

## Operations Highlights Report

### Notable Events

#### *Operations Highlights*

#### **Southern California Fires**

On Saturday November 15, 2008 we had multiple fires, fanned by the Santa Ana winds, that impacted the ISO system through the weekend. Below is a summary of events:

#### **Triangle Complex Fire**

The Brea, Landfill & Freeway fires combined to form the Triangle Complex fire. This fire caused many SCE lines to relay on Saturday 11/15 (Mira Loma-Serrano 1 & 2 500kV lines, Mira Loma-Olinda, Mira Loma-Walnut, Chino-Viejo, & Chino-Serrano 220kV lines).

#### **Sayre Fire**

This fire burned around and into LADWP's Sylmar Switching station, igniting the control wiring wooden trench covers and damaging all the 220kV CB control wires. All of SCE & LADWP lines into Sylmar including the Pacific DC Intertie, PDCI, were de-energized, separating the two systems at the 220/230kV level (Path 41). LADWP & SCE remain tied together at the 500kV level.

#### **Loading Concerns in Southern California**

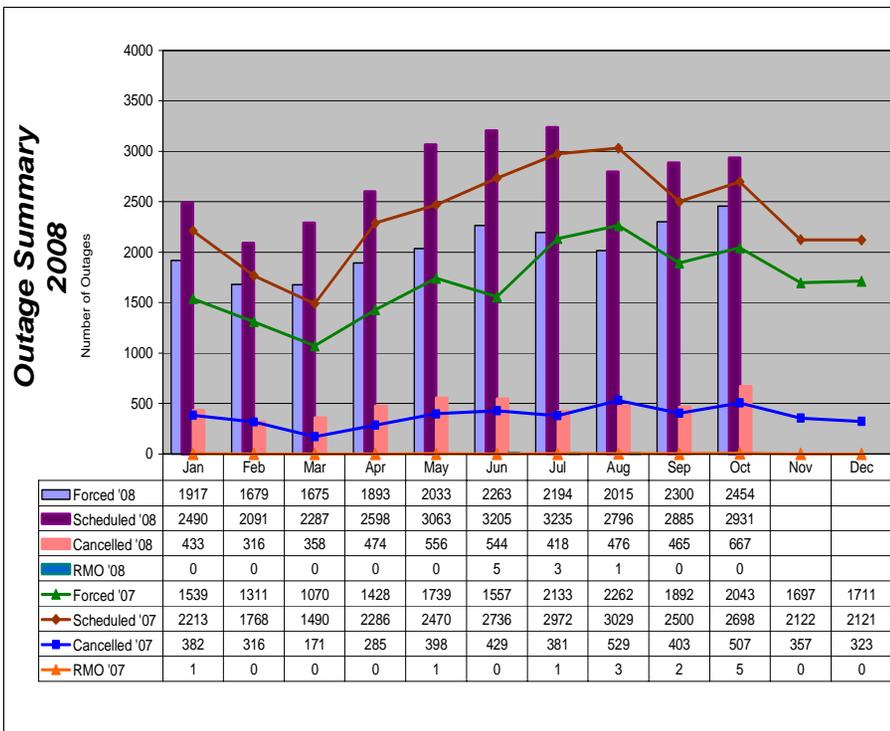
With Sylmar Switching station out of service we saw heavy loads on SCE's **Lugo-Vincent 1 & 2 500kV lines** into Vincent, to serve the North L.A. (Valencia & Antelope Valley areas) & Ventura County loads.

Several LADWP 230kV lines, and 2 SCE 220kV lines returned to service at Sylmar but the systems remain separated at Sylmar until the transformer banks are restored.

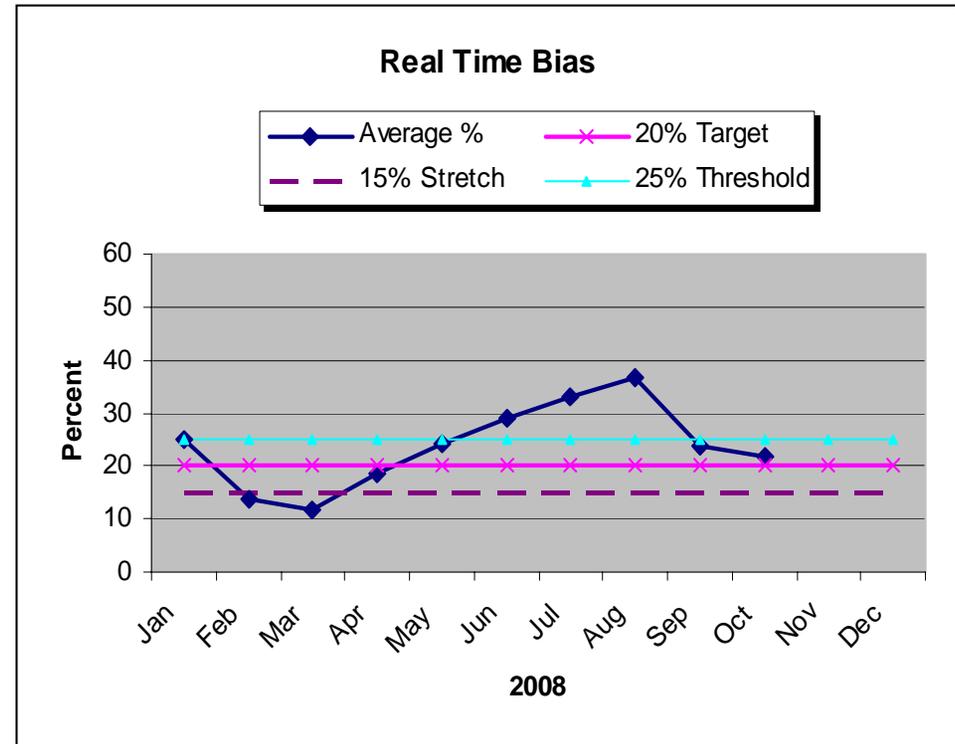
The **Victorville-Lugo 500kV line** loading continues to be an issue with the Sylmar banks out of service.

#### **MRTU Simulation City**

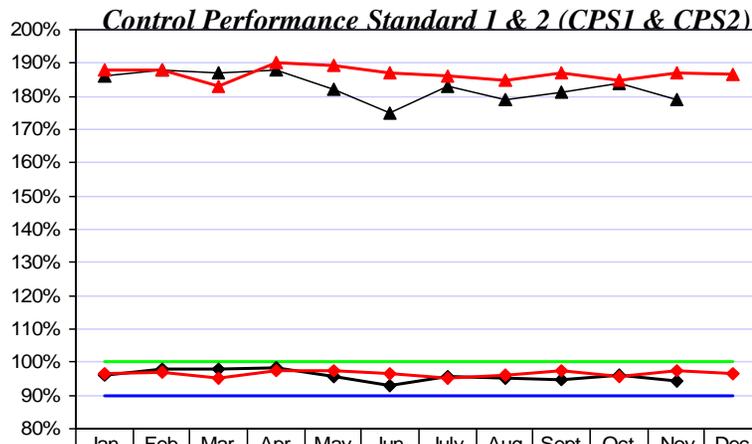
Starting November 9<sup>th</sup>, Grid Operations started manning the MRTU Simulation City around the clock.



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 August, September, and October were 36.47%, 23.83%, and 21.61% respectively. The bias level has continued to go down to more reasonable levels due to a permanent adjustment to the load forecast which was implemented to counter a persistent error. So far, there has been a significant decrease in biasing for November.

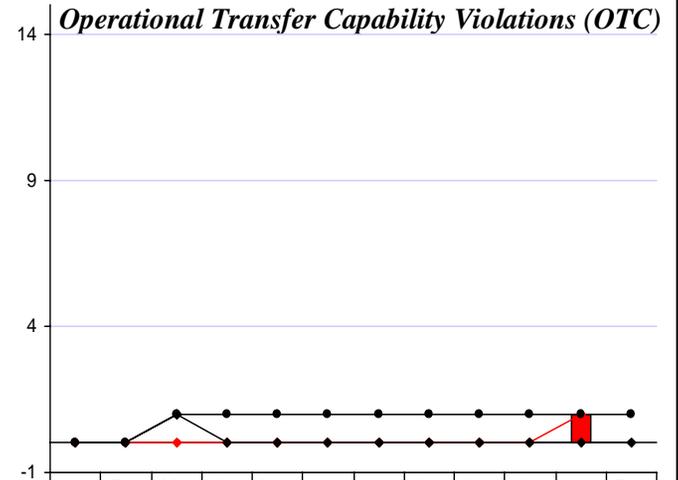


	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
▲ '08 CPS 1	186%	188%	187%	188%	182%	175%	183%	179%	181%	184%	179%	
◆ '08 CPS 2	96.19	98.08	97.89	98.31	95.74	92.93	95.45	95.33	94.95	96.28	94.55	
▲ '07 CSP 1	188%	188%	183%	190%	189%	187%	186%	185%	187%	185%	187%	187%
◆ '07 CSP 2	96.55	97.10	95.01	97.35	97.25	96.67	95.31	96.04	97.47	95.75	97.24	96.54
— CPS1 Min Req	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
— CPS2 Min Req	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%

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.

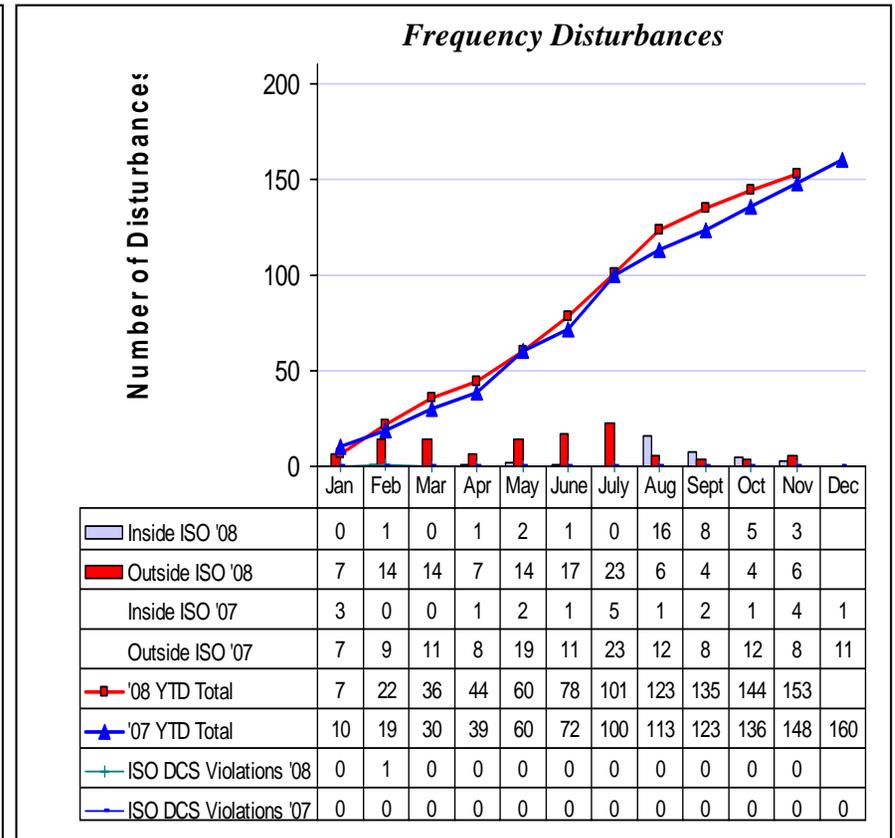
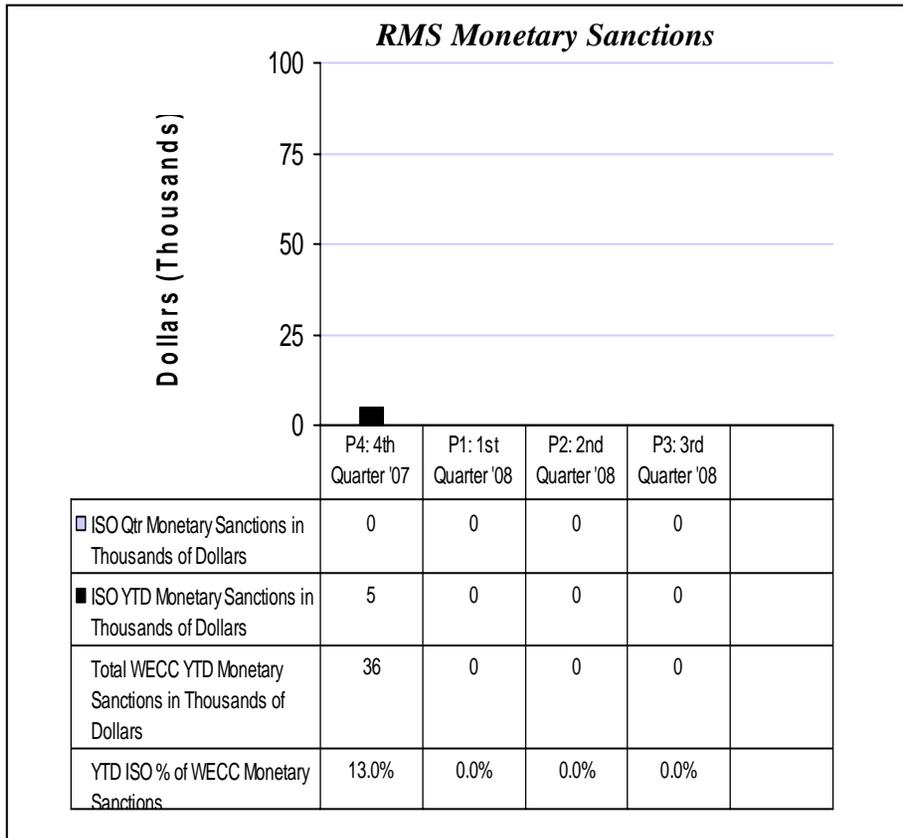
Operational Transfer Capability Violations (OTC)

Number of Violations



■ '08 Violations	0	0	0	0	0	0	0	0	0	0	0	1	
◆ '08 YTD Violations	0	0	0	0	0	0	0	0	0	0	0	1	
● '07 YTD Violations	0	0	1	1	1	1	1	1	1	1	1	1	1
◆ '07 Violations	0	0	1	0	0	0	0	0	0	0	0	0	0

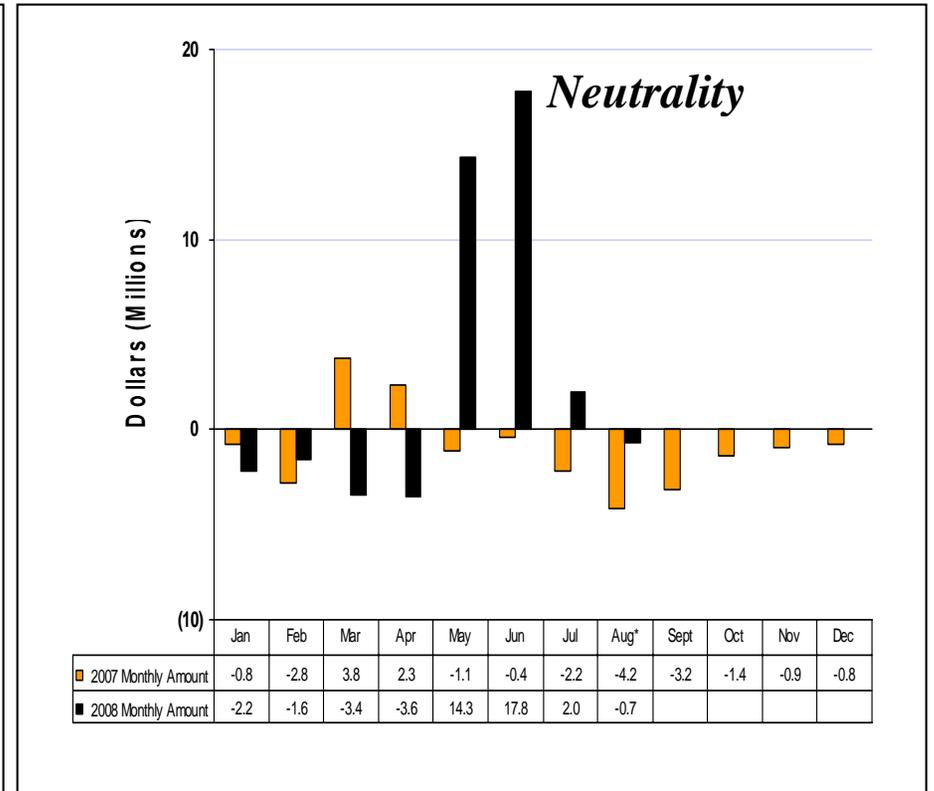
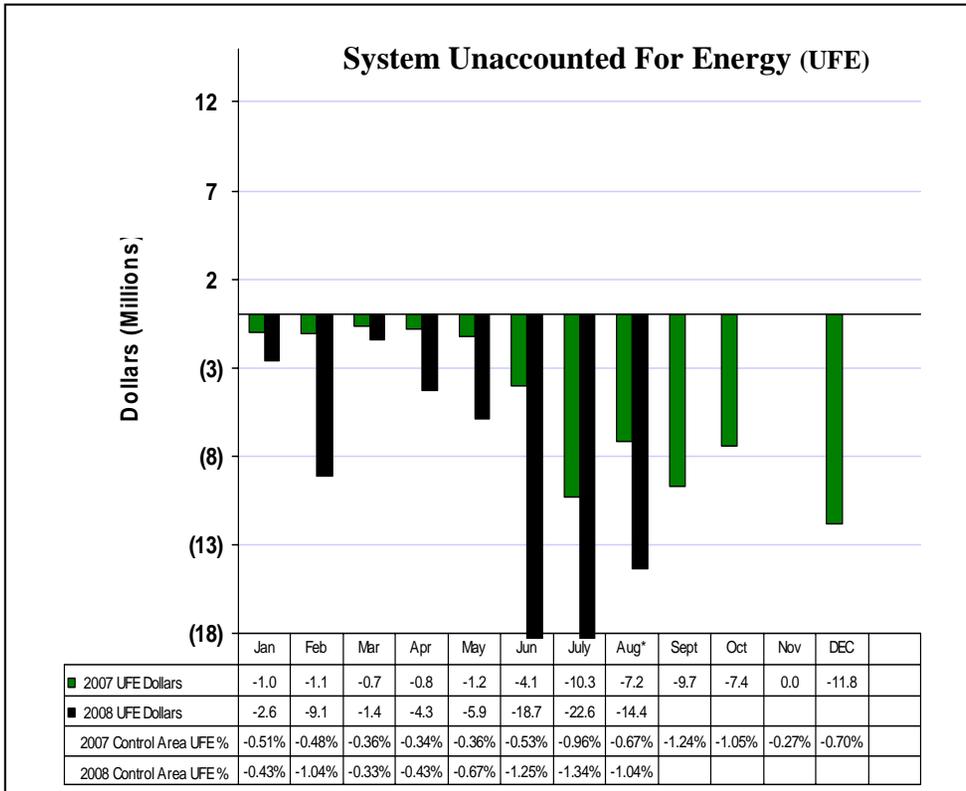
OTC violations are defined as path overloads that exceed WECC allowable time limits for both stability-rated and thermally-rated paths.



On 2/20/2008 the ISO experienced a *Disturbance Control Standard (DCS)* violation. 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. The RMS program has been replaced by the WECC/NERC Mandatory Standards Compliance Program. No additional RMS sanctions anticipated.

Frequency disturbances are result of a sudden loss of load or generation. ISO DCS violations are those losses of generation greater than 35% of our most severe single contingency (currently 402.5 MW), where the *area control error (ACE)* is not recovered within 15 minutes. This chart has been updated to remove the external disturbances which we are no longer monitoring.



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 July, Operations Support did not identify any outstanding issues. The graph shows the amount of System Unaccounted for Energy.

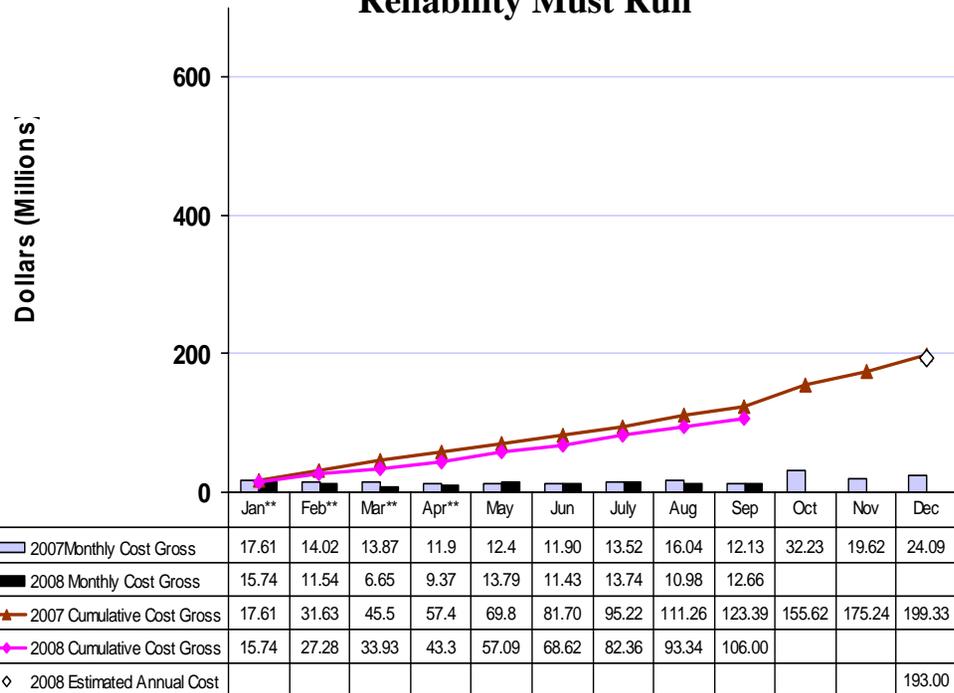
- Amounts estimated for August 2008. There is a 75 day time lag before actual UFE data becomes available.

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.

### Reliability Must Run

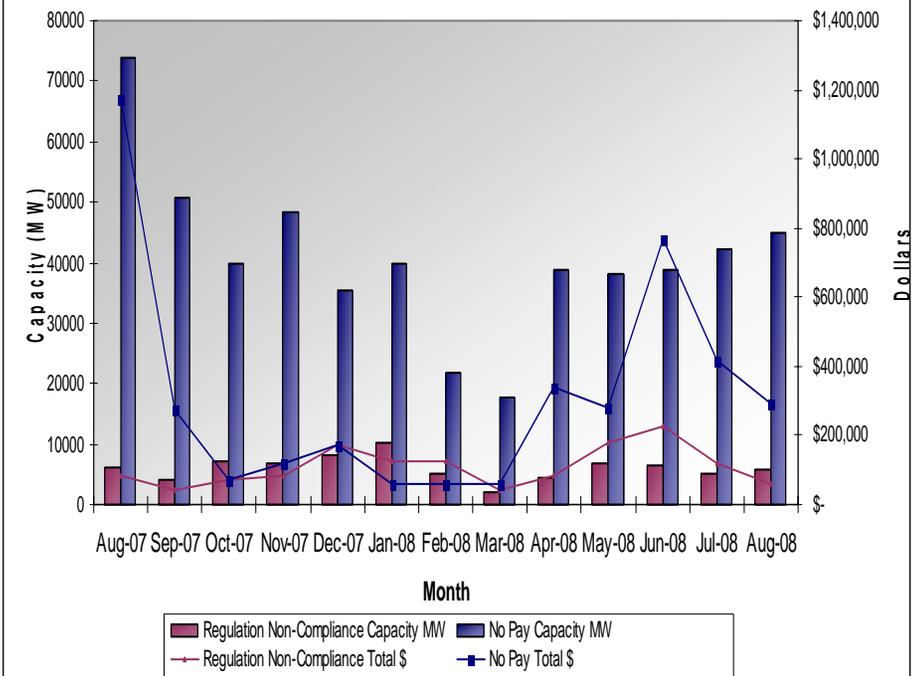


RMR decreased in 2008 to 10 facilities consisting of 23 units; down from 13 facilities consisting of 35 units in 2007.

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

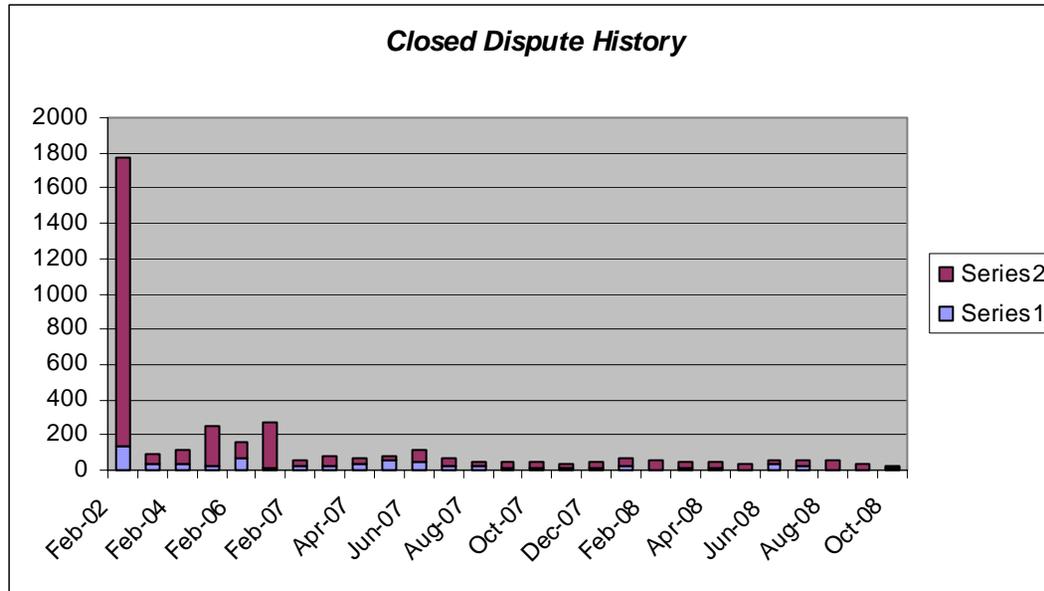
\*\* January thru May adjusted invoices not yet received by Borders, El Cajon and Enterprise.

### Ancillary Service Compliance Programs



Operations Support monitors suppliers of Ancillary Services to ensure that Ancillary Service capacity awarded in the ISO markets is available in real-time. In both July and August, 2008, an average of 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 \$539,980 for July and \$351,972 for August.

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 2002 through October 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 ISO *control area frequency* figures report internal and external system disturbances and include violations of the *Disturbance Control Standard (DCS)* resulting from ISO Control Area internal disturbances, such as loss of a large generating unit or transmission line. WECC's 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. The ISO'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 the ISO operator into real time market application (RTMA) to adjust for the energy deviation between RTMA and the energy management system (EMS).