

Operations Highlights Report

Notable Events

General Grid Operations

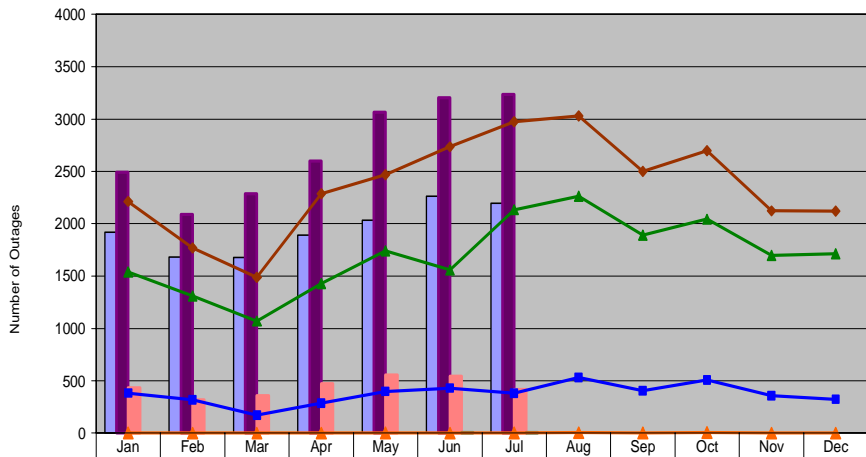
Last month should be notable for the lack of statewide heat. Peak demands remained close to the 40,000 MW range all month with moderate temperatures. Wild fires that threatened and impacted the grid in June and July have been reduced and are no longer a threat.

Wrap-up Report on 2008 Summer Workshops

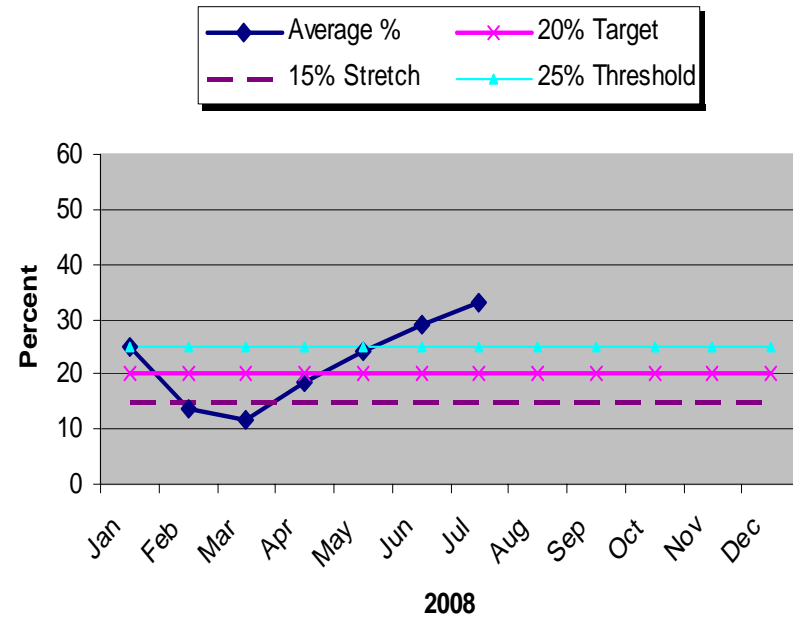
CAISO, in conjunction with the California Electric Training Advisory Committee (CETAC), concluded its 10th annual Summer Workshop 2008 training for real time operations dispatch personnel. The main objective of this year's workshop was *reliable operation of the grid during emergency situations* through the reinforcement of each participating entity's emergency procedures.

CETAC members managed record breaking attendance from over 25 entities. Positive feedback was received from participants and preparations have begun for Summer Workshops 2009.

**Outage Summary
2008**

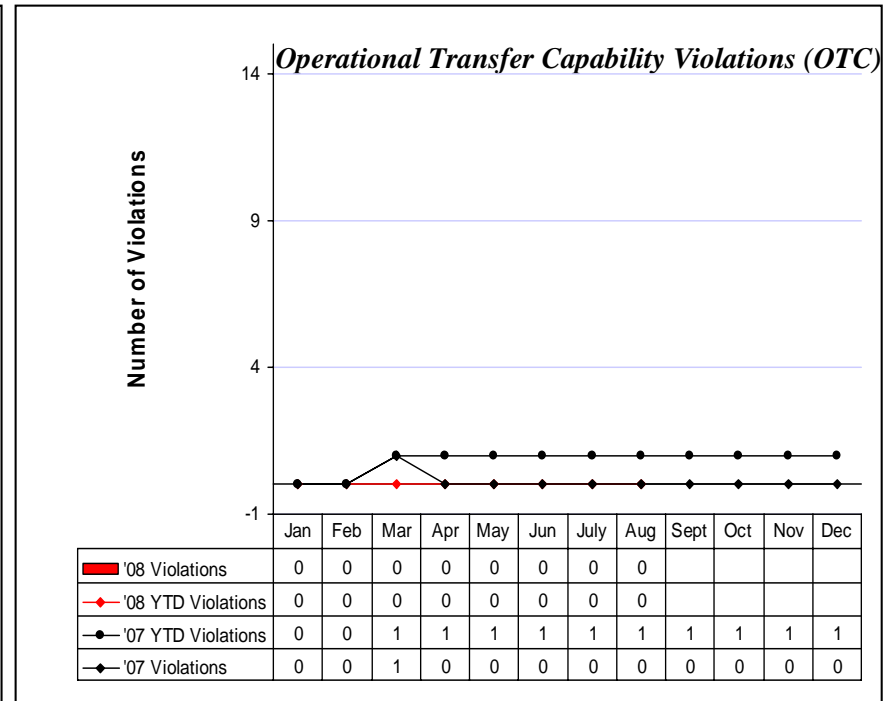
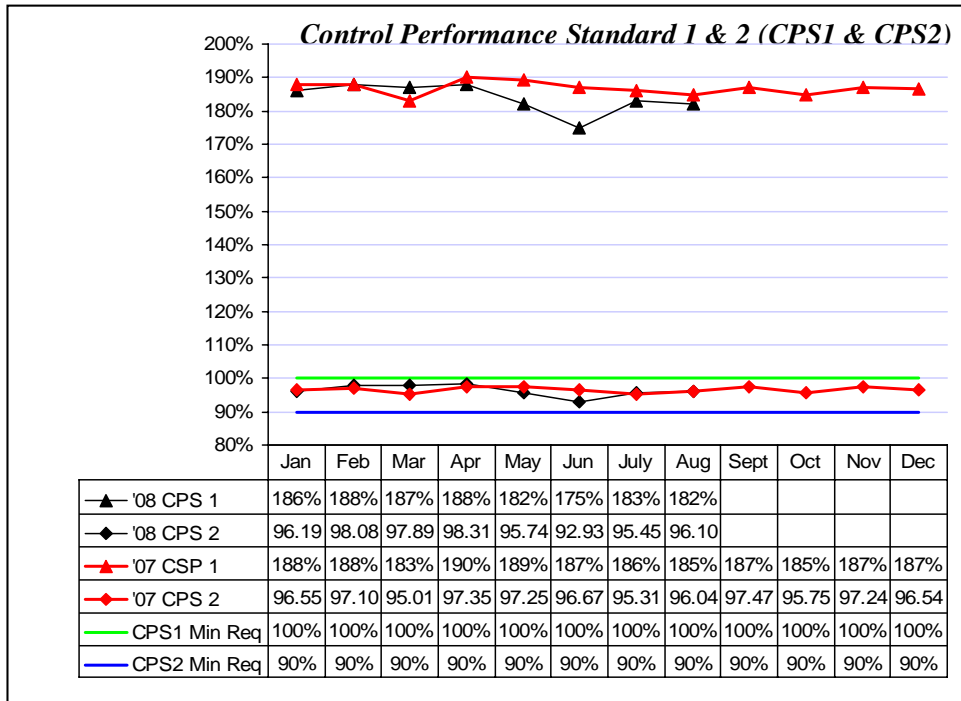


Real Time Bias



The *Outage Activity Summary* graph shows the number of forced, scheduled, and cancelled generation and transmission outages processed per month by the Outage Coordination Office. Included in the graph is the number of restricted maintenance operations (RMO). RMO accommodates additional transmission or other maintenance on the grid.

Bias numbers for May, June, and July were 24.15%, 29.16%, and 32.83% respectively. The expected reduction in biasing levels did not materialize. Market Operations staff has been trying to determine the cause of the bias. Some biasing is being done to preserve operating reserve levels; however the main cause of bias is due to a persistent error in the imbalance energy calculation for which Market Operations has not been able to find a solution. For the time being, Market Operations is making an adjustment to the load forecast which will counter the persistent error. With this adjustment in place since August 5, the bias has gone down.

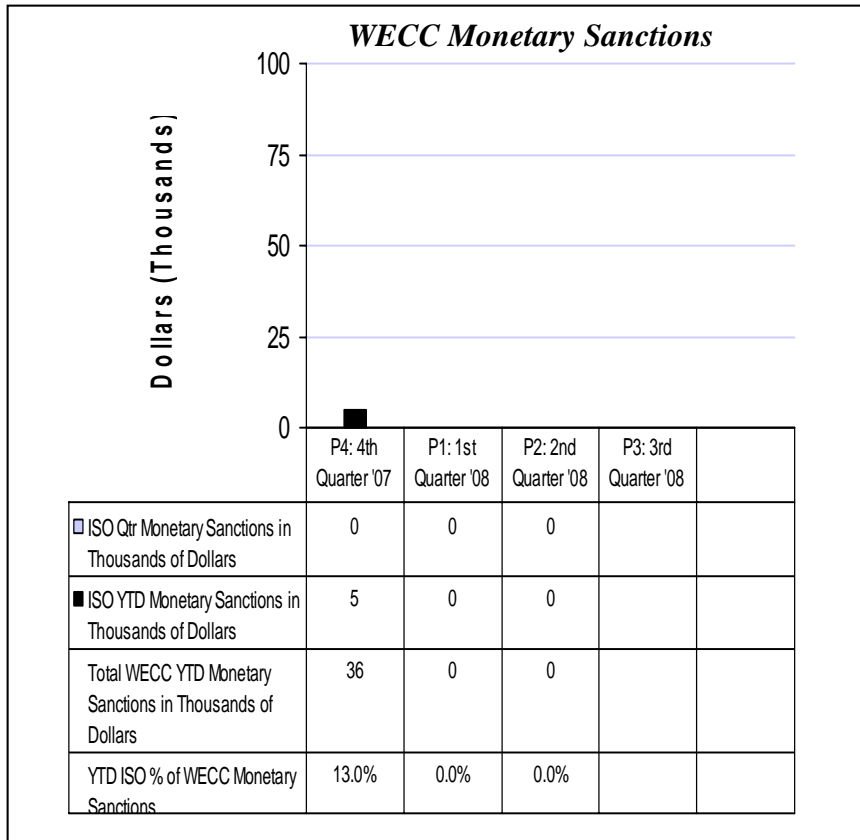


CPS1 is a statistical measure of area control error (ACE) variability. It measures ACE in combination with the interconnection frequency. Because the CPS1 formula was developed on a conformance scale, values over 100% are not only desired, but also expected. CPS2 is a statistical measure of ACE magnitude. It is designed to limit a control area's unscheduled (or inadvertent) power flows that could result from large ACE values.

WECC minimum operating reliability criteria for CPS1 is 100%. The CPS1 target and stretch goal is to attain a score of 100% 12 of 12 months during the calendar year. WECC minimum operating reliability criteria for CPS2 is 90%. The CPS2 target and stretch goal is to attain a score of 90% 12 of 12 months during the calendar year. Our YTD results are on track to meet the stretch objective of attaining a score of 100% for CPS1 and 90% for CPS2 12 of 12 months for 2008.

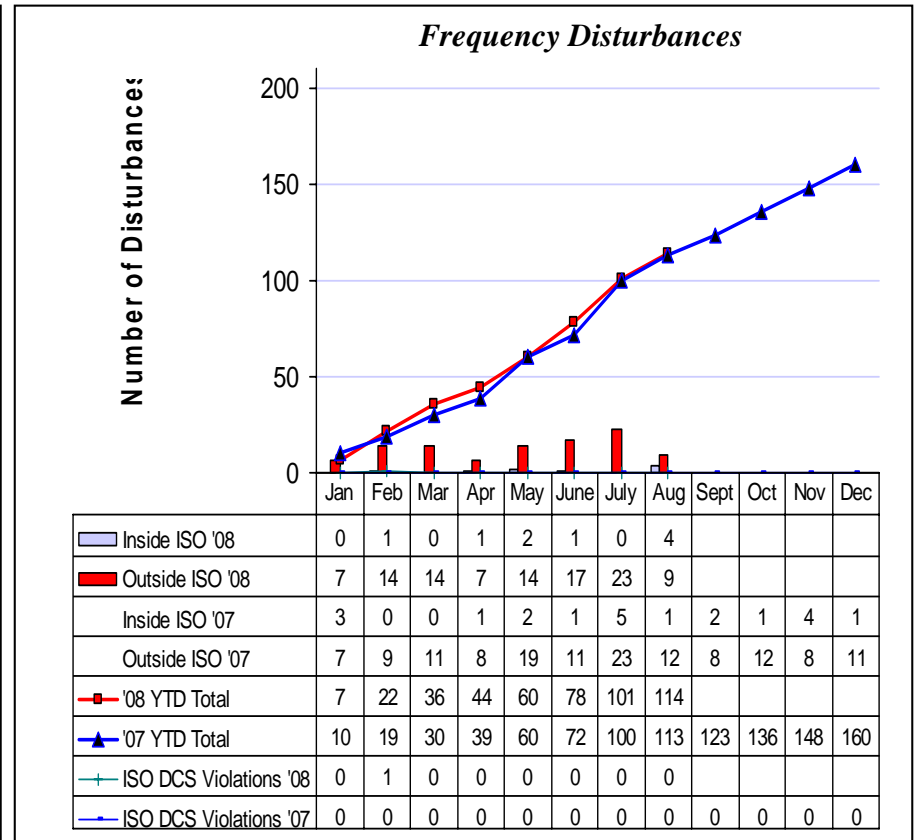
OTC violations are defined as path overloads that exceed WECC allowable time limits for both stability-rated and thermally-rated paths.

The OTC violation target goal is not to exceed 2 violations, with the stretch goal of zero violations for the calendar year. Our YTD results are on track to meet the target goal for 2008.



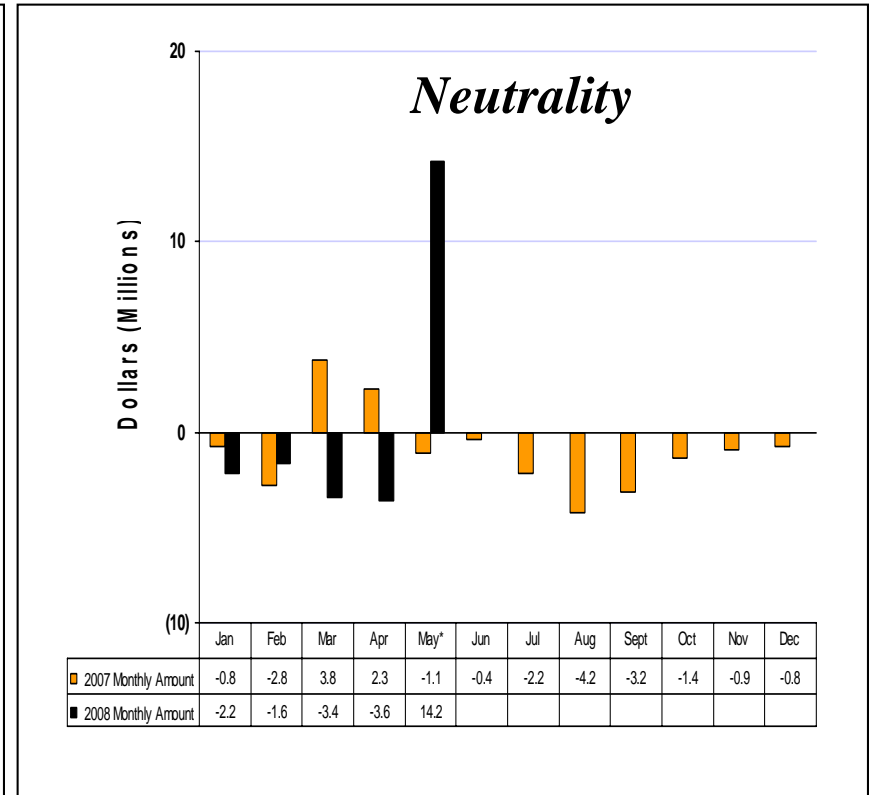
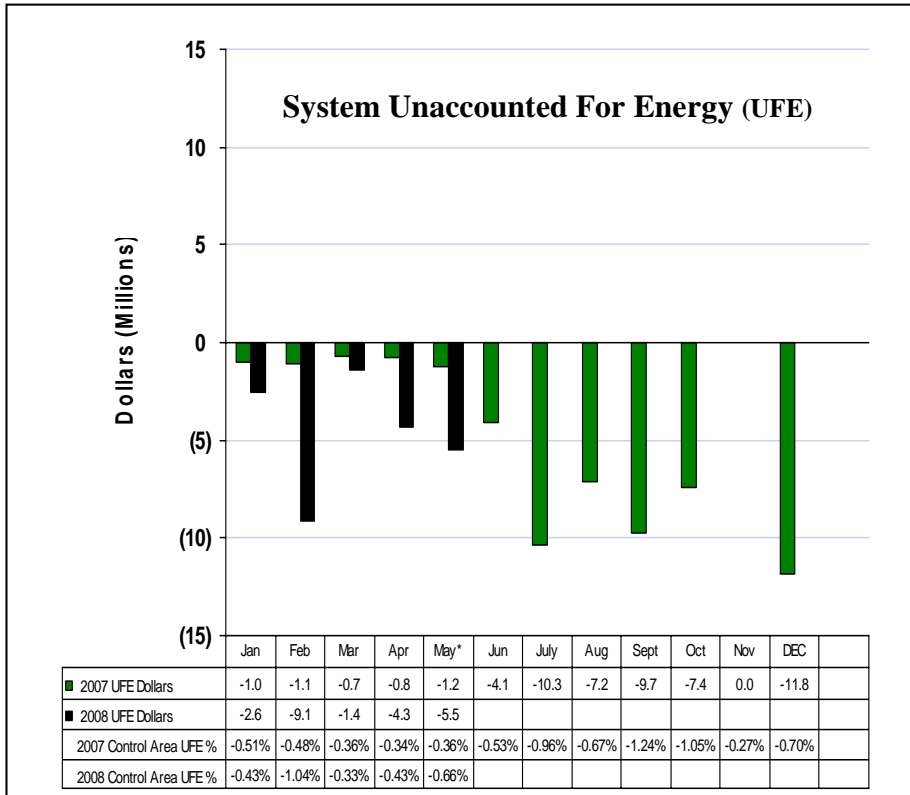
Due to a 2/20/2008 *Disturbance Control Standard (DCS)* violation, we anticipate a fine that may range between \$6,000 - \$200,000. Actual fine will be communicated once the final determination has been made by WECC.

Chart begins with 4th Quarter 2007 to allow for delay in finalization and receipt of year-end WECC sanction data, and to enable analysis of performance goals based on a full year.



Frequency disturbances are result of a sudden loss of load or generation. CAISO DCS violations are those losses of generation greater than 35% of our most severe single contingency (currently 392 MW), where the *area control error (ACE)* is not recovered within 15 minutes.

Operations has one violation for 2008, a DCS on 2/20/08 (monetary sanction TBD).



*Operations Support continues to monitor changes in trends (both positive and negative) of *unaccounted for energy* (UFE) prior to and after preliminary settlement statements. For the month of April, Operations Support did not identify any outstanding issues. The graph shows the amount of system unaccounted for energy

- Amounts estimated for May. 2008. There is a 75 day time lag before actual UFE data becomes available.

NOTE: UFE% is estimated at this time

Neutrality number includes both the neutrality adjustment (CT-1010, CT-1401) & existing contract charge/adjustment (CT-1210) *There is a 75 day time lag before actual neutrality data becomes available.

High Imbalance Energy Offset Settlement for May 2008 and June 2008

Settlement charges for instructed energy, uninstructed energy, unaccounted for energy, unscheduled RMR energy, and transmission loss obligation are expected to balance out for each settlement interval, resulting in revenue neutrality for CAISO. However, revenue neutrality may not always occur due to certain operational realities such as interchange inadvertent flows and zonal price differences. The imbalance energy offset settlement account (CT 1401) serves as the adjustment account used by CAISO to offset balances related to the aforementioned settlement charges.

For the month of May 2008, a total of \$14.3 million was accrued for the imbalance energy offset, which is a significant increase from April 2008 (\$3.6 Million).

High Imbalance Energy Offset Settlement for May 2008 and June 2008

Settlement charges for *instructed energy*, *uninstructed energy*, *unaccounted for energy*, *unscheduled reliability must run (RMR) energy* and *transmission loss obligation* are expected to balance out for each settlement interval, resulting in revenue neutrality for CAISO. However, revenue neutrality may not always occur due to certain operational realities such as interchange inadvertent flows and zonal price differences. The imbalance energy offset settlement account (CT 1401) serves as the adjustment account used by CAISO to offset balances related to the aforementioned settlement charges.

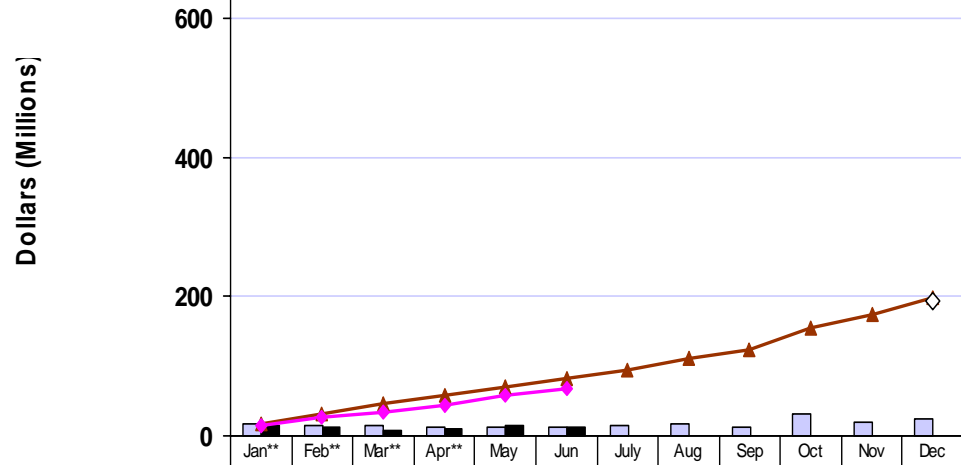
For the month of May 2008, a total of \$14.3 million was accrued for the *imbalance energy offset*, which is a significant increase from April 2008 (\$3.6 million).

A review of the interchange MWh quantities in interchange transaction scheduling system show higher variance between scheduled and actual values in May and June compared to April. This characterizes loop flows in the system and result in unscheduled energy flows which are one of the operational realities that directly impact the settlement of imbalance energy offset. This is because scheduled import and export energy is deemed delivered by CAISO and adjacent control areas.

Congestion, which also results from loop flows, leads to price differential between congestion zones. The price differential can create revenue mismatch between generation that is settled at a particular price in one zone and load that is settled at a different price in another zone. This revenue mismatch is offset through the imbalance energy offset account.

Figure 1 shows the total amount of *imbalance energy offset* per day for the months of April, May and June. Figure 2 shows the total sum of the difference between scheduled and metered quantities for imports and exports per day. Note that high unscheduled flows for certain time periods in May and June correspond to high imbalance energy offset amounts. Figure 3 shows the number of branch groups per day that had congestion in April, May and June. The increase in congestion for April and May also correlate to the loop flow trend.

Reliability Must Run



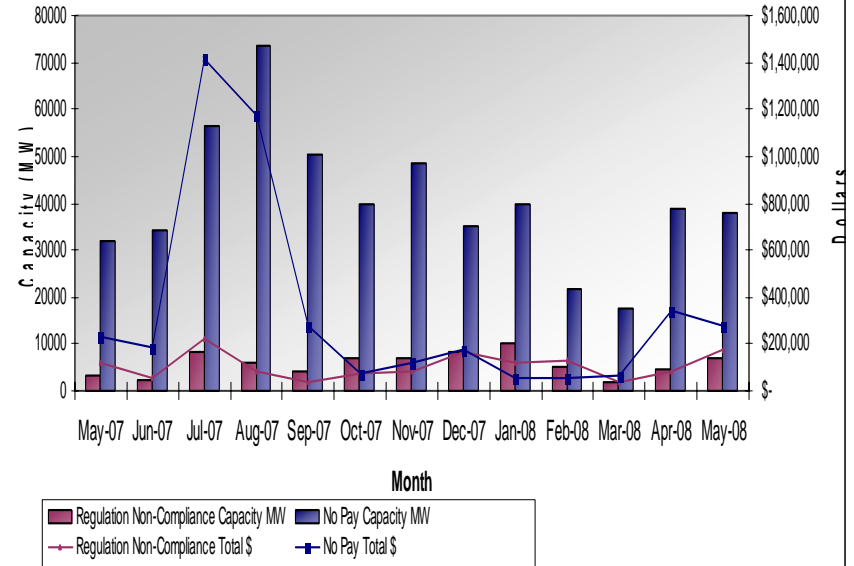
	Jan**	Feb**	Mar**	Apr**	May	Jun	July	Aug	Sep	Oct	Nov	Dec
2007 Monthly Cost Gross	17.61	14.02	13.87	11.9	12.4	11.90	13.52	16.04	12.13	32.23	19.62	24.09
2008 Monthly Cost Gross	15.74	11.54	6.65	9.37	13.79	11.43						
2007 Cumulative Cost Gross	17.61	31.63	45.5	57.4	69.8	81.70	95.22	111.26	123.39	155.62	175.24	199.33
2008 Cumulative Cost Gross	15.74	27.28	33.93	43.3	57.09	68.52						
2008 Estimated Annual Cost												193.00

RMR decreased in 2008 to 10 facilities consisting of 23 units; down from 13 facilities consisting of 35 units in 2007.

* There is a 120 day lag time before final actual RMR data becomes available.

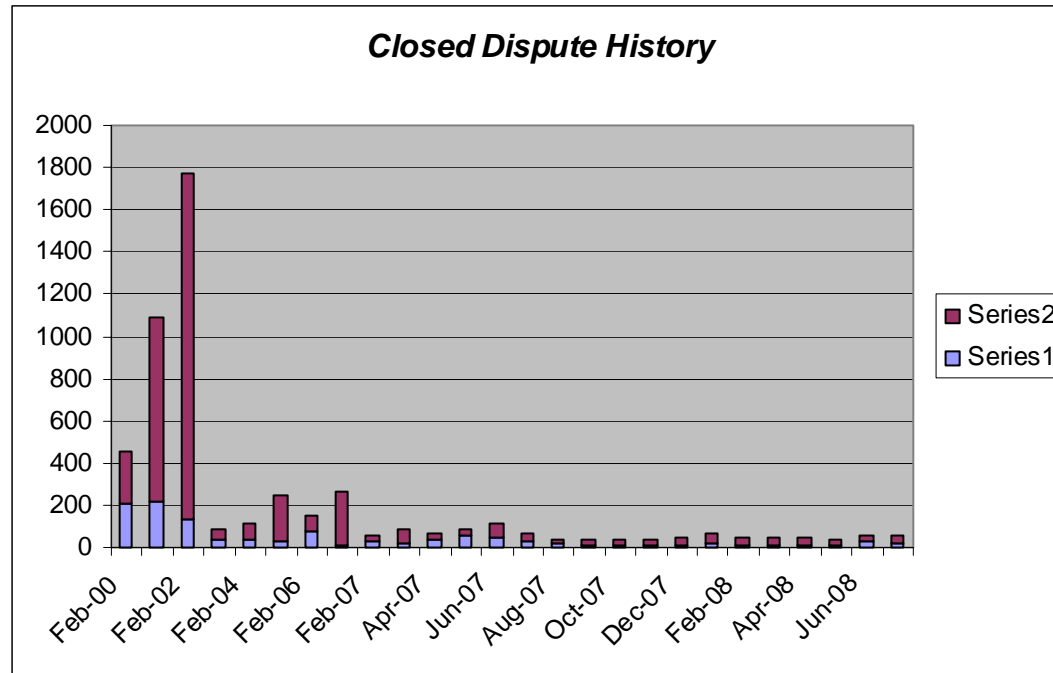
** January, February, March & April adjusted invoices not yet received by Borders, El Cajon and Enterprise.

Ancillary Service Compliance Programs



Operations Support monitors suppliers of ancillary services to ensure that ancillary service capacity awarded in CAISO markets is available in real-time. In April 2008, 99 percent of scheduled regulation was available and an average of 97 percent of scheduled spinning reserve and non-spinning reserve was available. The total value of rescinded payments was approximately \$422,298 for April. In May, 2008, 99 percent of scheduled regulation was available and an average of 97 percent of scheduled spinning reserve and non-spinning reserve was available. The total value of rescinded payments was approximately \$459,833 for May.

The graph shows the monthly totals of non-compliant ancillary service capacity (MW) for twelve months.



The graph above shows the volume of disputes from February 2000 through July 2008.

Definitions

The following are definitions of the items and or systems covered in the Operations Performance Scorecard section of this report:

WECC Monetary Sanctions - Measures through WECC's reliability management system (RMS) criteria. The RMS criteria include items such as *operating reserve (OR)*, *operational transfer capability (OTC)*, *Disturbance Control Standard (DCS)*, system operator certification, and compliance with WECC's *Unscheduled Flow Reduction Procedure*.

Control Performance Standards 1 & 2. - *Control Performance Standard 1 (CPS1)* is intended to provide a control area with a frequency sensitive evaluation of how well it is meeting its demand requirements. CPS1 is a statistical measure of *area control error (ACE)* variability. *Control Performance Standard 2 (CPS2)* is a statistical measure of ACE magnitude. It is designed to limit a control area's unscheduled (or inadvertent) power flows that could result from large ACE values.

Operating Transfer Capability Violations - OTC violations are defined as those transmission path overloads that exceed WECC allowable time limits for stability rated (20 minute) and thermally rated (30 minute) paths.

CAISO Control Area Frequency - The CAISO *control area frequency* figures report internal and external system disturbances and include violations of the *Disturbance Control Standard (DCS)* resulting from CAISO Control Area internal disturbances, such as loss of a large generating unit or transmission line. WECC allowable time limit for disturbance recovery is 15 minutes. Per WECC criteria, qualifying disturbances are defined as those greater than 35% of our maximum generation loss from our most severe single contingency. CAISO's most severe single generation contingency is a nuclear unit with maximum generation output 1120 MW, 35% of which is the 392 MW thresholds used herein.

Real Time Bias - The number entered manually by CAISO operator into real time market application (RTMA) to adjust for the energy deviation between RTMA and the energy management system (EMS).