

March 29, 2013

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**Re: California Independent System Operator Corporation
Docket Nos. ER08-1178-____, and EL08-88-____
December 2012 Exceptional Dispatch Report (Chart 2 data)**

Dear Secretary Bose:

Pursuant to the September 2, 2009 and May 4, 2010 orders in the above referenced docket, the California Independent System Operator Corporation submits the attached report. The attached report provides Exceptional Dispatch information that the Commission directed be included in "Chart 2", which was set forth in Appendix A to the September 2 Order, as modified by the Commission's May 4 Order.

The attached report provides Chart 2 data for the month of December 2012. The attached Chart 2 report also includes the price impact analysis for the month of December 2012 required by Paragraph 44 of the September 2 Order as well as the degree of mitigation analysis required by ISO tariff section 34.9.4 for the month of December 2012.

Respectfully submitted,

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Exceptional Dispatch Report

Table 2: December 2012

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Introduction

This report is filed pursuant to FERC's September 2, 2009, and May 4, 2010, orders in ER08-1178. These orders require two monthly Exceptional Dispatch reports—one issued on the 15th of each month and one issued on the 30th of each month. This report provides data on the frequency, reasons and costs for Exceptional Dispatches issued in December 2012.

In addition, this report contains a price impact analysis as prescribed by FERC in its September 2 order. The price impact analysis for the month of December is presented in Appendix B. This report also includes the degree of mitigation analysis for December 2012 required by section 34.9.4 of the ISO tariff. As it has previously explained, the ISO indicated that it would start including the degree of mitigation analysis beginning with the month of August 2009 when the more limited Exceptional Dispatch bid mitigation took effect. This analysis will compare those Exceptional Dispatches subject to bid mitigation (i.e., Exceptional Dispatches to address noncompetitive constraints and Delta Dispatch), and determine the cost difference between the Exceptional Dispatch bid mitigation settlement rules and what the settlement amount would have been had the Exceptional Dispatches not been subject to bid mitigation. The Exceptional Dispatch bid mitigation analysis for December is presented in Appendix C.

The Nature of Exceptional Dispatch

The ISO can issue exceptional dispatch instructions for a resource as a pre-day-ahead unit commitment, a post day-ahead unit commitment or a real-time exceptional dispatch. A pre-day-ahead unit commitment is an exceptional dispatch instruction committing a resource at or above its physical minimum (Pmin) operating level in the day-ahead market. A post-day-ahead unit commitment is an exceptional dispatch instruction committing a resource at or above its (Pmin) operating level in the real-time market. A real-time exceptional dispatch instructs a resource to operate at or above its physical minimum operating point. For the purposes of this report, a real-time exceptional dispatch above the resource's day-ahead award is considered an incremental exceptional dispatch instruction and a real-time exceptional dispatch below the day-ahead award is considered a decremental dispatch instruction. The ISO issues exceptional dispatch instructions primarily to manage transmission constraints that are not modeled in the market software. In addition to constraints, the ISO also issues exceptional dispatch instructions relating to reliability requirements and, on occasion, software failures. Reliability requirements are calculated for both local area and the system wide needs, and are classified into various requirements including local generation, transmission management, non-modeled transmission outages, ramping and intertie emergency assistance. Whenever the ISO issues an exceptional dispatch instruction, these instructions are logged by the operators into the scheduling and logging system (SLIC), including an associated reason for each exceptional dispatch instruction.

In December 2012, the ISO issued exceptional dispatches for the following generation and transmission operating requirement: (1) Operating procedure 7630, SCE area generation requirements; (2) Operating procedure 6510, Southern California import transmission (SCIT) nomogram; (3) Operating procedure 6610, Lugo-Victorville 500 kV Line and Sylmar Transformer Banks Operation; (4) Operating procedure 7110, transmission facilities in Humboldt area; (5) Operating procedure 7320, transmission facilities in Bay Area; (6) Operating procedure 7720, Julian Hinds-Mirage 230 kV line overload mitigation & Eagle Mountain bank emergency mitigation; and (7) other transmission outages in PG&E, SCE and SDG&E area.

Most of the generation procedures are internal to the ISO and not available publicly on the ISO website; however, all of the transmission procedures are available on the ISO website.¹

The following additional reasons for exceptional dispatch instructions in December 2012 were not related to specific generation or transmission operating procedures: (1) Software Limitation, when an exceptional dispatch instruction was used to bridge schedules across days for resources with a minimum down time of 24 hours, as the ISO software does not handle multi day commitment. For instance, a resource has a day-ahead schedule from 0600 till 2300, and then is shut down in 2400. If this resource had a minimum down time of 24 hours and it is required the following day, then the ISO issues an exceptional dispatch to commit this resource in 2400 so that it can be dispatched economically in the following day. Software limitation reason was also used for exceptional dispatches to manually issue shut down instructions to a resource because of a temporary Automatic Dispatch System (“ADS”) failure, or similar issues; and (2) Market Disruption, when the exceptional dispatch instructions were issued due to HASP failures. There were a few other reasons used to explain exceptional dispatch instructions in December, which are self explanatory.

As mentioned earlier, the data shown in Table 1 is based on a template specified in the September 2009 order.² This table contains all the information published in Table 1 of the first report for December. In addition, it contains volume (MWh) and cost information. Each entry in Table 1 is a summary of exceptional dispatches classified by (1) the reason for the exceptional dispatch; (2) the location of the resource by Participating Transmission Owner (PTO) service area; (3) the Local Reliability Area (LRA) where applicable; (4) the market in which the exceptional dispatch occurred (day-ahead vs. real-time); and (5) the date of the

¹ A list of all of the ISO’s Operating Procedures and all the publicly available Operating Procedures are available at the following link:
<http://www.caiso.com/thegrid/operations/opsdoc/index.html>

² The data in Table 1 is principally SLIC information supplemented with data from the Market Quality System (MQS) and Settlements database. The volume and cost information is based on t+51B Recalculation Statements.

exceptional dispatch. For each classification the following information is provided: (1) Megawatts (MW); (2) Commitment; (3) Inc or Dec; (4) Hours; (5) Begin Time; (6) End Time; (7) Total Volume (MWh); (8) Min Load Cost; (9) Start Up Cost; (10) CC6470; (11) ED Volume (MWh INC/DEC); (12) CC6470 INC; (13) CC6470 DEC; (14) CC6482; (15) CC6488; and (16) CC6620. Each column is defined as follows:

- The MW column shows the range of exceptional dispatch instruction in MW for the classification.
- The Commitment column specifies if there was a unit commitment for the classification.
- The INC/DEC/NA column specifies if there was an incremental dispatch (INC), a decremental dispatch (DEC), or only a unit commitment (NA). The Begin Time and End Time columns show the start and end time of exceptional dispatch for the classification respectively.
- The Hours column is the time difference between begin time and end time rounded up to the next hour.
- The total volume column shows the total MWh dispatch quantity dispatched for that classification. This quantity includes the minimum load quantity, the imbalance energy quantity, and the exceptional dispatch quantity.
- The Min-Load Cost column shows eligible minimum load cost for the classification.
- The Start-Up Cost column shows the eligible start up cost for the classification. Please note that the ISO does not explicitly pay resources for its start up and minimum load costs; however, it ensures that resources are compensated adequately through its bid cost recovery process.³
- The CC6470 column shows the total imbalance energy costs for the classification. This cost contains the portion of exceptional dispatch instruction that was settled as optimal energy by virtue of its bid price being less than the LMP in that specific settlement interval.
- The ED Volume MWh (MWh INC/DEC) column shows the incremental or the decremental portion of the real-time exceptional dispatch MWh for the classification. The CC6470-INC shows that portion of incremental exceptional dispatch instruction which is settled at the resource specific LMP.
- The CC6470-DEC column shows that portion of decremental exceptional dispatch instruction which is settled at the resource specific LMP. Both of these charge codes are a portion of the real-time instructed imbalance energy charge code (6470).⁴

³ For further details regarding the Bid Cost Recovery process please refer to section 11.8 of the ISO tariff.

⁴ For further details please refer to the BPM configuration Guide: Real-Time Instructed Imbalance Energy Settlement published on the ISO's website.

- The CC6482 column shows the real-time excess cost for the classification.⁵
- The CC6488 column shows the real-time exceptional dispatch uplift settlement for the classification.⁶ The CC6620 shows the bid cost recovery payment for the classification. This cost is shown for all pre-day-ahead unit commitments only.

Charge codes 6470, 6470 INC, 6470 DEC, 6482 and 6488 are shown in Table 1 because all of these charge codes pertain to real-time exceptional dispatch MWH quantities. The classification of data is further explained by way of example in Attachment A. There is no Capacity Procurement Mechanism (CPM) designation issued on Exceptional Dispatch for December 2012.

⁵ For further details please refer to the BPM configuration Guide: Real Time Excess Cost for Instructed Energy Settlement published on the ISO's website.

⁶ For further details please refer to the BPM configuration Guide: Real Time Exceptional Dispatch Uplift Settlement published on the ISO's website.

Table 1: Exceptional Dispatches in December 2012

**California Independent System Operator Corporation
Exceptional Dispatch Report
March 29, 2013**

Chart 2: Table of Exceptional Dispatches for Period 01/December/2012 - 31/December/2012

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load Cost	Start Up Cost	CC6470	ED MWH(INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
1	RT	6510	SCE	Big Creek-Ventura	19-Dec-12	20- 50	Yes	INC	11	10:45	20:59	993.88	\$20,246	\$0	(\$185,602)	58	(\$2,261)	\$0	(\$590)	\$0	\$0
2	RT	6510	SCE	Big Creek-Ventura	28-Dec-12	100	Yes	INC	14	7:40	20:59	1337.78	\$0	\$0	(\$42,651)	797	(\$25,390)	\$0	(\$22,503)	\$0	\$0
3	RT	6510	SCE	LA Basin	11-Dec-12	161	No	DEC	6	15:10	20:59	-720.26	\$0	\$0	\$27,135	-54	\$0	\$2,502	\$0	\$0	\$0
4	RT	6510	SCE	LA Basin	11-Dec-12	190	Yes	INC	6	15:10	20:59	1525.60	\$0	\$0	(\$76,559)	652	(\$17,995)	\$0	\$0	\$0	\$0
5	RT	6510	SCE	LA Basin	14-Dec-12	25- 71	Yes	INC	24	0:00	23:59	1317.71	\$96,723	\$0	(\$45,511)	529	(\$16,823)	\$0	(\$8,766)	\$0	\$0
6	RT	6510	SCE	LA Basin	15-Dec-12	20	Yes	INC	24	0:00	23:59	1010.25	\$53,236	\$23,423	(\$58,568)	0	(\$7)	\$0	(\$3)	\$0	\$0
7	RT	6510	SCE	LA Basin	18-Dec-12	262-530	Yes	DEC	15	6:45	20:59	-637.88	\$0	\$0	\$19,628	-69	\$0	\$2,429	\$0	\$0	\$0
8	RT	6510	SCE	LA Basin	18-Dec-12	20- 290	Yes	INC	18	6:40	23:59	3814.15	\$64,445	\$0	(\$432,865)	1318	(\$49,774)	\$0	(\$9,930)	\$0	\$0
9	RT	6510	SCE	LA Basin	19-Dec-12	2- 142	Yes	DEC	14	7:00	20:59	78.43	\$0	\$0	(\$14,643)	-49	\$0	\$0	\$0	\$0	\$0
10	RT	6510	SCE	LA Basin	19-Dec-12	170	Yes	INC	14	7:00	20:59	1182.29	\$0	\$0	(\$326,626)	69	(\$2,668)	\$0	(\$585)	\$0	\$0
11	RT	6510	SCE	LA Basin	28-Dec-12	141	Yes	INC	14	7:30	20:59	2014.80	\$0	\$0	(\$66,108)	1184	(\$37,093)	\$0	(\$23,890)	\$0	\$0
12	RT	6510	SDG&E	San Diego	6-Dec-12	20	No	INC	24	0:00	23:59	1671.47	\$121,045	\$0	(\$40,989)	0	\$0	\$0	\$0	\$0	\$0
13	RT	6510	SDG&E	San Diego	14-Dec-12	20- 40	Yes	INC	24	0:00	23:59	514.55	\$50,465	\$0	(\$15,981)	0	(\$7)	\$0	(\$3)	\$0	\$0
14	RT	6510	SDG&E	San Diego	19-Dec-12	20	No	INC	5	11:50	15:24	69.94	\$8,170	\$14,913	(\$4,580)	0	(\$1)	\$0	(\$0)	\$0	\$0
15	RT	6510	SDG&E	San Diego-IV	14-Dec-12	20- 40	Yes	INC	24	0:00	23:59	503.43	\$49,332	\$0	(\$15,343)	0	(\$7)	\$0	(\$4)	\$0	\$0
16	RT	6610	SCE	LA Basin	18-Dec-12	160-180	Yes	INC	24	0:00	23:59	4114.56	\$127,476	\$0	(\$64,115)	0	(\$2)	\$0	(\$3)	\$0	\$0
17	RT	7110	PG&E	Humboldt	1-Dec-12	73- 140	No	INC	23	0:00	22:59	1879.6	\$29,132	\$0	(\$55,85	338	(\$9,880)	\$228	\$0	(\$960)	\$0

Department of Market Quality and Renewable Integration – California ISO

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load Cost	Start Up Cost	CC6470	ED MWH(INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
												6			9)						
18	RT	7110	PG&E	Humboldt	2-Dec-12	48	No	INC	8	16:40	23:59	-28.99	\$827	\$0	\$2,559	5	(\$266)	\$46	\$0	(\$1)	\$0
19	RT	7110	PG&E	Humboldt	12-Dec-12	58- 88	No	INC	7	14:00	20:59	6.94	\$825	\$0	(\$1,552)	4	(\$147)	\$66	\$0	(\$70)	\$0
20	RT	7110	PG&E	Humboldt	20-Dec-12	15- 122	No	INC	17	7:30	23:59	746.53	\$3,730	\$0	(\$20,285)	247	(\$6,876)	\$0	\$0	(\$465)	\$0
21	RT	7110	PG&E	Humboldt	21-Dec-12	91- 122	No	INC	24	0:00	23:59	1183.20	\$13,976	\$0	(\$31,534)	385	(\$10,327)	\$296	\$0	(\$3,318)	\$0
22	RT	7110	PG&E	Humboldt	22-Dec-12	76- 120	No	INC	24	0:00	23:59	1224.80	\$49,945	\$0	(\$25,137)	273	(\$5,795)	\$0	\$0	(\$6,361)	\$0
23	RT	7110	PG&E	Humboldt	23-Dec-12	75- 105	No	INC	24	0:00	23:59	1167.98	\$19,494	\$0	(\$36,531)	265	(\$8,163)	\$36	\$0	(\$2,091)	\$0
24	RT	7110	PG&E	Humboldt	24-Dec-12	75- 120	No	INC	24	0:00	23:59	1104.14	\$24,100	\$0	(\$60,101)	327	(\$14,319)	\$0	\$0	(\$2,293)	\$0
25	RT	7110	PG&E	Humboldt	25-Dec-12	75- 90	No	INC	24	0:00	23:59	737.97	\$2,234	\$0	(\$24,674)	147	(\$5,660)	\$833	\$0	(\$1,395)	\$0
26	RT	7110	PG&E	Humboldt	26-Dec-12	75- 104	No	INC	24	0:00	23:58	655.67	\$3,552	\$0	(\$23,557)	117	(\$5,524)	\$950	\$0	(\$931)	\$0
27	RT	7110	PG&E	Humboldt	27-Dec-12	75- 119	No	INC	21	0:00	20:25	957.04	\$3,592	\$0	(\$27,868)	246	(\$7,197)	\$0	\$0	(\$618)	\$0
28	RT	7110	SCE	LA Basin	21-Dec-12	0	Yes	INC	2	0:00	1:39	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
29	RT	7320	PG&E	Bay Area	29-Dec-12	20	Yes	INC	4	18:20	21:29	136.91	\$1,775	\$0	(\$8,611)	0	\$0	\$0	\$0	\$0	\$0
30	RT	7320	PG&E	Bay Area	31-Dec-12	19- 37	No	INC	3	17:28	19:59	81.50	\$5,738	\$866	(\$2,233)	0	(\$1)	\$0	\$0	(\$0)	\$0
31	RT	7630	PG&E	N/A	6-Dec-12	180	Yes	INC	1	3:05	3:59	15.00	\$0	\$0	(\$452)	0	(\$0)	\$0	\$0	\$0	\$0
32	RT	7630	SCE	LA Basin	4-Dec-12	25- 71	Yes	INC	18	6:25	23:59	955.44	\$74,557	\$22,025	(\$46,294)	316	(\$12,510)	\$0	(\$7,078)	\$0	\$0
33	RT	7630	SCE	LA Basin	6-Dec-12	182	No	DEC	3	20:23	22:59	-450.75	\$0	\$0	\$5,340	-371	\$0	\$7,015	\$0	\$0	\$0
34	RT	7630	SCE	LA Basin	6-Dec-12	47- 600	Yes	INC	2	20:24	21:59	-65.12	\$2,202	\$0	\$3,731	-4	(\$1)	\$115	(\$1)	\$0	\$0
35	RT	7630	SCE	LA Basin	7-Dec-12	20	Yes	INC	16	8:00	23:59	330.79	\$29,576	\$17,106	(\$10,231)	0	(\$3)	\$0	(\$2)	\$0	\$0
36	RT	7630	SCE	LA Basin	19-Dec-12	46	No	DEC	4	18:10	21:06	-128.42	\$0	\$0	\$2,253	-128	\$0	\$2,249	\$0	(\$53)	\$0
37	RT	7630	SCE	LA Basin	19-Dec-12	46	Yes	INC	4	18:10	21:06	18.50	\$1,096	\$84	(\$4,621)	0	\$0	\$0	\$0	\$0	\$0
38	RT	7630	SCE	LA Basin	20-Dec-12	20- 190	Yes	INC	24	0:00	23:59	3364.03	\$89,232	\$0	(\$100,544)	2483	(\$64,586)	\$0	(\$36,127)	\$0	\$0
39	RT	7720	SCE	N/A	10-Dec-12	410	No	INC	8	15:42	22:59	21.71	\$0	\$0	(\$436)	2	(\$123)	\$116	\$0	(\$53)	\$0
40	RT	7720	SCE	N/A	12-Dec-12	410	No	INC	10	13:40	22:59	-42.99	\$1,098	\$0	(\$36,010)	-140	\$0	\$4,465	\$0	(\$5,395)	\$0

Department of Market Quality and Renewable Integration – California ISO

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load Cost	Start Up Cost	CC6470	ED MWH(INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
41	RT	Bridging Schedules	PG&E	Bay Area	14-Dec-12	45	Yes	INC	2	22:00	23:59	90.00	\$5,293	\$0	(\$2,313)	0	\$0	\$0	\$0	\$0	\$0
42	RT	Bridging Schedules	SCE	LA Basin	3-Dec-12	20	No	INC	2	22:00	23:59	155.41	\$0	\$0	(\$6,382)	0	(\$1)	\$0	\$0	\$0	\$0
43	RT	Bridging Schedules	SCE	LA Basin	4-Dec-12	20	Yes	INC	2	22:00	23:59	92.36	\$5,613	\$0	(\$3,109)	0	(\$1)	\$0	\$0	\$0	\$0
44	RT	Bridging Schedules	SCE	LA Basin	14-Dec-12	20	No	INC	2	22:00	23:59	39.19	\$0	\$0	(\$1,024)	0	(\$1)	\$0	\$0	\$0	\$0
45	RT	Bridging Schedules	SDG&E	San Diego-IV	4-Dec-12	20	Yes	INC	3	21:00	23:59	59.17	\$5,849	\$0	(\$1,869)	0	\$0	\$0	\$0	\$0	\$0
46	RT	COI Mitigation	PG&E	Fresno	2-Dec-12	150-404	Yes	INC	1	20:10	20:17	60.37	\$1,947	\$0	(\$24,717)	17	(\$6,791)	\$0	\$0	\$0	\$0
47	RT	COI Mitigation	PG&E	Fresno	15-Dec-12	140	Yes	INC	1	21:18	21:22	7.85	\$0	\$0	(\$2,879)	0	\$0	\$0	\$0	\$0	\$0
48	RT	Conditions beyond control of the CAISO BA	PG&E	Bay Area	4-Dec-12	45	Yes	INC	16	8:00	23:59	1591.98	\$81,840	\$18,452	(\$80,657)	0	\$0	\$0	\$0	\$0	\$0
49	RT	Conditions beyond control of the CAISO BA	PG&E	Bay Area	5-Dec-12	45	Yes	INC	24	0:00	23:59	1096.08	\$112,530	\$0	(\$25,951)	0	\$0	\$0	\$0	\$0	\$0
50	RT	Conditions beyond control of the CAISO BA	PG&E	Bay Area	12-Dec-12	45	Yes	INC	15	9:00	23:59	1228.97	\$78,870	\$14,832	(\$74,393)	0	\$0	\$0	\$0	\$0	\$0
51	RT	Conditions beyond control of the CAISO BA	PG&E	Bay Area	13-Dec-12	45- 135	Yes	INC	21	3:00	23:59	3684.50	\$211,434	\$45,367	(\$150,396)	0	\$0	\$0	\$0	\$0	\$0
52	RT	Conditions beyond control of the CAISO BA	PG&E	N/A	27-Dec-12	180	Yes	INC	16	8:00	23:59	2976.38	\$215,520	\$0	(\$95,594)	0	(\$4)	\$0	(\$7)	\$0	\$0
53	RT	Conditions beyond control of the CAISO BA	SCE	LA Basin	4-Dec-12	25	Yes	INC	1	6:00	6:59	45.03	\$4,030	\$1,191	(\$1,074)	19	(\$508)	\$0	(\$630)	\$0	\$0
54	RT	Conditions beyond control of the CAISO BA	SCE	LA Basin	12-Dec-12	20	Yes	INC	24	0:00	23:59	1928.08	\$0	\$0	(\$94,143)	0	\$0	\$0	\$0	\$0	\$0
55	RT	Conditions beyond control of the CAISO BA	SCE	LA Basin	13-Dec-12	20- 45	Yes	INC	9	0:00	8:34	399.09	\$2,687	\$893	(\$19,631)	0	\$0	\$0	\$0	\$0	\$0
56	RT	Conditions beyond control of the CAISO BA	SCE	N/A	6-Dec-12	80	Yes	INC	8	16:00	23:59	861.44	\$68,902	\$0	(\$36,350)	0	(\$2)	\$0	(\$1)	\$0	\$0
57	RT	Conditions beyond control of the CAISO BA	SCE	N/A	7-Dec-12	80	Yes	INC	24	0:00	23:59	4270.22	\$137,309	\$4,566	(\$133,630)	0	(\$4)	\$0	(\$1)	\$0	\$0
58	RT	Conditions beyond control of the CAISO BA	SDG&E	San Diego	1-Dec-12	20	No	INC	22	2:00	23:59	1736.96	\$87,521	\$0	(\$107,578)	0	\$0	\$0	\$0	\$0	\$0
59	RT	Conditions beyond control of the CAISO BA	SDG&E	San Diego-IV	1-Dec-12	20	No	INC	22	2:00	23:59	1362.73	\$73,258	\$0	(\$77,421)	0	\$0	\$0	\$0	\$0	\$0
60	RT	Conditions beyond control of the CAISO BA	SDG&E	San Diego-IV	13-Dec-12	20	Yes	INC	24	0:00	23:59	701.54	\$43,805	\$0	(\$31,678)	0	\$0	\$0	\$0	\$0	\$0
61	RT	Contingency	PG&E	Fresno	12-Dec-12	57- 257	Yes	INC	1	8:15	8:32	48.70	\$0	\$0	(\$1,419)	46	(\$1,344)	\$0	(\$187)	\$0	\$0

Department of Market Quality and Renewable Integration – California ISO

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load Cost	Start Up Cost	CC6470	ED MWH(INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
)						
62	RT	Contingency	PG&E	Fresno	20-Dec-12	30	No	INC	1	8:46	8:56	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
63	RT	Generation Outage	PG&E	Bay Area	14-Dec-12	45	Yes	INC	24	0:00	23:59	1206.54	\$126,192	\$0	(\$35,649)	0	\$0	\$0	\$0	\$0	\$0
64	RT	Intertie Emergency Assistance	Intertie	N/A	12-Dec-12	100	No	INC	2	13:43	14:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
65	RT	Market Disruption	Intertie	N/A	3-Dec-12	140	Yes	INC	1	12:00	12:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
66	RT	Market Disruption	Intertie	N/A	4-Dec-12	76	No	DEC	1	16:00	16:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
67	RT	Market Disruption	Intertie	N/A	4-Dec-12	730	Yes	INC	1	16:00	16:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
68	RT	Market Disruption	Intertie	N/A	21-Dec-12	60	Yes	INC	1	11:00	11:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
69	RT	Over Generation	SCE	LA Basin	5-Dec-12	600	No	INC	1	4:10	4:41	-168.18	\$0	\$0	(\$5,509)	-107	\$0	(\$3,302)	\$0	\$0	\$0
70	RT	Over Generation	SDG&E	San Diego	6-Dec-12	160	No	INC	3	0:42	2:27	25.30	\$0	\$0	\$739	4	\$111	\$0	(\$210)	\$0	\$0
71	RT	Over Generation	SDG&E	San Diego-IV	6-Dec-12	160	No	INC	3	0:42	2:27	6.03	\$0	\$0	(\$138)	2	(\$45)	\$0	(\$7)	\$0	\$0
72	RT	Path 26	SCE	LA Basin	12-Dec-12	146	No	DEC	6	14:50	19:59	-57.70	\$0	\$0	(\$84)	-60	\$0	\$0	\$0	\$0	\$0
73	RT	Path 26	SCE	LA Basin	12-Dec-12	190-240	Yes	INC	6	14:50	19:59	1250.27	\$0	\$0	(\$80,302)	15	(\$643)	\$0	\$0	\$0	\$0
74	RT	Path 26	SCE	LA Basin	13-Dec-12	45- 261	Yes	INC	16	8:30	23:59	4706.48	\$62,467	\$20,760	(\$236,399)	1556	(\$61,625)	\$0	(\$5,208)	\$0	\$0
75	RT	Path 26	SDG&E	San Diego	12-Dec-12	44	Yes	INC	3	17:20	19:59	43.79	\$2,806	\$267	(\$2,812)	5	(\$267)	\$0	(\$95)	\$0	\$0
76	RT	Path 26	SDG&E	San Diego-IV	12-Dec-12	44- 46	Yes	INC	4	16:51	19:59	88.71	\$5,611	\$533	(\$3,371)	10	(\$398)	\$0	(\$244)	\$0	\$0
77	RT	Ramp Rate	PG&E	Bay Area	10-Dec-12	0- 324	Yes	DEC	6	15:30	20:59	-51.86	\$0	\$0	\$1,127	-18	\$0	\$752	\$0	\$0	\$0
78	RT	Ramp Rate	PG&E	Bay Area	10-Dec-12	6- 16	Yes	INC	6	15:30	20:59	59.60	\$0	\$0	(\$1,643)	41	(\$1,114)	\$0	(\$586)	\$0	\$0
79	RT	Ramp Rate	SCE	LA Basin	10-Dec-12	14- 530	Yes	DEC	16	6:40	21:59	1077.29	\$0	\$0	\$24,276	-157	\$0	\$3,825	\$0	\$0	\$0
80	RT	Ramp Rate	SCE	LA Basin	10-Dec-12	30- 100	Yes	INC	16	6:40	21:59	366.90	\$0	\$0	(\$24,951)	141	(\$5,342)	\$0	(\$1,114)	\$0	\$0
81	RT	Ramp Rate	SCE	LA Basin	11-Dec-12	29- 265	No	DEC	6	15:25	20:59	-41.45	\$0	\$0	\$1,617	-30	\$0	\$1,041	\$0	\$0	\$0
82	RT	Ramp Rate	SCE	LA Basin	11-Dec-12	36	No	INC	6	15:25	20:59	19.29	\$0	\$0	(\$440)	18	(\$411)	\$0	(\$370)	\$0	\$0
83	RT	SCE Import Limit	SCE	LA Basin	9-Dec-12	71	Yes	INC	4	16:25	19:59	407.68	\$0	\$0	(\$88,351)	100	(\$4,442)	\$0	\$0	\$0	\$0
84	RT	SCE Import Limit	SCE	LA Basin	30-Dec-12	20	Yes	INC	17	7:00	23:59	155.00	\$11,830	\$23,423	(\$4,160)	0	\$0	\$0	\$0	\$0	\$0
85	RT	Software Limitation	PG&E	Bay Area	4-Dec-12	112-	No	INC	2	14:42	15:17	96.46	\$0	\$0	(\$3,836)	22	(\$827)	\$0	\$0	\$0	\$0

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Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load Cost	Start Up Cost	CC6470	ED MWH(INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
						120)						
86	RT	Software Limitation	PG&E	Bay Area	10-Dec-12	185	No	DEC	1	8:00	8:59	-172.14	\$0	\$0	\$1,534	-146	\$0	\$538	\$0	\$0	\$0
87	RT	Software Limitation	PG&E	Bay Area	22-Dec-12	0	No	INC	1	0:00	0:59	42.87	\$0	\$0	(\$1,129)	0	\$0	\$0	\$0	\$0	\$0
88	RT	Software Limitation	PG&E	Fresno	3-Dec-12	83	Yes	INC	4	13:22	16:59	298.83	\$21,421	\$367	(\$9,082)	0	(\$1)	\$0	\$0	\$0	\$0
89	RT	Software Limitation	PG&E	Fresno	4-Dec-12	0	Yes	INC	2	18:45	19:44	4.08	\$0	\$131	(\$182)	0	\$0	\$0	\$0	\$0	\$0
90	RT	Software Limitation	PG&E	Fresno	8-Dec-12	0	Yes	INC	2	21:45	22:44	2.92	\$0	\$26	(\$92)	0	\$0	\$0	\$0	\$0	\$0
91	RT	Software Limitation	PG&E	Fresno	10-Dec-12	0	Yes	INC	1	11:00	11:59	0.00	\$0	\$63	(\$0)	0	\$0	\$0	\$0	\$0	\$0
92	RT	Software Limitation	PG&E	Fresno	19-Dec-12	315	Yes	INC	1	0:00	0:29	144.38	\$0	\$0	(\$4,684)	0	\$0	\$0	\$0	\$0	\$0
93	RT	Software Limitation	PG&E	Fresno	22-Dec-12	315	Yes	DEC	1	23:40	23:58	-104.25	\$0	\$0	\$2,061	0	\$0	\$0	\$0	\$0	\$0
94	RT	Software Limitation	PG&E	Fresno	23-Dec-12	315	Yes	DEC	2	0:00	1:59	-595.31	\$0	\$0	\$10,358	0	\$0	\$0	\$0	\$0	\$0
95	RT	Software Limitation	PG&E	Fresno	31-Dec-12	5	No	INC	1	0:00	0:59	-4.37	\$0	\$0	\$81	0	\$0	\$0	\$0	\$0	\$0
96	RT	Software Limitation	PG&E	Humboldt	2-Dec-12	44- 58	No	INC	6	18:49	23:58	-1.86	\$620	\$94	\$728	5	(\$246)	\$46	\$0	\$0	\$0
97	RT	Software Limitation	PG&E	Humboldt	3-Dec-12	15- 30	No	INC	24	0:00	23:58	17.33	\$0	\$0	(\$585)	5	(\$224)	\$0	\$0	\$0	\$0
98	RT	Software Limitation	PG&E	N/A	4-Dec-12	60	No	INC	2	14:42	15:17	71.22	\$0	\$0	(\$2,807)	12	(\$444)	\$0	\$0	\$0	\$0
99	RT	Software Limitation	PG&E	N/A	25-Dec-12	0	Yes	INC	1	23:45	23:59	13.51	\$971	\$0	(\$413)	0	\$0	\$0	\$0	\$0	\$0
100	RT	Software Limitation	PG&E	N/A	26-Dec-12	0	No	INC	4	0:00	3:44	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
101	RT	Software Limitation	SCE	Big Creek-Ventura	3-Dec-12	0	Yes	INC	2	21:45	22:14	0.85	\$0	\$71	(\$39)	0	\$0	\$0	\$0	\$0	\$0
102	RT	Software Limitation	SCE	Big Creek-Ventura	7-Dec-12	0	Yes	INC	1	23:15	23:44	0.85	\$399	\$0	(\$44)	0	\$0	\$0	\$0	\$0	\$0
103	RT	Software Limitation	SCE	Big Creek-Ventura	16-Dec-12	0	Yes	INC	2	22:30	23:29	0.00	\$0	\$0	(\$0)	0	\$0	\$0	\$0	\$0	\$0
104	RT	Software Limitation	SCE	Big Creek-Ventura	19-Dec-12	0	Yes	INC	2	22:40	23:09	0.00	\$0	\$44	(\$0)	0	\$0	\$0	\$0	\$0	\$0
105	RT	Software Limitation	SCE	Big Creek-Ventura	28-Dec-12	0	Yes	INC	1	8:30	8:59	0.00	\$0	\$0	(\$0)	0	\$0	\$0	\$0	\$0	\$0
106	RT	Software Limitation	SCE	Big Creek-Ventura	29-Dec-12	0	Yes	INC	2	18:35	19:04	0.85	\$420	\$53	(\$29)	0	\$0	\$0	\$0	\$0	\$0
107	RT	Software Limitation	SCE	LA Basin	1-Dec-12	0	Yes	INC	2	21:45	22:44	3.91	\$0	\$0	(\$116)	0	\$0	\$0	\$0	\$0	\$0
108	RT	Software Limitation	SCE	LA Basin	2-Dec-12	47	No	DEC	2	17:30	18:29	-47.00	\$0	\$0	\$1,809	-47	\$0	\$1,809	\$0	\$0	\$0
109	RT	Software Limitation	SCE	LA Basin	3-Dec-12	0	Yes	INC	2	21:45	22:44	3.83	\$0	\$0	(\$172)	0	\$0	\$0	\$0	\$0	\$0
110	RT	Software Limitation	SCE	LA Basin	6-Dec-12	0	Yes	INC	2	22:55	23:54	3.91	\$0	\$0	(\$50)	0	\$0	\$0	\$0	\$0	\$0
111	RT	Software Limitation	SCE	LA Basin	13-Dec-12	0	Yes	INC	2	21:10	22:09	0.00	\$363	\$0	(\$0)	0	\$0	\$0	\$0	\$0	\$0
112	RT	Software Limitation	SCE	LA Basin	20-Dec-12	0	Yes	INC	1	23:40	23:59	0.00	\$0	\$0	(\$0)	0	\$0	\$0	\$0	\$0	\$0

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Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load Cost	Start Up Cost	CC6470	ED MWH(INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
113	RT	Software Limitation	SCE	LA Basin	22-Dec-12	0	Yes	INC	2	1:30	2:29	0.00	\$0	\$58	(\$0)	0	\$0	\$0	\$0	\$0	\$0
114	RT	Software Limitation	SCE	N/A	14-Dec-12	226	No	INC	2	21:40	22:59	9.31	\$0	\$0	(\$214)	0	(\$2)	\$0	\$0	\$0	\$0
115	RT	Software Limitation	SDG&E	San Diego	1-Dec-12	75	Yes	INC	13	8:00	20:59	345.05	\$16,178	\$373	(\$12,505)	24	(\$1,007)	\$0	\$0	\$0	\$0
116	RT	Software Limitation	SDG&E	San Diego	4-Dec-12	300	No	INC	2	14:51	15:19	-10.90	\$0	\$0	\$231	-13	\$0	\$303	\$0	\$0	\$0
117	RT	Software Limitation	SDG&E	San Diego	12-Dec-12	300-325	No	INC	1	13:09	13:29	-86.10	\$0	\$0	\$1,121	-31	\$0	\$0	\$0	\$0	\$0
118	RT	Software Limitation	SDG&E	San Diego-IV	1-Dec-12	23	Yes	DEC	6	15:10	20:59	4.01	\$0	\$0	(\$170)	0	\$0	\$0	\$0	\$0	\$0
119	RT	Software Limitation	SDG&E	San Diego-IV	1-Dec-12	25- 75	Yes	INC	9	12:25	20:59	332.54	\$13,559	\$0	(\$13,020)	1	(\$38)	\$0	\$0	\$0	\$0
120	RT	Software Limitation	SDG&E	San Diego-IV	4-Dec-12	300	No	INC	2	14:51	15:19	-40.87	\$0	\$0	\$1,152	-31	\$0	\$820	\$0	\$0	\$0
121	RT	Software Limitation	SDG&E	San Diego-IV	19-Dec-12	0	No	INC	1	23:05	23:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
122	RT	Stranded A/S or RUC	SCE	LA Basin	6-Dec-12	53	No	DEC	4	13:15	16:59	-7.03	\$0	\$0	\$172	-4	\$0	\$0	\$0	\$0	\$0
123	RT	Stranded A/S or RUC	SCE	LA Basin	6-Dec-12	1	No	INC	4	13:15	16:59	11.03	\$0	\$0	(\$5)	3	(\$40)	\$0	(\$43)	\$0	\$0
124	RT	System Energy	Intertie	N/A	1-Dec-12	300	Yes	INC	1	16:00	16:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
125	RT	System Energy	Intertie	N/A	7-Dec-12	96	Yes	INC	2	2:00	3:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
126	RT	System Energy	Intertie	N/A	12-Dec-12	425	Yes	INC	1	16:00	16:59	25.00	\$0	\$0	(\$429)	25	(\$429)	\$0	(\$1,046)	\$0	\$0
127	RT	System Energy	Intertie	N/A	19-Dec-12	100	Yes	INC	1	16:00	16:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
128	RT	System Energy	Intertie	N/A	27-Dec-12	119	No	DEC	1	6:00	6:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
129	RT	System Energy	Intertie	N/A	27-Dec-12	200	Yes	INC	1	6:00	6:59	-275.00	\$0	\$0	\$821	-275	\$0	\$821	\$0	\$0	\$0
130	RT	System Energy	Intertie	N/A	31-Dec-12	160	No	DEC	1	17:00	17:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
131	RT	System Energy	Intertie	N/A	31-Dec-12	300	Yes	INC	1	17:00	17:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
132	RT	System Load	SCE	Big Creek-Ventura	8-Dec-12	50	Yes	INC	4	16:05	19:59	198.47	\$0	\$0	(\$7,792)	85	(\$3,166)	\$0	(\$1,642)	\$0	\$0
133	RT	System Load	SCE	LA Basin	7-Dec-12	70	Yes	INC	7	15:30	21:59	587.57	\$19,224	\$11,119	(\$22,671)	275	(\$9,894)	\$0	(\$2,750)	\$0	\$0
134	RT	System Load	SCE	LA Basin	10-Dec-12	190	Yes	INC	6	15:15	20:59	1080.45	\$0	\$0	(\$41,120)	711	(\$22,288)	\$0	\$0	\$0	\$0
135	RT	System Load	SDG&E	San Diego	3-Dec-12	20- 131	No	INC	24	0:00	23:59	2325.64	\$97,682	\$0	(\$157,589)	0	(\$5)	\$0	(\$2)	\$0	\$0
136	RT	System Load	SDG&E	San Diego	19-Dec-12	20- 63	No	INC	9	15:25	23:59	1454.10	\$71,932	\$3,906	(\$249,815)	0	(\$3)	\$0	(\$0)	\$0	\$0
137	RT	System Load	SDG&E	San Diego-IV	3-Dec-12	20- 68	No	INC	21	0:00	20:59	1790.01	\$79,580	\$0	(\$155,012)	0	(\$5)	\$0	(\$1)	\$0	\$0
138	RT	System Load	SDG&E	San Diego-	4-Dec-12	20- 68	No	INC	18	6:25	23:59	2071.1	\$84,790	\$0	(\$101,3	0	(\$4)	\$0	(\$1)	\$0	\$0

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				IV								9			15)						
139	RT	Thermal Margin	PG&E	Bay Area	25-Dec-12	45	Yes	INC	1	23:00	23:59	51.03	\$5,258	\$0	(\$6,289)	0	\$0	\$0	\$0	\$0	\$0
140	RT	Thermal Margin	PG&E	Bay Area	26-Dec-12	45	Yes	INC	24	0:00	23:59	1239.98	\$126,192	\$0	(\$54,071)	0	\$0	\$0	\$0	\$0	\$0
141	RT	Thermal Margin	SDG&E	San Diego	5-Dec-12	20	No	INC	24	0:00	23:59	1496.90	\$116,879	\$0	(\$36,520)	0	\$0	\$0	\$0	\$0	\$0
142	RT	Thermal Margin	SDG&E	San Diego-IV	3-Dec-12	20	No	INC	3	21:00	23:59	565.86	\$14,238	\$0	(\$24,990)	0	\$0	\$0	\$0	\$0	\$0
143	RT	Thermal Margin	SDG&E	San Diego-IV	4-Dec-12	20	No	INC	7	0:00	6:59	225.96	\$17,775	\$0	(\$5,824)	0	(\$1)	\$0	(\$0)	\$0	\$0
144	RT	Thermal Margin	SDG&E	San Diego-IV	5-Dec-12	20- 40	No	INC	24	0:00	23:59	1737.68	\$133,103	\$0	(\$41,796)	0	\$0	\$0	\$0	\$0	\$0
145	RT	Transmission Outage PG&E	PG&E	Bay Area	7-Dec-12	26- 46	Yes	INC	4	6:55	9:49	19.33	\$1,268	\$0	(\$1,065)	1	(\$41)	\$0	\$0	(\$0)	\$0
146	RT	Transmission Outage PG&E	PG&E	Bay Area	11-Dec-12	20- 46	Yes	INC	5	18:35	22:59	200.89	\$9,633	\$433	(\$5,532)	70	(\$1,924)	\$0	\$0	(\$824)	\$0
147	RT	Transmission Outage PG&E	PG&E	Bay Area	14-Dec-12	19	No	INC	6	7:14	12:59	114.00	\$7,893	\$0	(\$3,370)	2	(\$71)	\$0	\$0	(\$23)	\$0
148	RT	Transmission Outage PG&E	PG&E	Bay Area	18-Dec-12	20- 35	No	INC	4	19:18	22:20	56.59	\$0	\$0	(\$2,027)	45	(\$1,555)	\$0	\$0	(\$141)	\$0
149	RT	Transmission Outage PG&E	PG&E	Bay Area	19-Dec-12	20	Yes	INC	3	20:08	22:51	110.47	\$5,831	\$0	(\$4,526)	0	\$0	\$0	\$0	\$0	\$0
150	RT	Transmission Outage PG&E	PG&E	Bay Area	20-Dec-12	20	Yes	INC	5	18:55	22:59	141.88	\$8,366	\$0	(\$4,778)	0	\$0	\$0	\$0	\$0	\$0
151	RT	Transmission Outage PG&E	PG&E	Bay Area	21-Dec-12	20	Yes	INC	5	18:35	22:59	96.55	\$6,845	\$308	(\$2,897)	0	\$0	\$0	\$0	\$0	\$0
152	RT	Transmission Outage PG&E	PG&E	Bay Area	23-Dec-12	20	Yes	INC	1	19:00	19:59	20.00	\$1,521	\$144	(\$675)	0	\$0	\$0	\$0	\$0	\$0
153	RT	Transmission Outage PG&E	PG&E	Fresno	5-Dec-12	0	No	INC	1	1:27	1:41	-38.87	\$0	\$0	\$1,911	0	\$0	\$0	\$0	\$0	\$0
154	RT	Transmission Outage PG&E	PG&E	Fresno	6-Dec-12	83- 180	Yes	INC	10	11:29	20:59	1588.39	\$61,010	\$968	(\$46,326)	631	(\$14,608)	\$0	\$0	(\$7,010)	\$0
155	RT	Transmission Outage PG&E	PG&E	Fresno	7-Dec-12	46- 96	No	INC	5	2:16	6:59	569.82	\$24,895	\$0	(\$17,971)	12	(\$385)	\$0	\$0	(\$138)	\$0
156	RT	Transmission Outage PG&E	PG&E	Fresno	13-Dec-12	0	Yes	INC	1	4:05	4:59	-102.67	\$0	\$0	\$75,711	0	\$0	\$0	\$0	\$0	\$0
157	RT	Transmission Outage PG&E	PG&E	Fresno	14-Dec-12	0	Yes	INC	1	3:14	3:34	-38.50	\$0	\$0	\$2,291	0	\$0	\$0	\$0	\$0	\$0
158	RT	Transmission Outage PG&E	PG&E	Fresno	18-Dec-12	1	Yes	DEC	2	21:47	22:29	3.17	\$0	\$0	(\$80)	0	\$0	\$0	\$0	\$0	\$0
159	RT	Transmission Outage PG&E	PG&E	Fresno	18-Dec-12	83	Yes	INC	2	21:47	22:29	38.00	\$0	\$0	(\$1,701)	0	\$0	\$0	\$0	\$0	\$0
160	RT	Transmission Outage PG&E	PG&E	Fresno	19-Dec-12	83	Yes	INC	2	22:00	23:29	189.94	\$10,329	\$0	(\$7,503)	0	\$0	\$0	\$0	\$0	\$0

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Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load Cost	Start Up Cost	CC6470	ED MWH(INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
)						
161	RT	Transmission Outage PG&E	PG&E	Fresno	20-Dec-12	5- 16	Yes	INC	3	7:23	9:59	23.88	\$0	\$0	(\$741)	23	(\$696)	\$0	\$0	(\$1,064)	\$0
162	RT	Transmission Outage PG&E	PG&E	Humboldt	1-Dec-12	60- 74	No	INC	2	22:28	23:58	16.32	\$0	\$0	(\$541)	10	(\$306)	\$0	\$0	(\$54)	\$0
163	RT	Transmission Outage PG&E	PG&E	Humboldt	2-Dec-12	44- 73	No	INC	24	0:00	23:59	686.67	\$3,420	\$94	(\$16,403)	171	(\$4,339)	\$0	\$0	(\$589)	\$0
164	RT	Transmission Outage PG&E	PG&E	Humboldt	3-Dec-12	32- 92	No	INC	24	0:00	23:40	292.84	\$2,041	\$0	(\$18,312)	107	(\$7,058)	\$93	\$0	(\$135)	\$0
165	RT	Transmission Outage PG&E	PG&E	N/A	6-Dec-12	180	Yes	INC	14	6:00	19:59	2548.19	\$185,393	\$0	(\$63,034)	0	(\$3)	\$0	\$0	(\$5)	\$0
166	RT	Transmission Outage PG&E	PG&E	N/A	7-Dec-12	0	No	DEC	2	6:55	7:10	20.21	\$0	\$0	(\$3,277)	0	\$0	\$0	\$0	(\$0)	\$0
167	RT	Transmission Outage PG&E	PG&E	N/A	7-Dec-12	0	Yes	INC	2	6:55	7:10	20.87	\$0	\$0	(\$3,431)	0	\$0	\$0	\$0	\$0	\$0
168	RT	Transmission Outage PG&E	PG&E	NCNB	2-Dec-12	11- 23	No	DEC	8	8:40	15:59	-115.07	\$0	\$0	\$525	-104	\$0	\$802	\$0	(\$3,429)	\$0
169	RT	Transmission Outage PG&E	PG&E	Sierra	3-Dec-12	20	Yes	INC	21	3:31	23:59	497.56	\$25,270	\$432	(\$33,797)	0	(\$3)	\$0	\$0	(\$1)	\$0
170	RT	Transmission Outage PG&E	PG&E	Sierra	4-Dec-12	20	Yes	INC	24	0:00	23:59	369.17	\$24,336	\$0	(\$14,007)	0	\$0	\$0	\$0	\$0	\$0
171	RT	Transmission Outage PG&E	PG&E	Sierra	13-Dec-12	20	Yes	INC	2	17:31	18:59	31.58	\$1,521	\$236	(\$1,257)	0	\$0	\$0	\$0	\$0	\$0
172	RT	Transmission Outage PG&E	SDG&E	San Diego	20-Dec-12	0	No	INC	1	0:00	0:04	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
173	RT	Transmission Outage SCE	PG&E	NCNB	17-Dec-12	23- 33	No	DEC	1	23:15	23:59	-26.43	\$0	\$0	\$307	-25	\$0	\$307	\$0	(\$1,023)	\$0
174	RT	Transmission Outage SCE	SCE	Big Creek-Ventura	4-Dec-12	20- 100	Yes	INC	18	6:00	23:59	2635.36	\$121,476	\$18,664	(\$135,101)	160	(\$7,132)	\$0	\$0	(\$3,544)	\$0
175	RT	Transmission Outage SCE	SCE	N/A	1-Dec-12	218- 220	No	INC	1	23:05	23:59	-23.48	\$0	\$0	\$607	-10	\$0	\$261	\$0	(\$229)	\$0
176	RT	Transmission Outage SCE	SCE	N/A	2-Dec-12	172- 218	No	INC	24	0:00	23:59	187.75	\$6,301	\$0	(\$4,103)	-45	(\$66)	\$2,155	\$0	(\$3,249)	\$0
177	RT	Transmission Outage SCE	SCE	N/A	3-Dec-12	210- 218	No	INC	16	8:51	23:59	-252.29	\$0	\$0	\$11,944	-236	\$1,536	\$10,102	\$0	(\$11,074)	\$0
178	RT	Transmission Outage SCE	SCE	N/A	4-Dec-12	210	No	INC	21	3:00	23:59	-153.13	\$150	\$0	\$8,910	-206	(\$150)	\$10,804	\$0	(\$10,068)	\$0
179	RT	Transmission Outage SCE	SCE	N/A	5-Dec-12	210	No	INC	24	0:00	23:59	303.34	\$8,256	\$0	(\$7,541)	16	(\$358)	\$0	\$0	(\$74)	\$0
180	RT	Transmission Outage SCE	SCE	N/A	6-Dec-12	210	No	INC	4	20:29	23:59	112.51	\$12,752	\$0	\$2,668	56	\$2,611	\$0	\$0	(\$1,572)	\$0
181	RT	Transmission Outage SCE	SCE	N/A	7-Dec-12	200-	No	INC	12	12:49	23:59	60.62	\$1,149	\$0	(\$1,784)	10	(\$201)	\$0	\$0	(\$52)	\$0

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Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load Cost	Start Up Cost	CC6470	ED MWH(INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
						210)						
182	RT	Transmission Outage SCE	SCE	N/A	8-Dec-12	218	No	INC	5	7:15	11:59	66.77	\$1,677	\$0	(\$1,648)	6	(\$141)	\$0	\$0	(\$19)	\$0
183	RT	Transmission Outage SDG&E	SDG&E	San Diego	1-Dec-12	63	No	INC	10	13:10	22:59	880.69	\$48,796	\$0	(\$39,956)	0	\$0	\$0	\$0	\$0	\$0
184	RT	Transmission Outage SDG&E	SDG&E	San Diego	2-Dec-12	20- 63	No	INC	24	0:00	23:59	2106.4	\$124,333	\$0	(\$129,302)	0	(\$2)	\$0	(\$3)	\$0	\$0
185	RT	Transmission Outage SDG&E	SDG&E	San Diego	3-Dec-12	14- 28	Yes	INC	6	9:39	14:13	96.55	\$7,656	\$502	(\$3,240)	28	(\$1,051)	\$0	\$0	(\$1,234)	\$0
186	RT	Transmission Outage SDG&E	SDG&E	San Diego	7-Dec-12	15- 30	Yes	INC	7	7:47	13:59	118.88	\$12,699	\$759	(\$5,633)	6	(\$193)	\$0	\$0	(\$321)	\$0
187	RT	Transmission Outage SDG&E	SDG&E	San Diego	12-Dec-12	277- 278	No	INC	4	20:15	23:59	-667.82	\$367	\$0	\$20,154	-500	\$0	\$15,095	\$0	(\$11,285)	\$0
188	RT	Transmission Outage SDG&E	SDG&E	San Diego	13-Dec-12	277	No	INC	3	0:00	2:14	-356.85	\$371	\$0	\$6,225	-225	\$0	\$3,731	\$0	(\$4,825)	\$0
189	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	1-Dec-12	68	No	INC	10	13:10	22:59	590.49	\$36,705	\$0	(\$21,039)	0	\$0	\$0	\$0	\$0	\$0
190	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	2-Dec-12	20	No	INC	24	0:00	23:59	1621.9	\$72,622	\$0	(\$102,668)	0	(\$3)	\$0	(\$3)	\$0	\$0
191	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	3-Dec-12	28	Yes	INC	4	11:47	14:13	9.33	\$589	\$39	(\$281)	3	(\$98)	\$0	\$0	(\$155)	\$0
192	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	7-Dec-12	15	Yes	INC	3	11:25	13:59	25.06	\$3,223	\$210	(\$731)	0	\$0	\$0	\$0	\$0	\$0
193	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	18-Dec-12	16- 28	No	INC	6	17:36	22:59	79.51	\$0	\$0	\$13,316	62	(\$2,006)	\$0	\$0	(\$760)	\$0
194	RT	Unit Testing	PG&E	Bay Area	12-Dec-12	25- 196	No	INC	2	13:00	14:50	389.37	\$12,219	\$1,517	(\$11,372)	58	(\$2,709)	\$0	\$0	\$0	\$0
195	RT	Unit Testing	PG&E	Fresno	5-Dec-12	97	No	INC	4	9:07	12:24	89.31	\$1,888	\$0	(\$2,333)	1	(\$45)	\$0	\$0	\$0	\$0
196	RT	Unit Testing	PG&E	Fresno	17-Dec-12	20- 196	No	INC	4	8:10	11:24	27.97	\$0	\$0	(\$701)	13	(\$337)	\$0	\$0	\$0	\$0
197	RT	Unit Testing	PG&E	N/A	8-Dec-12	126- 200	No	INC	9	9:55	17:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
198	RT	Unit Testing	PG&E	N/A	9-Dec-12	121	No	INC	4	7:30	10:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
199	RT	Unit Testing	PG&E	N/A	10-Dec-12	160	No	INC	10	8:20	17:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
200	RT	Unit Testing	PG&E	N/A	11-Dec-12	120- 180	No	INC	11	7:20	17:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
201	RT	Unit Testing	PG&E	N/A	12-Dec-12	200	No	INC	2	12:50	13:59	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
202	RT	Unit Testing	PG&E	N/A	17-Dec-12	136- 259	Yes	INC	16	8:05	23:59	2102.2	\$74,200	\$10,500	(\$50,904)	15	(\$341)	\$0	\$0	\$0	\$0
203	RT	Unit Testing	PG&E	N/A	18-Dec-12	136	Yes	INC	8	0:00	7:59	1175.0	\$16,783	\$0	(\$29,69	0	(\$3)	\$0	\$0	\$0	\$0

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Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load Cost	Start Up Cost	CC6470	ED MWH(INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
												8			0)						
204	RT	Unit Testing	PG&E	Sierra	6-Dec-12	165-200	Yes	INC	4	12:00	15:59	834.83	\$8,704	\$0	(\$61,258)	89	(\$10,507)	\$0	\$0	\$0	\$0
205	RT	Unit Testing	PG&E	Sierra	8-Dec-12	6	Yes	INC	11	9:55	19:59	30.25	\$0	\$0	(\$1,062)	30	(\$1,056)	\$0	\$0	\$0	\$0
206	RT	Unit Testing	PG&E	Sierra	13-Dec-12	0	Yes	INC	1	17:45	17:59	9.65	\$507	\$79	(\$382)	0	\$0	\$0	\$0	\$0	\$0
207	RT	Unit Testing	PG&E	Stockton	4-Dec-12	89-160	No	INC	2	10:14	11:11	1.22	\$0	\$0	(\$155)	-2	(\$69)	\$0	\$0	\$0	\$0
208	RT	Unit Testing	PG&E	Stockton	13-Dec-12	192-325	No	INC	2	9:12	10:09	-16.70	\$0	\$0	\$584	-12	(\$21)	\$438	\$0	\$0	\$0
209	RT	Unit Testing	SCE	Big Creek-Ventura	5-Dec-12	25-49	No	INC	2	14:00	15:04	9.58	\$0	\$0	(\$255)	0	\$0	\$0	\$0	\$0	\$0
210	RT	Unit Testing	SCE	Big Creek-Ventura	20-Dec-12	16-48	No	INC	1	9:11	9:54	0.00	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0
211	RT	Voltage Support	PG&E	Fresno	30-Dec-12	83	Yes	INC	4	13:15	16:59	303.75	\$19,005	\$1,000	(\$6,492)	0	\$0	\$0	\$0	\$0	\$0
212	RT	Voltage Support	PG&E	Fresno	31-Dec-12	83	Yes	INC	2	15:35	16:59	121.04	\$5,430	\$818	(\$2,114)	0	\$0	\$0	\$0	\$0	\$0

Appendix A: Explanation by Example

All examples listed below are based on fictitious data. Many simplified assumptions are made to explain settlement charge codes, and not all assumptions are explicitly stated in these examples. For instance settlement charge codes are calculated based on metered quantities, whereas, in these examples the dispatch quantities are assumed to be equal to metered quantities. These assumptions have been made to simplify the understanding of settlements calculations.

Example 1: Exceptional Dispatch Instructions Prior to DAM

In this fictitious example the ISO issued an exceptional dispatch instruction for resource A to be committed at its Pmin of 50 MW from hours ending 5 through 10 for a generation procedure 7630. Similarly, the ISO issued additional instructions to resources B and C for the same reason as shown in Table 2. Generally exceptional dispatches prior to the day-ahead market are commitments to minimum load. In this case the dispatch levels are all at minimum load. Table 2 below also shows the commitment costs and the total volume (MWh) of exceptional dispatch instruction for each resource. The minimum load costs and start up costs, shown in Table 2 are the eligible minimum load and start up costs which are different from the bid-in minimum load and start up costs⁷. Only those quantities which are relevant to pre-day-ahead unit commitments are shown in this table.

Table 2: Instructions Prior to Day-Ahead Market

Date	Market	Resource	Location	Local Reliability Area (LRA)	Begin Time	End Time	Dispatch level (MW)	Reason	Total Volume (MWh)	Min-Load Cost	Start- Up Cost	CC6620 (BCR)
01-Jul-09	DA	A	SCE	LA BASIN	05:00	10:00	50	7630	300	\$5000	\$0	0
01-Jul-09	DA	B	SCE	LA BASIN	08:00	20:00	30	7630	390	\$6000	\$500	\$4000
01-Jul-09	DA	C	SCE	LA BASIN	09:00	23:00	20	7630	300	\$400	\$1000	\$1000

This data is summarized as shown in Table 3, which is the prescribed format specified in the FERC order on September 2, 2009. This summary classifies the data by reason, resource location, local reliability area, and trade date. The MW column in Table 3 is the range of MW; in this case the minimum instruction MW is 20 MW for resource C which occurs from hours ending 21 through 23. The maximum instruction occurs in hour ending 10. In this hour resource A is committed at 50 MW, resource B is committed at 30 MW and resource C is committed at 20 MW. This adds up to 100 MW. Thus the MW column shows the minimum and maximum of the overlaps of all the exceptional dispatch instructions. The Commitment column shows whether a resource was committed between the begin time and end time. Commitments are broken out separately from energy dispatches. In the day-ahead, however the exceptional dispatches are nearly always just commitments, as in this example. The Begin Time column shows hour ending 5 as this was the hour ending for first dispatch of the day, and the End Time column shows hour ending 23, as this was the hour with last dispatch. It is also possible that there might be some hours between the begin time and the end time where there might not be exceptional dispatch instructions for the given reason, meaning that the range between the begin time and end time can include null hours with no dispatch. The total volume (MWh) is the sum of MWh quantity for each resource, which adds up to 990 MWh. Similarly, all cost information is sum of individual resource costs. It is possible that some resources bid-in zero start-up cost; as seen in this example, resource A bid in zero for its start up cost. Since the ISO does not explicitly pay a resource for bid-in minimum load costs and start-up costs; these costs are recovered through the charge code CC6620 (Bid Cost Recovery), this table shows the summary of CC6620 for the classification. In this case, it is the sum of CC6620 for all three resources which adds up to \$5000. This column shows the impact of exceptional dispatch on bid cost recovery for all pre-day-ahead exceptional dispatch commitments.

Table 3: FERC Summary of Instructions Prior to DAM

Number	Market Type	Reason	Location	Local Reliability Area (LRA)	Trade Date	MW	Commitment	INC/DEC	Hour	Begin Time	End Time	Total Volume (MWh)	Min-Load Cost	Start-Up Cost	CC6620
1	DA	7630	SCE	LA Basin	1-Jul-09	20-100	Yes	N/A	19	05:00	23:00	990	\$11,400	\$1,500	\$5000

⁷ Please refer to the BPM configuration Guide: Bid Cost Recovery Settlements published on the ISO's website for details about eligible minimum load and start up costs.

Example 2: Incremental Exceptional Dispatch Instructions in RTM

In this fictitious example the ISO issued an exceptional dispatch instruction to resource A to be committed at its Pmin of 30 MW from hours 6:00 through 11:00 after completion of the day-ahead market for the transmission procedure 7110. This resource did not have a day-ahead award in those hours. The ISO issued another exceptional dispatch instruction to resource B, to be dispatched at 40 MW from hours 7:00 through 9:00 in real-time for the transmission procedure 7110. This resource had a day-ahead schedule of 20 MW from the day-ahead market, which implies that this exceptional dispatch instruction was an incremental instruction and the exceptional dispatch MW was 20 MW. Similarly, the details of exceptional dispatch (ED) instruction for resource C are shown in Table 4. This table also shows volume (MWh) and various real-time charge codes associated with the exceptional dispatch instructions. The total MWh column for each resource shows the sum of all types of imbalance energy quantities for this resource between the begin time and end time which includes both the exceptional dispatch energy quantities and optimal energy quantities.

Resource A was committed at its Pmin so its total volume (MWh) is equal to its Pmin times the number of hours, which is calculated as 30 MW times 6 hours and is equal to 180 MWh. The resource Minimum load costs and the start up costs are its eligible commitment costs for that period. LMP at this resource is \$10/MWh for hours, so the charge code CC6470 is calculated at (180 MWh *\$10/MWh) and is equal to 1800. Since this resource is not dispatched above its Pmin, it has a zero volume (MWh) of exceptional dispatch. As a result, all charge codes associated with the exceptional dispatch increment or decrement quantities are zero.

Resource B is dispatched 20 MW above its day-ahead schedule, so its total volume (MWh) is calculated as 20 MW times 3 hours which is equal to 60 MWh. Since the resource was committed in the Day-Ahead Market there are no minimum load quantity and start up costs associated with this resource. The resource had a bid price of \$100/MWh and the LMP at that resource was \$10/MWh. All of 60 MWh is considered as exceptional dispatch incremental quantity which is shown in ED Volume (MWH INC/DEC) column. The charge code CC6470 INC is calculated as 60 MWh * resource LMP (\$10/MWh) which is equal to \$600. Since the only imbalance energy in this timeframe was the exceptional dispatch volume, the charge code CC6470 is equal to CC6470 INC. The charge code CC6488 is calculated as MWH quantity *(bid price – LMP), which is equal to \$5400 (60 MWh *(\$10/MWh-\$100/MWh)). Similarly, volumes and real-time charge codes are calculated for resource C.

Table 4: Incremental Exceptional Dispatch Instructions in RTM

Date	Market	Resource	Location	Local Reliability Area (LRA)	Begin Time	End Time	Dispatch level (MW)	Day-Ahead Award (MW)	Commitment	INC/DEC	ED (MW)	Reason	Total MWH	Min Load Cost	Start Up Cost	CC6470	ED MWH (INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488
1-Jul-09	RT	A	PG&E	Humboldt	6:00	11:00	30	0	Yes	INC	30	7110	180	1000	50	1800	0	0	0	0	0
1-Jul-09	RT	B	PG&E	Humboldt	7:00	9:00	40	20	No	INC	20	7110	60	0	0	600	60	600	0	0	5400
1-Jul-09	RT	C	PG&E	Humboldt	12:00	15:00	50	50	No	INC	0	7110	0	0	0	0	0	0	0	0	0
1-Jul-09	RT	C	PG&E	Humboldt	16:00	20:00	50	40	No	INC	10	7110	50	0	0	300	20	300	0	0	200

This data is summarized as shown in Table 5 and is classified by reason, resource location, local reliability area, and trade date. The MW column in Table 5 is the range of MW; in this case the minimum instruction MW is 0 MW for resource C which occurs from hours ending 13 through 15. The maximum instruction occurs in hours ending 8 & 9, as during these two hours both resources A and B have an ED MW of 30MW and 20MW, respectively. This adds up to 50 MW. Thus the MW column shows the minimum and maximum of the overlaps of all the exceptional dispatch instructions. The Commitment column shows whether a resource was committed between the begin time and end time. This column shows a commitment if there was a single commitment in the entire interval of exceptional dispatch. The Begin Time column shows the time of the first dispatch of the day. This is a time not a range. Similarly, the End Time column shows a time and not a range. Exceptional dispatches occurred between these two times. Since there was a commitment between the begin time and end time then the Commitment column displays yes for the summary. Similarly, the INC/DEC column shows an INC as there was an incremental dispatch between the begin time and end time. As mentioned in the previous example it is possible that there might be some hours between the begin time and end time where there were no exceptional dispatch instructions for the given reason. Both volume and cost information columns are simply the summation for all the respective columns for resource A, B and C. For instance the Total volume (MWh) column is calculated as summation of 180,60,0 and 50 which are the individual volumes (MWh) for resources A, B and C for time periods shown in Table 4 on the previous page.

Table 5: FERC Summary of ED Instructions in RTM

Number	Market Type	Reason	Location	Local Reliability Area (LRA)	Trade Date	MW	Commitment	INC/DEC	Hour	Begin Time	End Time	Total MWH	Min Load Cost	Start Up Cost	CC6470	ED MWH (INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488
1	RT	7110	PG&E	Humboldt	1-Jul-09	0-50	Yes	INC	15	6:00	20:00	290	1000	50	1700	140	1500	0	0	11000

Please note that it is possible that the ISO would dispatch a particular resource, for instance at 10 MW from hours ending 1 through 4, and all or part of its energy might settle as optimal energy. This situation occurs when the LMP at the resource pricing node is above the resource bid price. This cost will only be captured in charge code 6470. It is also possible that ISO issues an exceptional dispatch for the resource to operate at a minimum of 10 MW which is its Pmin; however the market application might dispatch this resource above Pmin because the resource is economical. When this occurs, the charge code CC6470 and the total MWh quantity might overstate the actual exceptional dispatch MWh quantities. So, to best estimate the cost and volume (MWh) of exceptional dispatch it is appropriate to consider only the following columns: ED MWh (INC/DEC), CC6470 INC, CC6470 DEC, CC6482, CC6488.

Example 3: Decremental Exceptional Dispatch Instructions in RTM

This example highlights decremental exceptional dispatch instructions in the real-time market. In this fictitious example the ISO issued an exceptional dispatch instruction to resource A to be committed at its Pmin of 20 MW from hours ending 15 through 20 after completion of the day-ahead market for the transmission procedure 7430. The ISO issued additional exceptional dispatch instructions for resources B and C; details of those instructions are shown in Table 6. This table also includes volume (MWh) and cost information.

Resource A is committed in real-time at its Pmin, its total volume (MWh) is 20MW *6 hours which is equal to 120 MWh. This resource has a zero MW of incremental dispatch in all hours, so all other relevant cost and volume columns result in zeros. Resource B has a decremental MW of 20 MW in 3 hours, which results in 60 MWh of decremental volume. Since this resource is not committed in real-time, both the minimum load cost and start up costs are zero. This resource had a bid price of \$50/MWh and LMP at the resource pricing node is \$10/ MWh. Based on this information CC6470-Dec is calculated as 60 MWh *\$10/MWh which is equal to \$600. Since this resource has its ED volume (MWh) equal to its Total volume, CC6470 is equal to CC6470- DEC. The CC6488 is calculated as (60 MWh * (\$50/MWh - \$10/MWh)) which is equal to \$2400. Resource C had a bid price of \$10/MWh and the LMP at its pricing node is \$50/MWh. Based on this information, volume and cost information is calculated for resource C.

Table 6: Decremental Exceptional Dispatch Instructions in RTM

Date	Market Type	Resource	Location	Local Reliability Area (LRA)	Begin Time	End Time	Dispatch level (MW)	Day-Ahead Award (MW)	Commitment	INC/DEC	ED (MW)	Reason	Total MWH	Min Load Cost	Start Up Cost	CC6470	ED MWH (INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488
1-Jul-09	RT	A	PG&E	Fresno	15:00	20:00	20	0	Yes	INC	20	7430	120	\$ 120	\$ 100	\$ -	0	\$ -	\$ -	\$ -	\$ -
1-Jul-09	RT	B	PG&E	Fresno	7:00	9:00	40	60	No	DEC	20	7430	(60)	\$ -	\$ -	\$ 600	-60	\$ -	\$ 600	\$ -	\$2,400
1-Jul-09	RT	C	PG&E	Fresno	10:00	14:00	40	50	No	DEC	10	7430	(50)	\$ -	\$ -	\$ 500	-50	\$ -	\$ 500	\$ -	\$2,000

This data is summarized according to FERC convention as shown in Table 7. This summary classifies the data by reason, resource location, local reliability area, and trade date. Please note that incs and decs are broken out separately. The inc entry is self-explanatory and similar to the previous example. Regarding the dec entry the MW column is the range of MW; in this case the minimum dec instruction is 10 MW (actually -10MW as it is a dec) for resource C which occurs from hours ending 10 through 14. The maximum instruction occurs from hours ending 7 through 9, when resource B was issued a dec instruction of 20 MW. Thus the MW column shows the minimum and maximum of the overlaps of all the exceptional dispatch instructions. The Commitment column shows whether a resource was committed between the begin time and end time. The volume and cost information are summarized by INC and DEC classification.

Table 7: FERC Summary of Decremental ED Instructions in RTM

Number	Market Type	Reason	Location	Local Reliability Area (LRA)	Trade Date	MW	Commitment	INC/DEC	Hour	Begin Time	End Time	Total MWH	Min Load Cost	Start Up Cost	CC6470	ED MWH (INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488
1	RT	7430	PG&E	Fresno	1-Jul-09	20	Yes	INC	6	15:00	20:00	120	\$ 120	\$ 100	\$ -	0	\$ -	\$ -	\$ -	\$ -
2	RT	7430	PG&E	Fresno	1-Jul-09	10-20	Yes	DEC	8	7:00	14:00	(110)	\$ -	\$ -	\$ (1,100)	\$ (110)	\$ -	\$ (1,100)	\$ -	\$ (4,400)

Appendix B: Price Impact Analysis

In the September 2 FERC order, FERC requested the ISO to perform price impact analysis on two distinct pricing nodes for the entire reporting period. The order also mentioned that the ISO must pick two pricing nodes for the entire reporting period that are most impacted by the exceptional dispatch instructions, and the two pricing nodes must belong to two different load aggregation points (LAPs).

Based on this requirement the ISO implemented a methodology to perform price impact analysis. First, the ISO identified a heavily impacted pricing node from each of the Pacific Gas & Electric (PGAE) LAP and Southern California Edison (SCE) LAP. These two pricing nodes had the maximum amount of exceptional dispatch volume (MWh) in their respective LAP. Point A is in PGAE LAP and point B is in SCE LAP. Please note these two points correspond to an actual pricing node in the ISO system. Only one resource was connected to each of these pricing nodes. For each resource the following input parameters were obtained to perform the analysis:

- Exceptional dispatch information: constrained level, constraint type, start of exceptional dispatch instruction and end of exceptional dispatch instruction.
- Real-Time LMPs for each of the five minute intervals for the month.
- Real-Time hourly bid set for each trade hour.
- Day-Ahead award for the resources.

The exceptional dispatch intervals have a begin time and an end time which can span as small as one minute to as large as 24 hours. Since the market application dispatches resources on five-minute basis, the exceptional dispatch instructions for each of these resources were broken down into five-minute intervals. If the begin time or end time for an instruction was in the middle of the five-minute interval, that instruction was rounded up to the next five-minute interval. These five-minute intervals were then coupled with resource five-minute LMPs calculated by the real-time market application. Also, the hourly bid information and the hourly day-ahead schedule were put together to create a dataset that had all the necessary information to perform price impact analysis.

An exceptional dispatch instruction can be generally classified as a start up instruction, an instruction to be dispatched at or above the constrained level, an instruction to be dispatched at or below a constrained level, an instruction to be dispatched at a fixed constrained level, or a shut down instruction. In general, the Locational Marginal Price (LMP) is set by a resource which can provide the next incremental MW of energy. Based on this definition of LMP and the classification of exceptional dispatches based on constraint type, a resource is allowed to set the LMP in only those intervals in which the resource is eligible to move either up or down from its constrained level. Hence, in those intervals in which the resource was constrained up at its Pmax or, in other words, the resource was exceptionally dispatched to its Pmax and forced to generate at that level, the resource was considered ineligible to set the price as it had no room to move up. Similarly, if the resource was constrained down at its Pmin, then the resource was not eligible to set the price. All those intervals in which the resource was ineligible to set the price were dropped from the dataset under consideration. From this dataset of only eligible intervals, for both pricing nodes A and B, LMPs were calculated for all intervals based on the resource dispatch level and the its bid set. The calculated LMP is equal to that bid price corresponding to the constrained MW segment.

Table 8 shows the price impact analysis information for node A, which is located in the PGAE area. This table shows all the five minute intervals in which the resource at PNode A was issued an exceptional dispatch instruction. Out of the 8928 five-minute intervals in December, this resource was issued exceptional dispatch instructions in 199 five-minute intervals. This resource was eligible to set the LMP in 164 intervals. Resource calculated LMP was larger than the market LMP in 157 of the 164 intervals. In the 157 intervals, the average increase in five minute LMP was \$14.49/MWh. This implies that if the ISO was able to model the constraint for this exceptional dispatch, then this resource and all other pricing nodes associated with that constraint would observe an average increase of \$14.49/MWh. Note that 157 five minute intervals are approximately 1.76 percent of the total 8640 five minute intervals.

Table 9 shows the price impact analysis information for node B, which is located in the SCE area. This table shows all the five minute intervals in which the resource at PNode B was issued an exceptional dispatch instruction. Out of the 8928 five minute intervals, this resource was issued an exceptional dispatch instruction in 1029 five minute intervals. This resource was eligible to set the LMP in all 1029 intervals. Out of the 1029 intervals, resource calculated LMP was larger than the market LMP in 783 intervals. In the 783 intervals, the average increase in five minute LMP was \$13.35/MWh. This implies that if the ISO was able to model the constraint for this exceptional dispatch, then this resource and all other pricing nodes associated with that constraint would observe an average increase of \$13.35/MWh. The 783 five minute intervals account for approximately 8.77 percent of the total 8928 five minute intervals.

Table 8: Price Impact Analysis Information for Pricing Node A in PG&E LAP

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
1	2-Dec-12	21	3	\$28.69	No	\$62.81	\$34.12
2	2-Dec-12	21	4	\$1,000.90	Yes	\$36.99	(\$963.91)
3	3-Dec-12	14	5	\$30.19	Yes	\$37.08	\$6.89
4	3-Dec-12	14	6	\$30.19	Yes	\$37.08	\$6.89
5	3-Dec-12	14	7	\$30.19	Yes	\$37.08	\$6.89
6	3-Dec-12	14	8	\$30.19	Yes	\$37.08	\$6.89
7	3-Dec-12	14	9	\$30.19	Yes	\$37.08	\$6.89
8	3-Dec-12	14	10	\$30.19	Yes	\$37.08	\$6.89
9	3-Dec-12	14	11	\$30.19	Yes	\$37.08	\$6.89
10	3-Dec-12	14	12	\$30.19	Yes	\$37.08	\$6.89
11	3-Dec-12	15	1	\$30.19	Yes	\$37.08	\$6.89
12	3-Dec-12	15	2	\$30.19	Yes	\$37.08	\$6.89
13	3-Dec-12	15	3	\$30.19	Yes	\$37.08	\$6.89
14	3-Dec-12	15	4	\$30.19	Yes	\$37.08	\$6.89
15	3-Dec-12	15	5	\$30.19	Yes	\$37.08	\$6.89
16	3-Dec-12	15	6	\$30.19	Yes	\$37.08	\$6.89
17	3-Dec-12	15	7	\$30.19	Yes	\$37.08	\$6.89
18	3-Dec-12	15	8	\$30.19	Yes	\$37.08	\$6.89
19	3-Dec-12	15	9	\$30.19	Yes	\$37.08	\$6.89
20	3-Dec-12	15	10	\$30.19	Yes	\$37.08	\$6.89
21	3-Dec-12	15	11	\$28.82	Yes	\$37.08	\$8.26
22	3-Dec-12	15	12	\$28.82	Yes	\$37.08	\$8.26
23	3-Dec-12	16	1	\$29.71	Yes	\$37.08	\$7.37
24	3-Dec-12	16	2	\$31.07	Yes	\$37.08	\$6.01
25	3-Dec-12	16	3	\$34.39	Yes	\$37.08	\$2.69
26	3-Dec-12	16	4	\$34.24	Yes	\$37.08	\$2.84
27	3-Dec-12	16	5	\$34.54	Yes	\$37.08	\$2.54
28	3-Dec-12	16	6	\$33.72	Yes	\$37.08	\$3.36
29	3-Dec-12	16	7	\$30.96	Yes	\$37.08	\$6.12
30	3-Dec-12	16	8	\$32.01	Yes	\$37.08	\$5.07
31	3-Dec-12	16	9	\$33.33	Yes	\$37.08	\$3.75
32	3-Dec-12	16	10	\$34.08	Yes	\$37.08	\$3.00
33	3-Dec-12	16	11	\$34.08	Yes	\$37.08	\$3.00
34	3-Dec-12	16	12	\$29.99	Yes	\$37.08	\$7.09
35	3-Dec-12	17	1	\$30.57	Yes	\$37.08	\$6.51
36	3-Dec-12	17	2	\$22.09	Yes	\$37.08	\$14.99

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
37	3-Dec-12	17	3	\$26.96	Yes	\$37.08	\$10.12
38	3-Dec-12	17	4	\$28.91	Yes	\$37.08	\$8.17
39	3-Dec-12	17	5	\$29.28	Yes	\$37.08	\$7.80
40	3-Dec-12	17	6	\$29.41	Yes	\$37.08	\$7.67
41	3-Dec-12	17	7	\$29.73	Yes	\$37.08	\$7.35
42	3-Dec-12	17	8	\$28.75	Yes	\$37.08	\$8.33
43	3-Dec-12	17	9	\$29.17	Yes	\$37.08	\$7.91
44	3-Dec-12	17	10	\$29.15	Yes	\$37.08	\$7.93
45	3-Dec-12	17	11	\$29.44	Yes	\$37.08	\$7.64
46	3-Dec-12	17	12	\$30.49	Yes	\$37.08	\$6.59
47	6-Dec-12	12	7	\$28.15	Yes	\$34.35	\$6.20
48	6-Dec-12	12	8	\$27.67	Yes	\$34.35	\$6.68
49	6-Dec-12	12	9	\$27.68	Yes	\$34.35	\$6.67
50	6-Dec-12	12	10	\$24.70	Yes	\$34.35	\$9.65
51	6-Dec-12	12	11	\$25.46	Yes	\$34.35	\$8.89
52	6-Dec-12	12	12	\$24.70	Yes	\$34.35	\$9.65
53	6-Dec-12	13	1	\$18.93	Yes	\$34.35	\$15.42
54	6-Dec-12	13	2	\$18.93	Yes	\$34.35	\$15.42
55	6-Dec-12	13	3	\$18.93	Yes	\$34.35	\$15.42
56	6-Dec-12	13	4	\$0.10	Yes	\$34.35	\$34.25
57	6-Dec-12	13	5	\$0.01	Yes	\$34.35	\$34.34
58	6-Dec-12	13	6	\$0.01	Yes	\$34.35	\$34.34
59	6-Dec-12	13	6	\$0.01	Yes	\$36.99	\$36.98
60	6-Dec-12	13	7	\$0.01	Yes	\$34.35	\$34.34
61	6-Dec-12	13	7	\$0.01	Yes	\$36.99	\$36.98
62	6-Dec-12	13	8	\$2.18	Yes	\$36.99	\$34.81
63	6-Dec-12	13	9	\$2.18	Yes	\$36.99	\$34.81
64	6-Dec-12	13	10	\$0.01	Yes	\$36.99	\$36.98
65	6-Dec-12	13	11	\$0.10	Yes	\$36.99	\$36.89
66	6-Dec-12	13	12	\$0.10	Yes	\$36.99	\$36.89
67	6-Dec-12	14	1	\$18.77	Yes	\$36.99	\$18.22
68	6-Dec-12	14	2	\$14.57	Yes	\$36.99	\$22.42
69	6-Dec-12	14	3	\$14.57	Yes	\$36.99	\$22.42
70	6-Dec-12	14	4	\$14.63	Yes	\$36.99	\$22.36
71	6-Dec-12	14	5	\$14.63	Yes	\$36.99	\$22.36
72	6-Dec-12	14	6	\$14.21	Yes	\$36.99	\$22.78
73	6-Dec-12	14	7	\$34.14	Yes	\$36.99	\$2.85
74	6-Dec-12	14	8	\$28.44	Yes	\$36.99	\$8.55

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
75	6-Dec-12	14	9	\$34.07	Yes	\$36.99	\$2.92
76	6-Dec-12	14	10	\$0.01	Yes	\$36.99	\$36.98
77	6-Dec-12	14	10	\$0.01	Yes	\$39.72	\$39.71
78	6-Dec-12	14	11	\$0.01	Yes	\$36.99	\$36.98
79	6-Dec-12	14	11	\$0.01	Yes	\$39.72	\$39.71
80	6-Dec-12	14	12	\$0.01	Yes	\$36.99	\$36.98
81	6-Dec-12	14	12	\$0.01	Yes	\$39.72	\$39.71
82	6-Dec-12	15	1	\$0.01	Yes	\$39.72	\$39.71
83	6-Dec-12	15	2	\$0.01	Yes	\$39.72	\$39.71
84	6-Dec-12	15	3	\$0.01	Yes	\$39.72	\$39.71
85	6-Dec-12	15	4	\$14.64	Yes	\$39.72	\$25.08
86	6-Dec-12	15	5	\$14.24	Yes	\$39.72	\$25.48
87	6-Dec-12	15	6	\$24.01	Yes	\$39.72	\$15.71
88	6-Dec-12	15	7	\$24.91	Yes	\$39.72	\$14.81
89	6-Dec-12	15	8	\$24.91	Yes	\$39.72	\$14.81
90	6-Dec-12	15	9	\$14.46	Yes	\$39.72	\$25.26
91	6-Dec-12	15	10	\$24.09	Yes	\$39.72	\$15.63
92	6-Dec-12	15	11	\$24.09	Yes	\$39.72	\$15.63
93	6-Dec-12	15	12	\$24.09	Yes	\$39.72	\$15.63
94	6-Dec-12	16	1	\$24.09	Yes	\$39.72	\$15.63
95	6-Dec-12	16	2	\$24.18	Yes	\$39.72	\$15.54
96	6-Dec-12	16	3	\$14.06	Yes	\$39.72	\$25.66
97	6-Dec-12	16	4	\$14.06	Yes	\$39.72	\$25.66
98	6-Dec-12	16	5	\$26.54	Yes	\$39.72	\$13.18
99	6-Dec-12	16	6	\$25.85	Yes	\$39.72	\$13.87
100	6-Dec-12	16	7	\$25.94	Yes	\$39.72	\$13.78
101	6-Dec-12	16	8	\$25.94	Yes	\$39.72	\$13.78
102	6-Dec-12	16	9	\$25.94	Yes	\$39.72	\$13.78
103	6-Dec-12	16	10	\$25.94	Yes	\$39.72	\$13.78
104	6-Dec-12	16	11	\$25.94	Yes	\$39.72	\$13.78
105	6-Dec-12	16	12	\$25.94	Yes	\$39.72	\$13.78
106	6-Dec-12	17	1	\$0.01	Yes	\$39.72	\$39.71
107	6-Dec-12	17	2	\$0.01	Yes	\$39.72	\$39.71
108	6-Dec-12	17	3	\$2.14	Yes	\$39.72	\$37.58
109	6-Dec-12	17	4	\$26.99	Yes	\$39.72	\$12.73
110	6-Dec-12	17	5	\$24.41	Yes	\$39.72	\$15.31
111	6-Dec-12	17	6	\$25.49	Yes	\$39.72	\$14.23
112	6-Dec-12	17	7	\$27.30	Yes	\$39.72	\$12.42

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
113	6-Dec-12	17	8	\$27.33	Yes	\$39.72	\$12.39
114	6-Dec-12	17	9	\$28.11	Yes	\$39.72	\$11.61
115	6-Dec-12	17	10	\$38.58	Yes	\$39.72	\$1.14
116	6-Dec-12	17	11	\$45.44	Yes	\$39.72	(\$5.72)
117	6-Dec-12	17	12	\$332.52	Yes	\$39.72	(\$292.80)
118	6-Dec-12	18	1	\$28.48	Yes	\$39.72	\$11.24
119	6-Dec-12	18	2	\$28.40	Yes	\$39.72	\$11.32
120	6-Dec-12	18	3	\$28.80	Yes	\$39.72	\$10.92
121	6-Dec-12	18	4	\$29.10	Yes	\$39.72	\$10.62
122	6-Dec-12	18	5	\$29.10	Yes	\$39.72	\$10.62
123	6-Dec-12	18	6	\$29.36	Yes	\$39.72	\$10.36
124	6-Dec-12	18	7	\$27.78	Yes	\$39.72	\$11.94
125	6-Dec-12	18	8	\$28.99	Yes	\$39.72	\$10.73
126	6-Dec-12	18	9	\$39.62	Yes	\$39.72	\$0.10
127	6-Dec-12	18	10	\$46.19	Yes	\$39.72	(\$6.47)
128	6-Dec-12	18	11	\$118.65	Yes	\$39.72	(\$78.93)
129	6-Dec-12	18	12	\$117.09	Yes	\$39.72	(\$77.37)
130	6-Dec-12	19	1	\$73.77	Yes	\$39.72	(\$34.05)
131	6-Dec-12	19	2	\$35.44	Yes	\$39.72	\$4.28
132	6-Dec-12	19	3	\$29.97	Yes	\$39.72	\$9.75
133	6-Dec-12	19	4	\$28.02	Yes	\$39.72	\$11.70
134	6-Dec-12	19	5	\$27.66	Yes	\$39.72	\$12.06
135	6-Dec-12	19	6	\$38.05	Yes	\$39.72	\$1.67
136	6-Dec-12	19	7	\$27.55	Yes	\$39.72	\$12.17
137	6-Dec-12	19	8	\$28.06	Yes	\$39.72	\$11.66
138	6-Dec-12	19	9	\$28.06	Yes	\$39.72	\$11.66
139	6-Dec-12	19	10	\$28.53	Yes	\$39.72	\$11.19
140	6-Dec-12	19	11	\$28.16	Yes	\$39.72	\$11.56
141	6-Dec-12	19	12	\$26.96	Yes	\$39.72	\$12.76
142	6-Dec-12	20	1	\$33.65	Yes	\$39.72	\$6.07
143	6-Dec-12	20	2	\$30.84	Yes	\$39.72	\$8.88
144	6-Dec-12	20	3	\$31.69	Yes	\$39.72	\$8.03
145	6-Dec-12	20	4	\$38.42	Yes	\$39.72	\$1.30
146	6-Dec-12	20	5	\$34.28	Yes	\$39.72	\$5.44
147	6-Dec-12	20	6	\$31.64	Yes	\$39.72	\$8.08
148	6-Dec-12	20	7	\$30.14	Yes	\$39.72	\$9.58
149	6-Dec-12	20	8	\$27.00	Yes	\$39.72	\$12.72
150	6-Dec-12	20	9	\$27.29	Yes	\$39.72	\$12.43

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
151	6-Dec-12	20	10	\$24.85	Yes	\$39.72	\$14.87
152	6-Dec-12	20	11	\$27.14	Yes	\$39.72	\$12.58
153	6-Dec-12	20	12	\$23.82	Yes	\$39.72	\$15.90
154	6-Dec-12	21	1	\$26.97	Yes	\$39.72	\$12.75
155	6-Dec-12	21	2	\$26.97	Yes	\$39.72	\$12.75
156	6-Dec-12	21	3	\$32.53	Yes	\$39.72	\$7.19
157	6-Dec-12	21	4	\$27.68	Yes	\$39.72	\$12.04
158	6-Dec-12	21	5	\$27.10	Yes	\$39.72	\$12.62
159	6-Dec-12	21	6	\$27.10	Yes	\$39.72	\$12.62
160	6-Dec-12	21	7	\$33.05	Yes	\$39.72	\$6.67
161	6-Dec-12	21	8	\$37.32	Yes	\$39.72	\$2.40
162	6-Dec-12	21	9	\$31.98	Yes	\$39.72	\$7.74
163	6-Dec-12	21	10	\$26.11	Yes	\$39.72	\$13.61
164	6-Dec-12	21	11	\$26.53	Yes	\$39.72	\$13.19
165	6-Dec-12	21	12	\$23.92	Yes	\$39.72	\$15.80
166	19-Dec-12	1	1	\$26.01	No	\$39.55	\$13.54
167	19-Dec-12	1	2	\$31.56	No	\$39.55	\$7.99
168	19-Dec-12	1	3	\$33.59	No	\$39.55	\$5.96
169	19-Dec-12	1	4	\$36.21	No	\$39.55	\$3.34
170	19-Dec-12	1	5	\$31.67	No	\$39.55	\$7.88
171	19-Dec-12	1	6	\$33.08	No	\$39.55	\$6.47
172	22-Dec-12	24	9	\$25.46	No	\$39.55	\$14.09
173	22-Dec-12	24	10	\$13.24	No	\$39.55	\$26.31
174	22-Dec-12	24	11	\$21.61	No	\$39.55	\$17.94
175	22-Dec-12	24	12	\$18.74	No	\$39.55	\$20.81
176	23-Dec-12	1	1	\$18.74	No	\$37.93	\$19.19
177	23-Dec-12	1	2	\$22.95	No	\$37.93	\$14.98
178	23-Dec-12	1	3	\$27.51	No	\$37.93	\$10.42
179	23-Dec-12	1	4	\$26.60	No	\$37.93	\$11.33
180	23-Dec-12	1	5	\$25.94	No	\$37.93	\$11.99
181	23-Dec-12	1	6	\$22.24	No	\$37.93	\$15.69
182	23-Dec-12	1	7	\$22.26	No	\$37.93	\$15.67
183	23-Dec-12	1	8	\$22.26	No	\$37.93	\$15.67
184	23-Dec-12	1	9	\$22.26	No	\$37.93	\$15.67
185	23-Dec-12	1	10	\$20.27	No	\$37.93	\$17.66
186	23-Dec-12	1	11	\$20.27	No	\$37.93	\$17.66
187	23-Dec-12	1	12	\$16.09	No	\$37.93	\$21.84
188	31-Dec-12	1	1	\$24.17	No	\$39.64	\$15.47

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
189	31-Dec-12	1	2	\$25.37	No	\$39.64	\$14.27
190	31-Dec-12	1	3	\$26.15	No	\$39.64	\$13.49
191	31-Dec-12	1	4	\$26.93	No	\$39.64	\$12.71
192	31-Dec-12	1	5	\$26.93	No	\$39.64	\$12.71
193	31-Dec-12	1	6	\$28.01	No	\$39.64	\$11.63
194	31-Dec-12	1	7	\$27.92	No	\$39.64	\$11.72
195	31-Dec-12	1	8	\$28.60	No	\$39.64	\$11.04
196	31-Dec-12	1	9	\$28.60	No	\$39.64	\$11.04
197	31-Dec-12	1	10	\$29.85	No	\$39.64	\$9.79
198	31-Dec-12	1	11	\$28.23	No	\$39.64	\$11.41
199	31-Dec-12	1	12	\$26.27	No	\$39.64	\$13.37

Table 9: Price Impact Analysis Information for Pricing Node B in SCE LAP

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
1	10-Dec-12	16	4	\$17.09	Yes	\$42.92	\$25.83
2	10-Dec-12	16	5	\$25.80	Yes	\$42.92	\$17.12
3	10-Dec-12	16	6	\$25.25	Yes	\$42.92	\$17.67
4	10-Dec-12	16	7	\$25.01	Yes	\$42.92	\$17.91
5	10-Dec-12	16	8	\$25.01	Yes	\$42.92	\$17.91
6	10-Dec-12	16	9	\$25.01	Yes	\$42.92	\$17.91
7	10-Dec-12	16	10	\$25.63	Yes	\$42.92	\$17.29
8	10-Dec-12	16	11	\$24.95	Yes	\$42.92	\$17.97
9	10-Dec-12	16	12	\$24.95	Yes	\$42.92	\$17.97
10	10-Dec-12	17	1	\$21.95	Yes	\$42.92	\$20.97
11	10-Dec-12	17	2	\$21.95	Yes	\$42.92	\$20.97
12	10-Dec-12	17	3	\$17.82	Yes	\$42.92	\$25.10
13	10-Dec-12	17	4	\$14.22	Yes	\$42.92	\$28.70
14	10-Dec-12	17	5	\$14.75	Yes	\$42.92	\$28.17
15	10-Dec-12	17	6	\$16.39	Yes	\$42.92	\$26.53
16	10-Dec-12	17	7	\$18.02	Yes	\$42.92	\$24.90
17	10-Dec-12	17	8	\$22.17	Yes	\$42.92	\$20.75
18	10-Dec-12	17	9	\$22.17	Yes	\$42.92	\$20.75
19	10-Dec-12	17	10	\$27.84	Yes	\$42.92	\$15.08
20	10-Dec-12	17	11	\$28.32	Yes	\$42.92	\$14.60
21	10-Dec-12	17	12	\$35.77	Yes	\$42.92	\$7.15
22	10-Dec-12	18	1	\$26.68	Yes	\$42.92	\$16.24
23	10-Dec-12	18	2	\$29.32	Yes	\$42.92	\$13.60
24	10-Dec-12	18	3	\$29.32	Yes	\$42.92	\$13.60
25	10-Dec-12	18	4	\$35.18	Yes	\$42.92	\$7.74
26	10-Dec-12	18	5	\$57.58	Yes	\$42.92	(\$14.66)
27	10-Dec-12	18	6	\$45.62	Yes	\$42.92	(\$2.70)
28	10-Dec-12	18	7	\$44.65	Yes	\$42.92	(\$1.73)
29	10-Dec-12	18	8	\$47.56	Yes	\$42.92	(\$4.64)
30	10-Dec-12	18	9	\$79.62	Yes	\$42.92	(\$36.70)
31	10-Dec-12	18	10	\$131.51	Yes	\$42.92	(\$88.59)
32	10-Dec-12	18	11	\$79.59	Yes	\$42.92	(\$36.67)
33	10-Dec-12	18	12	\$43.43	Yes	\$42.92	(\$0.51)
34	10-Dec-12	19	1	\$32.38	Yes	\$42.92	\$10.54
35	10-Dec-12	19	2	\$42.83	Yes	\$42.92	\$0.09

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
36	10-Dec-12	19	3	\$33.30	Yes	\$42.92	\$9.62
37	10-Dec-12	19	4	\$33.21	Yes	\$42.92	\$9.71
38	10-Dec-12	19	5	\$32.87	Yes	\$42.92	\$10.05
39	10-Dec-12	19	6	\$33.21	Yes	\$42.92	\$9.71
40	10-Dec-12	19	7	\$33.10	Yes	\$42.92	\$9.82
41	10-Dec-12	19	8	\$32.69	Yes	\$42.92	\$10.23
42	10-Dec-12	19	9	\$33.10	Yes	\$42.92	\$9.82
43	10-Dec-12	19	10	\$32.52	Yes	\$42.92	\$10.40
44	10-Dec-12	19	11	\$28.66	Yes	\$42.92	\$14.26
45	10-Dec-12	19	12	\$28.29	Yes	\$42.92	\$14.63
46	10-Dec-12	20	1	\$39.99	Yes	\$42.92	\$2.93
47	10-Dec-12	20	2	\$39.18	Yes	\$42.92	\$3.74
48	10-Dec-12	20	3	\$37.64	Yes	\$42.92	\$5.28
49	10-Dec-12	20	4	\$32.45	Yes	\$42.92	\$10.47
50	10-Dec-12	20	5	\$37.81	Yes	\$42.92	\$5.11
51	10-Dec-12	20	6	\$39.54	Yes	\$42.92	\$3.38
52	10-Dec-12	20	7	\$39.32	Yes	\$42.92	\$3.60
53	10-Dec-12	20	8	\$43.31	Yes	\$42.92	(\$0.39)
54	10-Dec-12	20	9	\$40.87	Yes	\$42.92	\$2.05
55	10-Dec-12	20	10	\$35.79	Yes	\$42.92	\$7.13
56	10-Dec-12	20	11	\$32.17	Yes	\$42.92	\$10.75
57	10-Dec-12	20	12	\$32.16	Yes	\$42.92	\$10.76
58	10-Dec-12	21	1	\$33.04	Yes	\$42.92	\$9.88
59	10-Dec-12	21	2	\$33.04	Yes	\$42.92	\$9.88
60	10-Dec-12	21	3	\$33.04	Yes	\$42.92	\$9.88
61	10-Dec-12	21	4	\$37.21	Yes	\$42.92	\$5.71
62	10-Dec-12	21	5	\$37.21	Yes	\$42.92	\$5.71
63	10-Dec-12	21	6	\$33.94	Yes	\$42.92	\$8.98
64	10-Dec-12	21	7	\$32.80	Yes	\$42.92	\$10.12
65	10-Dec-12	21	8	\$30.34	Yes	\$42.92	\$12.58
66	10-Dec-12	21	9	\$31.17	Yes	\$42.92	\$11.75
67	10-Dec-12	21	10	\$29.46	Yes	\$42.92	\$13.46
68	10-Dec-12	21	11	\$27.49	Yes	\$42.92	\$15.43
69	10-Dec-12	21	12	\$26.90	Yes	\$42.92	\$16.02
70	12-Dec-12	1	1	\$11.52	Yes	\$44.85	\$33.33
71	12-Dec-12	1	2	\$24.48	Yes	\$44.85	\$20.37
72	12-Dec-12	1	3	\$28.36	Yes	\$44.85	\$16.49
73	12-Dec-12	1	4	\$28.35	Yes	\$44.85	\$16.50

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
74	12-Dec-12	1	5	\$28.35	Yes	\$44.85	\$16.50
75	12-Dec-12	1	6	\$28.42	Yes	\$44.85	\$16.43
76	12-Dec-12	1	7	\$28.25	Yes	\$44.85	\$16.60
77	12-Dec-12	1	8	\$26.33	Yes	\$44.85	\$18.52
78	12-Dec-12	1	9	\$25.53	Yes	\$44.85	\$19.32
79	12-Dec-12	1	10	\$25.60	Yes	\$44.85	\$19.25
80	12-Dec-12	1	11	\$26.29	Yes	\$44.85	\$18.56
81	12-Dec-12	1	12	\$26.00	Yes	\$44.85	\$18.85
82	12-Dec-12	2	1	\$26.61	Yes	\$44.85	\$18.24
83	12-Dec-12	2	2	\$28.15	Yes	\$44.85	\$16.70
84	12-Dec-12	2	3	\$28.15	Yes	\$44.85	\$16.70
85	12-Dec-12	2	4	\$27.85	Yes	\$44.85	\$17.00
86	12-Dec-12	2	5	\$26.61	Yes	\$44.85	\$18.24
87	12-Dec-12	2	6	\$26.61	Yes	\$44.85	\$18.24
88	12-Dec-12	2	7	\$24.23	Yes	\$44.85	\$20.62
89	12-Dec-12	2	8	\$26.20	Yes	\$44.85	\$18.65
90	12-Dec-12	2	9	\$26.20	Yes	\$44.85	\$18.65
91	12-Dec-12	2	10	\$26.57	Yes	\$44.85	\$18.28
92	12-Dec-12	2	11	\$26.20	Yes	\$44.85	\$18.65
93	12-Dec-12	2	12	\$26.30	Yes	\$44.85	\$18.55
94	12-Dec-12	3	1	\$26.60	Yes	\$44.85	\$18.25
95	12-Dec-12	3	2	\$26.50	Yes	\$44.85	\$18.35
96	12-Dec-12	3	3	\$26.19	Yes	\$44.85	\$18.66
97	12-Dec-12	3	4	\$26.49	Yes	\$44.85	\$18.36
98	12-Dec-12	3	5	\$25.60	Yes	\$44.85	\$19.25
99	12-Dec-12	3	6	\$25.01	Yes	\$44.85	\$19.84
100	12-Dec-12	3	7	\$25.02	Yes	\$44.85	\$19.83
101	12-Dec-12	3	8	\$13.54	Yes	\$44.85	\$31.31
102	12-Dec-12	3	9	\$13.54	Yes	\$44.85	\$31.31
103	12-Dec-12	3	10	\$24.30	Yes	\$44.85	\$20.55
104	12-Dec-12	3	11	\$24.30	Yes	\$44.85	\$20.55
105	12-Dec-12	3	12	\$24.30	Yes	\$44.85	\$20.55
106	12-Dec-12	4	1	\$24.64	Yes	\$44.85	\$20.21
107	12-Dec-12	4	2	\$26.56	Yes	\$44.85	\$18.29
108	12-Dec-12	4	3	\$26.47	Yes	\$44.85	\$18.38
109	12-Dec-12	4	4	\$26.49	Yes	\$44.85	\$18.36
110	12-Dec-12	4	5	\$26.56	Yes	\$44.85	\$18.29
111	12-Dec-12	4	6	\$26.56	Yes	\$44.85	\$18.29

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
112	12-Dec-12	4	7	\$26.56	Yes	\$44.85	\$18.29
113	12-Dec-12	4	8	\$26.56	Yes	\$44.85	\$18.29
114	12-Dec-12	4	9	\$27.35	Yes	\$44.85	\$17.50
115	12-Dec-12	4	10	\$28.14	Yes	\$44.85	\$16.71
116	12-Dec-12	4	11	\$28.14	Yes	\$44.85	\$16.71
117	12-Dec-12	4	12	\$28.14	Yes	\$44.85	\$16.71
118	12-Dec-12	5	1	\$25.60	Yes	\$44.85	\$19.25
119	12-Dec-12	5	2	\$25.58	Yes	\$44.85	\$19.27
120	12-Dec-12	5	3	\$25.91	Yes	\$44.85	\$18.94
121	12-Dec-12	5	4	\$27.38	Yes	\$44.85	\$17.47
122	12-Dec-12	5	5	\$26.65	Yes	\$44.85	\$18.20
123	12-Dec-12	5	6	\$27.39	Yes	\$44.85	\$17.46
124	12-Dec-12	5	7	\$28.20	Yes	\$44.85	\$16.65
125	12-Dec-12	5	8	\$28.20	Yes	\$44.85	\$16.65
126	12-Dec-12	5	9	\$28.23	Yes	\$44.85	\$16.62
127	12-Dec-12	5	10	\$28.46	Yes	\$44.85	\$16.39
128	12-Dec-12	5	11	\$28.46	Yes	\$44.85	\$16.39
129	12-Dec-12	5	12	\$28.46	Yes	\$44.85	\$16.39
130	12-Dec-12	6	1	\$25.17	Yes	\$44.85	\$19.68
131	12-Dec-12	6	2	\$15.89	Yes	\$44.85	\$28.96
132	12-Dec-12	6	3	\$25.70	Yes	\$44.85	\$19.15
133	12-Dec-12	6	4	(\$75.19)	Yes	\$44.85	\$120.04
134	12-Dec-12	6	5	\$6.51	Yes	\$44.85	\$38.34
135	12-Dec-12	6	6	\$24.33	Yes	\$44.85	\$20.52
136	12-Dec-12	6	7	\$26.83	Yes	\$44.85	\$18.02
137	12-Dec-12	6	8	\$26.93	Yes	\$44.85	\$17.92
138	12-Dec-12	6	9	\$30.31	Yes	\$44.85	\$14.54
139	12-Dec-12	6	10	\$27.31	Yes	\$44.85	\$17.54
140	12-Dec-12	6	11	\$28.34	Yes	\$44.85	\$16.51
141	12-Dec-12	6	12	\$30.13	Yes	\$44.85	\$14.72
142	12-Dec-12	7	1	\$16.05	Yes	\$44.85	\$28.80
143	12-Dec-12	7	2	\$21.07	Yes	\$44.85	\$23.78
144	12-Dec-12	7	3	\$21.07	Yes	\$44.85	\$23.78
145	12-Dec-12	7	4	\$23.14	Yes	\$44.85	\$21.71
146	12-Dec-12	7	5	\$26.25	Yes	\$44.85	\$18.60
147	12-Dec-12	7	6	\$27.16	Yes	\$44.85	\$17.69
148	12-Dec-12	7	7	\$28.39	Yes	\$44.85	\$16.46
149	12-Dec-12	7	8	\$28.74	Yes	\$44.85	\$16.11

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
150	12-Dec-12	7	9	\$29.54	Yes	\$44.85	\$15.31
151	12-Dec-12	7	10	\$29.83	Yes	\$44.85	\$15.02
152	12-Dec-12	7	11	\$29.96	Yes	\$44.85	\$14.89
153	12-Dec-12	7	12	\$32.70	Yes	\$44.85	\$12.15
154	12-Dec-12	8	1	\$30.55	Yes	\$44.85	\$14.30
155	12-Dec-12	8	2	\$29.13	Yes	\$44.85	\$15.72
156	12-Dec-12	8	3	\$29.17	Yes	\$44.85	\$15.68
157	12-Dec-12	8	4	\$28.08	Yes	\$44.85	\$16.77
158	12-Dec-12	8	5	\$27.18	Yes	\$44.85	\$17.67
159	12-Dec-12	8	6	\$27.18	Yes	\$44.85	\$17.67
160	12-Dec-12	8	7	\$26.71	Yes	\$44.85	\$18.14
161	12-Dec-12	8	8	\$26.71	Yes	\$44.85	\$18.14
162	12-Dec-12	8	9	\$26.74	Yes	\$44.85	\$18.11
163	12-Dec-12	8	10	\$26.72	Yes	\$44.85	\$18.13
164	12-Dec-12	8	11	\$26.72	Yes	\$44.85	\$18.13
165	12-Dec-12	8	12	\$26.72	Yes	\$44.85	\$18.13
166	12-Dec-12	9	1	\$26.37	Yes	\$44.85	\$18.48
167	12-Dec-12	9	2	\$26.61	Yes	\$44.85	\$18.24
168	12-Dec-12	9	3	\$26.72	Yes	\$44.85	\$18.13
169	12-Dec-12	9	4	\$28.28	Yes	\$44.85	\$16.57
170	12-Dec-12	9	5	\$28.00	Yes	\$44.85	\$16.85
171	12-Dec-12	9	6	\$28.00	Yes	\$44.85	\$16.85
172	12-Dec-12	9	7	\$26.63	Yes	\$44.85	\$18.22
173	12-Dec-12	9	8	\$26.67	Yes	\$44.85	\$18.18
174	12-Dec-12	9	9	\$26.90	Yes	\$44.85	\$17.95
175	12-Dec-12	9	10	\$29.00	Yes	\$44.85	\$15.85
176	12-Dec-12	9	11	\$28.31	Yes	\$44.85	\$16.54
177	12-Dec-12	9	12	\$26.46	Yes	\$44.85	\$18.39
178	12-Dec-12	10	1	\$26.47	Yes	\$44.85	\$18.38
179	12-Dec-12	10	2	\$24.24	Yes	\$44.85	\$20.61
180	12-Dec-12	10	3	\$26.68	Yes	\$44.85	\$18.17
181	12-Dec-12	10	4	\$26.58	Yes	\$44.85	\$18.27
182	12-Dec-12	10	5	\$26.58	Yes	\$44.85	\$18.27
183	12-Dec-12	10	6	\$26.58	Yes	\$44.85	\$18.27
184	12-Dec-12	10	7	\$24.76	Yes	\$44.85	\$20.09
185	12-Dec-12	10	8	\$24.65	Yes	\$44.85	\$20.20
186	12-Dec-12	10	9	\$24.30	Yes	\$44.85	\$20.55
187	12-Dec-12	10	10	\$24.70	Yes	\$44.85	\$20.15

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
188	12-Dec-12	10	11	\$24.50	Yes	\$44.85	\$20.35
189	12-Dec-12	10	12	\$24.35	Yes	\$44.85	\$20.50
190	12-Dec-12	11	1	\$24.41	Yes	\$44.85	\$20.44
191	12-Dec-12	11	2	\$24.41	Yes	\$44.85	\$20.44
192	12-Dec-12	11	3	\$24.41	Yes	\$44.85	\$20.44
193	12-Dec-12	11	4	\$24.46	Yes	\$44.85	\$20.39
194	12-Dec-12	11	5	\$24.28	Yes	\$44.85	\$20.57
195	12-Dec-12	11	6	\$24.28	Yes	\$44.85	\$20.57
196	12-Dec-12	11	7	\$24.23	Yes	\$44.85	\$20.62
197	12-Dec-12	11	8	\$24.23	Yes	\$44.85	\$20.62
198	12-Dec-12	11	9	\$24.23	Yes	\$44.85	\$20.62
199	12-Dec-12	11	10	\$24.45	Yes	\$44.85	\$20.40
200	12-Dec-12	11	11	\$24.45	Yes	\$44.85	\$20.40
201	12-Dec-12	11	12	\$24.19	Yes	\$44.85	\$20.66
202	12-Dec-12	12	1	\$23.96	Yes	\$44.85	\$20.89
203	12-Dec-12	12	2	\$23.96	Yes	\$44.85	\$20.89
204	12-Dec-12	12	3	\$23.96	Yes	\$44.85	\$20.89
205	12-Dec-12	12	4	\$20.86	Yes	\$44.85	\$23.99
206	12-Dec-12	12	5	\$20.86	Yes	\$44.85	\$23.99
207	12-Dec-12	12	6	\$15.98	Yes	\$44.85	\$28.87
208	12-Dec-12	12	7	\$16.12	Yes	\$44.85	\$28.73
209	12-Dec-12	12	8	\$16.12	Yes	\$44.85	\$28.73
210	12-Dec-12	12	9	\$16.12	Yes	\$44.85	\$28.73
211	12-Dec-12	12	10	\$16.27	Yes	\$44.85	\$28.58
212	12-Dec-12	12	11	\$11.52	Yes	\$44.85	\$33.33
213	12-Dec-12	12	12	\$14.00	Yes	\$44.85	\$30.85
214	12-Dec-12	13	1	\$17.01	Yes	\$44.85	\$27.84
215	12-Dec-12	13	2	\$16.33	Yes	\$44.85	\$28.52
216	12-Dec-12	13	3	\$16.67	Yes	\$44.85	\$28.18
217	12-Dec-12	13	4	\$11.53	Yes	\$44.85	\$33.32
218	12-Dec-12	13	5	\$11.34	Yes	\$44.85	\$33.51
219	12-Dec-12	13	6	\$14.78	Yes	\$44.85	\$30.07
220	12-Dec-12	13	7	\$14.56	Yes	\$44.85	\$30.29
221	12-Dec-12	13	8	\$16.07	Yes	\$44.85	\$28.78
222	12-Dec-12	13	9	\$16.07	Yes	\$44.85	\$28.78
223	12-Dec-12	13	10	\$16.27	Yes	\$44.85	\$28.58
224	12-Dec-12	13	11	\$16.27	Yes	\$44.85	\$28.58
225	12-Dec-12	13	12	\$16.27	Yes	\$44.85	\$28.58

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
226	12-Dec-12	14	1	\$24.60	Yes	\$44.85	\$20.25
227	12-Dec-12	14	2	\$20.94	Yes	\$44.85	\$23.91
228	12-Dec-12	14	3	\$24.60	Yes	\$44.85	\$20.25
229	12-Dec-12	14	4	\$24.60	Yes	\$44.85	\$20.25
230	12-Dec-12	14	5	\$24.60	Yes	\$44.85	\$20.25
231	12-Dec-12	14	6	\$24.60	Yes	\$44.85	\$20.25
232	12-Dec-12	14	7	\$24.60	Yes	\$44.85	\$20.25
233	12-Dec-12	14	8	\$24.60	Yes	\$44.85	\$20.25
234	12-Dec-12	14	9	\$28.34	Yes	\$44.85	\$16.51
235	12-Dec-12	14	10	\$26.62	Yes	\$44.85	\$18.23
236	12-Dec-12	14	11	\$26.62	Yes	\$44.85	\$18.23
237	12-Dec-12	14	12	\$26.62	Yes	\$44.85	\$18.23
238	12-Dec-12	15	1	\$26.62	Yes	\$44.85	\$18.23
239	12-Dec-12	15	2	\$26.62	Yes	\$44.85	\$18.23
240	12-Dec-12	15	3	\$26.60	Yes	\$44.85	\$18.25
241	12-Dec-12	15	4	\$26.59	Yes	\$44.85	\$18.26
242	12-Dec-12	15	5	\$26.96	Yes	\$44.85	\$17.89
243	12-Dec-12	15	6	\$27.75	Yes	\$44.85	\$17.10
244	12-Dec-12	15	7	\$30.14	Yes	\$44.85	\$14.71
245	12-Dec-12	15	8	\$30.00	Yes	\$44.85	\$14.85
246	12-Dec-12	15	9	\$44.85	Yes	\$44.85	\$0.00
247	12-Dec-12	15	10	\$29.79	Yes	\$44.85	\$15.06
248	12-Dec-12	15	11	\$44.74	Yes	\$44.85	\$0.11
249	12-Dec-12	15	12	\$656.17	Yes	\$44.85	(\$611.32)
250	12-Dec-12	16	1	\$321.17	Yes	\$44.85	(\$276.32)
251	12-Dec-12	16	2	\$87.51	Yes	\$44.85	(\$42.66)
252	12-Dec-12	16	3	\$538.55	Yes	\$44.85	(\$493.70)
253	12-Dec-12	16	4	\$87.45	Yes	\$44.85	(\$42.60)
254	12-Dec-12	16	5	\$73.10	Yes	\$44.85	(\$28.25)
255	12-Dec-12	16	6	\$44.99	Yes	\$44.85	(\$0.14)
256	12-Dec-12	16	7	\$42.05	Yes	\$44.85	\$2.80
257	12-Dec-12	16	8	\$50.63	Yes	\$44.85	(\$5.78)
258	12-Dec-12	16	9	\$41.37	Yes	\$44.85	\$3.48
259	12-Dec-12	16	10	\$41.36	Yes	\$44.85	\$3.49
260	12-Dec-12	16	11	\$35.61	Yes	\$44.85	\$9.24
261	12-Dec-12	16	12	\$30.73	Yes	\$44.85	\$14.12
262	12-Dec-12	17	1	\$21.17	Yes	\$44.85	\$23.68
263	12-Dec-12	17	2	\$24.80	Yes	\$44.85	\$20.05

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
264	12-Dec-12	17	3	\$24.80	Yes	\$44.85	\$20.05
265	12-Dec-12	17	4	\$24.68	Yes	\$44.85	\$20.17
266	12-Dec-12	17	5	\$26.70	Yes	\$44.85	\$18.15
267	12-Dec-12	17	6	\$31.15	Yes	\$44.85	\$13.70
268	12-Dec-12	17	7	\$31.39	Yes	\$44.85	\$13.46
269	12-Dec-12	17	8	\$35.57	Yes	\$44.85	\$9.28
270	12-Dec-12	17	9	\$36.63	Yes	\$44.85	\$8.22
271	12-Dec-12	17	10	\$36.90	Yes	\$44.85	\$7.95
272	12-Dec-12	17	11	\$28.44	Yes	\$44.85	\$16.41
273	12-Dec-12	17	12	\$103.87	Yes	\$44.85	(\$59.02)
274	12-Dec-12	18	1	(\$14.82)	Yes	\$44.85	\$59.67
275	12-Dec-12	18	2	\$40.63	Yes	\$44.85	\$4.22
276	12-Dec-12	18	3	\$151.23	Yes	\$44.85	(\$106.38)
277	12-Dec-12	18	4	\$44.63	Yes	\$44.85	\$0.22
278	12-Dec-12	18	5	\$41.33	Yes	\$44.85	\$3.52
279	12-Dec-12	18	6	\$41.49	Yes	\$44.85	\$3.36
280	12-Dec-12	18	7	\$46.31	Yes	\$44.85	(\$1.46)
281	12-Dec-12	18	8	\$75.05	Yes	\$44.85	(\$30.20)
282	12-Dec-12	18	9	\$46.06	Yes	\$44.85	(\$1.21)
283	12-Dec-12	18	10	\$42.15	Yes	\$44.85	\$2.70
284	12-Dec-12	18	11	\$40.99	Yes	\$44.85	\$3.86
285	12-Dec-12	18	12	\$41.07	Yes	\$44.85	\$3.78
286	12-Dec-12	19	1	\$29.09	Yes	\$44.85	\$15.76
287	12-Dec-12	19	2	\$39.55	Yes	\$44.85	\$5.30
288	12-Dec-12	19	3	\$44.85	Yes	\$44.85	\$0.00
289	12-Dec-12	19	4	\$44.85	Yes	\$44.85	\$0.00
290	12-Dec-12	19	5	\$45.18	Yes	\$44.85	(\$0.33)
291	12-Dec-12	19	6	\$44.85	Yes	\$44.85	\$0.00
292	12-Dec-12	19	7	\$42.65	Yes	\$44.85	\$2.20
293	12-Dec-12	19	8	\$44.85	Yes	\$44.85	\$0.00
294	12-Dec-12	19	9	\$42.61	Yes	\$44.85	\$2.24
295	12-Dec-12	19	10	\$45.60	Yes	\$44.85	(\$0.75)
296	12-Dec-12	19	11	\$44.85	Yes	\$44.85	\$0.00
297	12-Dec-12	19	12	\$43.40	Yes	\$44.85	\$1.45
298	12-Dec-12	20	1	\$46.00	Yes	\$44.85	(\$1.15)
299	12-Dec-12	20	2	\$44.85	Yes	\$44.85	\$0.00
300	12-Dec-12	20	3	\$44.85	Yes	\$44.85	\$0.00
301	12-Dec-12	20	4	\$45.67	Yes	\$44.85	(\$0.82)

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
302	12-Dec-12	20	5	\$46.00	Yes	\$44.85	(\$1.15)
303	12-Dec-12	20	6	\$46.00	Yes	\$44.85	(\$1.15)
304	12-Dec-12	20	7	\$43.07	Yes	\$44.85	\$1.78
305	12-Dec-12	20	8	\$44.59	Yes	\$44.85	\$0.26
306	12-Dec-12	20	9	\$44.59	Yes	\$44.85	\$0.26
307	12-Dec-12	20	10	\$324.53	Yes	\$44.85	(\$279.68)
308	12-Dec-12	20	11	\$46.14	Yes	\$44.85	(\$1.29)
309	12-Dec-12	20	12	\$33.92	Yes	\$44.85	\$10.93
310	12-Dec-12	21	1	\$107.88	Yes	\$44.85	(\$63.03)
311	12-Dec-12	21	2	\$62.70	Yes	\$44.85	(\$17.85)
312	12-Dec-12	21	3	\$64.56	Yes	\$44.85	(\$19.71)
313	12-Dec-12	21	4	\$31.55	Yes	\$44.85	\$13.30
314	12-Dec-12	21	5	\$44.85	Yes	\$44.85	\$0.00
315	12-Dec-12	21	6	\$44.85	Yes	\$44.85	\$0.00
316	12-Dec-12	21	7	\$37.96	Yes	\$44.85	\$6.89
317	12-Dec-12	21	8	\$30.67	Yes	\$44.85	\$14.18
318	12-Dec-12	21	9	\$44.85	Yes	\$44.85	\$0.00
319	12-Dec-12	21	10	\$30.70	Yes	\$44.85	\$14.15
320	12-Dec-12	21	11	\$44.85	Yes	\$44.85	\$0.00
321	12-Dec-12	21	12	\$43.64	Yes	\$44.85	\$1.21
322	12-Dec-12	22	1	\$44.73	Yes	\$44.85	\$0.12
323	12-Dec-12	22	2	\$44.59	Yes	\$44.85	\$0.26
324	12-Dec-12	22	3	\$45.28	Yes	\$44.85	(\$0.43)
325	12-Dec-12	22	4	\$45.95	Yes	\$44.85	(\$1.10)
326	12-Dec-12	22	5	\$44.75	Yes	\$44.85	\$0.10
327	12-Dec-12	22	6	\$44.74	Yes	\$44.85	\$0.11
328	12-Dec-12	22	7	\$29.21	Yes	\$44.85	\$15.64
329	12-Dec-12	22	8	\$29.02	Yes	\$44.85	\$15.83
330	12-Dec-12	22	9	\$28.39	Yes	\$44.85	\$16.46
331	12-Dec-12	22	10	\$27.97	Yes	\$44.85	\$16.88
332	12-Dec-12	22	11	\$28.16	Yes	\$44.85	\$16.69
333	12-Dec-12	22	12	\$26.76	Yes	\$44.85	\$18.09
334	12-Dec-12	23	1	\$31.04	Yes	\$44.85	\$13.81
335	12-Dec-12	23	2	\$39.93	Yes	\$44.85	\$4.92
336	12-Dec-12	23	3	\$46.53	Yes	\$44.85	(\$1.68)
337	12-Dec-12	23	4	\$47.64	Yes	\$44.85	(\$2.79)
338	12-Dec-12	23	5	\$44.96	Yes	\$44.85	(\$0.11)
339	12-Dec-12	23	6	\$44.26	Yes	\$44.85	\$0.59

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
340	12-Dec-12	23	7	\$38.36	Yes	\$44.85	\$6.49
341	12-Dec-12	23	8	\$28.31	Yes	\$44.85	\$16.54
342	12-Dec-12	23	9	\$28.31	Yes	\$44.85	\$16.54
343	12-Dec-12	23	10	\$28.04	Yes	\$44.85	\$16.81
344	12-Dec-12	23	11	\$26.12	Yes	\$44.85	\$18.73
345	12-Dec-12	23	12	\$26.12	Yes	\$44.85	\$18.73
346	12-Dec-12	24	1	\$44.85	Yes	\$44.85	\$0.00
347	12-Dec-12	24	2	\$67.41	Yes	\$44.85	(\$22.56)
348	12-Dec-12	24	3	\$67.41	Yes	\$44.85	(\$22.56)
349	12-Dec-12	24	4	\$28.33	Yes	\$44.85	\$16.52
350	12-Dec-12	24	5	\$28.35	Yes	\$44.85	\$16.50
351	12-Dec-12	24	6	\$28.00	Yes	\$44.85	\$16.85
352	12-Dec-12	24	7	\$26.65	Yes	\$44.85	\$18.20
353	12-Dec-12	24	8	\$14.10	Yes	\$44.85	\$30.75
354	12-Dec-12	24	9	\$14.12	Yes	\$44.85	\$30.73
355	12-Dec-12	24	10	\$25.68	Yes	\$44.85	\$19.17
356	12-Dec-12	24	11	\$25.68	Yes	\$44.85	\$19.17
357	12-Dec-12	24	12	\$24.16	Yes	\$44.85	\$20.69
358	18-Dec-12	7	1	\$5.46	Yes	\$41.17	\$35.71
359	18-Dec-12	7	2	\$14.02	Yes	\$41.17	\$27.15
360	18-Dec-12	7	3	\$14.02	Yes	\$41.17	\$27.15
361	18-Dec-12	7	4	\$20.96	Yes	\$41.17	\$20.21
362	18-Dec-12	7	5	\$23.62	Yes	\$41.17	\$17.55
363	18-Dec-12	7	6	\$24.94	Yes	\$41.17	\$16.23
364	18-Dec-12	7	7	\$24.48	Yes	\$41.17	\$16.69
365	18-Dec-12	7	8	\$25.83	Yes	\$41.17	\$15.34
366	18-Dec-12	7	9	\$25.83	Yes	\$41.17	\$15.34
367	18-Dec-12	7	10	\$25.70	Yes	\$41.17	\$15.47
368	18-Dec-12	7	11	\$25.70	Yes	\$41.17	\$15.47
369	18-Dec-12	7	12	\$25.70	Yes	\$41.17	\$15.47
370	18-Dec-12	8	1	\$22.75	Yes	\$41.17	\$18.42
371	18-Dec-12	8	2	\$22.75	Yes	\$41.17	\$18.42
372	18-Dec-12	8	3	\$27.08	Yes	\$41.17	\$14.09
373	18-Dec-12	8	4	\$26.13	Yes	\$41.17	\$15.04
374	18-Dec-12	8	5	\$26.13	Yes	\$41.17	\$15.04
375	18-Dec-12	8	6	\$26.35	Yes	\$41.17	\$14.82
376	18-Dec-12	8	7	\$447.55	Yes	\$41.17	(\$406.38)
377	18-Dec-12	8	8	\$446.77	Yes	\$41.17	(\$405.60)

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
378	18-Dec-12	8	9	\$448.59	Yes	\$41.17	(\$407.42)
379	18-Dec-12	8	10	\$445.24	Yes	\$41.17	(\$404.07)
380	18-Dec-12	8	11	\$446.56	Yes	\$41.17	(\$405.39)
381	18-Dec-12	8	12	\$139.75	Yes	\$41.17	(\$98.58)
382	18-Dec-12	9	1	\$29.87	Yes	\$41.17	\$11.30
383	18-Dec-12	9	2	\$25.41	Yes	\$41.17	\$15.76
384	18-Dec-12	9	3	\$25.41	Yes	\$41.17	\$15.76
385	18-Dec-12	9	4	\$35.91	Yes	\$41.17	\$5.26
386	18-Dec-12	9	5	\$36.70	Yes	\$41.17	\$4.47
387	18-Dec-12	9	6	\$33.63	Yes	\$41.17	\$7.54
388	18-Dec-12	9	7	\$33.85	Yes	\$41.17	\$7.32
389	18-Dec-12	9	8	\$33.76	Yes	\$41.17	\$7.41
390	18-Dec-12	9	9	\$33.75	Yes	\$41.17	\$7.42
391	18-Dec-12	9	10	\$441.41	Yes	\$41.17	(\$400.24)
392	18-Dec-12	9	11	\$81.09	Yes	\$41.17	(\$39.92)
393	18-Dec-12	9	12	\$43.73	Yes	\$41.17	(\$2.56)
394	18-Dec-12	10	1	\$23.89	Yes	\$41.17	\$17.28
395	18-Dec-12	10	2	\$39.05	Yes	\$41.17	\$2.12
396	18-Dec-12	10	3	\$41.24	Yes	\$41.17	(\$0.07)
397	18-Dec-12	10	4	\$41.17	Yes	\$41.17	\$0.00
398	18-Dec-12	10	5	\$41.17	Yes	\$41.17	\$0.00
399	18-Dec-12	10	6	\$32.73	Yes	\$41.17	\$8.44
400	18-Dec-12	10	7	\$44.78	Yes	\$41.17	(\$3.61)
401	18-Dec-12	10	8	\$41.19	Yes	\$41.17	(\$0.02)
402	18-Dec-12	10	9	\$41.47	Yes	\$41.17	(\$0.30)
403	18-Dec-12	10	10	\$41.17	Yes	\$41.17	\$0.00
404	18-Dec-12	10	11	\$41.65	Yes	\$41.17	(\$0.48)
405	18-Dec-12	10	12	\$41.17	Yes	\$41.17	\$0.00
406	18-Dec-12	11	1	\$41.11	Yes	\$41.17	\$0.06
407	18-Dec-12	11	2	\$38.36	Yes	\$41.17	\$2.81
408	18-Dec-12	11	3	\$41.23	Yes	\$41.17	(\$0.06)
409	18-Dec-12	11	4	\$39.05	Yes	\$41.17	\$2.12
410	18-Dec-12	11	5	\$41.17	Yes	\$41.17	\$0.00
411	18-Dec-12	11	6	\$44.80	Yes	\$41.17	(\$3.63)
412	18-Dec-12	11	7	\$41.68	Yes	\$41.17	(\$0.51)
413	18-Dec-12	11	8	\$41.68	Yes	\$41.17	(\$0.51)
414	18-Dec-12	11	9	\$44.81	Yes	\$41.17	(\$3.64)
415	18-Dec-12	11	10	\$108.37	Yes	\$41.17	(\$67.20)

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
416	18-Dec-12	11	11	\$89.85	Yes	\$41.17	(\$48.68)
417	18-Dec-12	11	12	\$49.57	Yes	\$41.17	(\$8.40)
418	18-Dec-12	12	1	\$24.01	Yes	\$41.17	\$17.16
419	18-Dec-12	12	2	\$31.32	Yes	\$41.17	\$9.85
420	18-Dec-12	12	3	\$37.25	Yes	\$41.17	\$3.92
421	18-Dec-12	12	4	\$368.30	Yes	\$41.17	(\$327.13)
422	18-Dec-12	12	5	\$145.87	Yes	\$41.17	(\$104.70)
423	18-Dec-12	12	6	\$119.72	Yes	\$41.17	(\$78.55)
424	18-Dec-12	12	7	\$434.29	Yes	\$41.17	(\$393.12)
425	18-Dec-12	12	8	\$434.41	Yes	\$41.17	(\$393.24)
426	18-Dec-12	12	9	\$431.79	Yes	\$41.17	(\$390.62)
427	18-Dec-12	12	10	\$431.71	Yes	\$41.17	(\$390.54)
428	18-Dec-12	12	11	\$431.71	Yes	\$41.17	(\$390.54)
429	18-Dec-12	12	12	\$436.31	Yes	\$41.17	(\$395.14)
430	18-Dec-12	13	1	\$41.17	Yes	\$41.17	\$0.00
431	18-Dec-12	13	2	\$41.17	Yes	\$41.17	\$0.00
432	18-Dec-12	13	3	\$41.17	Yes	\$41.17	\$0.00
433	18-Dec-12	13	4	\$39.14	Yes	\$41.17	\$2.03
434	18-Dec-12	13	5	\$41.17	Yes	\$41.17	\$0.00
435	18-Dec-12	13	6	\$41.17	Yes	\$41.17	\$0.00
436	18-Dec-12	13	7	\$44.85	Yes	\$41.17	(\$3.68)
437	18-Dec-12	13	8	\$41.17	Yes	\$41.17	\$0.00
438	18-Dec-12	13	9	\$41.17	Yes	\$41.17	\$0.00
439	18-Dec-12	13	10	\$44.32	Yes	\$41.17	(\$3.15)
440	18-Dec-12	13	11	\$41.44	Yes	\$41.17	(\$0.27)
441	18-Dec-12	13	12	\$56.31	Yes	\$41.17	(\$15.14)
442	18-Dec-12	14	1	\$39.70	Yes	\$41.17	\$1.47
443	18-Dec-12	14	2	\$40.35	Yes	\$41.17	\$0.82
444	18-Dec-12	14	3	\$41.95	Yes	\$41.17	(\$0.78)
445	18-Dec-12	14	4	\$36.85	Yes	\$41.17	\$4.32
446	18-Dec-12	14	5	\$39.02	Yes	\$41.17	\$2.15
447	18-Dec-12	14	6	\$37.43	Yes	\$41.17	\$3.74
448	18-Dec-12	14	7	\$21.90	Yes	\$41.17	\$19.27
449	18-Dec-12	14	8	\$31.11	Yes	\$41.17	\$10.06
450	18-Dec-12	14	9	\$31.20	Yes	\$41.17	\$9.97
451	18-Dec-12	14	10	\$38.08	Yes	\$41.17	\$3.09
452	18-Dec-12	14	11	\$35.81	Yes	\$41.17	\$5.36
453	18-Dec-12	14	12	\$37.91	Yes	\$41.17	\$3.26

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
454	18-Dec-12	15	1	\$40.09	Yes	\$41.17	\$1.08
455	18-Dec-12	15	2	\$38.24	Yes	\$41.17	\$2.93
456	18-Dec-12	15	3	\$38.24	Yes	\$41.17	\$2.93
457	18-Dec-12	15	4	\$38.24	Yes	\$41.17	\$2.93
458	18-Dec-12	15	5	\$39.06	Yes	\$41.17	\$2.11
459	18-Dec-12	15	6	\$40.56	Yes	\$41.17	\$0.61
460	18-Dec-12	15	7	\$35.98	Yes	\$41.17	\$5.19
461	18-Dec-12	15	8	\$35.61	Yes	\$41.17	\$5.56
462	18-Dec-12	15	9	\$35.98	Yes	\$41.17	\$5.19
463	18-Dec-12	15	10	\$35.63	Yes	\$41.17	\$5.54
464	18-Dec-12	15	11	\$34.60	Yes	\$41.17	\$6.57
465	18-Dec-12	15	12	\$20.73	Yes	\$41.17	\$20.44
466	18-Dec-12	16	1	\$39.05	Yes	\$41.17	\$2.12
467	18-Dec-12	16	2	\$35.67	Yes	\$41.17	\$5.50
468	18-Dec-12	16	3	\$36.28	Yes	\$41.17	\$4.89
469	18-Dec-12	16	4	\$51.22	Yes	\$41.17	(\$10.05)
470	18-Dec-12	16	5	\$40.06	Yes	\$41.17	\$1.11
471	18-Dec-12	16	6	\$40.06	Yes	\$41.17	\$1.11
472	18-Dec-12	16	7	\$40.29	Yes	\$41.17	\$0.88
473	18-Dec-12	16	8	\$41.17	Yes	\$41.17	\$0.00
474	18-Dec-12	16	9	\$40.24	Yes	\$41.17	\$0.93
475	18-Dec-12	16	10	\$37.26	Yes	\$41.17	\$3.91
476	18-Dec-12	16	11	\$37.04	Yes	\$41.17	\$4.13
477	18-Dec-12	16	12	\$23.32	Yes	\$41.17	\$17.85
478	18-Dec-12	17	1	\$410.08	Yes	\$41.17	(\$368.91)
479	18-Dec-12	17	2	\$410.08	Yes	\$41.17	(\$368.91)
480	18-Dec-12	17	3	\$13.35	Yes	\$41.17	\$27.82
481	18-Dec-12	17	4	\$10.77	Yes	\$41.17	\$30.40
482	18-Dec-12	17	5	\$17.42	Yes	\$41.17	\$23.75
483	18-Dec-12	17	6	\$21.06	Yes	\$41.17	\$20.11
484	18-Dec-12	17	7	\$19.96	Yes	\$41.17	\$21.21
485	18-Dec-12	17	8	\$23.92	Yes	\$41.17	\$17.25
486	18-Dec-12	17	9	\$37.80	Yes	\$41.17	\$3.37
487	18-Dec-12	17	10	\$37.56	Yes	\$41.17	\$3.61
488	18-Dec-12	17	11	\$38.42	Yes	\$41.17	\$2.75
489	18-Dec-12	17	12	\$38.46	Yes	\$41.17	\$2.71
490	18-Dec-12	18	1	\$38.29	Yes	\$41.17	\$2.88
491	18-Dec-12	18	2	\$38.61	Yes	\$41.17	\$2.56

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
492	18-Dec-12	18	3	\$39.39	Yes	\$41.17	\$1.78
493	18-Dec-12	18	4	\$40.56	Yes	\$41.17	\$0.61
494	18-Dec-12	18	5	\$76.78	Yes	\$41.17	(\$35.61)
495	18-Dec-12	18	6	\$81.24	Yes	\$41.17	(\$40.07)
496	18-Dec-12	18	7	\$448.54	Yes	\$41.17	(\$407.37)
497	18-Dec-12	18	8	\$453.55	Yes	\$41.17	(\$412.38)
498	18-Dec-12	18	9	\$453.87	Yes	\$41.17	(\$412.70)
499	18-Dec-12	18	10	\$464.01	Yes	\$41.17	(\$422.84)
500	18-Dec-12	18	11	\$472.42	Yes	\$41.17	(\$431.25)
501	18-Dec-12	18	12	\$454.56	Yes	\$41.17	(\$413.39)
502	18-Dec-12	19	1	\$463.63	Yes	\$41.17	(\$422.46)
503	18-Dec-12	19	2	\$450.47	Yes	\$41.17	(\$409.30)
504	18-Dec-12	19	3	\$449.49	Yes	\$41.17	(\$408.32)
505	18-Dec-12	19	4	\$442.83	Yes	\$41.17	(\$401.66)
506	18-Dec-12	19	5	\$442.83	Yes	\$41.17	(\$401.66)
507	18-Dec-12	19	6	\$440.55	Yes	\$41.17	(\$399.38)
508	18-Dec-12	19	7	\$41.17	Yes	\$41.17	\$0.00
509	18-Dec-12	19	8	\$43.13	Yes	\$41.17	(\$1.96)
510	18-Dec-12	19	9	\$43.35	Yes	\$41.17	(\$2.18)
511	18-Dec-12	19	10	\$28.44	Yes	\$41.17	\$12.73
512	18-Dec-12	19	11	\$28.44	Yes	\$41.17	\$12.73
513	18-Dec-12	19	12	\$34.19	Yes	\$41.17	\$6.98
514	18-Dec-12	20	1	\$34.49	Yes	\$41.17	\$6.68
515	18-Dec-12	20	2	\$39.15	Yes	\$41.17	\$2.02
516	18-Dec-12	20	3	\$41.17	Yes	\$41.17	\$0.00
517	18-Dec-12	20	4	\$39.75	Yes	\$41.17	\$1.42
518	18-Dec-12	20	5	\$41.10	Yes	\$41.17	\$0.07
519	18-Dec-12	20	6	\$41.10	Yes	\$41.17	\$0.07
520	18-Dec-12	20	7	\$40.98	Yes	\$41.17	\$0.19
521	18-Dec-12	20	8	\$43.93	Yes	\$41.17	(\$2.76)
522	18-Dec-12	20	9	\$41.17	Yes	\$41.17	\$0.00
523	18-Dec-12	20	10	\$44.24	Yes	\$41.17	(\$3.07)
524	18-Dec-12	20	11	\$44.24	Yes	\$41.17	(\$3.07)
525	18-Dec-12	20	12	\$34.98	Yes	\$41.17	\$6.19
526	18-Dec-12	21	1	\$28.41	Yes	\$41.17	\$12.76
527	18-Dec-12	21	2	\$28.33	Yes	\$41.17	\$12.84
528	18-Dec-12	21	3	\$28.33	Yes	\$41.17	\$12.84
529	18-Dec-12	21	4	\$28.34	Yes	\$41.17	\$12.83

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
530	18-Dec-12	21	5	\$28.41	Yes	\$41.17	\$12.76
531	18-Dec-12	21	6	\$29.57	Yes	\$41.17	\$11.60
532	18-Dec-12	21	7	\$30.84	Yes	\$41.17	\$10.33
533	18-Dec-12	21	8	\$31.20	Yes	\$41.17	\$9.97
534	18-Dec-12	21	9	\$31.20	Yes	\$41.17	\$9.97
535	18-Dec-12	21	10	\$30.73	Yes	\$41.17	\$10.44
536	18-Dec-12	21	11	\$29.86	Yes	\$41.17	\$11.31
537	18-Dec-12	21	12	\$27.48	Yes	\$41.17	\$13.69
538	18-Dec-12	22	1	\$48.36	Yes	\$41.17	(\$7.19)
539	18-Dec-12	22	2	\$32.04	Yes	\$41.17	\$9.13
540	18-Dec-12	22	3	\$36.99	Yes	\$41.17	\$4.18
541	18-Dec-12	22	4	\$30.34	Yes	\$41.17	\$10.83
542	18-Dec-12	22	5	\$26.35	Yes	\$41.17	\$14.82
543	18-Dec-12	22	6	\$26.34	Yes	\$41.17	\$14.83
544	18-Dec-12	22	7	\$26.32	Yes	\$41.17	\$14.85
545	18-Dec-12	22	8	\$25.15	Yes	\$41.17	\$16.02
546	18-Dec-12	22	9	\$25.15	Yes	\$41.17	\$16.02
547	18-Dec-12	22	10	\$24.85	Yes	\$41.17	\$16.32
548	18-Dec-12	22	11	\$24.85	Yes	\$41.17	\$16.32
549	18-Dec-12	22	12	\$24.21	Yes	\$41.17	\$16.96
550	18-Dec-12	23	1	\$30.28	Yes	\$41.17	\$10.89
551	18-Dec-12	23	2	\$49.99	Yes	\$41.17	(\$8.82)
552	18-Dec-12	23	3	\$65.45	Yes	\$41.17	(\$24.28)
553	18-Dec-12	23	4	\$40.41	Yes	\$41.17	\$0.76
554	18-Dec-12	23	5	\$37.74	Yes	\$41.17	\$3.43
555	18-Dec-12	23	6	\$29.81	Yes	\$41.17	\$11.36
556	18-Dec-12	23	7	\$29.54	Yes	\$41.17	\$11.63
557	18-Dec-12	23	8	\$28.72	Yes	\$41.17	\$12.45
558	18-Dec-12	23	9	\$28.72	Yes	\$41.17	\$12.45
559	18-Dec-12	23	10	\$28.17	Yes	\$41.17	\$13.00
560	18-Dec-12	23	11	\$25.30	Yes	\$41.17	\$15.87
561	18-Dec-12	23	12	\$24.69	Yes	\$41.17	\$16.48
562	18-Dec-12	24	1	\$26.72	Yes	\$41.17	\$14.45
563	18-Dec-12	24	2	\$27.12	Yes	\$41.17	\$14.05
564	18-Dec-12	24	3	\$28.09	Yes	\$41.17	\$13.08
565	18-Dec-12	24	4	\$29.14	Yes	\$41.17	\$12.03
566	18-Dec-12	24	5	\$29.32	Yes	\$41.17	\$11.85
567	18-Dec-12	24	6	\$29.32	Yes	\$41.17	\$11.85

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568	18-Dec-12	24	7	\$29.22	Yes	\$41.17	\$11.95
569	18-Dec-12	24	8	\$28.99	Yes	\$41.17	\$12.18
570	18-Dec-12	24	9	\$26.99	Yes	\$41.17	\$14.18
571	18-Dec-12	24	10	\$24.77	Yes	\$41.17	\$16.40
572	18-Dec-12	24	11	\$24.77	Yes	\$41.17	\$16.40
573	18-Dec-12	24	12	\$24.77	Yes	\$41.17	\$16.40
574	19-Dec-12	8	1	\$49.08	Yes	\$41.57	(\$7.51)
575	19-Dec-12	8	2	\$46.42	Yes	\$41.57	(\$4.85)
576	19-Dec-12	8	3	\$52.77	Yes	\$41.57	(\$11.20)
577	19-Dec-12	8	4	\$46.33	Yes	\$41.57	(\$4.76)
578	19-Dec-12	8	5	\$51.52	Yes	\$41.57	(\$9.95)
579	19-Dec-12	8	6	\$48.81	Yes	\$41.57	(\$7.24)
580	19-Dec-12	8	7	\$45.75	Yes	\$41.57	(\$4.18)
581	19-Dec-12	8	8	\$51.18	Yes	\$41.57	(\$9.61)
582	19-Dec-12	8	9	\$53.23	Yes	\$41.57	(\$11.66)
583	19-Dec-12	8	10	\$53.37	Yes	\$41.57	(\$11.80)
584	19-Dec-12	8	11	\$48.62	Yes	\$41.57	(\$7.05)
585	19-Dec-12	8	12	\$44.77	Yes	\$41.57	(\$3.20)
586	19-Dec-12	9	1	\$95.32	Yes	\$41.57	(\$53.75)
587	19-Dec-12	9	2	\$91.49	Yes	\$41.57	(\$49.92)
588	19-Dec-12	9	3	\$95.81	Yes	\$41.57	(\$54.24)
589	19-Dec-12	9	4	\$47.31	Yes	\$41.57	(\$5.74)
590	19-Dec-12	9	5	\$65.54	Yes	\$41.57	(\$23.97)
591	19-Dec-12	9	6	\$97.13	Yes	\$41.57	(\$55.56)
592	19-Dec-12	9	7	\$1,218.60	Yes	\$41.57	(\$1,177.03)
593	19-Dec-12	9	8	\$74.07	Yes	\$41.57	(\$32.50)
594	19-Dec-12	9	9	\$43.98	Yes	\$41.57	(\$2.41)
595	19-Dec-12	9	10	\$41.57	Yes	\$41.57	\$0.00
596	19-Dec-12	9	11	\$41.57	Yes	\$41.57	\$0.00
597	19-Dec-12	9	12	\$81.91	Yes	\$41.57	(\$40.34)
598	19-Dec-12	10	1	\$83.43	Yes	\$0.00	(\$83.43)
599	19-Dec-12	10	2	\$50.10	Yes	\$0.00	(\$50.10)
600	19-Dec-12	10	3	\$100.40	Yes	\$0.00	(\$100.40)
601	19-Dec-12	10	4	\$95.31	Yes	\$0.00	(\$95.31)
602	19-Dec-12	10	5	\$74.62	Yes	\$0.00	(\$74.62)
603	19-Dec-12	10	6	\$30.79	Yes	\$0.00	(\$30.79)
604	19-Dec-12	10	7	\$127.54	Yes	\$0.00	(\$127.54)
605	19-Dec-12	10	8	\$49.70	Yes	\$0.00	(\$49.70)

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
606	19-Dec-12	10	9	\$118.12	Yes	\$0.00	(\$118.12)
607	19-Dec-12	10	10	\$198.32	Yes	\$0.00	(\$198.32)
608	19-Dec-12	10	11	\$30.85	Yes	\$0.00	(\$30.85)
609	19-Dec-12	10	12	\$27.96	Yes	\$0.00	(\$27.96)
610	19-Dec-12	11	1	\$42.46	Yes	\$0.00	(\$42.46)
611	19-Dec-12	11	2	\$42.46	Yes	\$0.00	(\$42.46)
612	19-Dec-12	11	3	\$68.38	Yes	\$0.00	(\$68.38)
613	19-Dec-12	11	4	\$210.98	Yes	\$0.00	(\$210.98)
614	19-Dec-12	11	5	\$51.78	Yes	\$0.00	(\$51.78)
615	19-Dec-12	11	6	\$51.78	Yes	\$0.00	(\$51.78)
616	19-Dec-12	11	7	\$215.32	Yes	\$0.00	(\$215.32)
617	19-Dec-12	11	8	\$73.52	Yes	\$0.00	(\$73.52)
618	19-Dec-12	11	9	\$78.13	Yes	\$0.00	(\$78.13)
619	19-Dec-12	11	10	\$92.98	Yes	\$0.00	(\$92.98)
620	19-Dec-12	11	11	\$79.25	Yes	\$0.00	(\$79.25)
621	19-Dec-12	11	12	\$51.85	Yes	\$0.00	(\$51.85)
622	19-Dec-12	12	1	\$27.11	Yes	\$41.57	\$14.46
623	19-Dec-12	12	2	\$31.29	Yes	\$41.57	\$10.28
624	19-Dec-12	12	3	\$39.75	Yes	\$41.57	\$1.82
625	19-Dec-12	12	4	\$32.99	Yes	\$41.57	\$8.58
626	19-Dec-12	12	5	\$31.12	Yes	\$41.57	\$10.45
627	19-Dec-12	12	6	\$41.57	Yes	\$41.57	\$0.00
628	19-Dec-12	12	7	\$41.72	Yes	\$41.57	(\$0.15)
629	19-Dec-12	12	8	\$43.01	Yes	\$41.57	(\$1.44)
630	19-Dec-12	12	9	\$44.09	Yes	\$41.57	(\$2.52)
631	19-Dec-12	12	10	\$50.26	Yes	\$41.57	(\$8.69)
632	19-Dec-12	12	11	\$50.26	Yes	\$41.57	(\$8.69)
633	19-Dec-12	12	12	\$81.06	Yes	\$41.57	(\$39.49)
634	19-Dec-12	13	1	\$41.57	Yes	\$41.57	\$0.00
635	19-Dec-12	13	2	\$41.57	Yes	\$41.57	\$0.00
636	19-Dec-12	13	3	\$41.57	Yes	\$41.57	\$0.00
637	19-Dec-12	13	4	\$41.57	Yes	\$41.57	\$0.00
638	19-Dec-12	13	5	\$41.57	Yes	\$41.57	\$0.00
639	19-Dec-12	13	6	\$41.57	Yes	\$41.57	\$0.00
640	19-Dec-12	13	7	\$1,200.82	Yes	\$41.57	(\$1,159.25)
641	19-Dec-12	13	8	\$1,406.65	Yes	\$41.57	(\$1,365.08)
642	19-Dec-12	13	9	\$1,406.65	Yes	\$41.57	(\$1,365.08)
643	19-Dec-12	13	10	\$1,406.65	Yes	\$41.57	(\$1,365.08)

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
644	19-Dec-12	13	11	\$1,406.65	Yes	\$41.57	(\$1,365.08)
645	19-Dec-12	13	12	\$179.82	Yes	\$41.57	(\$138.25)
646	19-Dec-12	14	1	\$440.97	Yes	\$41.57	(\$399.40)
647	19-Dec-12	14	2	\$214.26	Yes	\$41.57	(\$172.69)
648	19-Dec-12	14	3	\$204.80	Yes	\$41.57	(\$163.23)
649	19-Dec-12	14	4	\$204.80	Yes	\$41.57	(\$163.23)
650	19-Dec-12	14	5	\$204.80	Yes	\$41.57	(\$163.23)
651	19-Dec-12	14	6	\$213.41	Yes	\$41.57	(\$171.84)
652	19-Dec-12	14	7	\$205.65	Yes	\$41.57	(\$164.08)
653	19-Dec-12	14	8	\$126.47	Yes	\$41.57	(\$84.90)
654	19-Dec-12	14	9	\$115.36	Yes	\$41.57	(\$73.79)
655	19-Dec-12	14	10	\$26.18	Yes	\$41.57	\$15.39
656	19-Dec-12	14	11	\$26.40	Yes	\$41.57	\$15.17
657	19-Dec-12	14	12	\$27.27	Yes	\$41.57	\$14.30
658	19-Dec-12	15	1	\$1,142.34	Yes	\$41.57	(\$1,100.77)
659	19-Dec-12	15	2	\$806.35	Yes	\$41.57	(\$764.78)
660	19-Dec-12	15	3	\$959.54	Yes	\$41.57	(\$917.97)
661	19-Dec-12	15	4	\$41.57	Yes	\$41.57	\$0.00
662	19-Dec-12	15	5	\$50.27	Yes	\$41.57	(\$8.70)
663	19-Dec-12	15	6	\$58.75	Yes	\$41.57	(\$17.18)
664	19-Dec-12	15	7	\$41.66	Yes	\$41.57	(\$0.09)
665	19-Dec-12	15	8	\$50.22	Yes	\$41.57	(\$8.65)
666	19-Dec-12	15	9	\$50.16	Yes	\$41.57	(\$8.59)
667	19-Dec-12	15	10	\$442.16	Yes	\$41.57	(\$400.59)
668	19-Dec-12	15	11	\$59.92	Yes	\$41.57	(\$18.35)
669	19-Dec-12	15	12	\$79.29	Yes	\$41.57	(\$37.72)
670	19-Dec-12	16	1	\$39.48	Yes	\$41.57	\$2.09
671	19-Dec-12	16	2	\$27.67	Yes	\$41.57	\$13.90
672	19-Dec-12	16	3	\$41.57	Yes	\$41.57	\$0.00
673	19-Dec-12	16	4	\$26.69	Yes	\$41.57	\$14.88
674	19-Dec-12	16	5	\$41.57	Yes	\$41.57	\$0.00
675	19-Dec-12	16	6	\$41.57	Yes	\$41.57	\$0.00
676	19-Dec-12	16	7	\$65.46	Yes	\$41.57	(\$23.89)
677	19-Dec-12	16	8	\$41.63	Yes	\$41.57	(\$0.06)
678	19-Dec-12	16	9	\$49.99	Yes	\$41.57	(\$8.42)
679	19-Dec-12	16	10	\$125.77	Yes	\$41.57	(\$84.20)
680	19-Dec-12	16	11	\$51.37	Yes	\$41.57	(\$9.80)
681	19-Dec-12	16	12	\$1,554.92	Yes	\$41.57	(\$1,513.35)

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
682	19-Dec-12	17	1	\$27.04	Yes	\$41.57	\$14.53
683	19-Dec-12	17	2	\$41.57	Yes	\$41.57	\$0.00
684	19-Dec-12	17	3	\$41.57	Yes	\$41.57	\$0.00
685	19-Dec-12	17	4	\$41.57	Yes	\$41.57	\$0.00
686	19-Dec-12	17	5	\$29.34	Yes	\$41.57	\$12.23
687	19-Dec-12	17	6	\$49.46	Yes	\$41.57	(\$7.89)
688	19-Dec-12	17	7	\$27.33	Yes	\$41.57	\$14.24
689	19-Dec-12	17	8	\$30.21	Yes	\$41.57	\$11.36
690	19-Dec-12	17	9	\$64.12	Yes	\$41.57	(\$22.55)
691	19-Dec-12	17	10	\$41.57	Yes	\$41.57	\$0.00
692	19-Dec-12	17	11	\$41.05	Yes	\$41.57	\$0.52
693	19-Dec-12	17	12	\$42.85	Yes	\$41.57	(\$1.28)
694	19-Dec-12	18	1	\$2,165.12	Yes	\$0.00	(\$2,165.12)
695	19-Dec-12	18	2	\$2,154.11	Yes	\$0.00	(\$2,154.11)
696	19-Dec-12	18	3	\$2,154.11	Yes	\$0.00	(\$2,154.11)
697	19-Dec-12	18	4	\$1,912.88	Yes	\$0.00	(\$1,912.88)
698	19-Dec-12	18	5	\$2,186.41	Yes	\$0.00	(\$2,186.41)
699	19-Dec-12	18	6	\$1,753.69	Yes	\$0.00	(\$1,753.69)
700	19-Dec-12	18	7	\$1,783.21	Yes	\$0.00	(\$1,783.21)
701	19-Dec-12	18	8	\$1,814.70	Yes	\$0.00	(\$1,814.70)
702	19-Dec-12	18	9	\$1,363.44	Yes	\$0.00	(\$1,363.44)
703	19-Dec-12	18	10	\$1,361.49	Yes	\$0.00	(\$1,361.49)
704	19-Dec-12	18	11	\$1,358.57	Yes	\$0.00	(\$1,358.57)
705	19-Dec-12	18	12	\$1,929.44	Yes	\$0.00	(\$1,929.44)
706	19-Dec-12	19	1	\$1,955.71	Yes	\$0.00	(\$1,955.71)
707	19-Dec-12	19	2	\$3,967.86	Yes	\$0.00	(\$3,967.86)
708	19-Dec-12	19	3	\$1,971.88	Yes	\$0.00	(\$1,971.88)
709	19-Dec-12	19	4	\$2,037.96	Yes	\$0.00	(\$2,037.96)
710	19-Dec-12	19	5	\$3,422.20	Yes	\$0.00	(\$3,422.20)
711	19-Dec-12	19	6	\$381.28	Yes	\$0.00	(\$381.28)
712	19-Dec-12	19	7	\$381.73	Yes	\$0.00	(\$381.73)
713	19-Dec-12	19	8	\$381.73	Yes	\$0.00	(\$381.73)
714	19-Dec-12	19	9	\$381.73	Yes	\$0.00	(\$381.73)
715	19-Dec-12	19	10	\$382.02	Yes	\$0.00	(\$382.02)
716	19-Dec-12	19	11	\$382.02	Yes	\$0.00	(\$382.02)
717	19-Dec-12	19	12	\$381.28	Yes	\$0.00	(\$381.28)
718	19-Dec-12	20	1	\$382.07	Yes	\$0.00	(\$382.07)
719	19-Dec-12	20	2	\$381.99	Yes	\$0.00	(\$381.99)

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720	19-Dec-12	20	3	\$374.73	Yes	\$0.00	(\$374.73)
721	19-Dec-12	20	4	\$340.30	Yes	\$0.00	(\$340.30)
722	19-Dec-12	20	5	\$343.50	Yes	\$0.00	(\$343.50)
723	19-Dec-12	20	6	\$343.50	Yes	\$0.00	(\$343.50)
724	19-Dec-12	20	7	\$343.30	Yes	\$0.00	(\$343.30)
725	19-Dec-12	20	8	\$343.30	Yes	\$0.00	(\$343.30)
726	19-Dec-12	20	9	\$47.87	Yes	\$0.00	(\$47.87)
727	19-Dec-12	20	10	\$43.76	Yes	\$0.00	(\$43.76)
728	19-Dec-12	20	11	\$147.26	Yes	\$0.00	(\$147.26)
729	19-Dec-12	20	12	\$151.06	Yes	\$0.00	(\$151.06)
730	19-Dec-12	21	1	\$114.46	Yes	\$41.57	(\$72.89)
731	19-Dec-12	21	2	\$232.60	Yes	\$41.57	(\$191.03)
732	19-Dec-12	21	3	\$343.15	Yes	\$41.57	(\$301.58)
733	19-Dec-12	21	4	\$243.02	Yes	\$41.57	(\$201.45)
734	19-Dec-12	21	5	\$226.30	Yes	\$41.57	(\$184.73)
735	19-Dec-12	21	6	\$225.94	Yes	\$41.57	(\$184.37)
736	19-Dec-12	21	7	\$37.48	Yes	\$41.57	\$4.09
737	19-Dec-12	21	8	\$41.57	Yes	\$41.57	\$0.00
738	19-Dec-12	21	9	\$38.99	Yes	\$41.57	\$2.58
739	19-Dec-12	21	10	\$41.57	Yes	\$41.57	\$0.00
740	19-Dec-12	21	11	\$41.57	Yes	\$41.57	\$0.00
741	19-Dec-12	21	12	\$151.90	Yes	\$41.57	(\$110.33)
742	20-Dec-12	1	1	\$26.78	Yes	\$40.60	\$13.82
743	20-Dec-12	1	2	\$29.67	Yes	\$40.60	\$10.93
744	20-Dec-12	1	3	\$48.75	Yes	\$40.60	(\$8.15)
745	20-Dec-12	1	4	\$35.62	Yes	\$40.60	\$4.98
746	20-Dec-12	1	5	\$38.67	Yes	\$40.60	\$1.93
747	20-Dec-12	1	6	\$56.57	Yes	\$40.60	(\$15.97)
748	20-Dec-12	1	7	\$56.40	Yes	\$40.60	(\$15.80)
749	20-Dec-12	1	8	\$48.58	Yes	\$40.60	(\$7.98)
750	20-Dec-12	1	9	\$34.81	Yes	\$40.60	\$5.79
751	20-Dec-12	1	10	\$34.69	Yes	\$40.60	\$5.91
752	20-Dec-12	1	11	\$29.77	Yes	\$40.60	\$10.83
753	20-Dec-12	1	12	\$29.74	Yes	\$40.60	\$10.86
754	20-Dec-12	2	1	\$29.68	Yes	\$40.60	\$10.92
755	20-Dec-12	2	2	\$29.57	Yes	\$40.60	\$11.03
756	20-Dec-12	2	3	\$29.57	Yes	\$40.60	\$11.03
757	20-Dec-12	2	4	\$29.62	Yes	\$40.60	\$10.98

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
758	20-Dec-12	2	5	\$29.40	Yes	\$40.60	\$11.20
759	20-Dec-12	2	6	\$29.62	Yes	\$40.60	\$10.98
760	20-Dec-12	2	7	\$29.62	Yes	\$40.60	\$10.98
761	20-Dec-12	2	8	\$29.62	Yes	\$40.60	\$10.98
762	20-Dec-12	2	9	\$29.62	Yes	\$40.60	\$10.98
763	20-Dec-12	2	10	\$28.93	Yes	\$40.60	\$11.67
764	20-Dec-12	2	11	\$28.93	Yes	\$40.60	\$11.67
765	20-Dec-12	2	12	\$28.93	Yes	\$40.60	\$11.67
766	20-Dec-12	3	1	\$28.33	Yes	\$40.60	\$12.27
767	20-Dec-12	3	2	\$28.33	Yes	\$40.60	\$12.27
768	20-Dec-12	3	3	\$29.70	Yes	\$40.60	\$10.90
769	20-Dec-12	3	4	\$29.69	Yes	\$40.60	\$10.91
770	20-Dec-12	3	5	\$29.69	Yes	\$40.60	\$10.91
771	20-Dec-12	3	6	\$29.69	Yes	\$40.60	\$10.91
772	20-Dec-12	3	7	\$29.92	Yes	\$40.60	\$10.68
773	20-Dec-12	3	8	\$29.68	Yes	\$40.60	\$10.92
774	20-Dec-12	3	9	\$29.68	Yes	\$40.60	\$10.92
775	20-Dec-12	3	10	\$29.69	Yes	\$40.60	\$10.91
776	20-Dec-12	3	11	\$29.69	Yes	\$40.60	\$10.91
777	20-Dec-12	3	12	\$29.69	Yes	\$40.60	\$10.91
778	20-Dec-12	4	1	\$29.69	Yes	\$40.60	\$10.91
779	20-Dec-12	4	2	\$29.52	Yes	\$40.60	\$11.08
780	20-Dec-12	4	3	\$28.11	Yes	\$40.60	\$12.49
781	20-Dec-12	4	4	\$28.07	Yes	\$40.60	\$12.53
782	20-Dec-12	4	5	\$28.65	Yes	\$40.60	\$11.95
783	20-Dec-12	4	6	\$28.65	Yes	\$40.60	\$11.95
784	20-Dec-12	4	7	\$28.66	Yes	\$40.60	\$11.94
785	20-Dec-12	4	8	\$28.66	Yes	\$40.60	\$11.94
786	20-Dec-12	4	9	\$28.66	Yes	\$40.60	\$11.94
787	20-Dec-12	4	10	\$28.75	Yes	\$40.60	\$11.85
788	20-Dec-12	4	11	\$29.63	Yes	\$40.60	\$10.97
789	20-Dec-12	4	12	\$29.69	Yes	\$40.60	\$10.91
790	20-Dec-12	5	1	\$28.77	Yes	\$40.60	\$11.83
791	20-Dec-12	5	2	\$28.77	Yes	\$40.60	\$11.83
792	20-Dec-12	5	3	\$28.27	Yes	\$40.60	\$12.33
793	20-Dec-12	5	4	\$28.82	Yes	\$40.60	\$11.78
794	20-Dec-12	5	5	\$28.75	Yes	\$40.60	\$11.85
795	20-Dec-12	5	6	\$29.10	Yes	\$40.60	\$11.50

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
796	20-Dec-12	5	7	\$29.08	Yes	\$40.60	\$11.52
797	20-Dec-12	5	8	\$29.71	Yes	\$40.60	\$10.89
798	20-Dec-12	5	9	\$29.71	Yes	\$40.60	\$10.89
799	20-Dec-12	5	10	\$29.85	Yes	\$40.60	\$10.75
800	20-Dec-12	5	11	\$32.44	Yes	\$40.60	\$8.16
801	20-Dec-12	5	12	\$34.82	Yes	\$40.60	\$5.78
802	20-Dec-12	6	1	\$31.30	Yes	\$40.60	\$9.30
803	20-Dec-12	6	2	\$108.47	Yes	\$40.60	(\$67.87)
804	20-Dec-12	6	3	\$525.25	Yes	\$40.60	(\$484.65)
805	20-Dec-12	6	4	\$523.95	Yes	\$40.60	(\$483.35)
806	20-Dec-12	6	5	\$523.95	Yes	\$40.60	(\$483.35)
807	20-Dec-12	6	6	\$316.86	Yes	\$40.60	(\$276.26)
808	20-Dec-12	6	7	\$29.65	Yes	\$40.60	\$10.95
809	20-Dec-12	6	8	\$39.47	Yes	\$40.60	\$1.13
810	20-Dec-12	6	9	\$34.36	Yes	\$40.60	\$6.24
811	20-Dec-12	6	10	\$43.07	Yes	\$40.60	(\$2.47)
812	20-Dec-12	6	11	\$39.56	Yes	\$40.60	\$1.04
813	20-Dec-12	6	12	\$30.23	Yes	\$40.60	\$10.37
814	20-Dec-12	7	1	\$17.88	Yes	\$40.60	\$22.72
815	20-Dec-12	7	2	\$16.63	Yes	\$40.60	\$23.97
816	20-Dec-12	7	3	\$14.66	Yes	\$40.60	\$25.94
817	20-Dec-12	7	4	\$17.82	Yes	\$40.60	\$22.78
818	20-Dec-12	7	5	\$22.63	Yes	\$40.60	\$17.97
819	20-Dec-12	7	6	\$23.09	Yes	\$40.60	\$17.51
820	20-Dec-12	7	7	\$25.79	Yes	\$40.60	\$14.81
821	20-Dec-12	7	8	\$25.10	Yes	\$40.60	\$15.50
822	20-Dec-12	7	9	\$25.10	Yes	\$40.60	\$15.50
823	20-Dec-12	7	10	\$25.83	Yes	\$40.60	\$14.77
824	20-Dec-12	7	11	\$27.90	Yes	\$40.60	\$12.70
825	20-Dec-12	7	12	\$40.72	Yes	\$40.60	(\$0.12)
826	20-Dec-12	8	1	\$31.14	Yes	\$40.60	\$9.46
827	20-Dec-12	8	2	\$29.43	Yes	\$40.60	\$11.17
828	20-Dec-12	8	3	\$28.29	Yes	\$40.60	\$12.31
829	20-Dec-12	8	4	\$27.29	Yes	\$40.60	\$13.31
830	20-Dec-12	8	5	\$28.28	Yes	\$40.60	\$12.32
831	20-Dec-12	8	6	\$29.84	Yes	\$40.60	\$10.76
832	20-Dec-12	8	7	\$30.13	Yes	\$40.60	\$10.47
833	20-Dec-12	8	8	\$30.13	Yes	\$40.60	\$10.47

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
834	20-Dec-12	8	9	\$30.30	Yes	\$40.60	\$10.30
835	20-Dec-12	8	10	\$30.48	Yes	\$40.60	\$10.12
836	20-Dec-12	8	11	\$29.91	Yes	\$40.60	\$10.69
837	20-Dec-12	8	12	\$30.48	Yes	\$40.60	\$10.12
838	20-Dec-12	9	1	\$26.93	Yes	\$40.60	\$13.67
839	20-Dec-12	9	2	\$24.55	Yes	\$40.60	\$16.05
840	20-Dec-12	9	3	\$24.47	Yes	\$40.60	\$16.13
841	20-Dec-12	9	4	\$24.60	Yes	\$40.60	\$16.00
842	20-Dec-12	9	5	\$24.66	Yes	\$40.60	\$15.94
843	20-Dec-12	9	6	\$24.65	Yes	\$40.60	\$15.95
844	20-Dec-12	9	7	\$24.61	Yes	\$40.60	\$15.99
845	20-Dec-12	9	8	\$24.41	Yes	\$40.60	\$16.19
846	20-Dec-12	9	9	\$24.41	Yes	\$40.60	\$16.19
847	20-Dec-12	9	10	\$24.53	Yes	\$40.60	\$16.07
848	20-Dec-12	9	11	\$24.61	Yes	\$40.60	\$15.99
849	20-Dec-12	9	12	\$24.63	Yes	\$40.60	\$15.97
850	20-Dec-12	10	1	\$26.88	Yes	\$40.60	\$13.72
851	20-Dec-12	10	2	\$27.91	Yes	\$40.60	\$12.69
852	20-Dec-12	10	3	\$28.23	Yes	\$40.60	\$12.37
853	20-Dec-12	10	4	\$26.92	Yes	\$40.60	\$13.68
854	20-Dec-12	10	5	\$24.93	Yes	\$40.60	\$15.67
855	20-Dec-12	10	6	\$25.89	Yes	\$40.60	\$14.71
856	20-Dec-12	10	7	\$24.99	Yes	\$40.60	\$15.61
857	20-Dec-12	10	8	\$25.11	Yes	\$40.60	\$15.49
858	20-Dec-12	10	9	\$24.99	Yes	\$40.60	\$15.61
859	20-Dec-12	10	10	\$32.24	Yes	\$40.60	\$8.36
860	20-Dec-12	10	11	\$24.50	Yes	\$40.60	\$16.10
861	20-Dec-12	10	12	\$24.50	Yes	\$40.60	\$16.10
862	20-Dec-12	11	1	\$25.61	Yes	\$40.60	\$14.99
863	20-Dec-12	11	2	\$25.78	Yes	\$40.60	\$14.82
864	20-Dec-12	11	3	\$25.78	Yes	\$40.60	\$14.82
865	20-Dec-12	11	4	\$25.76	Yes	\$40.60	\$14.84
866	20-Dec-12	11	5	\$25.95	Yes	\$40.60	\$14.65
867	20-Dec-12	11	6	\$24.45	Yes	\$40.60	\$16.15
868	20-Dec-12	11	7	\$24.57	Yes	\$40.60	\$16.03
869	20-Dec-12	11	8	\$23.10	Yes	\$40.60	\$17.50
870	20-Dec-12	11	9	\$24.57	Yes	\$40.60	\$16.03
871	20-Dec-12	11	10	\$23.07	Yes	\$40.60	\$17.53

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
872	20-Dec-12	11	11	\$23.55	Yes	\$40.60	\$17.05
873	20-Dec-12	11	12	\$21.23	Yes	\$40.60	\$19.37
874	20-Dec-12	12	1	\$23.23	Yes	\$40.60	\$17.37
875	20-Dec-12	12	2	\$23.23	Yes	\$40.60	\$17.37
876	20-Dec-12	12	3	\$22.02	Yes	\$40.60	\$18.58
877	20-Dec-12	12	4	\$18.17	Yes	\$40.60	\$22.43
878	20-Dec-12	12	5	\$18.17	Yes	\$40.60	\$22.43
879	20-Dec-12	12	6	\$18.17	Yes	\$40.60	\$22.43
880	20-Dec-12	12	7	\$16.59	Yes	\$40.60	\$24.01
881	20-Dec-12	12	8	\$16.59	Yes	\$40.60	\$24.01
882	20-Dec-12	12	9	\$16.53	Yes	\$40.60	\$24.07
883	20-Dec-12	12	10	\$16.68	Yes	\$40.60	\$23.92
884	20-Dec-12	12	11	\$16.68	Yes	\$40.60	\$23.92
885	20-Dec-12	12	12	\$21.68	Yes	\$40.60	\$18.92
886	20-Dec-12	13	1	\$21.33	Yes	\$40.60	\$19.27
887	20-Dec-12	13	2	\$24.33	Yes	\$40.60	\$16.27
888	20-Dec-12	13	3	\$23.72	Yes	\$40.60	\$16.88
889	20-Dec-12	13	4	\$23.30	Yes	\$40.60	\$17.30
890	20-Dec-12	13	5	\$23.68	Yes	\$40.60	\$16.92
891	20-Dec-12	13	6	\$23.30	Yes	\$40.60	\$17.30
892	20-Dec-12	13	7	\$29.30	Yes	\$40.60	\$11.30
893	20-Dec-12	13	8	\$29.24	Yes	\$40.60	\$11.36
894	20-Dec-12	13	9	\$29.24	Yes	\$40.60	\$11.36
895	20-Dec-12	13	10	\$18.50	Yes	\$40.60	\$22.10
896	20-Dec-12	13	11	\$18.50	Yes	\$40.60	\$22.10
897	20-Dec-12	13	12	\$21.34	Yes	\$40.60	\$19.26
898	20-Dec-12	14	1	\$26.47	Yes	\$40.60	\$14.13
899	20-Dec-12	14	2	\$26.70	Yes	\$40.60	\$13.90
900	20-Dec-12	14	3	\$29.75	Yes	\$40.60	\$10.85
901	20-Dec-12	14	4	\$20.62	Yes	\$40.60	\$19.98
902	20-Dec-12	14	5	\$24.03	Yes	\$40.60	\$16.57
903	20-Dec-12	14	6	\$21.68	Yes	\$40.60	\$18.92
904	20-Dec-12	14	7	\$18.57	Yes	\$40.60	\$22.03
905	20-Dec-12	14	8	\$18.57	Yes	\$40.60	\$22.03
906	20-Dec-12	14	9	\$19.98	Yes	\$40.60	\$20.62
907	20-Dec-12	14	10	\$19.93	Yes	\$40.60	\$20.67
908	20-Dec-12	14	11	\$20.62	Yes	\$40.60	\$19.98
909	20-Dec-12	14	12	\$21.68	Yes	\$40.60	\$18.92

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
910	20-Dec-12	15	1	\$29.57	Yes	\$40.60	\$11.03
911	20-Dec-12	15	2	\$29.51	Yes	\$40.60	\$11.09
912	20-Dec-12	15	3	\$29.51	Yes	\$40.60	\$11.09
913	20-Dec-12	15	4	\$21.47	Yes	\$40.60	\$19.13
914	20-Dec-12	15	5	\$23.28	Yes	\$40.60	\$17.32
915	20-Dec-12	15	6	\$22.71	Yes	\$40.60	\$17.89
916	20-Dec-12	15	7	\$21.30	Yes	\$40.60	\$19.30
917	20-Dec-12	15	8	\$23.46	Yes	\$40.60	\$17.14
918	20-Dec-12	15	9	\$23.05	Yes	\$40.60	\$17.55
919	20-Dec-12	15	10	\$23.72	Yes	\$40.60	\$16.88
920	20-Dec-12	15	11	\$23.51	Yes	\$40.60	\$17.09
921	20-Dec-12	15	12	\$23.72	Yes	\$40.60	\$16.88
922	20-Dec-12	16	1	\$21.36	Yes	\$40.60	\$19.24
923	20-Dec-12	16	2	\$23.04	Yes	\$40.60	\$17.56
924	20-Dec-12	16	3	\$23.34	Yes	\$40.60	\$17.26
925	20-Dec-12	16	4	\$23.39	Yes	\$40.60	\$17.21
926	20-Dec-12	16	5	\$23.59	Yes	\$40.60	\$17.01
927	20-Dec-12	16	6	\$23.59	Yes	\$40.60	\$17.01
928	20-Dec-12	16	7	\$23.51	Yes	\$40.60	\$17.09
929	20-Dec-12	16	8	\$23.74	Yes	\$40.60	\$16.86
930	20-Dec-12	16	9	\$23.51	Yes	\$40.60	\$17.09
931	20-Dec-12	16	10	\$23.94	Yes	\$40.60	\$16.66
932	20-Dec-12	16	11	\$23.94	Yes	\$40.60	\$16.66
933	20-Dec-12	16	12	\$24.68	Yes	\$40.60	\$15.92
934	20-Dec-12	17	1	\$18.39	Yes	\$40.60	\$22.21
935	20-Dec-12	17	2	\$18.39	Yes	\$40.60	\$22.21
936	20-Dec-12	17	3	\$18.39	Yes	\$40.60	\$22.21
937	20-Dec-12	17	4	\$18.49	Yes	\$40.60	\$22.11
938	20-Dec-12	17	5	\$21.95	Yes	\$40.60	\$18.65
939	20-Dec-12	17	6	\$21.95	Yes	\$40.60	\$18.65
940	20-Dec-12	17	7	\$24.79	Yes	\$40.60	\$15.81
941	20-Dec-12	17	8	\$24.77	Yes	\$40.60	\$15.83
942	20-Dec-12	17	9	\$25.81	Yes	\$40.60	\$14.79
943	20-Dec-12	17	10	\$26.65	Yes	\$40.60	\$13.95
944	20-Dec-12	17	11	\$29.36	Yes	\$40.60	\$11.24
945	20-Dec-12	17	12	\$30.42	Yes	\$40.60	\$10.18
946	20-Dec-12	18	1	\$25.06	Yes	\$40.60	\$15.54
947	20-Dec-12	18	2	\$25.61	Yes	\$40.60	\$14.99

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
948	20-Dec-12	18	3	\$26.28	Yes	\$40.60	\$14.32
949	20-Dec-12	18	4	\$27.90	Yes	\$40.60	\$12.70
950	20-Dec-12	18	5	\$30.62	Yes	\$40.60	\$9.98
951	20-Dec-12	18	6	\$29.76	Yes	\$40.60	\$10.84
952	20-Dec-12	18	7	\$29.90	Yes	\$40.60	\$10.70
953	20-Dec-12	18	8	\$30.63	Yes	\$40.60	\$9.97
954	20-Dec-12	18	9	\$31.00	Yes	\$40.60	\$9.60
955	20-Dec-12	18	10	\$34.54	Yes	\$40.60	\$6.06
956	20-Dec-12	18	11	\$33.49	Yes	\$40.60	\$7.11
957	20-Dec-12	18	12	\$32.51	Yes	\$40.60	\$8.09
958	20-Dec-12	19	1	\$31.13	Yes	\$40.60	\$9.47
959	20-Dec-12	19	2	\$30.96	Yes	\$40.60	\$9.64
960	20-Dec-12	19	3	\$31.00	Yes	\$40.60	\$9.60
961	20-Dec-12	19	4	\$31.12	Yes	\$40.60	\$9.48
962	20-Dec-12	19	5	\$31.12	Yes	\$40.60	\$9.48
963	20-Dec-12	19	6	\$31.12	Yes	\$40.60	\$9.48
964	20-Dec-12	19	7	\$31.11	Yes	\$40.60	\$9.49
965	20-Dec-12	19	8	\$31.11	Yes	\$40.60	\$9.49
966	20-Dec-12	19	9	\$30.08	Yes	\$40.60	\$10.52
967	20-Dec-12	19	10	\$30.30	Yes	\$40.60	\$10.30
968	20-Dec-12	19	11	\$30.24	Yes	\$40.60	\$10.36
969	20-Dec-12	19	12	\$29.07	Yes	\$40.60	\$11.53
970	20-Dec-12	20	1	\$32.08	Yes	\$40.60	\$8.52
971	20-Dec-12	20	2	\$31.03	Yes	\$40.60	\$9.57
972	20-Dec-12	20	3	\$31.03	Yes	\$40.60	\$9.57
973	20-Dec-12	20	4	\$31.03	Yes	\$40.60	\$9.57
974	20-Dec-12	20	5	\$31.03	Yes	\$40.60	\$9.57
975	20-Dec-12	20	6	\$31.03	Yes	\$40.60	\$9.57
976	20-Dec-12	20	7	\$30.83	Yes	\$40.60	\$9.77
977	20-Dec-12	20	8	\$30.27	Yes	\$40.60	\$10.33
978	20-Dec-12	20	9	\$30.27	Yes	\$40.60	\$10.33
979	20-Dec-12	20	10	\$30.06	Yes	\$40.60	\$10.54
980	20-Dec-12	20	11	\$28.52	Yes	\$40.60	\$12.08
981	20-Dec-12	20	12	\$28.29	Yes	\$40.60	\$12.31
982	20-Dec-12	21	1	\$34.81	Yes	\$40.60	\$5.79
983	20-Dec-12	21	2	\$34.81	Yes	\$40.60	\$5.79
984	20-Dec-12	21	3	\$40.60	Yes	\$40.60	\$0.00
985	20-Dec-12	21	4	\$42.80	Yes	\$40.60	(\$2.20)

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
986	20-Dec-12	21	5	\$40.12	Yes	\$40.60	\$0.48
987	20-Dec-12	21	6	\$36.68	Yes	\$40.60	\$3.92
988	20-Dec-12	21	7	\$35.07	Yes	\$40.60	\$5.53
989	20-Dec-12	21	8	\$29.11	Yes	\$40.60	\$11.49
990	20-Dec-12	21	9	\$28.06	Yes	\$40.60	\$12.54
991	20-Dec-12	21	10	\$28.15	Yes	\$40.60	\$12.45
992	20-Dec-12	21	11	\$28.09	Yes	\$40.60	\$12.51
993	20-Dec-12	21	12	\$27.05	Yes	\$40.60	\$13.55
994	20-Dec-12	22	1	\$37.62	Yes	\$40.60	\$2.98
995	20-Dec-12	22	2	\$40.23	Yes	\$40.60	\$0.37
996	20-Dec-12	22	3	\$43.28	Yes	\$40.60	(\$2.68)
997	20-Dec-12	22	4	\$35.24	Yes	\$40.60	\$5.36
998	20-Dec-12	22	5	\$31.48	Yes	\$40.60	\$9.12
999	20-Dec-12	22	6	\$29.64	Yes	\$40.60	\$10.96
1000	20-Dec-12	22	7	\$31.32	Yes	\$40.60	\$9.28
1001	20-Dec-12	22	8	\$30.52	Yes	\$40.60	\$10.08
1002	20-Dec-12	22	9	\$28.38	Yes	\$40.60	\$12.22
1003	20-Dec-12	22	10	\$27.05	Yes	\$40.60	\$13.55
1004	20-Dec-12	22	11	\$26.91	Yes	\$40.60	\$13.69
1005	20-Dec-12	22	12	\$27.05	Yes	\$40.60	\$13.55
1006	20-Dec-12	23	1	\$35.58	Yes	\$40.60	\$5.02
1007	20-Dec-12	23	2	\$50.83	Yes	\$40.60	(\$10.23)
1008	20-Dec-12	23	3	\$68.07	Yes	\$40.60	(\$27.47)
1009	20-Dec-12	23	4	\$30.61	Yes	\$40.60	\$9.99
1010	20-Dec-12	23	5	\$30.61	Yes	\$40.60	\$9.99
1011	20-Dec-12	23	6	\$29.83	Yes	\$40.60	\$10.77
1012	20-Dec-12	23	7	\$28.10	Yes	\$40.60	\$12.50
1013	20-Dec-12	23	8	\$27.90	Yes	\$40.60	\$12.70
1014	20-Dec-12	23	9	\$28.10	Yes	\$40.60	\$12.50
1015	20-Dec-12	23	10	\$28.21	Yes	\$40.60	\$12.39
1016	20-Dec-12	23	11	\$27.67	Yes	\$40.60	\$12.93
1017	20-Dec-12	23	12	\$27.96	Yes	\$40.60	\$12.64
1018	20-Dec-12	24	1	\$30.06	Yes	\$40.60	\$10.54
1019	20-Dec-12	24	2	\$30.06	Yes	\$40.60	\$10.54
1020	20-Dec-12	24	3	\$34.99	Yes	\$40.60	\$5.61
1021	20-Dec-12	24	4	\$30.03	Yes	\$40.60	\$10.57
1022	20-Dec-12	24	5	\$30.03	Yes	\$40.60	\$10.57
1023	20-Dec-12	24	6	\$29.80	Yes	\$40.60	\$10.80

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Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
1024	20-Dec-12	24	7	\$29.57	Yes	\$40.60	\$11.03
1025	20-Dec-12	24	8	\$27.12	Yes	\$40.60	\$13.48
1026	20-Dec-12	24	9	\$27.12	Yes	\$40.60	\$13.48
1027	20-Dec-12	24	10	\$26.63	Yes	\$40.60	\$13.97
1028	20-Dec-12	24	11	\$26.61	Yes	\$40.60	\$13.99
1029	20-Dec-12	24	12	\$28.09	Yes	\$40.60	\$12.51

Appendix C: Exceptional Dispatch Bid Mitigation Analysis

In December 2012, the ISO applied the exceptional dispatch bid mitigation to the exceptional dispatches due to noncompetitive constraints. Table 10 shows the costs by instruction type in December. With exceptional dispatch bid mitigation, the costs for these types of exceptional dispatches were \$17,817. Without the exceptional dispatch bid mitigation, the costs for these types of exceptional dispatches would be \$22,195. The cost saving from the exceptional dispatch bid mitigation was \$4,378.

Table 10: Bid Mitigation Analysis for December

Type	Number of Resources	Costs without Bid Mitigation	Costs with Bid Mitigation	Cost Saving
NONTMOD	9	\$9,050.99	\$7,873.01	\$1,177.98
TMODEL5	2	\$4,247.39	\$4,193.15	\$54.24
TMODEL7	2	\$8,896.93	\$5,750.86	\$3,146.07
		\$22,195.32	\$17,817.02	\$4,378.30

CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon the parties listed on the official service lists in the above-referenced proceedings, 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 29th day of March, 2013.

Jennifer Rotz
Jennifer Rotz