Operations Highlights Report

Notable Events

Renewable Portfolio Standard (RPS) –

The California Independent System Operator Corporation (the ISO) recently became a Qualified Reporting Entity (QRE) in the Western Renewable Energy Generation Information System (WREGIS).   The role of the QRE is to submit meter data associated with renewable energy on behalf of generator owners. Operations Data & Compliance is managing this service for the ISO.

During the month of September, Operations Data and Compliance QRE service activity was as follows:

# of Generators selecting the ISO as their QRE within WREGIS: 71
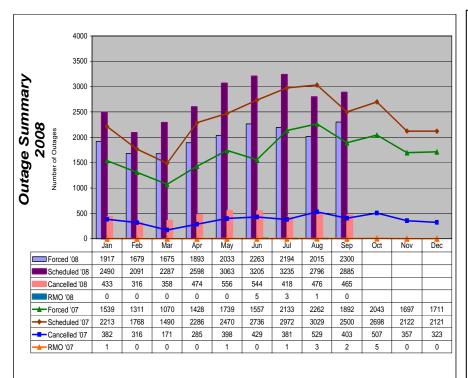
Total MWh Submitted to date
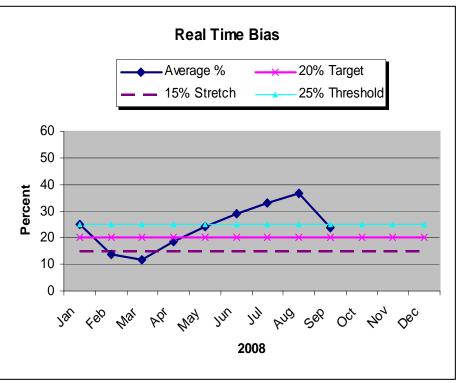**245,815.26 MWh***

Grid Operations-

Concerns remain regarding the low hydro conditions and the low forecasts we are seeing for fall/winter rainfall. Also of note, we are seeing new generating plants defer their start dates due to environmental permitting issues. Operations will continue to monitor these developing issues.

Outage Summary 2008

Number of Outages

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Forced '08	1917	1679	1675	1893	2033	2263	2194	2015	2300			
Scheduled '08	2490	2091	2287	2598	3063	3205	3235	2796	2885			
Cancelled '08	433	316	358	474	556	544	418	476	465			
RMO '08	0	0	0	0	0	5	3	1	0			
Forced '07	1539	1311	1070	1428	1739	1557	2133	2262	1892	2043	1697	1711
Scheduled '07	2213	1768	1490	2286	2470	2736	2972	3029	2500	2698	2122	2121
Cancelled '07	382	316	171	285	398	429	381	529	403	507	357	323
RMO '07	1	0	0	0	1	0	1	3	2	5	0	0

Real Time Bias

- Average %
- 20% Target
- 15% Stretch
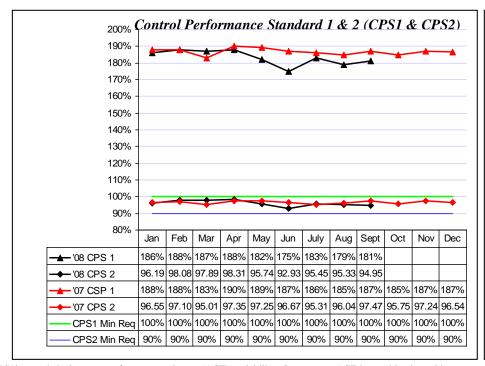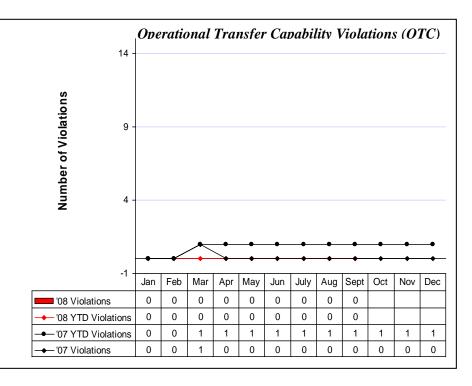- 25% Threshold

Percent

2008

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 July, August and September were 32.83%, 36.47% and 23.83% respectively. In late August, Market Operations made a permanent adjustment to the load forecast which has been countering a persistent error, the cause of which is unknown. Since this adjustment has been made, the bias has gone down to more reasonable levels.

Control Performance Standard 1 & 2 (CPS1 & CPS2)

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
'08 CPS 1	186%	188%	187%	188%	182%	175%	183%	179%	181%			
'08 CPS 2	96.19	98.08	97.89	98.31	95.74	92.93	95.45	95.33	94.95			
'07 CSP 1	188%	188%	183%	190%	189%	187%	186%	185%	187%	185%	187%	187%
'07 CPS 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%

Operational Transfer Capability Violations (OTC)

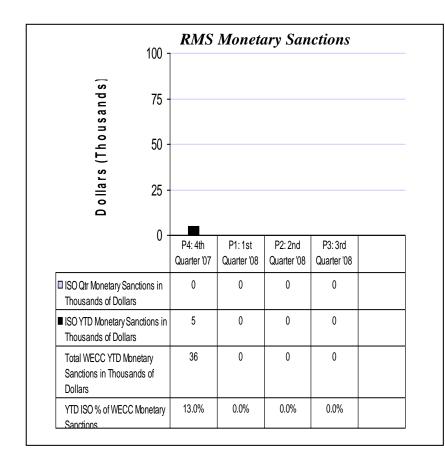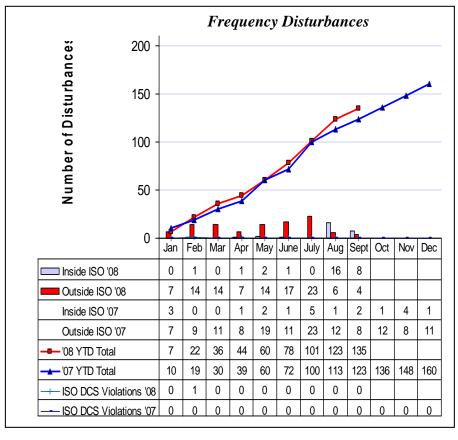|	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
'08 Violations	0	0	0	0	0	0	0	0	0			
'08 YTD Violations	0	0	0	0	0	0	0	0	0			
'07 YTD Violations	0	0	1	1	1	1	1	1	1	1	1	1
'07 Violations	0	0	1	0	0	0	0	0	0	0	0	0

CPS1is 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.

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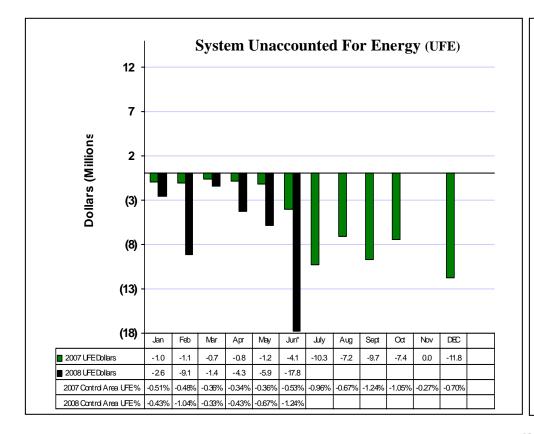
RMS Monetary Sanctions

	P4: 4th Quarter '07	P1: 1st Quarter '08	P2: 2nd Quarter '08	P3: 3rd Quarter '08	
☐ ISO Qtr Monetary Sanctions in Thousands of Dollars	0	0	0	0	
■ ISO YTD Monetary Sanctions in Thousands of Dollars	5	0	0	0	
Total WECC YTD Monetary Sanctions in Thousands of Dollars	36	0	0	0	
YTD ISO % of WECC Monetary Sanctions	13.0%	0.0%	0.0%	0.0%	

Frequency Disturbances

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
☐ Inside ISO '08	0	1	0	1	2	1	0	16	8			
■ Outside ISO '08	7	14	14	7	14	17	23	6	4			
Inside ISO '07	3	0	0	1	2	1	5	1	2	1	4	1
Outside ISO '07	7	9	11	8	19	11	23	12	8	12	8	11
'08 YTD Total	7	22	36	44	60	78	101	123	135			
'07 YTD Total	10	19	30	39	60	72	100	113	123	136	148	160
ISO DCS Violations '08	0	1	0	0	0	0	0	0	0			
ISO DCS Violations '07	0	0	0	0	0	0	0	0	0	0	0	0

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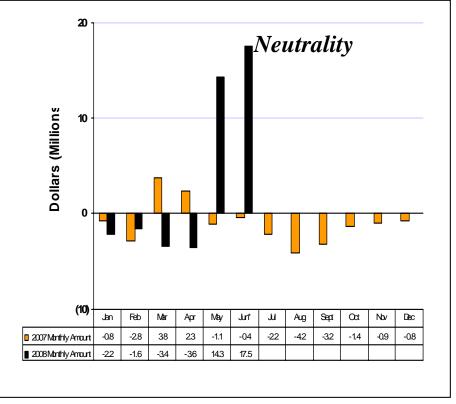
Chart begins with 4th Quarter 2007 to allow for delay in finalization and receipt of year-end WECC sanction data, and to enable analysis of performance goals based on a full year.

Frequency disturbances are result of a sudden loss of load or generation. The ISO 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.

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System Unaccounted For Energy (UFE)

	Jan	Feb	Mar	Apr	May	Jun*	July	Aug	Sept	Oct	Nov	DEC	
2007 UFE Dollars	-1.0	-1.1	-0.7	-0.8	-1.2	-4.1	-10.3	-7.2	-9.7	-7.4	0.0	-11.8	
2008 UFE Dollars	-2.6	-9.1	-1.4	-4.3	-5.9	-17.8							
2007 Control Area UFE%	-0.51%	-0.48%	-0.36%	-0.34%	-0.36%	-0.53%	-0.96%	-0.67%	-1.24%	-1.05%	-0.27%	-0.70%	
2008 Control Area UFE%	-0.43%	-1.04%	-0.33%	-0.43%	-0.67%	-1.24%							

Neutrality

	Jan	Feb	Mar	Apr	May	Jun*	Jul	Aug	Sept	Oct	Nov	Dec
2007 Monthly Amount	-0.8	-2.8	3.8	2.3	-1.1	-0.4	-2.2	-4.2	-3.2	-1.4	-0.9	-0.8
2008 Monthly Amount	-2.2	-1.6	-3.4	-3.6	14.3	17.5						

*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 June, higher UFE was attributed to higher variances between scheduled and actual MWh quantities in May and June 2008 compared with April. This characterizes loop flows in the system and results in unscheduled flows that directly impact UFE. *High UFE for June 2008 could have been a result of the wild fires throughout the state*

•. Amounts estimated for June 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.
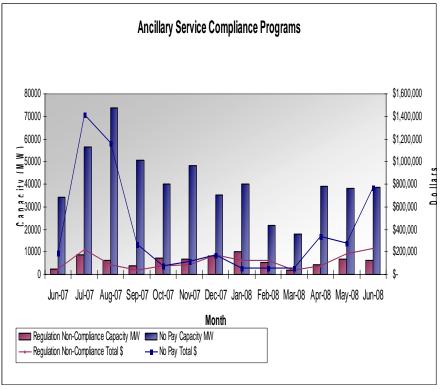**-High Imbalance Energy Offset Settlement for June 2008**
Settlement charges for Instructed Energy, Uninstructed Energy, Unaccounted for Energy, Unscheduled RMR Energy, and Transmission Loss Obligation are expected to balance out for each settlement interval, resulting in revenue neutrality for the ISO. 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 the ISO to offset balances related to the aforementioned settlement charges.
-For the month of May 2008, a total of $14.3 million was accrued and for the month of June 2008, a total of $17.5 million was accrued for the *imbalance energy offset*, which are significant increases from April 2008 ($3.6 million). There is higher variance between scheduled and actual MWh quantities in May and June 2008 compared with April. This characterizes loop flows in the system and results in unscheduled flows that directly impact the settlement of imbalance energy since scheduled import and export energy is deemed delivered by the ISO and adjacent control areas.

Reliability Must Run

Dollars (Millions)

	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	13.74					
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	82.26					
◇ 2008 Estimated Annual Cost												193.00

Ancillary Service Compliance Programs

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 through May adjusted invoices not yet received by Borders, El Cajon and Enterprise.

Operations Support monitors suppliers of Ancillary Services to ensure that Ancillary Service capacity awarded in the ISO markets is available in real-time. In June, 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 $998,342 for June.

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

Closed Dispute History

The graph above shows the volume of disputes from February 2001 through September 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.

 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 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).