

## **Operations Highlights Report**

## Notable Events

The California Independent System Operator (CAISO) has upgraded its Public Key Infrastructure (PKI) from Spyrus to its new provider, Cybertrust. The PKI upgrade was necessary to ensure long term availability, reliability and support for systems that rely on CAISO's PKI for digital certificate services. This requires all CAISO Remote Intelligent Gateways (RIG) and Data Processing Gateways (DPG) to complete an upgrade process to transition the production Certificates to the new provider and allow for continued accessibility.

As of April 30<sup>th</sup>, the conversion for all RIG's and DPG's were completed:

RIG sites:

61 Completed Conversion (100% complete prior to 4/11/08)

DPG sites:

73 Complete (100% complete completed prior to 5/15/08)

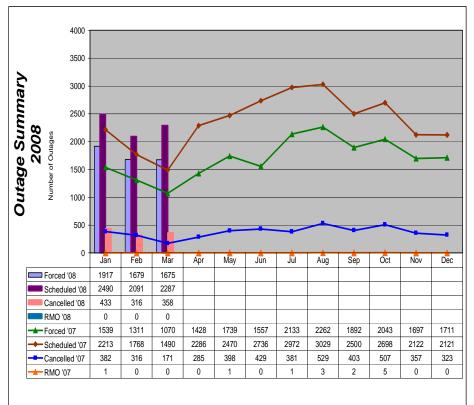
RIG and DPG sites:

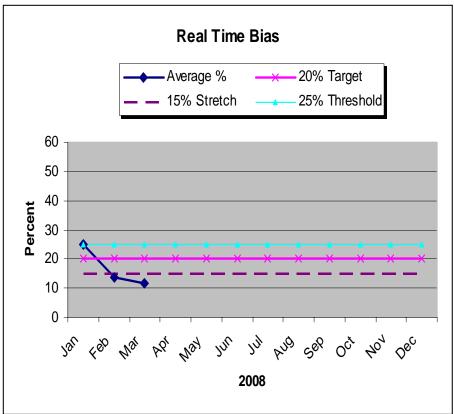
46,965 Total MW with Completed Conversion (100% complete)

NOTE: Various units went non-operational and were removed from conversion totals during project timeline.

.



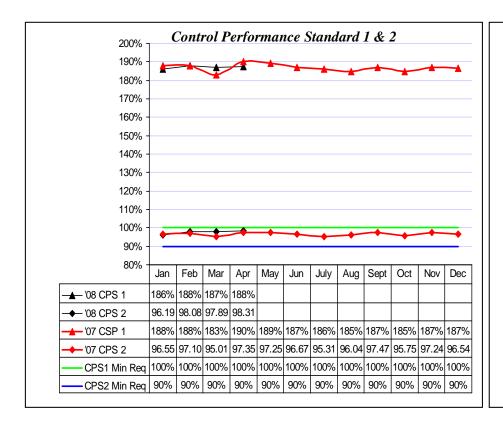


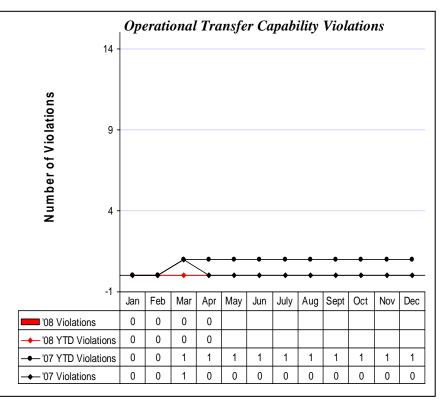


The Outage Activity Summary graph shows the number forced, scheduled, and cancelled generation and transmission outages processed per month by the Outage Coordination office. Included in the graph is the number of Restricted Maintenance Operations (RMO), RMO accommodates additional transmission or other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

Bias numbers for January, February, and March were 24.9%, 13.7%, and 11.5% respectively. In January, operators were biasing more frequently as a side result of managing zonal congestion in real-time. When managing congestion, the operators needed to bias to correct the load levels north and south of path 26. The issue went away in February, with bias numbers coming down to stretch levels. The trend continued into March.







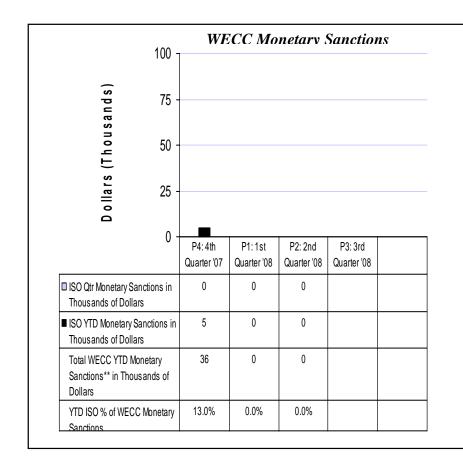
**CPS1** is a statistical measure of Area Control Error (ACE) variability. It measures ACE in combination with the interconnection frequency. The CPS1 formula was developed on a conformance scale, therefore values over 100% are not only desired, but also expected. **CPS2** is a statistical measure of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

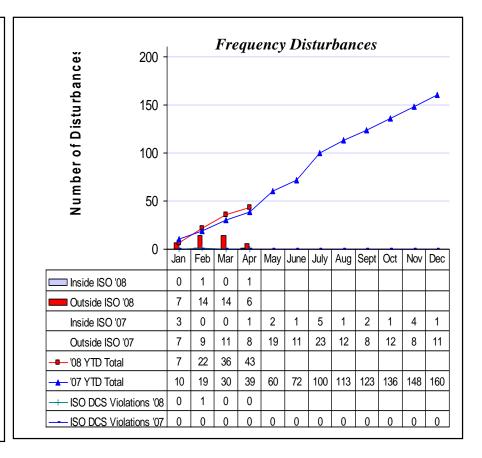
WECC Minimum Operating Reliability Criteria for CPS1 is 100%. The CPS1 Target and Stretch Goal is to attain a score of 100% 12 of 12 months during the calendar year. WECC Minimum Operating Reliability Criteria for CPS2 is 90%. The CPS2 Target and Stretch Goal is to attain a score of 90% 12 of 12 months 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.







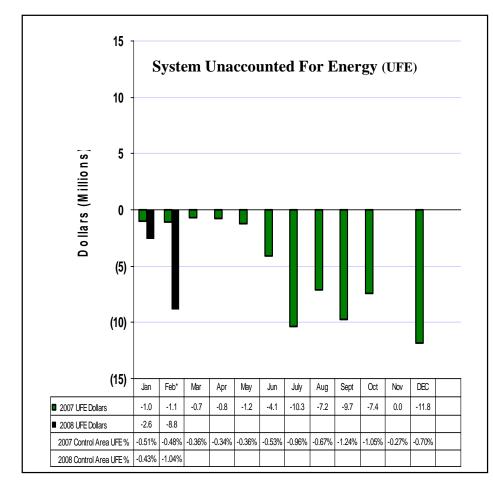
<sup>\*</sup> Due to 2/20/2008 possible DCS violation, we anticipate a possible fine that may range between \$6,000 - \$200,000. Actual fine will be communicated once the final determination has been made by WECC.

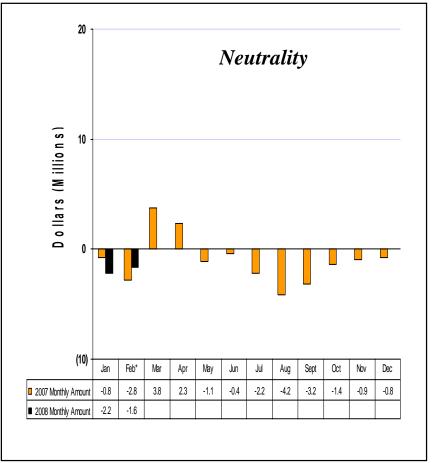
Frequency Disturbances are results of a sudden loss of load or generation. ISO DCS Violations are those losses of generation greater than 35% of our most severe single contingency (currently 392 MW), where the ACE is not recovered within 15 minutes.

The DCS Violation Target Goal is not to exceed 1 ISO DCS violations, with the Stretch goal of zero violations for the calendar year. Our YTD results are on track to meet the Target objective to have no more than one DCS Violation for 2008.

<sup>\*</sup> 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.





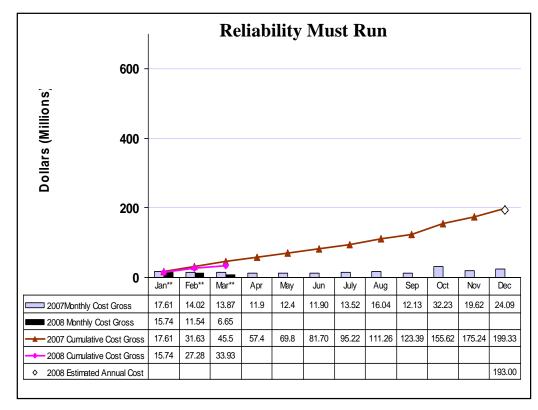


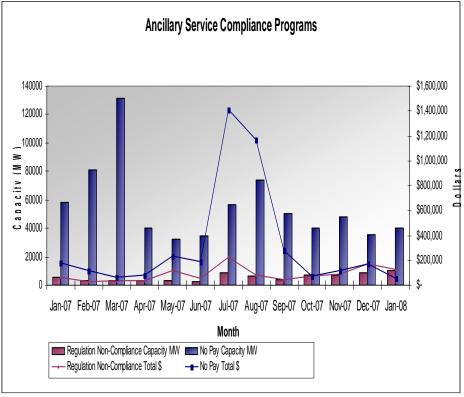
<sup>\*</sup> Operations Support continues to monitor changes in trends (both positive and negative) of Unaccounted for Energy (UFE) prior to and after Preliminary Settlement Statements. For the month of November, December and January, Operations Support did not identify any outstanding issues. The graph shows the amount of system Unaccounted for Energy. Amounts estimated for FEB. 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)

<sup>\*</sup>There is a 75 day time lag before actual Neutrality data becomes available.







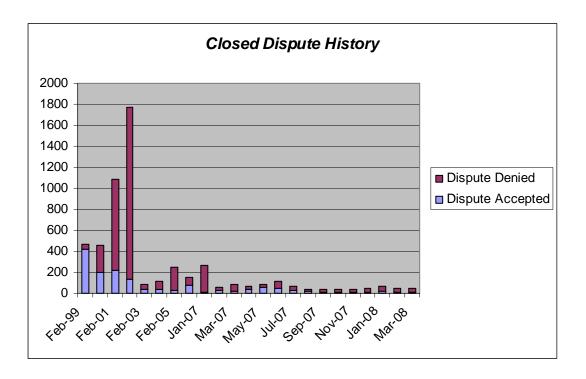
RMR decreased in 2008 to 10 facilities consisting of 23 units; down from 13 facilities consisting of 35 units in 2007.

Operations Support monitors suppliers of Ancillary Services to ensure that Ancillary Service capacity awarded in the ISO markets is available in real-time. In November 2007, 98 percent of scheduled Regulation was available and an average of 96 percent of scheduled Spinning Reserve and Non-Spinning Reserve was available. The total value of rescinded payments was approximately \$202,518 for November. In December 2007, 98 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 \$343,798 for December. In January 2008, 98 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 \$181,728 for January. The graph shows the monthly totals of non-compliant Ancillary Service capacity (MW) for twelve months

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

<sup>\*\*</sup> January Adjusted invoices not yet received by Borders, El Cajon and Enterprise.





The graph above shows the volume of disputes from February 1999 through March 2008.



## **Definitions**

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

## **Operations Performance Scorecard:**

**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 the WECC 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 min.) and thermally rated (30 min.) paths.

**ISO 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 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 California 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).