



California Independent
System Operator Corporation

January 14, 2011

VIA HAND DELIVERY

The Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: **California Independent System Operator Corporation**
Docket No. ER06-615-_____

Dear Secretary Bose:

The California Independent System Operator Corporation ("ISO") hereby submits two versions of a report, entitled "2010 ANNUAL REPORT OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR EVALUATING DEMAND RESPONSE PARTICIPATION IN THE ISO; Reporting Period: Calendar Year 2010" (hereinafter, "Fourth Annual Report"). The two versions are:

- A Confidential Version (marked as such) containing confidential information; and
- A Public Version (marked as such) in which the confidential information has been redacted.

Because the documents are two versions of the same report, the ISO has marked each version as Attachment A to this transmittal letter. The Commission has directed the ISO file annual report on demand response participation in the Commission's June 25, 2007 Order on Compliance (California Independent System Operator Corp. 119 FERC ¶ 61,313 (2007) at P 226.

Though this letter, the ISO requests confidential treatment of the Fourth Annual Report, which is included as Attachment A to this filing, pursuant to Section 388.112 of the Commission's Regulations. Confidential treatment of this Fourth Annual Report is appropriate because the report contains commercially-sensitive data regarding the participation of one entity in the ISO's market. .

During calendar year 2010, there was only one demand response participant in the ISO market, the California Department of Water Resources,

State Water Project (“CDWR-SWP”). Accordingly, the ISO will provide a copy of the Confidential Version of the Fourth Annual Report to CDWR-SWP. Last year, the ISO did not do so, because there were multiple demand response participants, and the ISO determined that it would not disaggregate the reporting information and prepare a custom report for each customer because it was unduly burdensome, beyond the scope of the reporting requirement, and because the information was already available to the market participants through the ISO settlement process.

COMMUNICATIONS

Correspondence regarding this filing should be directed to:

Baldassaro “Bill” Di Capo
Counsel
California Independent System
Operator Corporation

250 Outcropping Way
Folsom, CA 95630
bdicapo@caiso.com
Tel: (916) 608-7157
Fax: (916) 608-7222

John Goodin
Lead, Demand Response
California Independent System
Operator Corporation

250 Outcropping Way
Folsom, CA 95630
jgoodin@caiso.com
Tel: (916) 608-7154
Fax: (916) 608-7222

CONTENTS OF FILING

The following documents are included in this filing:

- (1) This Transmittal Letter;
- (2) Attachment A Report, entitled “2010 ANNUAL REPORT OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR EVALUATING DEMAND RESPONSE PARTICIPATION IN THE ISO; Reporting Period: Calendar Year 2010”

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Respectfully submitted,

By: /s/ Baldassaro "Bill" Di Capo

Nancy Saracino

General Counsel

Sidney Davies

Assistant General Counsel

Baldassaro "Bill" Di Capo

Senior Counsel

California Independent System

Operator Corporation

250 Outcropping Way

Folsom, CA 95630

T – 926-608-7157

F – 916-608-7222

bdicapo@caios.com

ATTACHMENT A

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

California Independent System) Docket Nos. ER06-615-____
Operator Corporation)

**2010 ANNUAL REPORT OF THE CALIFORNIA INDEPENDENT SYSTEM
OPERATOR EVALUATING DEMAND RESPONSE PARTICIPATION IN THE
ISO**

Reporting Period: Calendar Year 2010

Date: January 14, 2011

Baldassaro "Bill" Di Capo
Senior Counsel for the California
Independent System Operator
Corporation

INTRODUCTION

Obligation to Submit an Annual Report

The California Independent System Operator Corporation (“ISO”) submits this “2010 ANNUAL REPORT OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR EVALUATING DEMAND RESPONSE PARTICIPATION IN THE ISO; (hereinafter, “2010 Annual Report”)¹

The reporting requirement emanates from the Commission’s June 25, 2007 Order on Compliance in proceeding commonly known as the “MRTU Docket”, which provided that:

Finally, we direct the CAISO to file annual reports evaluating its demand response programs, including the amount of demand response it has elicited. The CAISO should file the first report January 15, 2008. At a minimum, the CAISO’s report must include: (a) information on customer enrollment for each demand response program in terms of the number of customers and total potential in load reduction in MWs; and (b) information on total load reductions achieved per program per event during the prior year, including the CAISO’s system load at time of curtailments, total MWs reduced, total payments for reductions and effects of the demand response programs on wholesale prices. [FN See, e.g. *ISO New England, Inc.*, 102 FERC [Paragraph] 61,202 (2003)]²

The CPUC is in the Process of Establishing the Rules for Retail Customers to Directly Bid Demand Response into the California ISO Market

The ISO launched its proxy demand resource product on August 10, 2010. Earlier that year, on June 3, 2010, the California Public Utilities Commission (CPUC) had issued a decision directing investor owned utilities to prepare to bid demand response into the ISO markets using proxy demand resource pilot programs.³ While a positive first step, the CPUC decision also expressly limited the participation by bundled utility customers to participate through an Investor Owned Utility (“IOU”) pilot program. The decision did allow for direct access customers, those that procure their electricity through a third-party electricity provider, to offer demand response in the ISO market. The decision also identified several important issues that the CPUC stated had to be resolved and clarified before it would allow all customers to offer demand response into the ISO market. Those issues include retail compensation concerns, information needs, and CPUC jurisdiction and oversight over third-party (i.e. non-IOU) demand response providers.

¹ The ISO is sometimes referred to as the CAISO.

² *California Independent System Operator Corp.* 119 FERC ¶ 61,313 (2007) “June 25, 2007 Order on Compliance Filings” (hereinafter “June 25, 2007 Order”) at P. 226.

³ CPUC Decision 10-06-002, issued in Proceeding R.07-01-041. The decision can be accessed on the CPUC’s website at: http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/118962.htm.

Until the CPUC proceeding resolves these outstanding issues, the CPUC's prohibition on utility bundled customers offering demand response other than through IOU pilot programs remains in effect. While market participants have expressed interest to the ISO in the proxy demand resource product, to date, there has been no participation even from direct access customers, apparently because third party demand response entities and direct access customers are holding off until stakeholders and the CPUC formally settle the retail rules around direct participation. The ISO is concerned that the relatively slow pace of the state-level proceeding is slowing the pace of retail participation in the wholesale market.

To Date, the Situation in California Remains that There is No Avenue for Non-IOU Demand Response Providers to Access Resource Capacity Revenue Streams Under the CPUC's Resource Adequacy Program

Another factor constricting the robust participation of demand response in the wholesale market is the inability for third-party demand response providers to have access to resource adequacy ("RA") capacity payments, like other resource adequacy resource types, under the CPUC resource adequacy program. Currently, the CPUC has not established rules that allow a load serving entity to procure demand response resources to satisfy its resource adequacy capacity requirement. Instead, resource adequacy treatment is only given to demand response that is enrolled in a utility retail demand response program, and this demand response comes "off the top" of a load serving entity's resource adequacy requirement (by reducing the level of demand for which the IOU must procure RA resources). Without access to resource adequacy capacity payments, the ISO believes it will be very difficult for a competitive demand response delivery paradigm to develop in California. The ISO continues to petition the CPUC to eliminate this barrier and pursue a path for the competitive procurement of all demand response.

While the ISO is concerned about the pace of wholesale demand response development, the ISO is reasonably confident that, with time, these issues will be adequately and satisfactorily addressed. Encouragingly, the CPUC currently has two open phases in its demand response and resource adequacy proceedings (R.07-01-041 and R.09-10-032, respectively) to formally address demand response direct participation and resource adequacy concerns, and the CPUC has established a schedule for further treatment of each issue in each proceeding.⁴ In alignment with the ISO, the CPUC's stated goal is "...to better integrate Investor Owned Utility (IOU) Demand Response programs into the California Independent System Operator's (CAISO) price-based

⁴ See, e.g., Administrative Law Judge's Ruling Rescheduling Workshops on Remaining Direct Participation Issues (Phase Iv, Part 2), issued December 23, 2010 in R07-01-041 (accessible on the CPUC's website at <http://docs.cpuc.ca.gov/efile/RULINGS/128779.pdf>) and Phase 2 Scoping Memo and Ruling of Assigned Commissioner and Administrative Law Judge Determining the Scope, Schedule, and Need for Hearing in this Proceeding, issued October 29, 2010 in R09-10-1032 (accessible at <http://docs.cpuc.ca.gov/efile/RULC/126035.pdf>).

markets.”⁵ The expectation is that rules and regulations will be decided in time for all customers to participate in the ISO market by summer 2011, enabling the ISO to report results for proxy demand resources in the 2011 Annual Report.⁶

EXECUTIVE SUMMARY AND REQUEST FOR CONFIDENTIAL TREATMENT

Types of Demand Response Participation in the ISO

Participating Load: The Participating Load product is a dispatchable demand resource offered to the ISO through a demand response provider who also acts as the load serving entity for the underlying load. The Participating Load Agreement establishes the relationship between the demand response provider and the ISO and provides that the relationship is governed by the ISO Tariff.

Proxy Demand Resource: Conditionally accepted by the FERC on July 15, 2010, the ISO launched its proxy demand resource product in August 2010.⁷ The proxy demand resource product was developed with extensive stakeholder input in response to the FERC Order 719, which required that the ISO amend its market rules to permit an Aggregator of Retail Customers (aka demand response provider) to bid demand response on behalf of retail customers directly into the ISO organized market.⁸ The Proxy Demand Resource Agreement establishes the relationship between the demand response provider and the ISO and provides that the relationship is governed by the ISO Tariff.

Demand Response Participation

The situation continues that, as of the date of this report, the ISO Participating Load product has one active participant; the California Department of Water Resources State Water Project (“CDWR-SWP”). This participant schedules, bids, and settles under ■■■

⁵ *Administrative Law Judge’s Ruling Soliciting Responses on Remaining Direct Participation Issues (Phase IV, Part 2)*, November 8, 2011, p. 2 (issued in DR proceeding R07-01-041 and accessible at <http://docs.cpuc.ca.gov/efile/RULINGS/126178.pdf>).

⁶ The ISO notes that the Commission has directed the ISO to issue a study report on proxy demand resource participation that should not be confused with the ISO reporting on proxy demand response pilot activity that will be contained in next year’s annual report. The Commission’s order relating to the ISO’s proxy demand response product requires the ISO to submit a study report containing twelve months of actual market data after the CPUC has developed the rules for direct response in CPUC Proceeding R07-010-41 and permitted full participation (i.e. not during the period in which the current pilot program is in place). The Commission recently recapped this reporting requirement in its *Order on Compliance and Rehearing*, 134 FERC ¶ 61,004 (issued January 4, 2011) at P 14, in Dockets ER10-765-001 and ER10-2621-000. This order is accessible on the ISO’s website at <http://www.caiso.com/2afc/2afcd85357fb0.pdf>.

⁷ *Order Conditionally Accepting Tariff Changes and Directing Compliance Filing*, 132 FERC ¶ 61,045 (issued July 15, 2010), accessible on the ISO’s website at <http://www.caiso.com/27d9/27d9cbb6770.pdf>.

⁸ *Wholesale Competition in Regions with Organized Electric Markets, Order No. 719*, FERC Stats. & Regs. ¶ 31,281 (2008) at P 154, *order on reh’g*, Order No. 719-A, 74 Fed. Reg. 37,776 (Jul. 29, 2009), FERC Stats. & Regs. ¶ 31,292, *order on reh’g and clarification*, Order No. 719-B, 129 FERC ¶ 61,252 (2009).

■ unique Participating Load resource IDs, which can represent multiple underlying aggregated pump loads.

- **Scope of this Report** This report follows the ISO's previous annual reports of not including data for Pumped Hydro Storage Facilities. As the ISO originally explained in its First Annual Report, the reason for this approach is that these facilities operate differently than traditional demand response resources, in that pumped hydro storage facilities affirmatively schedule and increase load as well as provide load curtailment. The ISO believes that this report's focus on traditional demand response resources results in more meaningful content, because the reported information can be more meaningfully compared against other regions and organized markets, which was a primary purpose for imposing the reporting obligation.

Request for Confidential Treatment

Because the information in this Report focuses upon only one participant, the ISO is submitting this report with an accompanying request for Confidentiality and the ISO is concurrently submitting a Confidential Version/Public Version (in which the Confidential Information has been redacted).

Contribution of Demand Response to Non Spinning Reserves Needs for 2010

On average, over the January 1st to November 30th period covered in this report, the ISO system needed approximately 883 MW of Non-spinning Reserve capacity per hour to operate. The Participating Load participants that are the subject of this report contributed, on average, ■ MW of Non-spinning Reserve, either through accepted bids or self provision. These ■ MW represents nearly ■% of the ISO's hourly Non-spinning Reserve need for 2010.

In 2010, the Participating Load resources cleared (bid and self provided) an hourly maximum of ■ MW and a minimum of ■ MW of Non-spinning Reserve capacity to the ISO. On average, ■ MW per hour was bid or self-provided to the ISO.

**SUMMARY THE ISO'S DEMAND RESPONSE PROGRAMS FOR THE 2010
TIME PERIOD**

Participating Load

In 2010, there were [REDACTED] active Participating Load resources associated with large pumping resources.⁹

The active Participating Load resources in the reporting period can be broken down as follows:

Participant: California Department of Water Resources State Water Project ("CDWR SWP")

No of Resource IDs: Total of [REDACTED]

These Participating Load Resources represent an aggregation of pumps; they have been aggregated into separate Participating Load "facilities," for scheduling and settlement purposes.

Reporting Period for this Report and the Time Constraints of the Data Set

The reporting for the 2010 Annual Report reflects the same time constraints as the previous annual reports with respect to the time frames for which the data can be captured and conveyed by the January 15th due date. In order to produce and present relevant data consistent with the June 25, 2007 Order, the ISO must largely cull, correlate, and set out information compiled from a larger pool of underlying data in the ISO's settlement system. Thus, the ISO's information gathering is constrained by the structure of the ISO's settlement system and to the extent data can be timely analyzed and presented for inclusion in the 2010 Annual Report. The data set for this report runs from January 1, 2010 through November 30, 2010 ("Reporting Period") since not all December 2010 settlement data elements are timely available to incorporate into this report; therefore, data through the end of the calendar year cannot be gathered and compiled for the full year before the report due date of January 15.

The January 1, 2010 to November 30, 2010 Reporting Period comprises:

- Ninety-two percent (92%) of the 2010 calendar year period,
- 8,016 hours out of 8,760 total hours in the calendar year, or
- 334 out of 365 calendar days.

⁹ These [REDACTED] Participating Load resources are unique, non-pumped hydro storage facilities.

For future reporting purposes, the ISO respectfully submits that future annual reports could convey better information if the filing deadline were shifted, so that the reporting period could capture an entire twelve (12) month, 365 day calendar year. Later in the year, the ISO will file a motion with the Commission, asking to change the reporting date, to present this issue to the Commission. The file date would be best adjusted to a period more than 90 days after the calendar-year end to ensure final settlement data can be analyzed and included in the report.

In addition, the ISO Department of Market Monitoring (DMM) produces an annual report on the performance of the markets administered by the ISO. This DMM annual report covers the period of January 1st through December 31st of the year that is the subject of the report, and is published in a late-March to April time frame. Information in the DMM annual report pertaining to subjects such as system resource adequacy, ancillary services quantities and market performance, and other subjects, would be useful to ISO personnel in producing this annual report on demand response participation within the ISO markets.

NON-SPIN CAPACITY AWARDS AND PAYMENT FROM PARTICIPATING LOAD RESOURCES

In the ISO's wholesale markets, market participants can chose to bid Ancillary Services (such as Non-Spinning Reserves), or to self-provide them. Market participants that choose to bid ancillary services receive the Ancillary Service Market Clearing Price. Accordingly, the ISO makes payment to them for the ancillary service capacity type that was offered and accepted. On the other hand, those market participants that fulfill their ancillary service obligation by self-providing effectively receive an offset of their ancillary service obligation. The offset reduces or eliminates the quantity of ancillary service capacity that they must procure from the market.

On average, for the Reporting Period, the ISO system needed approximately 883 MW of Non-spinning Reserve capacity per hour to operate. This procurement average of 883 MW per hour is based upon the total ISO system requirement for non-spinning reserve capacity divided by the total number of hours for the reporting period of Jan 1, 2010 to Nov 30, 2010, which equates to 8,016 hours.

The Participating Load participant covered in this report contributed, on average, ■■■ MW of non-spinning reserves either through accepted bids or through self-provision. This quantity of Participating Load contribution represented nearly ■■■% of the ISO hourly Non-spinning Reserve need during the Reporting Period.

However, the range of Non-spinning Reserve capacity offered (or self provided) exhibited some variations during certain, limited hours in 2010. In this regard, Participating Load resources cleared (bid and/or self provided) an hourly maximum of

█ MW and a minimum of █ MW of Non-spinning Reserve capacity on certain occasions. On average, however, █ MW per hour was bid or self-provided to the ISO.

TABLE 1 - Non-spinning Reserve Capacity Awards and Payment			
Total Non-spin Capacity Bid (MW)	Total Non-spin Capacity Awarded (MW)	Total Non-spin Capacity Payments (\$)	Total Non-spin Capacity Self-provided (MW)
█	█	█	█

* These values represent cumulative totals based on eight separate Participating Load Resources.

No-Pay for Unavailable Non-spin Capacity from Participating Load Resources

No-Pay is a settlement mechanism to encourage resources, both generators and Participating Loads, to keep awarded Ancillary Services available for ISO dispatch (i.e., by following dispatch instructions and by avoiding uninstructed deviations). When triggered, the No-Pay mechanism results in the rescission of payment for the provision of Spinning Reserve and/or Non-spinning Reserve when, subsequent to: i) the ancillary service award for such ancillary services and ii) the ISO payment for the services, the ancillary service becomes either undispachable capacity, unavailable capacity, undelivered capacity, or, in certain circumstances, unsynchronized capacity. In 2010, only a small percentage of the total Non-spinning capacity awarded to Participating Load resources (approximately █%) was rescinded through the No-Pay settlement mechanism during the reporting period.

TABLE 2 - Summary of Unavailable Non-Spin Capacity		
Total Non-spin Capacity Awarded and Self-provided (MW)	Total Non-spin Capacity Unavailable Subject to the No Pay Provision (MW)	Total Non-spin Capacity Payment Rescinded Subject to the No-Pay Provision (\$)
█	█	█

Real-time Energy and Payment from Participating Load Resources

To meet its real-time reliability needs, the ISO dispatches real-time energy from dispatchable demand resources when it is economic to do so, based on the submitted bids that the Scheduling Coordinator has submitted to the ISO for Participating Load

resources. A Participating Load resource can bid to curtail energy and to consume energy, in a fashion similar the way a generator can bid both incremental and decremental energy, by increasing or decreasing the generators energy output. Per ISO real-time dispatch instructions, a Participating Load resource is either paid for the amount of energy that the resource is instructed to curtail or pays for the amount of energy that the resource is instructed to consume. (This is analogous to the ISO paying a generator to increase output (“INC”) and, correspondingly, the generator paying the ISO to decrease output (“DEC”) relative to the resource’s scheduled energy amount.) Any deviations associated with the ISO’s real-time dispatches, i.e. under-deliveries or over-deliveries, will be settled with the Participating Load resource as uninstructed energy. The *Total Energy Settlement* values shown in Table 3 and Table 4 below are the net settlement of the ISO’s instructed and uninstructed energy for dispatches to decrease consumption and for dispatches to increase consumption, respectively.

TABLE 3- Decrease Energy Dispatches- Real-time Energy & Settlement Summary				
Total Real-time Energy Offered (MW)	Total No. of Dispatches (Events)*	Total Real-time Instructed Energy (MW)	Total Real-time Energy Delivered (MW)	Total Energy Payments to DR Resources (\$)
■	■	■	■	■

**Where dispatches equal to or greater than 0.01 MW, in any interval, are aggregated by trade hour.*

TABLE 4- Increase Energy Dispatches- Real-time Energy & Settlement Summary				
Total Real-time Energy Offered (MW)	Total No. of Dispatches (Events)*	Total Real-time Instructed Energy (MW)	Total Real time Energy Delivered (MW)	Total Energy Charges to DR Resources (\$)
■	■	■	■	■

**Where dispatches less than -0.01 MW, in any interval, are aggregated by trade hour.*

†Megawatt quantity attributed to ISO issued Exceptional Dispatch instructions

Real-time Energy Dispatch Detail for Participating Load Resources

See Appendix A to the 2010 Annual Report for a detailed breakdown of Real-time energy dispatch, by hourly event.

SUMMARY OF ISO EVENTS BY MONTH AND HOUR

Given that the majority of dispatchable demand resource megawatts reported here are associated with large pumping resources used to move water around the state of California, these Participating Load resources do not exhibit the more traditional summer-peak demand response characteristic that one expects from demand response resources.

However, the fact that Participating Load resources, like large pumping resources, can participate in the ISO markets in all months and hours of the year means such resources can be of great benefit to the ISO as the system operator and helps further demonstrate the comparability that exists in the ISO wholesale market between supply-side and demand-side resources.

ISO Real-time Dispatches by Month

The data below demonstrates the broad availability of these Participating Load resources to provide real-time imbalance energy, both the ability to increase and decrease energy consumption based on ISO system needs. Table 5 below lists the days and hours by month that Participating Load resources were called to curtail load, i.e. decrease energy and Table 6 lists the days and hours by month that Participating Load resources were called on to consume energy, i.e. increase energy consumption. Table 7 lists the number of dispatch events by hour for the Reporting Period.

TABLE 5- Decrease Load ISO Dispatches by Month		
Month	Days	Hours
July	█	█
August	█	█
September	█	█
October	█	█
November	█	█
Total:	█	█

TABLE 6- Increase Load ISO Dispatches by Month		
Month	Days	Hours
July	█	█
August	█	█
September	█	█
November	█	█
Total:	█	█

TABLE 7 ISO Dispatches by Hour																							
Hour Intervals																							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Count of Dispatches per Interval																							
█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█

SUMMARY ISO DEMAND RESPONSE RESULTS ACROSS COMPLIANCE YEARS

For 2010, the percentage of demand response contribution towards the ISO hourly average non-spinning reserve capacity requirement increased to █% from approximately █% in 2008 and 2009. The decline over 2008 and 2009 was due to the partial implementation of participating load functionality at the start of the new market (under the redesign known as “MRTU”) which allows participating load to provide imbalance energy only for the purpose of providing non-spinning reserve. The █% figure over calendar year 2010 marks a return to the contribution level observed in calendar year 2007. For 2010, the amount of non-spin capacity bid into the market decreased 52.3%, while the amount of non-spin self-provided increased 57.2%, continuing the trend from 2009 for greater ancillary service participation through self provision from participating load. Real-time energy offers from demand response increased significantly in 2010 by 252% compared to 2009, even though the amount of energy the market required for economic dispatch from demand response declined 67.4%. For instance, in 2009, █ real-time energy demand response dispatches were issued whereas in 2010, only █ were issued.

Below are summary tables of comparative results across compliance years:

TABLE 8
Annual DR Contribution to Hourly Avg. Non-spin Capacity Requirement

Compliance Reporting Year	Hourly Avg. Non-spin Requirement (MW)	Hourly Avg. Awarded Non-spin Quantity (MW)	Percentage of Hourly Non-spin Requirement (%)
2007	812	█	█
2008	899	█	█
2009	906	█	█
2010	883	█	█

TABLE 9
Year-to-Year Comparison of Non-spin Capacity from Demand Resources*

Comparison Years	Compliance Reporting Year	Total Non-spin Capacity Bid (% Diff)	Total Non-spin Capacity Awarded (% Diff)	Total Non-spin Capacity Self-Provided (% Diff)
2007/2008	2008	15.7%	-31.9%	-17.9%
2008/2009	2009	-9.0%	-83.6%**	164.6%**
2009/2010	2010	-52.3%	-67.0%	57.2%

* (-) is a decrease and (+) is an increase in percentage difference between years

** Significant increase in the amount of Non-spin capacity self-provided in 2009 vs. 2008

TABLE 10

Year-to-Year Comparison of Compliance from Demand Resources Providing Non-spin*

Comparison Years	Compliance Reporting Year	Total Non-spin Capacity Awarded and Self-Provided (% Diff)	Total Non-spin Capacity Unavailable Subject to No Pay (% Diff)	Total Non-spin Capacity Payment Rescinded Due to No Pay Provision (% Diff)
2007/2008	2008	-26.9%	-18.0%	-69.0%
2008/2009	2009	15.0%	-72.3%	-21.3%
2009/2010	2010	46.5%	365.9%	6.2%

* (-) is a decrease and (+) is an increase in percentage difference between years

TABLE 11

Year-to-Year Comparison of Real-time Energy from Demand Resources (Load Curtailments)*

Comparison Years	Compliance Reporting Year	Total Real-time Energy Offered (% Diff)	Total No. of Dispatches	Total Real-time Energy Instructed (% Diff)	Total Real-time Energy Delivered (% Diff)
2007/2008	2008	-25.5%	55.4%	16.1%	1.2%
2008/2009	2009	-55.4%	320.8%	-22.1%	-0.4%
2009/2010	2010	252.2%	-67.1%	-67.4%	-63.2%

* (-) is a decrease and (+) is an increase in percentage difference between years

RETAIL DEMAND RESPONSE PROGRAMS OPERATED BY INVESTOR-OWNED UTILITIES

As has been the case since the First Annual Report, the majority of demand response in California is developed through retail demand response programs that are authorized by the CPUC and funded, designed and operated by the three California IOUs (PG&E, SCE and SDG&E). Demand Response programs and budgets are approved by the CPUC on a rolling three-year program cycle. Program year 2010 was part of the 2009-2011 program cycle.

The IOU demand response programs can generally be classified as one of two types: price-responsive or reliability-based. Price-responsive programs are generally triggered Day Ahead or Day-of, based on non-emergency, price-related triggers. On the other hand, the reliability-based programs are only triggered during emergency conditions, be it a system emergency or a local transmission emergency.

Using August 2010 reported values, the aggregate number of megawatts expected based on CPUC ex-ante and ex-post load impact results in each demand response category (price-responsive and reliability-based), aggregated for the three large IOUs are shown in Table 12 below:

Program Type¹⁰	Ex-Ante	Ex-Post
Price-Responsive	589.7	745.4
Reliability-based ¹¹	1,544.7	750.5
Total:	2,134.4	1,495.9

¹⁰*Pacific Gas and Electric Company Monthly Report on Interruptible Load and Demand Response Programs for November 2010, December 16, 2010, p3.*

Ex Ante Estimated MW = The monthly ex ante average load impact per customer reported in the CPUC annual April 1st D.08-04-050 Compliance Filing multiplied by the number of currently enrolled service accounts for the reporting month, where the ex ante average load impact is the average hourly load impact for an event that would occur from 2 – 6 pm on the system peak day of the month.

Ex Post Estimated MW = the Annual ex post average load impact per customer reported in the CPUC annual April 1st D.08-04-050 Compliance Filing multiplied by the number of currently enrolled service accounts for the reporting month, where the ex post load impact per customer is the average load impact per customer for those customers that may have participated in an event(s) during all actual event hours in the preceding year when or if events occurred. New programs report “n/a” as there were no prior events.

¹¹ As described in footnote 10, under **Ex Post Estimated MW**, the significant difference between the ex-ante and ex-post value of 1,544.7 MW and 750.5 MW is attributed to new programs not having historical data, thus an “n/a” is reported for the megawatt value for new programs.

Triggering Events for IOU Demand Response Programs

In 2010, among the three IOUs, there were a total of eighty (80) event-days from June through October.

Event-days by Month for all Three IOUs

Table 13 reports on event-days by month based on aggregated data compiled from utility monthly reports submitted by the IOUs to the CPUC regarding the operation of their interruptible and demand response programs.¹²

Month	Event-days*
June	2
July	16
August	32
September	28
October	2

**Includes event-days associated with testing certain utility demand response programs, including pilot programs*

For any particular IOU, an event-day may have been occasioned by both a reliability-based and price-responsive triggering event. Over the Reporting Period, sixty-one (61) price-responsive event-days and nineteen (19) reliability-based event-days were called, in total, by the three IOUs. A breakdown, correlating event days by IOU is shown in the tables below.

Demand Response Events, Broken Down by IOU

Multiple events and different demand response program types can be triggered on the same day, but only one event-day is counted in these circumstances. The following event-day data was provided by the utilities to the CPUC on the operation of interruptible and demands response programs:

¹² The information from the period June 2010 through October 2010 is derived from reports submitted to the CPUC by PG&E, SCE and SDG&E. Specifically, the information is taken from the following reports:

- Pacific Gas and Electric Company Monthly Report on Interruptible Load and Demand Response Programs for November 2010, dated December 16, 2010 Event Summary, p.8.
- A.08-06-001-Report of Southern California Edison Company (U338-E) on Interruptible Load Programs and Demand Response Programs, November 22, 2010, 2010 Event Summary pages.
- Report of San Diego Gas & Electric on Interruptible Load and Demand Response Programs for October 2010, dated November 19, 2010, 2010 Event Summary pages.

IOU	Price-Responsive Event-days	Reliability-based Event-days
PG&E	13	12
SCE	34	6
SDG&E	14	1

APPENDIX A to 2010 ANNUAL REPORT

2010 ANNUAL REPORT OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR
EVALUATING ISO DEMAND RESPONSE PARTICIPATION IN THE ISO

Docket No. ER06-615-___

PUBLIC VERSION

REAL TIME ENERGY DISPATCH BY HOURLY EVENT				
Dispatch Event		Data	Hour	
Day	Hour			
█ █	█ █	Real-time Energy Dispatched; (MW)	█	
		RT Energy Delivered; (MW)	█	
		Energy Payment; (\$)	█	
		Hourly Avg. System Load; (MW)	█	
█ █	█ █	Real-time Energy Dispatched; (MW)	█	
		RT Energy Delivered; (MW)	█	
		Energy Payment; (\$)	█	
		Hourly Avg. System Load; (MW)	█	
█ █ █ █ █	█ █	Real-time Energy Dispatched; (MW)	█	
		RT Energy Delivered; (MW)	█	
		Energy Payment; (\$)	█	
		Hourly Avg. System Load; (MW)	█	
	█ █	█ █	Real-time Energy Dispatched; (MW)	█
			RT Energy Delivered; (MW)	█
			Energy Payment; (\$)	█
			Hourly Avg. System Load; (MW)	█
█ █	█ █	Real-time Energy Dispatched; (MW)	█	
		RT Energy Delivered; (MW)	█	
		Energy Payment; (\$)	█	
		Hourly Avg. System Load; (MW)	█	
█ █	█ █	Real-time Energy Dispatched; (MW)	█	
		RT Energy Delivered; (MW)	█	
		Energy Payment; (\$)	█	
		Hourly Avg. System Load; (MW)	█	
█ █	█ █	Real-time Energy Dispatched; (MW)	█	
		RT Energy Delivered; (MW)	█	
█ █	█ █	Real-time Energy Dispatched; (MW)	█	

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		RT Energy Delivered; (MW)	█	
		Energy Payment; (\$)	█	
		Hourly Avg. System Load; (MW)	█	
	█	Real-time Energy Dispatched; (MW)	█	
		RT Energy Delivered; (MW)	█	
		Energy Payment; (\$)	█	
		█	Hourly Avg. System Load; (MW)	█
			Real-time Energy Dispatched; (MW)	█
			RT Energy Delivered; (MW)	█
		█	Energy Payment; (\$)	█
			Hourly Avg. System Load; (MW)	█
			Real-time Energy Dispatched; (MW)	█
		█	RT Energy Delivered; (MW)	█
			Energy Payment; (\$)	█
			Hourly Avg. System Load; (MW)	█
	█	Real-time Energy Dispatched; (MW)	█	
		RT Energy Delivered; (MW)	█	
		Energy Payment; (\$)	█	
		█	Hourly Avg. System Load; (MW)	█
			Real-time Energy Dispatched; (MW)	█
			RT Energy Delivered; (MW)	█
		█	Energy Payment; (\$)	█
			Hourly Avg. System Load; (MW)	█
			Real-time Energy Dispatched; (MW)	█
		█	RT Energy Delivered; (MW)	█
			Energy Payment; (\$)	█
			Hourly Avg. System Load; (MW)	█
	█	Real-time Energy Dispatched; (MW)	█	
		RT Energy Delivered; (MW)	█	
		Energy Payment; (\$)	█	
		█	Hourly Avg. System Load; (MW)	█
			Real-time Energy Dispatched; (MW)	█
			RT Energy Delivered; (MW)	█
		█	Energy Payment; (\$)	█
			Hourly Avg. System Load; (MW)	█
			Real-time Energy Dispatched; (MW)	█
		█	RT Energy Delivered; (MW)	█
			Energy Payment; (\$)	█
			Hourly Avg. System Load; (MW)	█

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[REDACTED]	[REDACTED]	Real-time Energy Dispatched; (MW)	[REDACTED]
	[REDACTED]	RT Energy Delivered; (MW)	[REDACTED]
	[REDACTED]	Energy Payment; (\$)	[REDACTED]
	[REDACTED]	Hourly Avg. System Load; (MW)	[REDACTED]
[REDACTED]	[REDACTED]	Real-time Energy Dispatched; (MW)	[REDACTED]
	[REDACTED]	RT Energy Delivered; (MW)	[REDACTED]
	[REDACTED]	Energy Payment; (\$)	[REDACTED]
	[REDACTED]	Hourly Avg. System Load; (MW)	[REDACTED]
[REDACTED]	[REDACTED]	Real-time Energy Dispatched; (MW)	[REDACTED]
	[REDACTED]	RT Energy Delivered; (MW)	[REDACTED]
	[REDACTED]	Energy Payment; (\$)	[REDACTED]
	[REDACTED]	Hourly Avg. System Load; (MW)	[REDACTED]
[REDACTED]	[REDACTED]	Real-time Energy Dispatched; (MW)	[REDACTED]
	[REDACTED]	RT Energy Delivered; (MW)	[REDACTED]
	[REDACTED]	Energy Payment; (\$)	(\$64.80)
	[REDACTED]	Hourly Avg. System Load; (MW)	[REDACTED]
[REDACTED]	[REDACTED]	Real-time Energy Dispatched; (MW)	[REDACTED]
	[REDACTED]	RT Energy Delivered; (MW)	[REDACTED]
	[REDACTED]	Energy Payment; (\$)	[REDACTED]
	[REDACTED]	Hourly Avg. System Load; (MW)	[REDACTED]
[REDACTED]	[REDACTED]	Real-time Energy Dispatched; (MW)	[REDACTED]
	[REDACTED]	RT Energy Delivered; (MW)	[REDACTED]
	[REDACTED]	Energy Payment; (\$)	[REDACTED]
	[REDACTED]	Hourly Avg. System Load; (MW)	[REDACTED]
[REDACTED]	[REDACTED]	Real-time Energy Dispatched; (MW)	[REDACTED]
	[REDACTED]	RT Energy Delivered; (MW)	[REDACTED]
	[REDACTED]	Energy Payment; (\$)	[REDACTED]
	[REDACTED]	Hourly Avg. System Load; (MW)	[REDACTED]
[REDACTED]	[REDACTED]	Real-time Energy Dispatched; (MW)	[REDACTED]
	[REDACTED]	RT Energy Delivered; (MW)	[REDACTED]
	[REDACTED]	Energy Payment; (\$)	[REDACTED]

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		Hourly Avg. System Load; (MW)	████████
████████	████████	Real-time Energy Dispatched; (MW)	████████
████████	████████	RT Energy Delivered; (MW)	████████
████████	████████	Energy Payment; (\$)	████████
████████	████████	Hourly Avg. System Load; (MW)	████████
████████	████████	Real-time Energy Dispatched; (MW)	████████
████████	████████	RT Energy Delivered; (MW)	████████
████████	████████	Energy Payment; (\$)	████████
████████	████████	Hourly Avg. System Load; (MW)	████████
████████	████████	Real-time Energy Dispatched; (MW)	████████
████████	████████	RT Energy Delivered; (MW)	████████
████████	████████	Energy Payment; (\$)	████████
████████	████████	Hourly Avg. System Load; (MW)	████████
Total Real-time Energy Dispatched; (MW)*			████████
Total RT Energy Delivered; (MW)*			████████
Total Energy Payment; (\$)*			████████

*See Table 3 and Table 4 in the body of the report for detailed information about real-time energy and payment from dispatchable demand resources. For example, as seen in this summary data, the net energy payment made by the ISO to Participating Load resources was \$████████ which can be broken down from Tables 3 and 4 as \$████████ payments to Participating Load resources and \$████████ paid by the Participating Load resources to the ISO.

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon the parties listed on the official service list in the captioned proceeding, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California this 14th day of January, 2011

/s/ Anna Pascuzzo

Anna Pascuzzo