July 30, 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-___
April 2013 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 the Commission's May 4 Order.

The attached report provides Chart 2 data for the month of April 2013. The attached Chart 2 report also includes the price impact analysis for the month of April 2013 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 April 2013.

Respectfully submitted,

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Exceptional Dispatch Report

Table 2: April 2013

Market Quality and Renewable Integration Jul 31, 2013

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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 April 2013.

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 April is presented in Appendix B. This report also includes the degree of mitigation analysis for April 2013 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 April 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 April 2013, the ISO issued exceptional dispatches for the following generation and transmission operating requirements: (1) 7110, transmission facilities in Humboldt area, (2) 7120, North Geysers Area 115 kV Lines (3) 7430, transmission facilities in Fresno area (4) 7810, San Diego area generation requirements (5) 7820, transmission facilities in San Diego and Imperial Valley area, and (6) 7830, Management of outages of both SONGS Units #2 and #3 for Summer operation

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

The following additional reason for exceptional dispatch instructions in April 2013 was not related to specific generation or transmission operating procedures: 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. There were a few other reasons used to explain exceptional dispatch instructions in April, 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 April. 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 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

[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.

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 these charge codes are portion of the real-time instructed imbalance energy charge code (6470). [4]
- The CC6482 column shows the real-time excess cost for the classification.[5]

[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.

[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.

- 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 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 was no designation of Exceptional Dispatch under Capacity Procurement Mechanism (CPM) in April 2013.

[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 April 2013

California Independent System Operator Corporation
Exceptional Dispatch Report
July 31, 2013

Chart 2: Table of Exceptional Dispatches for Period 01/April/2013 - 30/April/2013

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load cost	Startup Cost	CC6470	ED MWH (INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
1	RT	7110	PG&E	Humboldt	26-Apr-13	15	No	INC	5	16:45	20:02	-1.45	$0	$0	$50	0	$0	$0	$0	$0	$0
2	RT	7120	PG&E	NCNB	29-Apr-13	5- 47	No	DEC	11	10:21	20:59	-250.19	$0	$0	$9,291	(249)	$0	$9,308	$0	($16,169)	$0
3	RT	7120	PG&E	NCNB	30-Apr-13	22-23	No	DEC	10	12:10	21:59	-227.36	$0	$0	$4,923	(226)	$0	$4,919	$0	($11,164)	$0
4	RT	7430	PG&E	Fresno	22-Apr-13	20	No	INC	6	12:02	17:59	130.57	$9,309	$226	($5,162)	0	$0	$0	$0	$0	$0
5	RT	7430	PG&E	Fresno	29-Apr-13	20	No	INC	11	12:25	22:59	427.04	$28,021	$0	($18,194)	0	$0	$0	$0	$0	$0
6	RT	7430	PG&E	Fresno	30-Apr-13	20	No	INC	2	15:40	16:59	61.88	$3,333	$390	($472)	0	$0	$0	$0	$0	$0
7	RT	7810	SDG&E	San Diego-IV	10-Apr-13	0	Yes	INC	8	7:55	14:24	0.00	$0	$0	$0	0	$0	$0	$0	$0	$0
8	RT	7820	SCE	LA Basin	28-Apr-13	20-70	Yes	INC	4	4:00	7:59	167.20	$15,987	$0	($4,820)	68	($3,508)	$0	$0	$0	$0
9	RT	7820	SDG&E	San Diego-IV	6-Apr-13	117-142	Yes	INC	14	10:07	23:59	2113.75	$89,421	$509	($189,359)	0	($4)	$0	($1)	$0	$0
10	RT	7820	SDG&E	San Diego-IV	7-Apr-13	117-155	Yes	INC	24	0:00	23:59	3218.66	$138,523	$0	($102,300)	0	($5)	$0	($3)	$0	$0
11	RT	7820	SDG&E	San Diego-IV	23-Apr-13	20	Yes	INC	24	0:00	23:59	832.74	$51,428	$0	($46,246)	0	($8)	$0	$0	($3)	$0
12	RT	7820	SDG&E	San Diego-IV	28-Apr-13	868-1105	No	INC	6	1:00	6:59	-1356.53	$0	$0	$5,484	(280)	$0	$2,430	$0	$0	$0
13	RT	7830	SDG&E	San Diego-IV	1-Apr-13	50	No	INC	8	14:45	21:29	408.44	$30,620	$0	($20,981)	26	($933)	$0	$0	($530)	$0
14	RT	Fast Start Unit Management	SCE	LA Basin	4-Apr-13	0	Yes	INC	2	0:30	1:29	0.00	$0	$0	($0)	0	$0	$0	$0	$0	$0
15	RT	Generation Outage	PG&E	Bay Area	24-Apr-13	45	Yes	INC	4	20:20	23:59	236.92	$14,157	$10,559	($11,827)	0	$0	$0	$0	$0	$0
16	RT	Generation Outage	PG&E	Bay Area	25-Apr-13	45	Yes	INC	10	0:00	9:59	451.11	$36,930	$0	($4,751)	0	($1)	$0	($5)	$0	$0
17	RT	Generation Outage	SCE	LA Basin	22-Apr-13	20-60	Yes	INC	17	7:35	23:59	2697.75	$126,664	$0	($207,192)	0	($16)	$0	($1)	$0	$0
18	RT	Generation Outage	SDG&E	San Diego-IV	15-Apr-13	20	No	INC	18	6:00	23:59	309.99	$51,415	$18,079	($14,563)	0	($5)	$0	($2)	$0	$0

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load cost	Startup Cost	CC6470	ED MWH (INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
19	RT	Load Forecast Uncertainty	PG&E	Bay Area	1-Apr-13	45	Yes	INC	7	17:00	23:59	313.13	$24,045	$18,909	($9,953)	0	$0	$0	$0	$0	$0
20	RT	Load Forecast Uncertainty	SCE	LA Basin	1-Apr-13	10-45	Yes	INC	11	13:30	23:59	454.17	$96,019	$34,915	($14,626)	0	$0	$0	$0	$0	$0
21	RT	Load Forecast Uncertainty	SCE	LA Basin	2-Apr-13	20	Yes	INC	24	0:00	23:59	666.75	$83,634	$0	($63,588)	0	($9)	$0	($5)	$0	$0
22	RT	Load Forecast Uncertainty	SCE	LA Basin	3-Apr-13	20	Yes	INC	24	0:00	23:59	3361.14	$83,057	$0	($171,744)	0	($3)	$0	($2)	$0	$0
23	RT	Load Forecast Uncertainty	SCE	N/A	1-Apr-13	40	Yes	INC	8	16:00	23:59	465.26	$39,331	$23,841	($14,785)	0	$0	$0	$0	$0	$0
24	RT	MSG Plant Startup	PG&E	Stockton	29-Apr-13	89	No	INC	6	16:30	21:59	519.74	$22,395	$17,916	($20,287)	0	$0	$0	$0	$0	$0
25	RT	Over Generation	SCE	Big Creek-Ventura	8-Apr-13	46-127	No	INC	2	2:43	3:59	172.61	$0	$0	($796)	0	$0	$0	$0	$0	$0
26	RT	Over Generation	SDG&E	San Diego-IV	8-Apr-13	20	No	INC	1	3:00	3:59	-30.84	$0	$0	($409)	(22)	$0	($290)	$0	$0	$0
27	RT	Pump Management	PG&E	Fresno	14-Apr-13	304	Yes	DEC	3	9:50	11:59	-50.67	$0	$0	$1,957	0	$0	$0	$0	$0	$0
28	RT	Pump Management	PG&E	Fresno	14-Apr-13	0	Yes	INC	3	7:45	9:59	0.00	$0	$0	$0	0	$0	$0	$0	$0	$0
29	RT	Pump Management	PG&E	Fresno	21-Apr-13	300	Yes	DEC	1	5:00	5:59	-462.50	$0	$0	$18,552	0	$0	$0	$0	$0	$0
30	RT	Software Limitation	PG&E	Bay Area	23-Apr-13	45-268	No	DEC	21	0:00	20:59	-1467.38	$0	$0	$33,548	(1305)	$0	$24,822	$0	$0	$0
31	RT	Software Limitation	PG&E	Bay Area	25-Apr-13	45	No	DEC	4	3:00	6:59	-168.22	$0	$0	($874)	(169)	$0	($869)	$0	$0	$0
32	RT	Software Limitation	PG&E	Fresno	2-Apr-13	83	Yes	INC	3	13:45	15:14	176.84	$6,120	$976	($7,713)	0	$0	$0	$0	$0	$0
33	RT	Software Limitation	PG&E	Fresno	3-Apr-13	0	Yes	INC	1	9:00	9:59	0.00	$0	$0	$0	0	$0	$0	$0	$0	$0
34	RT	Software Limitation	PG&E	Fresno	5-Apr-13	310-620	Yes	DEC	5	0:45	4:59	-1007.50	$0	$0	$35,811	0	$0	$0	$0	$0	$0
35	RT	Software Limitation	PG&E	Fresno	7-Apr-13	311	Yes	DEC	1	1:00	1:59	-298.04	$0	$0	$10,164	0	$0	$0	$0	$0	$0
36	RT	Software Limitation	PG&E	Fresno	7-Apr-13	254-255	No	INC	15	0:00	14:59	-6016.38	$1,153	$0	$150,477	(1517)	$0	$32,168	$0	$0	$0
37	RT	Software Limitation	PG&E	Fresno	8-Apr-13	309-311	Yes	DEC	6	0:11	5:59	-1362.70	$0	$0	$19,485	0	$0	$0	$0	$0	$0
38	RT	Software Limitation	PG&E	Fresno	10-Apr-13	97	Yes	DEC	8	12:45	19:59	-89.50	$0	$0	$2,469	0	$0	$0	$0	$0	$0
39	RT	Software Limitation	PG&E	Fresno	10-Apr-13	83	Yes	INC	8	12:45	19:59	525.58	$42,003	$0	($17,775)	0	$0	$0	$0	$0	$0
40	RT	Software Limitation	PG&E	Fresno	18-Apr-13	0	Yes	INC	1	23:15	23:44	2.24	$262	$2	($110)	0	$0	$0	$0	$0	$0
41	RT	Software Limitation	PG&E	Fresno	20-Apr-13	0	Yes	INC	17	6:45	22:19	1.67	$0	$5	($58)	0	$0	$0	$0	$0	$0

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load cost	Startup Cost	CC6470	ED MWH (INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
42	RT	Software Limitation	PG&E	Humboldt	4-Apr-13	15	No	INC	2	11:55	12:59	2.43	$692	$0	($85)	0	$0	$0	$0	$0	$0
43	RT	Software Limitation	PG&E	N/A	30-Apr-13	330	No	INC	2	20:40	21:59	-232.92	$0	$0	$7,627	0	$0	$0	$0	$0	$0
44	RT	Software Limitation	PG&E	Sierra	20-Apr-13	0	Yes	INC	2	3:40	4:39	0.00	$0	$0	$0	0	$0	$0	$0	$0	$0
45	RT	Software Limitation	SCE	Big Creek-Ventura	10-Apr-13	50	Yes	INC	2	5:00	6:59	132.03	$13,424	$0	($5,542)	0	$0	$0	$0	$0	$0
46	RT	Software Limitation	SCE	Big Creek-Ventura	29-Apr-13	0	Yes	INC	1	23:35	23:59	1.33	$0	$0	($35)	0	$0	$0	$0	$0	$0
47	RT	Software Limitation	SCE	Big Creek-Ventura	30-Apr-13	0	No	INC	1	0:00	0:34	0.00	$0	$0	$0	0	$0	$0	$0	$0	$0
48	RT	Software Limitation	SCE	LA Basin	10-Apr-13	0	Yes	INC	2	14:30	15:29	0.00	$0	$0	($0)	0	$0	$0	$0	$0	$0
49	RT	Software Limitation	SCE	LA Basin	17-Apr-13	300-305	No	INC	5	7:17	11:59	-646.77	$0	$0	$28,350	0	$0	$0	$0	$0	$0
50	RT	Software Limitation	SCE	LA Basin	19-Apr-13	0	No	INC	1	23:55	23:59	0.00	$0	$0	$0	0	$0	$0	$0	$0	$0
51	RT	Software Limitation	SCE	LA Basin	20-Apr-13	0	No	INC	2	0:00	1:24	0.00	$0	$0	$0	0	$0	$0	$0	$0	$0
52	RT	Software Limitation	SCE	LA Basin	23-Apr-13	0	Yes	INC	1	23:15	23:59	3.91	$0	$0	($206)	0	$0	$0	$0	$0	$0
53	RT	Software Limitation	SCE	LA Basin	24-Apr-13	300	No	INC	20	0:00	19:59	-559.31	$15,914	$0	$23,761	0	$0	$0	$0	$0	$0
54	RT	Software Limitation	SDG&E	San Diego-IV	1-Apr-13	478	No	INC	1	9:16	9:59	-44.41	$0	$0	$3,653	0	$0	$0	$0	$0	$0
55	RT	Software Limitation	SDG&E	San Diego-IV	9-Apr-13	80	No	DEC	1	12:00	12:59	0.04	$0	$0	($1)	0	$0	$0	$0	$0	$0
56	RT	Software Limitation	SDG&E	San Diego-IV	9-Apr-13	6	No	INC	1	11:30	11:59	-2.59	$0	$0	$88	0	$0	$0	$0	$0	$0
57	RT	Software Limitation	SDG&E	San Diego-IV	29-Apr-13	25	Yes	INC	3	14:45	16:59	67.95	$5,178	$430	($3,102)	0	($12)	$0	$0	$0	$0
58	RT	System Energy	Intertie	N/A	8-Apr-13	100-500	Yes	INC	3	17:00	19:59	0.00	$0	$0	$0	0	$0	$0	$0	$0	$0
59	RT	System Energy	Intertie	N/A	9-Apr-13	0	No	INC	1	18:00	18:59	0.00	$0	$0	$0	0	$0	$0	$0	$0	$0
60	RT	Thermal Margin	SCE	LA Basin	29-Apr-13	20	Yes	INC	2	22:00	23:59	68.76	$5,444	$0	($2,161)	0	$0	$0	$0	$0	$0
61	RT	Transmission Mitigation	PG&E	Bay Area	20-Apr-13	83-139	Yes	INC	3	20:27	22:59	524.81	$18,936	$2,358	($20,247)	198	($7,521)	$0	$0	($3,159)	$0
62	RT	Transmission Mitigation	PG&E	Fresno	30-Apr-13	6	Yes	INC	1	23:35	23:59	4.67	$0	$0	($30)	0	($0)	$0	$0	($0)	$0
63	RT	Transmission Mitigation	PG&E	Sierra	5-Apr-13	5- 39	No	DEC	9	14:50	22:59	-331.07	$0	$0	$6,943	(200)	$0	$4,598	$0	$0	$0
64	RT	Transmission Outage Other	PG&E	Bay Area	19-Apr-13	0	No	DEC	8	13:40	20:59	9.90	$0	$0	($458)	0	$0	$0	$0	$0	$0
65	RT	Transmission Outage Other	PG&E	Bay Area	19-Apr-13	580-1156	Yes	INC	9	13:40	21:59	2740.19	$56,487	$2,001	($69,636)	1551	($28,896)	$0	$0	($38,185)	$0
66	RT	Transmission Outage Other	PG&E	Fresno	28-Apr-13	390	No	INC	14	10:55	23:59	-1469.68	$0	$0	$45,601	(688)	$0	$23,962	$0	($2,374)	$0
67	RT	Transmission Outage Other	PG&E	N/A	19-Apr-13	45	No	INC	7	14:05	20:59	221.23	$23,199	$774	($5,460)	0	$0	$0	$0	$0	$0
68	RT	Transmission Outage Other	PG&E	Stockton	19-Apr-13	191	No	INC	8	14:39	21:59	1397.11	$35,505	$35,783	$19,865	0	$11	$0	$0	($25)	$0

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load cost	Startup Cost	CC6470	ED MWH (INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
69	RT	Transmission Outage PG&E	PG&E	Bay Area	16-Apr-13	139-260	Yes	INC	21	3:10	23:59	4674.63	$182,962	$24,284	($264,764)	2336	($96,028)	$0	$0	($45,766)	$0
70	RT	Transmission Outage PG&E	PG&E	Bay Area	17-Apr-13	139-216	Yes	INC	24	0:00	23:59	3960.38	$141,181	$2,456	($149,878)	2290	($83,720)	$0	$0	($41,547)	$0
71	RT	Transmission Outage PG&E	PG&E	Bay Area	18-Apr-13	20-139	Yes	INC	23	0:00	22:59	1935.00	$76,927	$2,052	($80,724)	954	($34,609)	$0	$0	($16,658)	$0
72	RT	Transmission Outage PG&E	PG&E	Bay Area	21-Apr-13	19	No	INC	2	20:30	21:29	18.60	$819	$112	($1,217)	0	$0	$0	$0	$0	$0
73	RT	Transmission Outage PG&E	PG&E	Bay Area	23-Apr-13	48-367	Yes	INC	16	6:49	21:18	2535.79	$24,727	$425	($130,622)	2012	($95,392)	$0	$0	($28,609)	$0
74	RT	Transmission Outage PG&E	PG&E	Bay Area	24-Apr-13	45	Yes	INC	10	11:34	20:59	490.73	$24,005	$17,904	($23,018)	0	$0	$0	$0	$0	$0
75	RT	Transmission Outage PG&E	PG&E	Bay Area	30-Apr-13	1- 9	No	DEC	7	17:15	23:58	-38.10	$0	$0	$868	(38)	$0	$857	$0	($848)	$0
76	RT	Transmission Outage PG&E	PG&E	Bay Area	30-Apr-13	0	No	INC	7	17:15	23:58	0.16	$0	$0	($3)	0	$0	$0	$0	$0	$0
77	RT	Transmission Outage PG&E	PG&E	Fresno	16-Apr-13	604	Yes	DEC	1	6:00	6:59	-451.50	$0	$0	$16,927	0	$0	$0	$0	$0	$0
78	RT	Transmission Outage PG&E	PG&E	Fresno	23-Apr-13	254	No	INC	15	5:19	19:02	-5301.94	$0	$0	$827,617	(2856)	$0	$362,056	$0	($265,906)	$0
79	RT	Transmission Outage PG&E	PG&E	Fresno	29-Apr-13	375-395	No	INC	17	6:16	22:59	-1936.66	$0	$0	$76,140	(1800)	$0	$71,424	$0	($15,425)	$0
80	RT	Transmission Outage PG&E	PG&E	Fresno	30-Apr-13	390	No	INC	17	6:00	22:59	-2278.23	$0	$0	$57,146	(531)	$0	$18,877	$0	($2,619)	$0
81	RT	Transmission Outage PG&E	PG&E	Humboldt	25-Apr-13	45-90	No	INC	18	6:22	23:59	483.22	$2,117	$0	($19,102)	51	($2,069)	$0	$0	($139)	$0
82	RT	Transmission Outage PG&E	PG&E	Humboldt	26-Apr-13	29-58	No	INC	17	0:00	16:44	384.31	$0	$0	($20,129)	19	($947)	$0	$0	($64)	$0
83	RT	Transmission Outage PG&E	PG&E	N/A	23-Apr-13	52	No	INC	14	10:00	23:59	935.58	$66,669	$0	($42,614)	0	($5)	$0	$0	($0)	$0
84	RT	Transmission Outage PG&E	PG&E	Sierra	28-Apr-13	20-30	Yes	INC	11	11:31	21:59	231.10	$8,995	$248	($23,747)	1	($30)	$0	$0	($7)	$0
85	RT	Transmission Outage PG&E	PG&E	Sierra	29-Apr-13	20-46	Yes	INC	11	10:55	20:59	442.79	$18,571	$437	($19,114)	201	($8,320)	$0	$0	($1,922)	$0
86	RT	Transmission Outage PG&E	PG&E	Stockton	9-Apr-13	10-15	No	DEC	3	20:10	22:59	-58.58	$0	$0	$2,122	(38)	$0	$1,380	$0	($212)	$0
87	RT	Transmission Outage PG&E	PG&E	Stockton	10-Apr-13	5	No	DEC	10	11:20	20:59	-220.31	$0	$0	$6,642	(48)	$0	$1,416	$0	($1,138)	$0

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load cost	Startup Cost	CC6470	ED MWH (INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
88	RT	Transmission Outage SCE	SCE	LA Basin	18-Apr-13	37	No	DEC	6	12:35	17:59	-197.48	$0	$0	$5,237	(197)	$0	$5,237	$0	($5,791)	$0
89	RT	Transmission Outage SCE	SCE	LA Basin	30-Apr-13	20	Yes	INC	24	0:00	23:59	812.63	$65,328	$0	($26,055)	0	$0	$0	$0	$0	$0
90	RT	Transmission Outage SCE	SCE	N/A	26-Apr-13	32-42	Yes	DEC	1	11:05	11:59	-53.10	$0	$0	$5,680	(11)	$0	$4,068	$0	($3,683)	$0
91	RT	Transmission Outage SCE	SDG&E	San Diego-IV	28-Apr-13	20	Yes	INC	2	2:15	3:59	34.18	$2,479	$0	($97)	0	($0)	$0	$0	($1)	$0
92	RT	Transmission Outage SDG&E	SCE	LA Basin	25-Apr-13	20-40	Yes	INC	24	0:00	23:59	866.29	$170,521	$29,347	($25,229)	0	($12)	$0	($5)	$0	$0
93	RT	Transmission Outage SDG&E	SCE	LA Basin	26-Apr-13	20	Yes	INC	4	0:00	3:59	80.04	$16,049	$0	($2,057)	0	($1)	$0	($1)	$0	$0
94	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	3-Apr-13	20	Yes	INC	2	22:00	23:59	52.42	$4,605	$0	($2,168)	0	$0	$0	$0	$0	$0
95	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	4-Apr-13	44	No	DEC	6	8:00	13:59	-236.50	$0	$0	$22,177	(233)	$0	$22,066	$0	($22,066)	$0
96	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	4-Apr-13	20-42	Yes	INC	21	0:00	20:59	1178.44	$49,509	$0	($53,464)	0	$0	$0	$0	$0	$0
97	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	6-Apr-13	20	Yes	INC	1	23:00	23:59	19.29	$2,303	$4,955	($626)	0	($0)	$0	($0)	$0	$0
98	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	12-Apr-13	20	No	INC	20	2:00	21:59	399.47	$62,894	$0	($20,913)	0	($6)	$0	$0	($4)	$0
99	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	22-Apr-13	20	Yes	INC	8	16:00	23:59	164.05	$14,968	$2,862	($6,973)	0	($3)	$0	$0	($1)	$0
100	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	24-Apr-13	20	Yes	INC	24	0:00	23:59	941.98	$55,266	$0	($87,205)	0	($8)	$0	$0	($3)	$0
101	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	25-Apr-13	20-95	Yes	INC	24	0:00	23:59	1098.94	$94,618	$450	($46,075)	16	($621)	$0	($11)	($286)	$0
102	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	27-Apr-13	20	No	INC	22	2:00	23:59	437.55	$74,173	$0	($15,280)	0	($8)	$0	$0	($3)	$0
103	RT	Unit Testing	PG&E	Bay Area	4-Apr-13	250-380	Yes	INC	6	13:50	18:59	2036.44	$0	$0	($93,862)	1422	($73,733)	$0	$0	$0	$0
104	RT	Unit Testing	PG&E	Bay Area	12-Apr-13	253	No	INC	8	14:00	21:14	2028.07	$0	$0	($164,512)	0	($6)	$0	$0	$0	$0
105	RT	Unit Testing	PG&E	Fresno	25-Apr-13	308	Yes	DEC	1	23:45	23:59	-75.32	$0	$0	$2,043	0	$0	$0	$0	$0	$0
106	RT	Unit Testing	PG&E	Fresno	25-Apr-13	138	No	INC	1	16:13	16:23	25.30	$0	$0	($786)	22	($679)	$0	$0	$0	$0
107	RT	Unit Testing	PG&E	Fresno	26-Apr-13	308	Yes	DEC	1	0:00	0:59	-295.31	$0	$0	$10,639	0	$0	$0	$0	$0	$0
108	RT	Unit Testing	PG&E	N/A	4-Apr-13	125-200	Yes	INC	10	8:35	17:59	716.87	$0	$0	($14,666)	66	($2,806)	$0	$0	$0	$0
109	RT	Unit Testing	PG&E	N/A	5-Apr-13	120-200	Yes	INC	2	8:00	9:59	281.57	$0	$0	($9,540)	32	($1,342)	$0	$0	$0	$0
110	RT	Unit Testing	PG&E	N/A	13-Apr-13	200	Yes	INC	13	6:40	18:59	2444.7	$0	$0	($72,82	973	($43,68	$0	$0	$0	$0

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time	Total MWH	Min Load cost	Startup Cost	CC6470	ED MWH (INC/DEC)	CC6470 INC	CC6470 DEC	CC6482	CC6488	CC6620
												2			3)		5)				
111	RT	Unit Testing	PG&E	N/A	14-Apr-13	200-400	Yes	INC	10	9:20	18:59	1912.17	$0	$0	($68,040)	740	($34,298)	$0	$0	$0	$0
112	RT	Unit Testing	PG&E	N/A	16-Apr-13	198-202	Yes	INC	19	5:25	23:59	1556.30	$0	$0	($79,703)	2	($89)	$0	$0	$0	$0
113	RT	Unit Testing	PG&E	N/A	17-Apr-13	200	Yes	INC	12	0:00	11:59	2401.93	$0	$0	($96,543)	956	($43,934)	$0	$0	$0	$0
114	RT	Unit Testing	PG&E	N/A	18-Apr-13	242	Yes	INC	11	8:00	18:59	2126.87	$0	$0	($164,104)	14	($1,160)	$0	$0	$0	$0
115	RT	Unit Testing	PG&E	N/A	22-Apr-13	470-798	Yes	INC	11	6:50	16:59	768.88	$0	$0	($40,722)	0	$0	$0	$0	$0	$0
116	RT	Unit Testing	SCE	Big Creek-Ventura	10-Apr-13	435-611	No	DEC	2	22:00	23:59	-447.68	$0	$0	$7,435	0	$0	$0	$0	$0	$0
117	RT	Unit Testing	SCE	Big Creek-Ventura	11-Apr-13	140	No	INC	2	0:00	1:59	-181.03	$3,326	$13,421	$4,771	0	$0	$0	$0	$0	$0
118	RT	Unit Testing	SCE	N/A	1-Apr-13	90-100	Yes	INC	3	10:00	12:59	36.66	$0	$0	($1,420)	15	($635)	$0	$0	$0	$0
119	RT	Unit Testing	SCE	N/A	10-Apr-13	180-728	Yes	INC	13	11:50	23:59	7611.70	$0	$0	($382,252)	6831	($359,325)	$0	$0	$0	$0
120	RT	Unit Testing	SCE	N/A	11-Apr-13	728	Yes	INC	24	0:00	23:59	17457.88	$0	$0	($895,999)	16258	($864,919)	$0	$0	$0	$0
121	RT	Unit Testing	SCE	N/A	12-Apr-13	728	Yes	INC	13	1:40	13:59	8950.42	$0	$0	($463,874)	8334	($446,238)	$0	$0	$0	$0
122	RT	Unit Testing	SCE	N/A	17-Apr-13	96-192	Yes	INC	6	13:51	18:29	735.93	$0	$0	($24,363)	13	($679)	$0	$0	$0	$0
123	RT	Unit Testing	SCE	N/A	23-Apr-13	96-196	No	INC	3	13:45	15:15	-181.00	$0	$0	$10,094	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 costs[7]. 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 02, 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 is 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 8640 five-minute intervals in April, this resource was issued exceptional dispatch instructions in 367 five-minute intervals. This resource was eligible to set the LMP in 269 intervals. Resource calculated LMP was larger than the market LMP in 263 of the 269 intervals. In the 263 intervals, the average increase in five minute LMP was $27.33/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 $27.33/MWh. Note that 263 five minute intervals are approximately 3.04 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 8640 five minute intervals, this resource was issued an exceptional dispatch instruction in 529 five minute intervals. This resource was eligible to set the LMP in all 529 intervals. Out of the 529 intervals, resource calculated LMP was larger than the market LMP in 474 intervals. In the 474 intervals, the average increase in five minute LMP was $18.08/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 $18.08/MWh. The 474 five minute intervals account for approximately 5.49 percent of the total 8640 five minute intervals.

Table 8: Price Impact Analysis Information for Pricing Node A in PGAE LAP

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
1	23-Apr-13	7	11	$46.68	No	$58.60	$11.92
2	23-Apr-13	7	12	$50.48	No	$58.60	$8.12
3	23-Apr-13	8	1	$38.17	No	$58.60	$20.43
4	23-Apr-13	8	2	$37.15	No	$58.60	$21.45
5	23-Apr-13	8	3	$36.94	No	$58.60	$21.66
6	23-Apr-13	8	4	$37.45	No	$58.60	$21.15
7	23-Apr-13	8	5	$37.19	No	$58.60	$21.41
8	23-Apr-13	8	6	$37.45	No	$58.60	$21.15
9	23-Apr-13	8	7	$37.73	No	$58.60	$20.87
10	23-Apr-13	8	8	$38.49	No	$58.60	$20.11
11	23-Apr-13	8	9	$37.98	No	$58.60	$20.62
12	23-Apr-13	8	10	$38.36	No	$58.60	$20.24
13	23-Apr-13	8	11	$38.36	No	$58.60	$20.24
14	23-Apr-13	8	12	$44.83	No	$58.60	$13.77
15	23-Apr-13	9	1	$38.05	No	$58.60	$20.55
16	23-Apr-13	9	2	$38.05	No	$58.60	$20.55
17	23-Apr-13	9	3	$38.03	No	$58.60	$20.57
18	23-Apr-13	9	4	$38.23	No	$58.60	$20.37
19	23-Apr-13	9	5	$38.23	No	$58.60	$20.37
20	23-Apr-13	9	6	$38.24	No	$58.60	$20.36
21	23-Apr-13	9	7	$37.39	No	$58.60	$21.21
22	23-Apr-13	9	8	$37.49	No	$58.60	$21.11
23	23-Apr-13	9	9	$36.37	No	$58.60	$22.23
24	23-Apr-13	9	10	$37.18	No	$58.60	$21.42
25	23-Apr-13	9	11	$36.91	No	$58.60	$21.69
26	23-Apr-13	9	12	$36.34	No	$58.60	$22.26
27	23-Apr-13	10	1	$36.14	No	$58.60	$22.46
28	23-Apr-13	10	2	$36.06	No	$58.60	$22.54
29	23-Apr-13	10	3	$35.73	No	$58.60	$22.87
30	23-Apr-13	10	4	$35.81	No	$58.60	$22.79
31	23-Apr-13	10	5	$35.91	No	$58.60	$22.69
32	23-Apr-13	10	6	$35.91	No	$58.60	$22.69
33	23-Apr-13	10	7	$35.80	No	$58.60	$22.80
34	23-Apr-13	10	8	$35.89	No	$58.60	$22.71
35	23-Apr-13	10	9	$36.65	No	$58.60	$21.95
36	23-Apr-13	10	10	$35.78	No	$58.60	$22.82

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
37	23-Apr-13	10	11	$36.85	No	$58.60	$21.75
38	23-Apr-13	10	12	$37.48	No	$58.60	$21.12
39	23-Apr-13	11	1	$36.31	No	$58.60	$22.29
40	23-Apr-13	11	2	$36.61	No	$58.60	$21.99
41	23-Apr-13	11	3	$37.94	No	$58.60	$20.66
42	23-Apr-13	11	4	$32.96	No	$58.60	$25.64
43	23-Apr-13	11	5	$45.29	No	$58.60	$13.31
44	23-Apr-13	11	6	$30.50	No	$58.60	$28.10
45	23-Apr-13	11	7	$49.47	No	$58.60	$9.13
46	23-Apr-13	11	8	$45.14	No	$58.60	$13.46
47	23-Apr-13	11	9	$38.99	No	$58.60	$19.61
48	23-Apr-13	11	10	$32.05	No	$58.60	$26.55
49	23-Apr-13	11	11	$32.05	No	$58.60	$26.55
50	23-Apr-13	11	12	$32.05	No	$58.60	$26.55
51	23-Apr-13	12	1	$29.82	No	$58.60	$28.78
52	23-Apr-13	12	2	$29.79	No	$58.60	$28.81
53	23-Apr-13	12	3	$29.82	No	$58.60	$28.78
54	23-Apr-13	12	4	$30.29	No	$58.60	$28.31
55	23-Apr-13	12	5	$30.32	No	$58.60	$28.28
56	23-Apr-13	12	6	$30.33	No	$58.60	$28.27
57	23-Apr-13	12	7	$30.25	No	$58.60	$28.35
58	23-Apr-13	12	8	$30.26	No	$58.60	$28.34
59	23-Apr-13	12	9	$30.73	No	$58.60	$27.87
60	23-Apr-13	12	10	$30.86	No	$58.60	$27.74
61	23-Apr-13	12	11	$34.31	No	$58.60	$24.29
62	23-Apr-13	12	12	$37.91	No	$58.60	$20.69
63	23-Apr-13	13	1	$37.20	No	$58.60	$21.40
64	23-Apr-13	13	2	$34.90	No	$58.60	$23.70
65	23-Apr-13	13	3	$37.14	No	$58.60	$21.46
66	23-Apr-13	13	4	$37.24	No	$58.60	$21.36
67	23-Apr-13	13	5	$38.75	No	$58.60	$19.85
68	23-Apr-13	13	6	$40.54	No	$58.60	$18.06
69	23-Apr-13	13	7	$42.21	No	$58.60	$16.39
70	23-Apr-13	13	8	$42.17	No	$58.60	$16.43
71	23-Apr-13	13	9	$42.21	No	$58.60	$16.39
72	23-Apr-13	13	10	$41.46	No	$58.60	$17.14
73	23-Apr-13	13	11	$42.24	No	$58.60	$16.36
74	23-Apr-13	13	12	$41.45	No	$58.60	$17.15

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
75	23-Apr-13	14	1	$41.53	No	$58.60	$17.07
76	23-Apr-13	14	2	$57.46	No	$58.60	$1.14
77	23-Apr-13	14	3	$53.87	No	$58.60	$4.73
78	23-Apr-13	14	4	$55.60	No	$58.60	$3.00
79	23-Apr-13	14	5	$57.15	No	$58.60	$1.45
80	23-Apr-13	14	6	$59.36	No	$58.60	($0.76)
81	23-Apr-13	14	7	$54.57	No	$58.60	$4.03
82	23-Apr-13	14	8	$56.74	No	$58.60	$1.86
83	23-Apr-13	14	9	$47.71	No	$58.60	$10.89
84	23-Apr-13	14	10	$50.50	No	$58.60	$8.10
85	23-Apr-13	14	11	$50.52	No	$58.60	$8.08
86	23-Apr-13	14	12	$49.49	No	$58.60	$9.11
87	23-Apr-13	15	1	$49.67	No	$58.60	$8.93
88	23-Apr-13	15	2	$46.67	No	$58.60	$11.93
89	23-Apr-13	15	3	$64.68	No	$58.60	($6.08)
90	23-Apr-13	15	4	$106.91	No	$58.60	($48.31)
91	23-Apr-13	15	5	$58.80	No	$58.60	($0.20)
92	23-Apr-13	15	6	$53.00	No	$58.60	$5.60
93	23-Apr-13	15	7	$54.61	No	$58.60	$3.99
94	23-Apr-13	15	8	$54.64	No	$58.60	$3.96
95	23-Apr-13	15	9	$62.77	No	$58.60	($4.17)
96	23-Apr-13	15	10	$55.56	No	$58.60	$3.04
97	23-Apr-13	15	11	$58.15	No	$58.60	$0.45
98	23-Apr-13	15	12	$58.15	No	$58.60	$0.45
99	24-Apr-13	12	8	$39.25	Yes	$53.62	$14.37
100	24-Apr-13	12	9	$37.36	Yes	$53.62	$16.26
101	24-Apr-13	12	10	$39.26	Yes	$53.62	$14.36
102	24-Apr-13	12	11	$36.90	Yes	$53.62	$16.72
103	24-Apr-13	12	12	$39.31	Yes	$53.62	$14.31
104	24-Apr-13	13	1	$39.88	Yes	$53.62	$13.74
105	24-Apr-13	13	2	$39.75	Yes	$53.62	$13.87
106	24-Apr-13	13	3	$41.52	Yes	$53.62	$12.10
107	24-Apr-13	13	4	$40.19	Yes	$53.62	$13.43
108	24-Apr-13	13	5	$37.84	Yes	$53.62	$15.78
109	24-Apr-13	13	6	$37.83	Yes	$53.62	$15.79
110	24-Apr-13	13	7	$43.65	Yes	$53.62	$9.97
111	24-Apr-13	13	8	$42.86	Yes	$53.62	$10.76
112	24-Apr-13	13	9	$44.02	Yes	$53.62	$9.60

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
113	24-Apr-13	13	10	$40.55	Yes	$53.62	$13.07
114	24-Apr-13	13	11	$40.36	Yes	$53.62	$13.26
115	24-Apr-13	13	12	$42.99	Yes	$53.62	$10.63
116	24-Apr-13	14	1	$39.57	Yes	$53.62	$14.05
117	24-Apr-13	14	2	$47.61	Yes	$53.62	$6.01
118	24-Apr-13	14	3	$47.61	Yes	$53.62	$6.01
119	24-Apr-13	14	4	$47.61	Yes	$53.62	$6.01
120	24-Apr-13	14	5	$47.61	Yes	$53.62	$6.01
121	24-Apr-13	14	6	$47.61	Yes	$53.62	$6.01
122	24-Apr-13	14	7	$47.61	Yes	$53.62	$6.01
123	24-Apr-13	14	8	$47.61	Yes	$53.62	$6.01
124	24-Apr-13	14	9	$47.61	Yes	$53.62	$6.01
125	24-Apr-13	14	10	$47.61	Yes	$53.62	$6.01
126	24-Apr-13	14	11	$47.61	Yes	$53.62	$6.01
127	24-Apr-13	14	12	$47.61	Yes	$53.62	$6.01
128	24-Apr-13	15	1	$47.61	Yes	$53.62	$6.01
129	24-Apr-13	15	2	$47.61	Yes	$53.62	$6.01
130	24-Apr-13	15	3	$47.61	Yes	$53.62	$6.01
131	24-Apr-13	15	4	$51.57	Yes	$53.62	$2.05
132	24-Apr-13	15	5	$42.57	Yes	$53.62	$11.05
133	24-Apr-13	15	6	$38.35	Yes	$53.62	$15.27
134	24-Apr-13	15	7	$37.66	Yes	$53.62	$15.96
135	24-Apr-13	15	8	$37.29	Yes	$53.62	$16.33
136	24-Apr-13	15	9	$37.29	Yes	$53.62	$16.33
137	24-Apr-13	15	10	$36.49	Yes	$53.62	$17.13
138	24-Apr-13	15	11	$36.49	Yes	$53.62	$17.13
139	24-Apr-13	15	12	$36.64	Yes	$53.62	$16.98
140	24-Apr-13	16	1	$36.56	Yes	$53.62	$17.06
141	24-Apr-13	16	2	$36.51	Yes	$53.62	$17.11
142	24-Apr-13	16	3	$36.48	Yes	$53.62	$17.14
143	24-Apr-13	16	4	$36.04	Yes	$53.62	$17.58
144	24-Apr-13	16	5	$35.99	Yes	$53.62	$17.63
145	24-Apr-13	16	6	$36.38	Yes	$53.62	$17.24
146	24-Apr-13	16	7	$36.41	Yes	$53.62	$17.21
147	24-Apr-13	16	8	$36.41	Yes	$53.62	$17.21
148	24-Apr-13	16	9	$36.47	Yes	$53.62	$17.15
149	24-Apr-13	16	10	$35.87	Yes	$53.62	$17.75
150	24-Apr-13	16	11	$35.92	Yes	$53.62	$17.70

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
151	24-Apr-13	16	12	$35.92	Yes	$53.62	$17.70
152	24-Apr-13	17	1	$36.49	Yes	$53.62	$17.13
153	24-Apr-13	17	2	$36.22	Yes	$53.62	$17.40
154	24-Apr-13	17	3	$35.83	Yes	$53.62	$17.79
155	24-Apr-13	17	4	$35.99	Yes	$53.62	$17.63
156	24-Apr-13	17	5	$35.96	Yes	$53.62	$17.66
157	24-Apr-13	17	6	$37.00	Yes	$53.62	$16.62
158	24-Apr-13	17	7	$37.03	Yes	$53.62	$16.59
159	24-Apr-13	17	8	$37.04	Yes	$53.62	$16.58
160	24-Apr-13	17	9	$36.48	Yes	$53.62	$17.14
161	24-Apr-13	17	10	$35.36	Yes	$53.62	$18.26
162	24-Apr-13	17	11	$35.39	Yes	$53.62	$18.23
163	24-Apr-13	17	12	$35.74	Yes	$53.62	$17.88
164	24-Apr-13	18	1	$35.64	Yes	$53.62	$17.98
165	24-Apr-13	18	2	$35.77	Yes	$53.62	$17.85
166	24-Apr-13	18	3	$36.05	Yes	$53.62	$17.57
167	24-Apr-13	18	4	$35.38	Yes	$53.62	$18.24
168	24-Apr-13	18	5	$35.63	Yes	$53.62	$17.99
169	24-Apr-13	18	6	$35.91	Yes	$53.62	$17.71
170	24-Apr-13	18	7	$35.20	Yes	$53.62	$18.42
171	24-Apr-13	18	8	$35.52	Yes	$53.62	$18.10
172	24-Apr-13	18	9	$35.87	Yes	$53.62	$17.75
173	24-Apr-13	18	10	$35.89	Yes	$53.62	$17.73
174	24-Apr-13	18	11	$36.13	Yes	$53.62	$17.49
175	24-Apr-13	18	12	$37.75	Yes	$53.62	$15.87
176	24-Apr-13	19	1	$44.30	Yes	$53.62	$9.32
177	24-Apr-13	19	2	$42.01	Yes	$53.62	$11.61
178	24-Apr-13	19	3	$48.07	Yes	$53.62	$5.55
179	24-Apr-13	19	4	$42.14	Yes	$53.62	$11.48
180	24-Apr-13	19	5	$49.69	Yes	$53.62	$3.93
181	24-Apr-13	19	6	$50.61	Yes	$53.62	$3.01
182	24-Apr-13	19	7	$51.58	Yes	$53.62	$2.04
183	24-Apr-13	19	8	$42.18	Yes	$53.62	$11.44
184	24-Apr-13	19	9	$42.12	Yes	$53.62	$11.50
185	24-Apr-13	19	10	$41.94	Yes	$53.62	$11.68
186	24-Apr-13	19	11	$41.94	Yes	$53.62	$11.68
187	24-Apr-13	19	12	$41.94	Yes	$53.62	$11.68
188	24-Apr-13	20	1	$36.41	Yes	$53.62	$17.21

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
189	24-Apr-13	20	2	$36.03	Yes	$53.62	$17.59
190	24-Apr-13	20	3	$36.10	Yes	$53.62	$17.52
191	24-Apr-13	20	4	$35.98	Yes	$53.62	$17.64
192	24-Apr-13	20	5	$36.43	Yes	$53.62	$17.19
193	24-Apr-13	20	6	$37.93	Yes	$53.62	$15.69
194	24-Apr-13	20	7	$39.57	Yes	$53.62	$14.05
195	24-Apr-13	20	8	$41.63	Yes	$53.62	$11.99
196	24-Apr-13	20	9	$41.63	Yes	$53.62	$11.99
197	24-Apr-13	20	10	$41.20	Yes	$53.62	$12.42
198	24-Apr-13	20	11	$41.20	Yes	$53.62	$12.42
199	24-Apr-13	20	12	$47.33	Yes	$53.62	$6.29
200	24-Apr-13	21	1	$50.63	Yes	$53.62	$2.99
201	24-Apr-13	21	2	$49.67	Yes	$53.62	$3.95
202	24-Apr-13	21	3	$86.75	Yes	$53.62	($33.13)
203	24-Apr-13	21	4	$90.35	Yes	$53.62	($36.73)
204	24-Apr-13	21	5	$107.42	Yes	$53.62	($53.80)
205	24-Apr-13	21	6	$83.61	Yes	$53.62	($29.99)
206	24-Apr-13	21	7	$96.78	Yes	$53.62	($43.16)
207	24-Apr-13	21	8	$104.53	Yes	$53.62	($50.91)
208	24-Apr-13	21	9	$48.07	Yes	$53.62	$5.55
209	24-Apr-13	21	10	$42.09	Yes	$53.62	$11.53
210	24-Apr-13	21	11	$42.13	Yes	$53.62	$11.49
211	24-Apr-13	21	12	$42.10	Yes	$53.62	$11.52
212	24-Apr-13	22	1	$45.97	Yes	$53.62	$7.65
213	24-Apr-13	22	2	$46.78	Yes	$53.62	$6.84
214	24-Apr-13	22	3	$46.21	Yes	$53.62	$7.41
215	24-Apr-13	22	4	$42.29	Yes	$53.62	$11.33
216	24-Apr-13	22	5	$42.29	Yes	$53.62	$11.33
217	24-Apr-13	22	6	$42.21	Yes	$53.62	$11.41
218	24-Apr-13	22	7	$40.51	Yes	$53.62	$13.11
219	24-Apr-13	22	8	$36.87	Yes	$53.62	$16.75
220	24-Apr-13	22	9	$37.63	Yes	$53.62	$15.99
221	24-Apr-13	22	10	$35.84	Yes	$53.62	$17.78
222	24-Apr-13	22	11	$35.70	Yes	$53.62	$17.92
223	24-Apr-13	22	12	$35.12	Yes	$53.62	$18.50
224	24-Apr-13	23	1	$42.37	Yes	$53.62	$11.25
225	24-Apr-13	23	2	$40.88	Yes	$53.62	$12.74
226	24-Apr-13	23	3	$39.99	Yes	$53.62	$13.63

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
227	24-Apr-13	23	4	$35.99	Yes	$53.62	$17.63
228	24-Apr-13	23	5	$35.99	Yes	$53.62	$17.63
229	24-Apr-13	23	6	$35.80	Yes	$53.62	$17.82
230	24-Apr-13	23	7	$34.66	Yes	$53.62	$18.96
231	24-Apr-13	23	8	$34.64	Yes	$53.62	$18.98
232	24-Apr-13	23	9	$33.28	Yes	$53.62	$20.34
233	24-Apr-13	23	10	$32.31	Yes	$53.62	$21.31
234	24-Apr-13	23	11	$32.19	Yes	$53.62	$21.43
235	24-Apr-13	23	12	$32.19	Yes	$53.62	$21.43
236	24-Apr-13	24	1	$35.49	Yes	$53.62	$18.13
237	24-Apr-13	24	2	$37.54	Yes	$53.62	$16.08
238	24-Apr-13	24	3	$36.42	Yes	$53.62	$17.20
239	24-Apr-13	24	4	$38.97	Yes	$53.62	$14.65
240	24-Apr-13	24	5	$37.21	Yes	$53.62	$16.41
241	24-Apr-13	24	6	$35.86	Yes	$53.62	$17.76
242	24-Apr-13	24	7	$35.71	Yes	$53.62	$17.91
243	24-Apr-13	24	8	$34.70	Yes	$53.62	$18.92
244	24-Apr-13	24	9	$34.96	Yes	$53.62	$18.66
245	24-Apr-13	24	10	$30.67	Yes	$53.62	$22.95
246	24-Apr-13	24	11	$28.76	Yes	$53.62	$24.86
247	24-Apr-13	24	12	$24.88	Yes	$53.62	$28.74
248	25-Apr-13	1	1	$31.88	Yes	$53.63	$21.75
249	25-Apr-13	1	2	$31.86	Yes	$53.63	$21.77
250	25-Apr-13	1	3	$31.86	Yes	$53.63	$21.77
251	25-Apr-13	1	4	$31.81	Yes	$53.63	$21.82
252	25-Apr-13	1	5	$31.81	Yes	$53.63	$21.82
253	25-Apr-13	1	6	$31.84	Yes	$53.63	$21.79
254	25-Apr-13	1	7	$28.49	Yes	$53.63	$25.14
255	25-Apr-13	1	8	$25.66	Yes	$53.63	$27.97
256	25-Apr-13	1	9	$20.12	Yes	$53.63	$33.51
257	25-Apr-13	1	10	$23.71	Yes	$53.63	$29.92
258	25-Apr-13	1	11	$21.77	Yes	$53.63	$31.86
259	25-Apr-13	1	12	$12.57	Yes	$53.63	$41.06
260	25-Apr-13	2	1	$22.53	Yes	$53.63	$31.10
261	25-Apr-13	2	2	$23.74	Yes	$53.63	$29.89
262	25-Apr-13	2	3	$23.74	Yes	$53.63	$29.89
263	25-Apr-13	2	4	$23.77	Yes	$53.63	$29.86
264	25-Apr-13	2	5	$22.52	Yes	$53.63	$31.11

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
265	25-Apr-13	2	6	$21.82	Yes	$53.63	$31.81
266	25-Apr-13	2	7	$20.51	Yes	$53.63	$33.12
267	25-Apr-13	2	8	$17.95	Yes	$53.63	$35.68
268	25-Apr-13	2	9	$6.19	Yes	$53.63	$47.44
269	25-Apr-13	2	10	$0.01	Yes	$53.63	$53.62
270	25-Apr-13	2	11	$0.01	Yes	$53.63	$53.62
271	25-Apr-13	2	12	($30.48)	Yes	$53.63	$84.11
272	25-Apr-13	3	1	$0.01	Yes	$53.63	$53.62
273	25-Apr-13	3	2	$0.01	Yes	$53.63	$53.62
274	25-Apr-13	3	3	$0.01	Yes	$53.63	$53.62
275	25-Apr-13	3	4	($29.58)	Yes	$53.63	$83.21
276	25-Apr-13	3	5	($30.49)	Yes	$53.63	$84.12
277	25-Apr-13	3	6	($31.93)	Yes	$53.63	$85.56
278	25-Apr-13	3	7	($31.79)	Yes	$53.63	$85.42
279	25-Apr-13	3	8	($31.99)	Yes	$53.63	$85.62
280	25-Apr-13	3	9	($31.99)	Yes	$53.63	$85.62
281	25-Apr-13	3	10	($31.98)	Yes	$53.63	$85.61
282	25-Apr-13	3	11	($31.98)	Yes	$53.63	$85.61
283	25-Apr-13	3	12	($31.98)	Yes	$53.63	$85.61
284	25-Apr-13	4	1	($31.85)	Yes	$53.63	$85.48
285	25-Apr-13	4	2	($31.85)	Yes	$53.63	$85.48
286	25-Apr-13	4	3	($31.85)	Yes	$53.63	$85.48
287	25-Apr-13	4	4	($31.92)	Yes	$53.63	$85.55
288	25-Apr-13	4	5	($31.92)	Yes	$53.63	$85.55
289	25-Apr-13	4	6	($31.92)	Yes	$53.63	$85.55
290	25-Apr-13	4	7	($31.85)	Yes	$53.63	$85.48
291	25-Apr-13	4	8	($31.85)	Yes	$53.63	$85.48
292	25-Apr-13	4	9	($31.85)	Yes	$53.63	$85.48
293	25-Apr-13	4	10	($31.78)	Yes	$53.63	$85.41
294	25-Apr-13	4	11	($31.78)	Yes	$53.63	$85.41
295	25-Apr-13	4	12	($31.78)	Yes	$53.63	$85.41
296	25-Apr-13	5	1	($33.35)	Yes	$53.63	$86.98
297	25-Apr-13	5	2	($33.41)	Yes	$53.63	$87.04
298	25-Apr-13	5	3	($31.72)	Yes	$53.63	$85.35
299	25-Apr-13	5	4	($33.58)	Yes	$53.63	$87.21
300	25-Apr-13	5	5	($30.87)	Yes	$53.63	$84.50
301	25-Apr-13	5	6	($30.35)	Yes	$53.63	$83.98
302	25-Apr-13	5	7	($30.35)	Yes	$53.63	$83.98

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
303	25-Apr-13	5	8	($29.98)	Yes	$53.63	$83.61
304	25-Apr-13	5	9	($30.36)	Yes	$53.63	$83.99
305	25-Apr-13	5	10	$0.01	Yes	$53.63	$53.62
306	25-Apr-13	5	11	$0.01	Yes	$53.63	$53.62
307	25-Apr-13	5	12	$0.01	Yes	$53.63	$53.62
308	25-Apr-13	6	1	($30.33)	Yes	$53.63	$83.96
309	25-Apr-13	6	2	($29.92)	Yes	$53.63	$83.55
310	25-Apr-13	6	3	$0.01	Yes	$53.63	$53.62
311	25-Apr-13	6	4	$10.15	Yes	$53.63	$43.48
312	25-Apr-13	6	5	$20.73	Yes	$53.63	$32.90
313	25-Apr-13	6	6	$31.10	Yes	$53.63	$22.53
314	25-Apr-13	6	7	$30.62	Yes	$53.63	$23.01
315	25-Apr-13	6	8	$33.08	Yes	$53.63	$20.55
316	25-Apr-13	6	9	$33.08	Yes	$53.63	$20.55
317	25-Apr-13	6	10	$33.83	Yes	$53.63	$19.80
318	25-Apr-13	6	11	$34.54	Yes	$53.63	$19.09
319	25-Apr-13	6	12	$34.58	Yes	$53.63	$19.05
320	25-Apr-13	7	1	$6.27	Yes	$53.63	$47.36
321	25-Apr-13	7	2	$6.27	Yes	$53.63	$47.36
322	25-Apr-13	7	3	$19.82	Yes	$53.63	$33.81
323	25-Apr-13	7	4	$20.52	Yes	$53.63	$33.11
324	25-Apr-13	7	5	$20.60	Yes	$53.63	$33.03
325	25-Apr-13	7	6	$23.73	Yes	$53.63	$29.90
326	25-Apr-13	7	7	$20.59	Yes	$53.63	$33.04
327	25-Apr-13	7	8	$22.90	Yes	$53.63	$30.73
328	25-Apr-13	7	9	$23.76	Yes	$53.63	$29.87
329	25-Apr-13	7	10	$23.87	Yes	$53.63	$29.76
330	25-Apr-13	7	11	$28.68	Yes	$53.63	$24.95
331	25-Apr-13	7	12	$33.45	Yes	$53.63	$20.18
332	25-Apr-13	8	1	$28.37	Yes	$53.63	$25.26
333	25-Apr-13	8	2	$31.94	Yes	$53.63	$21.69
334	25-Apr-13	8	3	$34.83	Yes	$53.63	$18.80
335	25-Apr-13	8	4	$35.32	Yes	$53.63	$18.31
336	25-Apr-13	8	5	$35.57	Yes	$53.63	$18.06
337	25-Apr-13	8	6	$35.56	Yes	$53.63	$18.07
338	25-Apr-13	8	7	$35.56	Yes	$53.63	$18.07
339	25-Apr-13	8	8	$35.61	Yes	$53.63	$18.02
340	25-Apr-13	8	9	$35.56	Yes	$53.63	$18.07

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
341	25-Apr-13	8	10	$35.73	Yes	$53.63	$17.90
342	25-Apr-13	8	11	$36.52	Yes	$53.63	$17.11
343	25-Apr-13	8	12	$36.52	Yes	$53.63	$17.11
344	25-Apr-13	9	1	$35.42	Yes	$53.63	$18.21
345	25-Apr-13	9	2	$35.30	Yes	$53.63	$18.33
346	25-Apr-13	9	3	$35.30	Yes	$53.63	$18.33
347	25-Apr-13	9	4	$35.41	Yes	$53.63	$18.22
348	25-Apr-13	9	5	$35.69	Yes	$53.63	$17.94
349	25-Apr-13	9	6	$35.62	Yes	$53.63	$18.01
350	25-Apr-13	9	7	$35.72	Yes	$53.63	$17.91
351	25-Apr-13	9	8	$35.71	Yes	$53.63	$17.92
352	25-Apr-13	9	9	$35.70	Yes	$53.63	$17.93
353	25-Apr-13	9	10	$36.53	Yes	$53.63	$17.10
354	25-Apr-13	9	11	$35.78	Yes	$53.63	$17.85
355	25-Apr-13	9	12	$36.53	Yes	$53.63	$17.10
356	25-Apr-13	10	1	$36.64	Yes	$53.63	$16.99
357	25-Apr-13	10	2	$35.69	Yes	$53.63	$17.94
358	25-Apr-13	10	3	$35.58	Yes	$53.63	$18.05
359	25-Apr-13	10	4	$35.52	Yes	$53.63	$18.11
360	25-Apr-13	10	5	$35.70	Yes	$53.63	$17.93
361	25-Apr-13	10	6	$35.70	Yes	$53.63	$17.93
362	25-Apr-13	10	7	$35.76	Yes	$53.63	$17.87
363	25-Apr-13	10	8	$36.81	Yes	$53.63	$16.82
364	25-Apr-13	10	9	$36.81	Yes	$53.63	$16.82
365	25-Apr-13	10	10	$36.72	Yes	$53.63	$16.91
366	25-Apr-13	10	11	$35.75	Yes	$53.63	$17.88
367	25-Apr-13	10	12	$36.60	Yes	$53.63	$17.03

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	22-Apr-13	8	8	$37.97	Yes	$53.10	$15.13
2	22-Apr-13	8	9	$38.99	Yes	$53.10	$14.11
3	22-Apr-13	8	10	$39.10	Yes	$53.10	$14.00
4	22-Apr-13	8	11	$45.03	Yes	$53.10	$8.07
5	22-Apr-13	8	12	$48.51	Yes	$53.10	$4.59
6	22-Apr-13	9	1	$51.28	Yes	$53.10	$1.82
7	22-Apr-13	9	2	$55.00	Yes	$53.10	($1.90)
8	22-Apr-13	9	3	$56.38	Yes	$53.10	($3.28)
9	22-Apr-13	9	4	$54.14	Yes	$53.10	($1.04)
10	22-Apr-13	9	5	$57.18	Yes	$53.10	($4.08)
11	22-Apr-13	9	6	$55.78	Yes	$53.10	($2.68)
12	22-Apr-13	9	7	$49.33	Yes	$53.10	$3.77
13	22-Apr-13	9	8	$51.45	Yes	$53.10	$1.65
14	22-Apr-13	9	9	$54.51	Yes	$53.10	($1.41)
15	22-Apr-13	9	10	$48.82	Yes	$53.10	$4.28
16	22-Apr-13	9	11	$50.61	Yes	$53.10	$2.49
17	22-Apr-13	9	12	$49.61	Yes	$53.10	$3.49
18	22-Apr-13	10	1	$51.54	Yes	$53.10	$1.56
19	22-Apr-13	10	2	$48.02	Yes	$53.10	$5.08
20	22-Apr-13	10	3	$51.21	Yes	$53.10	$1.89
21	22-Apr-13	10	4	$50.02	Yes	$53.10	$3.08
22	22-Apr-13	10	5	$51.54	Yes	$53.10	$1.56
23	22-Apr-13	10	6	$52.17	Yes	$53.10	$0.93
24	22-Apr-13	10	7	$56.83	Yes	$53.10	($3.73)
25	22-Apr-13	10	8	$58.26	Yes	$53.10	($5.16)
26	22-Apr-13	10	9	$62.42	Yes	$53.10	($9.32)
27	22-Apr-13	10	10	$63.37	Yes	$53.10	($10.27)
28	22-Apr-13	10	11	$60.93	Yes	$53.10	($7.83)
29	22-Apr-13	10	12	$59.17	Yes	$53.10	($6.07)
30	22-Apr-13	11	1	$51.30	Yes	$53.10	$1.80
31	22-Apr-13	11	2	$42.96	Yes	$53.10	$10.14
32	22-Apr-13	11	3	$43.65	Yes	$53.10	$9.45
33	22-Apr-13	11	4	$49.82	Yes	$53.10	$3.28
34	22-Apr-13	11	5	$55.33	Yes	$53.10	($2.23)
35	22-Apr-13	11	6	$57.12	Yes	$53.10	($4.02)
36	22-Apr-13	11	7	$59.63	Yes	$53.10	($6.53)

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
37	22-Apr-13	11	8	$64.52	Yes	$53.10	($11.42)
38	22-Apr-13	11	9	$61.26	Yes	$53.10	($8.16)
39	22-Apr-13	11	10	$59.24	Yes	$53.10	($6.14)
40	22-Apr-13	11	11	$54.67	Yes	$53.10	($1.57)
41	22-Apr-13	11	12	$53.94	Yes	$53.10	($0.84)
42	22-Apr-13	12	1	$46.99	Yes	$53.10	$6.11
43	22-Apr-13	12	2	$46.57	Yes	$53.10	$6.53
44	22-Apr-13	12	3	$51.13	Yes	$53.10	$1.97
45	22-Apr-13	12	4	$65.55	Yes	$53.10	($12.45)
46	22-Apr-13	12	5	$53.80	Yes	$53.10	($0.70)
47	22-Apr-13	12	6	$72.56	Yes	$53.10	($19.46)
48	22-Apr-13	12	7	$69.36	Yes	$53.10	($16.26)
49	22-Apr-13	12	8	$1,013.40	Yes	$53.10	($960.30)
50	22-Apr-13	12	9	$1,013.40	Yes	$53.10	($960.30)
51	22-Apr-13	12	10	$954.03	Yes	$53.10	($900.93)
52	22-Apr-13	12	11	$88.77	Yes	$53.10	($35.67)
53	22-Apr-13	12	12	$89.57	Yes	$53.10	($36.47)
54	22-Apr-13	13	1	$45.15	Yes	$53.10	$7.95
55	22-Apr-13	13	2	$51.38	Yes	$53.10	$1.72
56	22-Apr-13	13	3	$52.27	Yes	$53.10	$0.83
57	22-Apr-13	13	4	$50.34	Yes	$53.10	$2.76
58	22-Apr-13	13	5	$53.32	Yes	$53.10	($0.22)
59	22-Apr-13	13	6	$51.50	Yes	$53.10	$1.60
60	22-Apr-13	13	7	$45.68	Yes	$53.10	$7.42
61	22-Apr-13	13	8	$45.68	Yes	$53.10	$7.42
62	22-Apr-13	13	9	$45.68	Yes	$53.10	$7.42
63	22-Apr-13	13	10	$53.22	Yes	$53.10	($0.12)
64	22-Apr-13	13	11	$53.12	Yes	$53.10	($0.02)
65	22-Apr-13	13	12	$38.40	Yes	$53.10	$14.70
66	22-Apr-13	14	1	$36.54	Yes	$53.10	$16.56
67	22-Apr-13	14	2	$37.63	Yes	$53.10	$15.47
68	22-Apr-13	14	3	$53.01	Yes	$53.10	$0.09
69	22-Apr-13	14	4	$54.00	Yes	$53.10	($0.90)
70	22-Apr-13	14	5	$52.87	Yes	$53.10	$0.23
71	22-Apr-13	14	6	$527.08	Yes	$53.10	($473.98)
72	22-Apr-13	14	7	$234.45	Yes	$53.10	($181.35)
73	22-Apr-13	14	8	$65.70	Yes	$53.10	($12.60)
74	22-Apr-13	14	9	$79.00	Yes	$53.10	($25.90)

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
75	22-Apr-13	14	10	$40.56	Yes	$53.10	$12.54
76	22-Apr-13	14	11	$40.08	Yes	$53.10	$13.02
77	22-Apr-13	14	12	$45.88	Yes	$53.10	$7.22
78	22-Apr-13	15	1	$34.27	Yes	$53.10	$18.83
79	22-Apr-13	15	2	$39.54	Yes	$53.10	$13.56
80	22-Apr-13	15	3	$39.99	Yes	$53.10	$13.11
81	22-Apr-13	15	4	$40.22	Yes	$53.10	$12.88
82	22-Apr-13	15	5	$35.43	Yes	$53.10	$17.67
83	22-Apr-13	15	6	$20.53	Yes	$53.10	$32.57
84	22-Apr-13	15	7	$26.48	Yes	$53.10	$26.62
85	22-Apr-13	15	8	$64.36	Yes	$53.10	($11.26)
86	22-Apr-13	15	9	$60.41	Yes	$53.10	($7.31)
87	22-Apr-13	15	10	$64.21	Yes	$53.10	($11.11)
88	22-Apr-13	15	11	$53.03	Yes	$53.10	$0.07
89	22-Apr-13	15	12	$36.44	Yes	$53.10	$16.66
90	22-Apr-13	16	1	$38.97	Yes	$53.10	$14.13
91	22-Apr-13	16	2	$39.49	Yes	$53.10	$13.61
92	22-Apr-13	16	3	$40.03	Yes	$53.10	$13.07
93	22-Apr-13	16	4	$39.50	Yes	$53.10	$13.60
94	22-Apr-13	16	5	$39.43	Yes	$53.10	$13.67
95	22-Apr-13	16	6	$39.43	Yes	$53.10	$13.67
96	22-Apr-13	16	7	$43.12	Yes	$53.10	$9.98
97	22-Apr-13	16	8	$42.08	Yes	$53.10	$11.02
98	22-Apr-13	16	9	$40.65	Yes	$53.10	$12.45
99	22-Apr-13	16	10	$38.71	Yes	$53.10	$14.39
100	22-Apr-13	16	11	$38.80	Yes	$53.10	$14.30
101	22-Apr-13	16	12	$38.71	Yes	$53.10	$14.39
102	22-Apr-13	17	1	$36.31	Yes	$53.10	$16.79
103	22-Apr-13	17	2	$36.31	Yes	$53.10	$16.79
104	22-Apr-13	17	3	$37.47	Yes	$53.10	$15.63
105	22-Apr-13	17	4	$37.86	Yes	$53.10	$15.24
106	22-Apr-13	17	5	$38.23	Yes	$53.10	$14.87
107	22-Apr-13	17	6	$38.23	Yes	$53.10	$14.87
108	22-Apr-13	17	7	$37.80	Yes	$53.10	$15.30
109	22-Apr-13	17	8	$37.80	Yes	$53.10	$15.30
110	22-Apr-13	17	9	$38.41	Yes	$53.10	$14.69
111	22-Apr-13	17	10	$39.35	Yes	$53.10	$13.75
112	22-Apr-13	17	11	$39.35	Yes	$53.10	$13.75

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
113	22-Apr-13	17	12	$39.35	Yes	$53.10	$13.75
114	22-Apr-13	18	1	$40.31	Yes	$53.10	$12.79
115	22-Apr-13	18	2	$40.92	Yes	$53.10	$12.18
116	22-Apr-13	18	3	$39.43	Yes	$53.10	$13.67
117	22-Apr-13	18	4	$39.41	Yes	$53.10	$13.69
118	22-Apr-13	18	5	$39.30	Yes	$53.10	$13.80
119	22-Apr-13	18	6	$39.34	Yes	$53.10	$13.76
120	22-Apr-13	18	7	$40.69	Yes	$53.10	$12.41
121	22-Apr-13	18	8	$41.32	Yes	$53.10	$11.78
122	22-Apr-13	18	9	$42.12	Yes	$53.10	$10.98
123	22-Apr-13	18	10	$42.45	Yes	$53.10	$10.65
124	22-Apr-13	18	11	$42.45	Yes	$53.10	$10.65
125	22-Apr-13	18	12	$42.45	Yes	$53.10	$10.65
126	22-Apr-13	19	1	$40.14	Yes	$53.10	$12.96
127	22-Apr-13	19	2	$42.20	Yes	$53.10	$10.90
128	22-Apr-13	19	3	$43.01	Yes	$53.10	$10.09
129	22-Apr-13	19	4	$47.90	Yes	$53.10	$5.20
130	22-Apr-13	19	5	$46.14	Yes	$53.10	$6.96
131	22-Apr-13	19	6	$51.73	Yes	$53.10	$1.37
132	22-Apr-13	19	7	$42.71	Yes	$53.10	$10.39
133	22-Apr-13	19	8	$42.68	Yes	$53.10	$10.42
134	22-Apr-13	19	9	$42.68	Yes	$53.10	$10.42
135	22-Apr-13	19	10	$40.81	Yes	$53.10	$12.29
136	22-Apr-13	19	11	$40.12	Yes	$53.10	$12.98
137	22-Apr-13	19	12	$40.12	Yes	$53.10	$12.98
138	22-Apr-13	20	1	$39.44	Yes	$53.10	$13.66
139	22-Apr-13	20	2	$36.43	Yes	$53.10	$16.67
140	22-Apr-13	20	3	$35.46	Yes	$53.10	$17.64
141	22-Apr-13	20	4	$36.17	Yes	$53.10	$16.93
142	22-Apr-13	20	5	$36.95	Yes	$53.10	$16.15
143	22-Apr-13	20	6	$42.91	Yes	$53.10	$10.19
144	22-Apr-13	20	7	$45.46	Yes	$53.10	$7.64
145	22-Apr-13	20	8	$45.63	Yes	$53.10	$7.47
146	22-Apr-13	20	9	$48.67	Yes	$53.10	$4.43
147	22-Apr-13	20	10	$48.58	Yes	$53.10	$4.52
148	22-Apr-13	20	11	$48.61	Yes	$53.10	$4.49
149	22-Apr-13	20	12	$50.83	Yes	$53.10	$2.27
150	22-Apr-13	21	1	$48.19	Yes	$53.10	$4.91

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
151	22-Apr-13	21	2	$49.11	Yes	$53.10	$3.99
152	22-Apr-13	21	3	$59.50	Yes	$53.10	($6.40)
153	22-Apr-13	21	4	$57.66	Yes	$53.10	($4.56)
154	22-Apr-13	21	5	$56.25	Yes	$53.10	($3.15)
155	22-Apr-13	21	6	$48.17	Yes	$53.10	$4.93
156	22-Apr-13	21	7	$36.78	Yes	$53.10	$16.32
157	22-Apr-13	21	8	$37.75	Yes	$53.10	$15.35
158	22-Apr-13	21	9	$37.76	Yes	$53.10	$15.34
159	22-Apr-13	21	10	$38.14	Yes	$53.10	$14.96
160	22-Apr-13	21	11	$38.14	Yes	$53.10	$14.96
161	22-Apr-13	21	12	$49.16	Yes	$53.10	$3.94
162	22-Apr-13	22	1	$54.29	Yes	$53.10	($1.19)
163	22-Apr-13	22	2	$55.16	Yes	$53.10	($2.06)
164	22-Apr-13	22	3	$55.19	Yes	$53.10	($2.09)
165	22-Apr-13	22	4	$54.79	Yes	$53.10	($1.69)
166	22-Apr-13	22	5	$53.91	Yes	$53.10	($0.81)
167	22-Apr-13	22	6	$52.25	Yes	$53.10	$0.85
168	22-Apr-13	22	7	$52.16	Yes	$53.10	$0.94
169	22-Apr-13	22	8	$50.18	Yes	$53.10	$2.92
170	22-Apr-13	22	9	$45.53	Yes	$53.10	$7.57
171	22-Apr-13	22	10	$37.41	Yes	$53.10	$15.69
172	22-Apr-13	22	11	$37.12	Yes	$53.10	$15.98
173	22-Apr-13	22	12	$33.43	Yes	$53.10	$19.67
174	22-Apr-13	23	1	$54.23	Yes	$53.10	($1.13)
175	22-Apr-13	23	2	$53.80	Yes	$53.10	($0.70)
176	22-Apr-13	23	3	$73.38	Yes	$53.10	($20.28)
177	22-Apr-13	23	4	$51.78	Yes	$53.10	$1.32
178	22-Apr-13	23	5	$51.35	Yes	$53.10	$1.75
179	22-Apr-13	23	6	$41.76	Yes	$53.10	$11.34
180	22-Apr-13	23	7	$38.04	Yes	$53.10	$15.06
181	22-Apr-13	23	8	$36.67	Yes	$53.10	$16.43
182	22-Apr-13	23	9	$36.67	Yes	$53.10	$16.43
183	22-Apr-13	23	10	$36.73	Yes	$53.10	$16.37
184	22-Apr-13	23	11	$35.82	Yes	$53.10	$17.28
185	22-Apr-13	23	12	$35.82	Yes	$53.10	$17.28
186	22-Apr-13	24	1	$36.24	Yes	$53.10	$16.86
187	22-Apr-13	24	2	$36.24	Yes	$53.10	$16.86
188	22-Apr-13	24	3	$36.24	Yes	$53.10	$16.86

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
189	22-Apr-13	24	4	$36.82	Yes	$53.10	$16.28
190	22-Apr-13	24	5	$36.05	Yes	$53.10	$17.05
191	22-Apr-13	24	6	$35.78	Yes	$53.10	$17.32
192	22-Apr-13	24	7	$34.71	Yes	$53.10	$18.39
193	22-Apr-13	24	8	$34.71	Yes	$53.10	$18.39
194	22-Apr-13	24	9	$34.73	Yes	$53.10	$18.37
195	22-Apr-13	24	10	$34.54	Yes	$53.10	$18.56
196	22-Apr-13	24	11	$34.05	Yes	$53.10	$19.05
197	22-Apr-13	24	12	$33.35	Yes	$53.10	$19.75
198	28-Apr-13	7	5	$0.01	Yes	$50.05	$50.04
199	28-Apr-13	7	6	$0.01	Yes	$50.05	$50.04
200	28-Apr-13	7	7	$0.01	Yes	$50.05	$50.04
201	28-Apr-13	7	8	$0.01	Yes	$50.05	$50.04
202	28-Apr-13	7	9	$25.53	Yes	$50.05	$24.52
203	28-Apr-13	7	10	$30.73	Yes	$50.05	$19.32
204	28-Apr-13	7	11	$0.01	Yes	$50.05	$50.04
205	28-Apr-13	7	12	($29.73)	Yes	$50.05	$79.78
206	28-Apr-13	8	1	($30.69)	Yes	$50.05	$80.74
207	28-Apr-13	8	2	($30.73)	Yes	$50.05	$80.78
208	28-Apr-13	8	3	($30.73)	Yes	$50.05	$80.78
209	28-Apr-13	8	4	($32.55)	Yes	$50.05	$82.60
210	28-Apr-13	8	5	($32.51)	Yes	$50.05	$82.56
211	28-Apr-13	8	6	$0.01	Yes	$50.05	$50.04
212	28-Apr-13	8	7	$0.01	Yes	$50.05	$50.04
213	28-Apr-13	8	8	$0.01	Yes	$50.05	$50.04
214	28-Apr-13	8	9	$0.01	Yes	$50.05	$50.04
215	28-Apr-13	8	10	$0.01	Yes	$50.05	$50.04
216	28-Apr-13	8	11	$0.01	Yes	$50.05	$50.04
217	28-Apr-13	8	12	($26.99)	Yes	$50.05	$77.04
218	29-Apr-13	23	1	$37.13	Yes	$46.16	$9.03
219	29-Apr-13	23	2	$36.66	Yes	$46.16	$9.50
220	29-Apr-13	23	3	$36.80	Yes	$46.16	$9.36
221	29-Apr-13	23	4	$36.34	Yes	$46.16	$9.82
222	29-Apr-13	23	5	$36.51	Yes	$46.16	$9.65
223	29-Apr-13	23	6	$36.66	Yes	$46.16	$9.50
224	29-Apr-13	23	7	$36.04	Yes	$46.16	$10.12
225	29-Apr-13	23	8	$35.23	Yes	$46.16	$10.93
226	29-Apr-13	23	9	$33.96	Yes	$46.16	$12.20

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
227	29-Apr-13	23	10	$34.41	Yes	$46.16	$11.75
228	29-Apr-13	23	11	$29.65	Yes	$46.16	$16.51
229	29-Apr-13	23	12	$20.99	Yes	$46.16	$25.17
230	29-Apr-13	24	1	$24.82	Yes	$46.16	$21.34
231	29-Apr-13	24	2	$32.84	Yes	$46.16	$13.32
232	29-Apr-13	24	3	$35.61	Yes	$46.16	$10.55
233	29-Apr-13	24	4	$35.07	Yes	$46.16	$11.09
234	29-Apr-13	24	5	$33.32	Yes	$46.16	$12.84
235	29-Apr-13	24	6	$32.68	Yes	$46.16	$13.48
236	29-Apr-13	24	7	$27.96	Yes	$46.16	$18.20
237	29-Apr-13	24	8	$24.82	Yes	$46.16	$21.34
238	29-Apr-13	24	9	$20.94	Yes	$46.16	$25.22
239	29-Apr-13	24	10	$0.01	Yes	$46.16	$46.15
240	29-Apr-13	24	11	$0.01	Yes	$46.16	$46.15
241	29-Apr-13	24	12	$0.01	Yes	$46.16	$46.15
242	30-Apr-13	1	1	$34.23	Yes	$48.09	$13.86
243	30-Apr-13	1	2	$34.58	Yes	$48.09	$13.51
244	30-Apr-13	1	3	$35.66	Yes	$48.09	$12.43
245	30-Apr-13	1	4	$35.35	Yes	$48.09	$12.74
246	30-Apr-13	1	5	$35.35	Yes	$48.09	$12.74
247	30-Apr-13	1	6	$35.35	Yes	$48.09	$12.74
248	30-Apr-13	1	7	$35.81	Yes	$48.09	$12.28
249	30-Apr-13	1	8	$34.60	Yes	$48.09	$13.49
250	30-Apr-13	1	9	$34.60	Yes	$48.09	$13.49
251	30-Apr-13	1	10	$34.27	Yes	$48.09	$13.82
252	30-Apr-13	1	11	$34.11	Yes	$48.09	$13.98
253	30-Apr-13	1	12	$33.27	Yes	$48.09	$14.82
254	30-Apr-13	2	1	$33.76	Yes	$48.09	$14.33
255	30-Apr-13	2	2	$34.80	Yes	$48.09	$13.29
256	30-Apr-13	2	3	$35.62	Yes	$48.09	$12.47
257	30-Apr-13	2	4	$35.35	Yes	$48.09	$12.74
258	30-Apr-13	2	5	$35.61	Yes	$48.09	$12.48
259	30-Apr-13	2	6	$35.61	Yes	$48.09	$12.48
260	30-Apr-13	2	7	$35.46	Yes	$48.09	$12.63
261	30-Apr-13	2	8	$34.73	Yes	$48.09	$13.36
262	30-Apr-13	2	9	$33.83	Yes	$48.09	$14.26
263	30-Apr-13	2	10	$33.84	Yes	$48.09	$14.25
264	30-Apr-13	2	11	$33.58	Yes	$48.09	$14.51

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
265	30-Apr-13	2	12	$33.74	Yes	$48.09	$14.35
266	30-Apr-13	3	1	$33.20	Yes	$48.09	$14.89
267	30-Apr-13	3	2	$33.20	Yes	$48.09	$14.89
268	30-Apr-13	3	3	$32.23	Yes	$48.09	$15.86
269	30-Apr-13	3	4	$33.00	Yes	$48.09	$15.09
270	30-Apr-13	3	5	$27.78	Yes	$48.09	$20.31
271	30-Apr-13	3	6	$32.04	Yes	$48.09	$16.05
272	30-Apr-13	3	7	$18.63	Yes	$48.09	$29.46
273	30-Apr-13	3	8	$5.16	Yes	$48.09	$42.93
274	30-Apr-13	3	9	$0.01	Yes	$48.09	$48.08
275	30-Apr-13	3	10	$0.01	Yes	$48.09	$48.08
276	30-Apr-13	3	11	$0.01	Yes	$48.09	$48.08
277	30-Apr-13	3	12	$0.01	Yes	$48.09	$48.08
278	30-Apr-13	4	1	$0.01	Yes	$48.09	$48.08
279	30-Apr-13	4	2	$0.01	Yes	$48.09	$48.08
280	30-Apr-13	4	3	$0.01	Yes	$48.09	$48.08
281	30-Apr-13	4	4	$0.01	Yes	$48.09	$48.08
282	30-Apr-13	4	5	$0.01	Yes	$48.09	$48.08
283	30-Apr-13	4	6	$0.01	Yes	$48.09	$48.08
284	30-Apr-13	4	7	$0.01	Yes	$48.09	$48.08
285	30-Apr-13	4	8	($30.63)	Yes	$48.09	$78.72
286	30-Apr-13	4	9	($30.63)	Yes	$48.09	$78.72
287	30-Apr-13	4	10	($30.10)	Yes	$48.09	$78.19
288	30-Apr-13	4	11	$0.01	Yes	$48.09	$48.08
289	30-Apr-13	4	12	($28.60)	Yes	$48.09	$76.69
290	30-Apr-13	5	1	($32.31)	Yes	$48.09	$80.40
291	30-Apr-13	5	2	($34.16)	Yes	$48.09	$82.25
292	30-Apr-13	5	3	($32.31)	Yes	$48.09	$80.40
293	30-Apr-13	5	4	($34.11)	Yes	$48.09	$82.20
294	30-Apr-13	5	5	($30.53)	Yes	$48.09	$78.62
295	30-Apr-13	5	6	($30.38)	Yes	$48.09	$78.47
296	30-Apr-13	5	7	($30.40)	Yes	$48.09	$78.49
297	30-Apr-13	5	8	$0.01	Yes	$48.09	$48.08
298	30-Apr-13	5	9	$0.01	Yes	$48.09	$48.08
299	30-Apr-13	5	10	$0.01	Yes	$48.09	$48.08
300	30-Apr-13	5	11	$0.01	Yes	$48.09	$48.08
301	30-Apr-13	5	12	$0.01	Yes	$48.09	$48.08
302	30-Apr-13	6	1	($30.29)	Yes	$48.09	$78.38

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
303	30-Apr-13	6	2	$0.01	Yes	$48.09	$48.08
304	30-Apr-13	6	3	$0.01	Yes	$48.09	$48.08
305	30-Apr-13	6	4	$0.01	Yes	$48.09	$48.08
306	30-Apr-13	6	5	$33.32	Yes	$48.09	$14.77
307	30-Apr-13	6	6	$34.35	Yes	$48.09	$13.74
308	30-Apr-13	6	7	$35.53	Yes	$48.09	$12.56
309	30-Apr-13	6	8	$35.64	Yes	$48.09	$12.45
310	30-Apr-13	6	9	$36.08	Yes	$48.09	$12.01
311	30-Apr-13	6	10	$36.27	Yes	$48.09	$11.82
312	30-Apr-13	6	11	$36.25	Yes	$48.09	$11.84
313	30-Apr-13	6	12	$36.63	Yes	$48.09	$11.46
314	30-Apr-13	7	1	$34.17	Yes	$48.09	$13.92
315	30-Apr-13	7	2	$34.17	Yes	$48.09	$13.92
316	30-Apr-13	7	3	$34.84	Yes	$48.09	$13.25
317	30-Apr-13	7	4	$36.05	Yes	$48.09	$12.04
318	30-Apr-13	7	5	$36.54	Yes	$48.09	$11.55
319	30-Apr-13	7	6	$36.61	Yes	$48.09	$11.48
320	30-Apr-13	7	7	$36.94	Yes	$48.09	$11.15
321	30-Apr-13	7	8	$37.20	Yes	$48.09	$10.89
322	30-Apr-13	7	9	$37.94	Yes	$48.09	$10.15
323	30-Apr-13	7	10	$38.83	Yes	$48.09	$9.26
324	30-Apr-13	7	11	$39.98	Yes	$48.09	$8.11
325	30-Apr-13	7	12	$41.03	Yes	$48.09	$7.06
326	30-Apr-13	8	1	$36.47	Yes	$48.09	$11.62
327	30-Apr-13	8	2	$36.59	Yes	$48.09	$11.50
328	30-Apr-13	8	3	$36.89	Yes	$48.09	$11.20
329	30-Apr-13	8	4	$36.59	Yes	$48.09	$11.50
330	30-Apr-13	8	5	$37.42	Yes	$48.09	$10.67
331	30-Apr-13	8	6	$37.96	Yes	$48.09	$10.13
332	30-Apr-13	8	7	$38.10	Yes	$48.09	$9.99
333	30-Apr-13	8	8	$38.18	Yes	$48.09	$9.91
334	30-Apr-13	8	9	$39.14	Yes	$48.09	$8.95
335	30-Apr-13	8	10	$39.73	Yes	$48.09	$8.36
336	30-Apr-13	8	11	$39.73	Yes	$48.09	$8.36
337	30-Apr-13	8	12	$40.05	Yes	$48.09	$8.04
338	30-Apr-13	9	1	$39.24	Yes	$48.09	$8.85
339	30-Apr-13	9	2	$39.39	Yes	$48.09	$8.70
340	30-Apr-13	9	3	$39.24	Yes	$48.09	$8.85

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
341	30-Apr-13	9	4	$37.45	Yes	$48.09	$10.64
342	30-Apr-13	9	5	$37.45	Yes	$48.09	$10.64
343	30-Apr-13	9	6	$39.29	Yes	$48.09	$8.80
344	30-Apr-13	9	7	$38.30	Yes	$48.09	$9.79
345	30-Apr-13	9	8	$38.55	Yes	$48.09	$9.54
346	30-Apr-13	9	9	$38.30	Yes	$48.09	$9.79
347	30-Apr-13	9	10	$38.04	Yes	$48.09	$10.05
348	30-Apr-13	9	11	$38.04	Yes	$48.09	$10.05
349	30-Apr-13	9	12	$36.67	Yes	$48.09	$11.42
350	30-Apr-13	10	1	$35.54	Yes	$48.09	$12.55
351	30-Apr-13	10	2	$35.54	Yes	$48.09	$12.55
352	30-Apr-13	10	3	$34.77	Yes	$48.09	$13.32
353	30-Apr-13	10	4	$34.86	Yes	$48.09	$13.23
354	30-Apr-13	10	5	$35.57	Yes	$48.09	$12.52
355	30-Apr-13	10	6	$35.57	Yes	$48.09	$12.52
356	30-Apr-13	10	7	$35.67	Yes	$48.09	$12.42
357	30-Apr-13	10	8	$35.67	Yes	$48.09	$12.42
358	30-Apr-13	10	9	$35.90	Yes	$48.09	$12.19
359	30-Apr-13	10	10	$35.97	Yes	$48.09	$12.12
360	30-Apr-13	10	11	$36.07	Yes	$48.09	$12.02
361	30-Apr-13	10	12	$35.97	Yes	$48.09	$12.12
362	30-Apr-13	11	1	$33.67	Yes	$48.09	$14.42
363	30-Apr-13	11	2	$34.80	Yes	$48.09	$13.29
364	30-Apr-13	11	3	$34.59	Yes	$48.09	$13.50
365	30-Apr-13	11	4	$33.09	Yes	$48.09	$15.00
366	30-Apr-13	11	5	$27.90	Yes	$48.09	$20.19
367	30-Apr-13	11	6	$30.12	Yes	$48.09	$17.97
368	30-Apr-13	11	7	$37.98	Yes	$48.09	$10.11
369	30-Apr-13	11	8	$37.75	Yes	$48.09	$10.34
370	30-Apr-13	11	9	$37.75	Yes	$48.09	$10.34
371	30-Apr-13	11	10	$37.84	Yes	$48.09	$10.25
372	30-Apr-13	11	11	$36.36	Yes	$48.09	$11.73
373	30-Apr-13	11	12	$38.03	Yes	$48.09	$10.06
374	30-Apr-13	12	1	$37.09	Yes	$48.09	$11.00
375	30-Apr-13	12	2	$36.40	Yes	$48.09	$11.69
376	30-Apr-13	12	3	$28.30	Yes	$48.09	$19.79
377	30-Apr-13	12	4	$34.75	Yes	$48.09	$13.34
378	30-Apr-13	12	5	$36.48	Yes	$48.09	$11.61

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
379	30-Apr-13	12	6	$36.79	Yes	$48.09	$11.30
380	30-Apr-13	12	7	$36.88	Yes	$48.09	$11.21
381	30-Apr-13	12	8	$36.91	Yes	$48.09	$11.18
382	30-Apr-13	12	9	$36.19	Yes	$48.09	$11.90
383	30-Apr-13	12	10	$36.23	Yes	$48.09	$11.86
384	30-Apr-13	12	11	$36.16	Yes	$48.09	$11.93
385	30-Apr-13	12	12	$36.11	Yes	$48.09	$11.98
386	30-Apr-13	13	1	$33.43	Yes	$48.09	$14.66
387	30-Apr-13	13	2	$28.48	Yes	$48.09	$19.61
388	30-Apr-13	13	3	$5.77	Yes	$48.09	$42.32
389	30-Apr-13	13	4	$20.34	Yes	$48.09	$27.75
390	30-Apr-13	13	5	$21.42	Yes	$48.09	$26.67
391	30-Apr-13	13	6	$21.42	Yes	$48.09	$26.67
392	30-Apr-13	13	7	$28.61	Yes	$48.09	$19.48
393	30-Apr-13	13	8	$28.57	Yes	$48.09	$19.52
394	30-Apr-13	13	9	$28.57	Yes	$48.09	$19.52
395	30-Apr-13	13	10	$39.97	Yes	$48.09	$8.12
396	30-Apr-13	13	11	$41.26	Yes	$48.09	$6.83
397	30-Apr-13	13	12	$45.03	Yes	$48.09	$3.06
398	30-Apr-13	14	1	$39.80	Yes	$48.09	$8.29
399	30-Apr-13	14	2	$39.32	Yes	$48.09	$8.77
400	30-Apr-13	14	3	$43.84	Yes	$48.09	$4.25
401	30-Apr-13	14	4	$39.84	Yes	$48.09	$8.25
402	30-Apr-13	14	5	$43.70	Yes	$48.09	$4.39
403	30-Apr-13	14	6	$43.70	Yes	$48.09	$4.39
404	30-Apr-13	14	7	$43.66	Yes	$48.09	$4.43
405	30-Apr-13	14	8	$43.61	Yes	$48.09	$4.48
406	30-Apr-13	14	9	$43.66	Yes	$48.09	$4.43
407	30-Apr-13	14	10	$43.24	Yes	$48.09	$4.85
408	30-Apr-13	14	11	$46.29	Yes	$48.09	$1.80
409	30-Apr-13	14	12	$39.95	Yes	$48.09	$8.14
410	30-Apr-13	15	1	$38.74	Yes	$48.09	$9.35
411	30-Apr-13	15	2	$38.26	Yes	$48.09	$9.83
412	30-Apr-13	15	3	$38.26	Yes	$48.09	$9.83
413	30-Apr-13	15	4	$37.04	Yes	$48.09	$11.05
414	30-Apr-13	15	5	$38.13	Yes	$48.09	$9.96
415	30-Apr-13	15	6	$37.07	Yes	$48.09	$11.02
416	30-Apr-13	15	7	$37.28	Yes	$48.09	$10.81

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
417	30-Apr-13	15	8	$37.33	Yes	$48.09	$10.76
418	30-Apr-13	15	9	$37.28	Yes	$48.09	$10.81
419	30-Apr-13	15	10	$37.35	Yes	$48.09	$10.74
420	30-Apr-13	15	11	$36.66	Yes	$48.09	$11.43
421	30-Apr-13	15	12	$37.06	Yes	$48.09	$11.03
422	30-Apr-13	16	1	$39.85	Yes	$48.09	$8.24
423	30-Apr-13	16	2	$39.85	Yes	$48.09	$8.24
424	30-Apr-13	16	3	$39.84	Yes	$48.09	$8.25
425	30-Apr-13	16	4	$38.34	Yes	$48.09	$9.75
426	30-Apr-13	16	5	$38.33	Yes	$48.09	$9.76
427	30-Apr-13	16	6	$38.33	Yes	$48.09	$9.76
428	30-Apr-13	16	7	$40.19	Yes	$48.09	$7.90
429	30-Apr-13	16	8	$37.03	Yes	$48.09	$11.06
430	30-Apr-13	16	9	$37.63	Yes	$48.09	$10.46
431	30-Apr-13	16	10	$37.60	Yes	$48.09	$10.49
432	30-Apr-13	16	11	$37.49	Yes	$48.09	$10.60
433	30-Apr-13	16	12	$48.12	Yes	$48.09	($0.03)
434	30-Apr-13	17	1	$38.31	Yes	$48.09	$9.78
435	30-Apr-13	17	2	$45.35	Yes	$48.09	$2.74
436	30-Apr-13	17	3	$38.29	Yes	$48.09	$9.80
437	30-Apr-13	17	4	$36.78	Yes	$48.09	$11.31
438	30-Apr-13	17	5	$37.10	Yes	$48.09	$10.99
439	30-Apr-13	17	6	$37.10	Yes	$48.09	$10.99
440	30-Apr-13	17	7	$36.50	Yes	$48.09	$11.59
441	30-Apr-13	17	8	$36.50	Yes	$48.09	$11.59
442	30-Apr-13	17	9	$37.88	Yes	$48.09	$10.21
443	30-Apr-13	17	10	$36.76	Yes	$48.09	$11.33
444	30-Apr-13	17	11	$35.89	Yes	$48.09	$12.20
445	30-Apr-13	17	12	$35.84	Yes	$48.09	$12.25
446	30-Apr-13	18	1	$35.95	Yes	$48.09	$12.14
447	30-Apr-13	18	2	$35.95	Yes	$48.09	$12.14
448	30-Apr-13	18	3	$36.63	Yes	$48.09	$11.46
449	30-Apr-13	18	4	$36.10	Yes	$48.09	$11.99
450	30-Apr-13	18	5	$37.89	Yes	$48.09	$10.20
451	30-Apr-13	18	6	$36.79	Yes	$48.09	$11.30
452	30-Apr-13	18	7	$33.98	Yes	$48.09	$14.11
453	30-Apr-13	18	8	$33.92	Yes	$48.09	$14.17
454	30-Apr-13	18	9	$33.87	Yes	$48.09	$14.22

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
455	30-Apr-13	18	10	$36.45	Yes	$48.09	$11.64
456	30-Apr-13	18	11	$37.06	Yes	$48.09	$11.03
457	30-Apr-13	18	12	$37.78	Yes	$48.09	$10.31
458	30-Apr-13	19	1	$43.07	Yes	$48.09	$5.02
459	30-Apr-13	19	2	$37.94	Yes	$48.09	$10.15
460	30-Apr-13	19	3	$41.03	Yes	$48.09	$7.06
461	30-Apr-13	19	4	$65.45	Yes	$48.09	($17.36)
462	30-Apr-13	19	5	$51.03	Yes	$48.09	($2.94)
463	30-Apr-13	19	6	$53.94	Yes	$48.09	($5.85)
464	30-Apr-13	19	7	$37.00	Yes	$48.09	$11.09
465	30-Apr-13	19	8	$36.99	Yes	$48.09	$11.10
466	30-Apr-13	19	9	$36.99	Yes	$48.09	$11.10
467	30-Apr-13	19	10	$35.88	Yes	$48.09	$12.21
468	30-Apr-13	19	11	$34.09	Yes	$48.09	$14.00
469	30-Apr-13	19	12	$33.30	Yes	$48.09	$14.79
470	30-Apr-13	20	1	$30.15	Yes	$48.09	$17.94
471	30-Apr-13	20	2	$28.24	Yes	$48.09	$19.85
472	30-Apr-13	20	3	$28.24	Yes	$48.09	$19.85
473	30-Apr-13	20	4	$30.07	Yes	$48.09	$18.02
474	30-Apr-13	20	5	$30.12	Yes	$48.09	$17.97
475	30-Apr-13	20	6	$33.25	Yes	$48.09	$14.84
476	30-Apr-13	20	7	$38.68	Yes	$48.09	$9.41
477	30-Apr-13	20	8	$36.89	Yes	$48.09	$11.20
478	30-Apr-13	20	9	$36.89	Yes	$48.09	$11.20
479	30-Apr-13	20	10	$43.14	Yes	$48.09	$4.95
480	30-Apr-13	20	11	$42.56	Yes	$48.09	$5.53
481	30-Apr-13	20	12	$41.98	Yes	$48.09	$6.11
482	30-Apr-13	21	1	$44.03	Yes	$48.09	$4.06
483	30-Apr-13	21	2	$43.39	Yes	$48.09	$4.70
484	30-Apr-13	21	3	$43.39	Yes	$48.09	$4.70
485	30-Apr-13	21	4	$46.97	Yes	$48.09	$1.12
486	30-Apr-13	21	5	$45.26	Yes	$48.09	$2.83
487	30-Apr-13	21	6	$44.04	Yes	$48.09	$4.05
488	30-Apr-13	21	7	$43.25	Yes	$48.09	$4.84
489	30-Apr-13	21	8	$40.57	Yes	$48.09	$7.52
490	30-Apr-13	21	9	$40.89	Yes	$48.09	$7.20
491	30-Apr-13	21	10	$38.98	Yes	$48.09	$9.11
492	30-Apr-13	21	11	$38.70	Yes	$48.09	$9.39

Number	Trade Date	Trade Hour	Interval	Market LMP	Eligible Flag	Calculated LMP	Change in LMP
493	30-Apr-13	21	12	$37.86	Yes	$48.09	$10.23
494	30-Apr-13	22	1	$40.26	Yes	$48.09	$7.83
495	30-Apr-13	22	2	$39.37	Yes	$48.09	$8.72
496	30-Apr-13	22	3	$39.09	Yes	$48.09	$9.00
497	30-Apr-13	22	4	$38.26	Yes	$48.09	$9.83
498	30-Apr-13	22	5	$38.26	Yes	$48.09	$9.83
499	30-Apr-13	22	6	$37.67	Yes	$48.09	$10.42
500	30-Apr-13	22	7	$35.58	Yes	$48.09	$12.51
501	30-Apr-13	22	8	$35.87	Yes	$48.09	$12.22
502	30-Apr-13	22	9	$34.49	Yes	$48.09	$13.60
503	30-Apr-13	22	10	$33.51	Yes	$48.09	$14.58
504	30-Apr-13	22	11	$31.55	Yes	$48.09	$16.54
505	30-Apr-13	22	12	$23.57	Yes	$48.09	$24.52
506	30-Apr-13	23	1	$36.83	Yes	$48.09	$11.26
507	30-Apr-13	23	2	$36.57	Yes	$48.09	$11.52
508	30-Apr-13	23	3	$36.31	Yes	$48.09	$11.78
509	30-Apr-13	23	4	$35.09	Yes	$48.09	$13.00
510	30-Apr-13	23	5	$34.46	Yes	$48.09	$13.63
511	30-Apr-13	23	6	$34.70	Yes	$48.09	$13.39
512	30-Apr-13	23	7	$34.00	Yes	$48.09	$14.09
513	30-Apr-13	23	8	$27.69	Yes	$48.09	$20.40
514	30-Apr-13	23	9	$0.01	Yes	$48.09	$48.08
515	30-Apr-13	23	10	($29.48)	Yes	$48.09	$77.57
516	30-Apr-13	23	11	($33.02)	Yes	$48.09	$81.11
517	30-Apr-13	23	12	($31.29)	Yes	$48.09	$79.38
518	30-Apr-13	24	1	$0.01	Yes	$48.09	$48.08
519	30-Apr-13	24	2	$34.71	Yes	$48.09	$13.38
520	30-Apr-13	24	3	$34.27	Yes	$48.09	$13.82
521	30-Apr-13	24	4	$34.28	Yes	$48.09	$13.81
522	30-Apr-13	24	5	$34.28	Yes	$48.09	$13.81
523	30-Apr-13	24	6	$0.01	Yes	$48.09	$48.08
524	30-Apr-13	24	7	$34.25	Yes	$48.09	$13.84
525	30-Apr-13	24	8	$27.85	Yes	$48.09	$20.24
526	30-Apr-13	24	9	$0.01	Yes	$48.09	$48.08
527	30-Apr-13	24	10	$0.01	Yes	$48.09	$48.08
528	30-Apr-13	24	11	$0.01	Yes	$48.09	$48.08
529	30-Apr-13	24	12	$0.01	Yes	$48.09	$48.08

Appendix C: Exceptional Dispatch Bid Mitigation Analysis

In April 2013, 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 April. With exceptional dispatch bid mitigation, the costs for these types of exceptional dispatches were $ 54,533. Without the exceptional dispatch bid mitigation, the costs for these types of exceptional dispatches would be $ 58,851. The cost saving from the exceptional dispatch bid mitigation was $ 4,318.

Table 10: Bid Mitigation Analysis for April

Type	Number of Resources	Costs without Bid Mitigation	Costs with Bid Mitigation	Cost Saving
NONTMOD	2	$12	$12	($0)
TMODEL4	2	$23,634	$21,766	$1,868
TMODEL5	5	$35,114	$32,670	$2,444
TMODEL6	1	$1	$1	$0
TMODEL7	2	$91	$85	$6
Total	12	$58,851	$54,533	$4,318

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 30th day of July 2013.

/s/ Anna Pascuzzo

Anna Pascuzzo