

Memorandum

To: ISO Governing Board
From: Alan Isemonger, Manager Market Information
Date: April 12, 2007
Re: **Market Performance Report – January 2007**

This memorandum is a status report and does not require Board action.

The complete Market Performance Report for January 2007 can be found online at <http://www.caiso.com/1b91/1b91bf0d10620.pdf>

EXECUTIVE SUMMARY

Highlights for January 2007:

- Average loads were about 1,000 MW higher in CAISO control area in January 2007 relative to one year ago as severely cold weather swept across California and much of the U.S.
- Spot natural gas prices rose steadily during January and finished the month at \$7.77, almost \$2 above December's close of \$5.93.
- Overall real-time energy prices declined from \$50.79 to \$47.25 as decremental volumes increased and incremental volumes declined.
- The rate of forced outages declined sharply to an unusually low average of 1,400 MW on the month, while scheduled outage rates increased 700 MW relative to December to an average of 3,700 MW.
- On average, real-time dispatch prices were more volatile in January exceeding \$250 on 102 occasions (out of 8,928 intervals, or 1.2%) as compared to 28 in December. Most of January's price events (67 out of 102) occurred on Monday, January 15th, when a cold snap swept across the Pacific Southwest impacting multiple control areas.
- January's incremental Out-of-Sequence dispatch volumes doubled to 42,000 MW, and incremental costs increased five-fold to \$2.7 million as RMR contract volumes are sharply reduced in 2007. Decremental volumes and prices declined by approximately 60%.
- The average total cost of Ancillary Services increased slightly in January to \$0.54 from December's \$0.50 primarily due to an increase in the average price of Regulation Up.
- Total unit commitment costs increased to \$2.7 million in January from \$2.2 million in December. Transmission line maintenance was responsible for about 50% of the total, while 35% was driven by the decline in RMR resources.
- Total inter-zonal congestion costs fell to \$4 million in January from \$6 million in December. A majority of the congestion costs were incurred due to transmission line maintenance on the Palo Verde branch group.

Market Performance Metrics

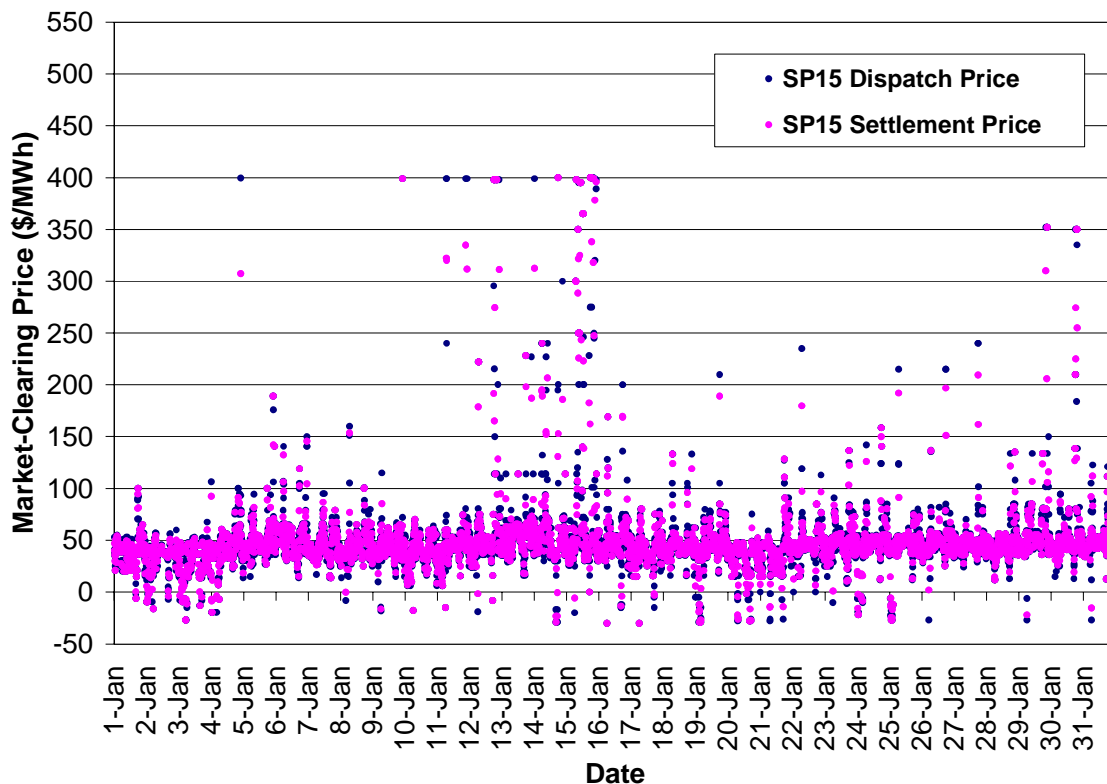
Real-Time Balancing Energy Market

Five-Minute Energy Prices

Five-minute dispatch interval prices and ten-minute settlement interval prices for NP15 and SP15 are plotted in Figure 1. On average, real-time dispatch prices were more volatile in January exceeding \$250 on 102 occasions (1.2% of the time) as compared to 28 occasions in December 2006. However, most of January's price events (67 out of 102) occurred on a single day, Monday, January 15th.

There were several factors that contributed the frequency of high prices on the 15th. To start off, it was a Federal Holiday, and Monday holidays are notoriously difficult to forecast. On this particular holiday there was a significant tendency towards underscheduling. As a result, the Hour-Ahead schedule fell short of actual load for much of the day, which put increased demand on real-time imbalance energy market. But in addition and more significantly, the 15th was an extremely cold day with ice storms sweeping through parts of Arizona. Multiple unit failures resulted from the unusual weather, which threatened reserve margins outside the CAISO control area to the East. Ultimately, firm imports from Arizona were cut to the CAISO and LADWP control areas, and this was the primary driver behind the numerous price spikes on this day.

Figure 1: SP15 Real Time Dispatch and Settlement Prices

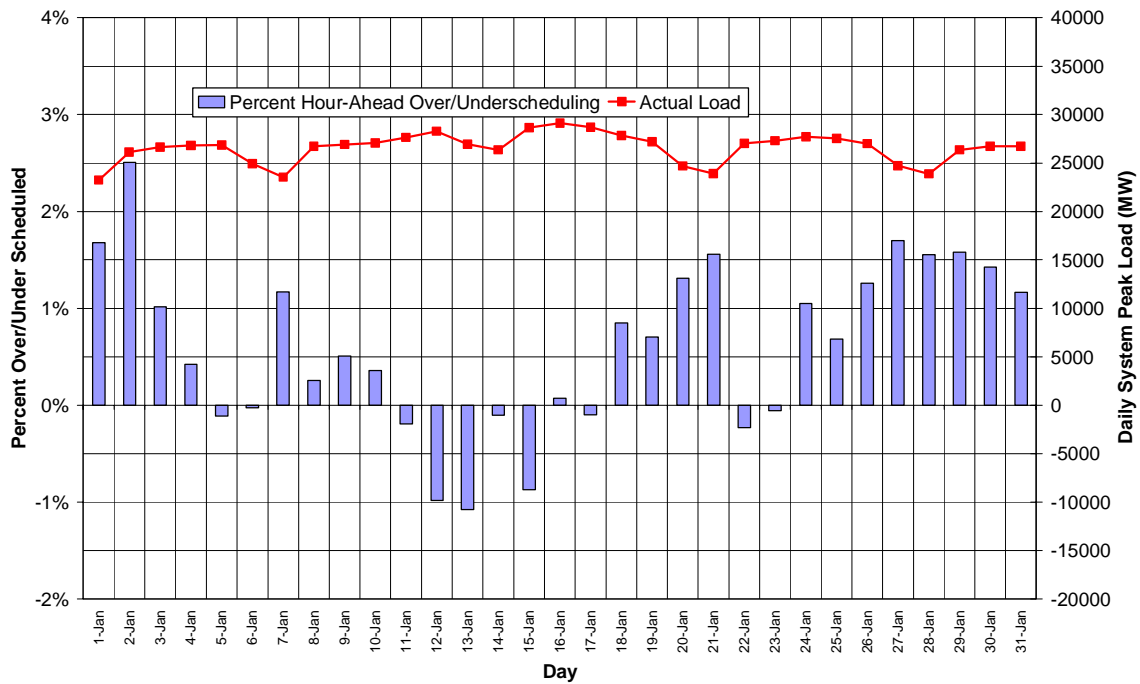


Over- and Under-Scheduling

Hour-Ahead Scheduling Deviations

The overall tendency for scheduling coordinators in January was toward over-scheduling as seen in Figure 2 below, with notable exception of the Martin Luther King Holiday weekend (January 12th to 15th). There is also a sharp spike in forecast error on January 2nd, the day after the New Years holiday, which reflects the difficulty in accurately forecasting load demand in the days immediately preceding and subsequent to major holidays.

Figure 2: Average Scheduling Deviation Percentages by Day



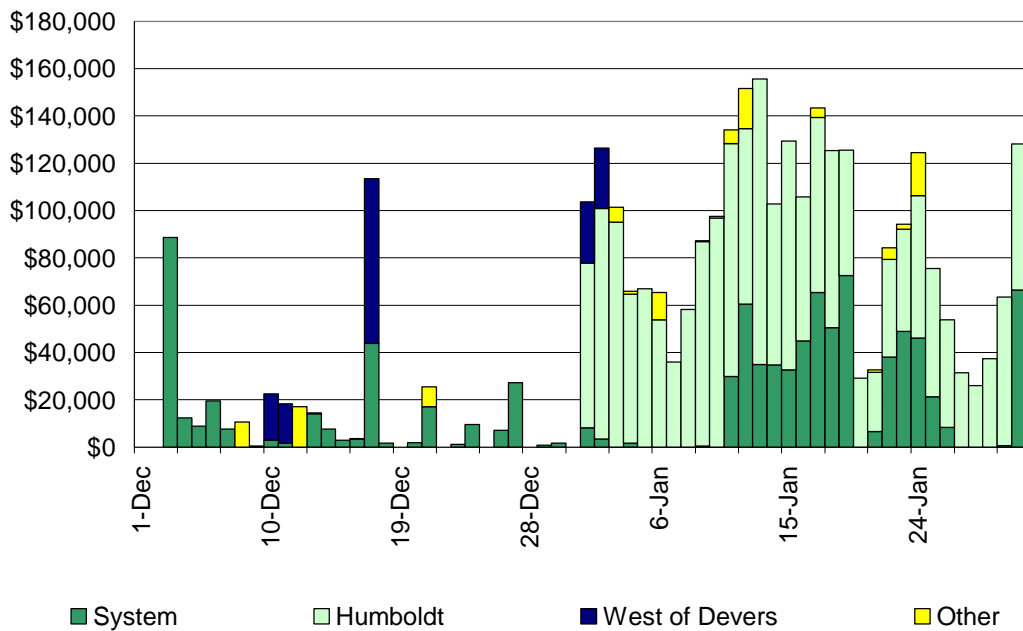
Out-of-Sequence Dispatches

Figure 3 displays cumulative daily incremental re-dispatch costs (the premium in excess of the Market Clearing Price) for December 2006 and January 2007, broken out by the associated reason for the dispatch. January's incremental re-dispatch costs increased dramatically to \$2,762,000, up from December's costs of \$424,000. Most of January's costs (71 percent) were driven by mitigation of intra-zonal congestion in the Humboldt area.

The steep increase in incremental OOS costs this January is due to the emergence of Resource Adequacy (RA) in 2006, which dramatically reduced the need for Reliability-Must-Run (RMR) generation in the CAISO control area. As RMR units are contracted on a calendar-year basis, January 1, 2007 saw a sharp reduction in the number of contracted RMR resources as the 2006 contracts expired. In the past, the CAISO was able to mitigate intra-zonal congestion in the Humboldt area by incrementing units under RMR contracts; but these contracts are no longer in effect. As a result, the CAISO must resort to using OOS instructions as required when specific units need to be incremented for intra-zonal congestion mitigation.

The remaining 25 percent of incremental re-dispatch costs are driven by system energy reasons. System reasons include intra-zonal congestion related to system reliability and pump load management.

Figure 3: Daily Incremental OOS Re-Dispatch Costs

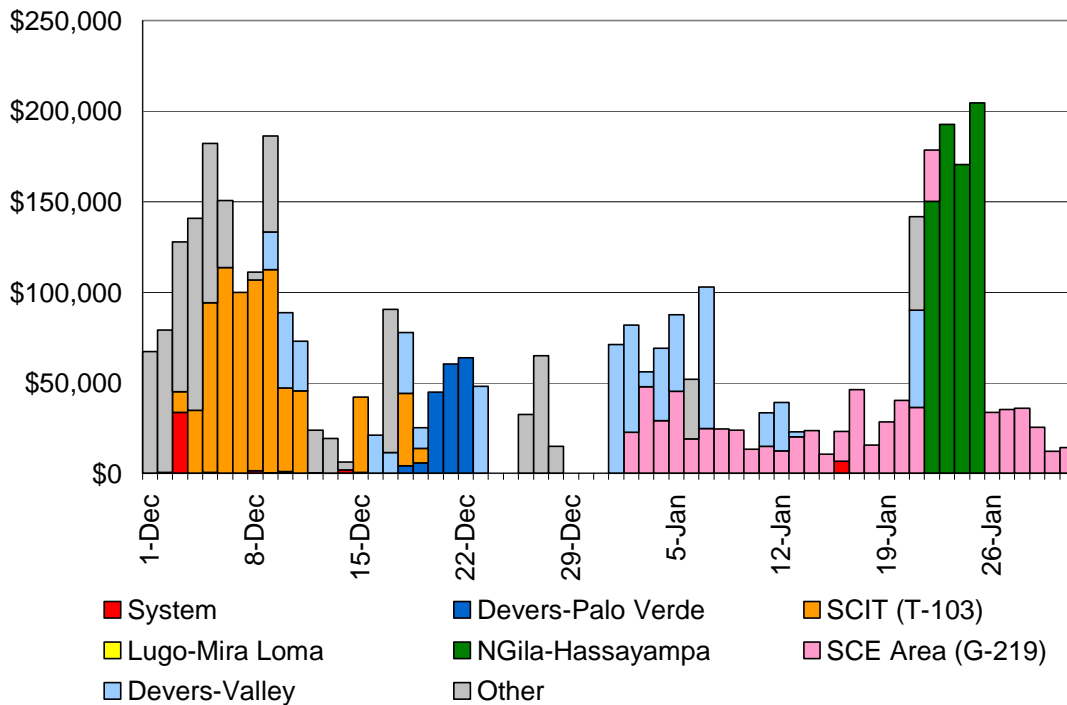


Resource Adequacy and FERC Must-Offer Unit Commitment

Total unit commitment costs increased to \$2.6 million in January from \$2.2 million in December. Transmission line maintenance was responsible for about 50 percent of the total as shown in Figure 4 and Figure 5 below.

With the advent of Resource Adequacy (RA) in 2006, there has been a reduction in the requirement for Reliability-Must-Run (RMR) generation in the CAISO control area. As RMR units are contracted on a calendar-year basis, January 1, 2007 saw a sharp reduction in the number of outstanding RMR resources as the 2006 contracts expired. The reduction in the availability of RMR resources resulted in a significant increase in reliance on the must-offer waiver denial process to meet certain local area generation requirements. Approximately 35 percent of the RA commitment costs seen in Figure 4 are related to this decline in RMR resources.

Figure 4: Resource Adequacy Costs by Reason – December 2006 and January 2007



Unit commitment costs under the FERC Must-Offer rules totaled approximately \$650,000 in January. This is a sharp divergence from the trend in recent months of little or no FERC unit commitments. As discussed above, this increase in unit-specific commitment requirements is largely being driven by the reduction in RMR resource availability.

Figure 5: FERC Must Offer Costs by Reason – December and January 2007

