available generation operating at minimum load levels
- Review of market impact of Path 15 derate on January 11 was small, more of a reliability issue.
- Filed letter of concern to CPUC regarding SoCal Gas tariff modifications requiring daily gas imbalances. Noted it could raise gas prices which would likely also increase prices in ISO's electricity markets