

June 15, 2016

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 2016 Exceptional Dispatch Report (Chart 1 data)**

Dear Secretary Bose:

Pursuant to the Commission's September 2, 2009 and May 4, 2010 orders in the above referenced dockets, the California Independent System Operator Corporation submits the attached report. The attached report provides details concerning Exceptional Dispatches the Commission directed to be included in "Chart 1" as set forth in Appendix A of the September 2 order, as modified by the ISO's September 14 motion for clarification, which the Commission granted in its May 4 order. The attached report provides Chart 1 data for the month of April 2016.

Respectfully submitted,

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# **Exceptional Dispatch Report**

## **Table 1: April 2016**

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## Introduction

This report is filed pursuant to FERC's September 2, 2009 and July 4, 2010 orders in ER08-1178. These orders require two monthly Exceptional Dispatch reports—one issued on the 15<sup>th</sup> of each month and one issued on the 30<sup>th</sup> of each month. This report provides data on the frequency and reasons for Exceptional Dispatches issued in April 2016

## The Nature of Exceptional Dispatch

The CAISO can issue exceptional dispatch instructions for a resource as a pre-day-ahead unit commitment, which may also include an indicative exceptional dispatch energy schedule, a post-day-ahead unit commitment, or a real-time exceptional dispatch<sup>1</sup>. A pre-day-ahead commitment is an exceptional dispatch instruction that commits a resource at or above its physical minimum operating level in the day-ahead market. A post-day-ahead market commitment is an exceptional dispatch instruction that commits a resource at or above its physical minimum operating level in the real-time market. A real-time exceptional dispatch instruction is a dispatch of a resource at or above its physical minimum operating point. A real-time exceptional dispatch above the resource day-ahead award is an incremental exceptional dispatch instruction and an exceptional dispatch below the day-ahead award is a decremental dispatch instruction.

The CAISO issues exceptional dispatch instructions to maintain the reliability of the grid when the market software cannot do so. Whenever the CAISO issues an exceptional dispatch instruction, the operator logs the dispatch and the associated reason.

Many of the exceptional dispatches listed below in Table 1, were to satisfy either a local area or system reliability requirements, and are classified into local generation requirements, transmission management requirements, non-modeled transmission outages or other non-modeled constraints or requirements and intertie emergency assistance. All of the transmission procedures are available on the CAISO website<sup>2</sup>.

The following reason for exceptional dispatch instructions in April 2016 was not related to 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 CAISO 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

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<sup>1</sup> The CAISO can issue exceptional dispatch instructions subject to authority of the CAISO Tariff Section 34.9 and in accordance with CAISO Operating Procedure 2330 (formerly M-402).

<sup>2</sup> A list of all of the CAISO's publicly available Operating Procedures are available at the following link: <http://www.caiso.com/thegrid/operations/opsdoc/index.html>

day, then the CAISO issues an exceptional dispatch to commit this resource in 2400 so 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 2016, which are self explanatory.

The data in Table 1 is based on a template specified in the September 2009 order<sup>3</sup>. Each entry in Attachment A 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; and (6) End Time.

The MW column shows the range of exceptional dispatch instructions 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, a decremental dispatch, or only a unit commitment. If the exceptional dispatch was only a unit commitment, the column shows NA for the classification. The Begin Time column shows the start of exceptional dispatch for the classification and the End Time column shows the end of exceptional dispatch for the classification. The column Hours is the difference between end time and begin time rounded up to the next hour. The data shown is further explained by way of example in Attachment A.

Table 1 indicates there were 160 exceptional dispatches in April 2016, as compared to 171 exceptional dispatches in March 2016. Exceptional dispatches issued for the following reasons accounted for approximately 73 percent of the total exceptional dispatches during the reporting period: planned transmission outages, software limitations, and operating procedure number 7110 (along with 7430 and 7820).

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<sup>3</sup> The data in Table 1 is principally SLIC information supplemented with data from the Market Quality System (MQS). It is the most accurate currently available and it is worth noting that this data has been through the T+38B initial statement process wherein many unresolved issues are fixed. The CAISO believes that this data will correlate well with the settlements data that will be available when the CAISO files the Table 2 report for the reporting period.

**Table 1: Exceptional Dispatches in April 2016**

**California Independent System Operator Corporation  
Exceptional Dispatch Report  
June 15, 2016**

**Chart 1: Table of Exceptional Dispatches for Period 01/April/2016 - 30/April/2016**

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
1	RT	Fast Start Unit Management	PG&E	Bay Area	4/19/2016	0	No	INC	4	10:15	13:19
2	RT	Fast Start Unit Management	PG&E	Fresno	4/8/2016	83	No	INC	5	14:10	18:59
3	RT	Fast Start Unit Management	PG&E	Sierra	4/8/2016	0	No	INC	1	18:20	19:19
4	RT	Fast Start Unit Management	SCE	Big Creek-Ventura	4/5/2016	0	No	INC	1	0:00	0:29
5	RT	Fast Start Unit Management	SCE	Big Creek-Ventura	4/9/2016	0	No	INC	1	11:15	12:14
6	RT	Fast Start Unit Management	SCE	LA Basin	4/1/2016	0	No	INC	1	2:30	3:29
7	RT	Fast Start Unit Management	SCE	LA Basin	4/9/2016	0	No	INC	3	11:15	13:44
8	RT	Fast Start Unit Management	SCE	LA Basin	4/13/2016	0	No	INC	1	11:20	12:19
9	RT	Fast Start Unit Management	SCE	LA Basin	4/19/2016	0	No	INC	5	11:00	15:14
10	RT	Incomplete or Inaccurate Transmission	PG&E	Sierra	4/10/2016	120-145	No	INC	4	4:10	7:59
11	RT	Market Disruption	PG&E	Bay Area	4/12/2016	600	No	INC	1	1:30	1:59
12	RT	Market Disruption	PG&E	Fresno	4/4/2016	-317	No	INC	1	9:40	9:49
13	RT	Market Disruption	PG&E	N/A	4/4/2016	52	No	INC	2	9:40	10:44
14	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/1/2016	30	No	INC	10	6:55	15:59
15	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/2/2016	12	No	INC	9	10:50	18:59
16	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/4/2016	10- 24	No	INC	16	7:20	22:59

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
17	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/5/2016	12- 30	No	INC	14	2:45	15:59
18	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/10/2016	16	No	INC	5	9:10	13:59
19	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/13/2016	24	No	INC	11	9:00	19:59
20	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/14/2016	20	No	INC	2	22:30	23:59
21	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/15/2016	24	No	INC	18	7:30	0:59
22	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/16/2016	15	No	INC	7	1:00	7:59
23	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/17/2016	10- 30	No	INC	13	6:55	18:59
24	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/18/2016	13	No	INC	3	9:15	11:59
25	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/21/2016	20	No	INC	11	10:15	20:59
26	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/24/2016	24	No	INC	11	9:15	19:59
27	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/26/2016	10- 25	No	INC	23	1:40	23:59
28	RT	Operating Procedure Number and Constraint (7110)	N/A	N/A	4/28/2016	10- 15	No	INC	16	8:45	23:59
29	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/1/2016	12- 28	No	INC	16	8:50	23:59
30	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/2/2016	12- 28	No	INC	13	0:00	12:59
31	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/3/2016	10	No	INC	15	10:10	0:29
32	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/4/2016	10	No	INC	1	0:05	0:29

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
33	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/5/2016	14	No	INC	6	6:40	11:59
34	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/6/2016	20	No	INC	11	8:50	18:59
35	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/10/2016	10	No	INC	4	17:45	20:59
36	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/11/2016	10	No	INC	15	9:00	23:59
37	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/12/2016	10- 15	No	INC	23	1:20	23:59
38	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/18/2016	13	No	INC	7	8:00	14:59
39	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/20/2016	20	No	INC	2	22:35	23:59
40	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/21/2016	10	No	INC	10	10:10	19:59
41	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/22/2016	24	No	INC	7	13:25	19:59
42	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/23/2016	32	No	INC	3	21:55	23:59
43	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/25/2016	15	No	INC	6	8:50	13:59
44	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/26/2016	30	No	INC	13	7:15	19:59
45	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/27/2016	20- 28	No	INC	12	8:50	19:59
46	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/28/2016	20	No	INC	16	8:40	23:59
47	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/29/2016	24	No	INC	13	8:00	20:59
48	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	4/30/2016	20	No	INC	1	23:15	23:59



Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
49	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	4/7/2016	83	No	INC	2	23:00	0:29
50	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	4/8/2016	83	Yes	INC	1	0:00	0:29
51	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	4/16/2016	60	No	INC	15	5:50	19:59
52	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	4/17/2016	60	No	INC	1	4:25	4:29
53	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	4/18/2016	70	No	INC	4	6:30	9:59
54	RT	Operating Procedure Number and Constraint (7820)	SDG&E	San Diego-IV	4/18/2016	489-496	No	INC	2	16:15	17:44
55	RT	Other Reliability Requirement	N/A	N/A	4/23/2016	28- 30	No	INC	5	13:15	17:44
56	RT	Other Reliability Requirement	PG&E	Fresno	4/20/2016	95	No	INC	2	7:10	8:59
57	RT	Other Reliability Requirement	PG&E	Kern	4/5/2016	64	No	INC	3	19:40	22:14
58	RT	Over Generation	PG&E	Bay Area	4/24/2016	330	No	INC	1	22:32	22:44
59	RT	Planned Transmission Outage and Constraint	N/A	N/A	4/14/2016	15- 30	No	INC	14	6:20	19:59
60	RT	Planned Transmission Outage and Constraint	N/A	N/A	4/18/2016	22- 39	No	INC	3	22:50	0:59
61	RT	Planned Transmission Outage and Constraint	N/A	N/A	4/19/2016	15- 32	No	INC	18	1:00	18:59
62	RT	Planned Transmission Outage and Constraint	N/A	N/A	4/21/2016	35	No	INC	2	22:45	0:29
63	RT	Planned Transmission Outage and Constraint	N/A	N/A	4/22/2016	20	No	INC	3	6:15	9:14
64	RT	Planned Transmission Outage and Constraint	PG&E	Bay Area	4/10/2016	40	Yes	INC	9	9:15	17:59
65	RT	Planned Transmission Outage and Constraint	PG&E	Fresno	4/18/2016	83	No	INC	2	23:10	0:29
66	RT	Planned Transmission Outage and Constraint	PG&E	Fresno	4/19/2016	46- 184	Yes	INC	10	0:00	9:34

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
67	RT	Planned Transmission Outage and Constraint	PG&E	Humboldt	4/19/2016	32- 57	No	INC	19	6:30	0:54
68	RT	Planned Transmission Outage and Constraint	PG&E	Humboldt	4/20/2016	38	No	INC	16	1:15	16:59
69	RT	Planned Transmission Outage and Constraint	PG&E	Humboldt	4/30/2016	15	No	INC	6	1:45	6:59
70	RT	Planned Transmission Outage and Constraint	PG&E	NCNB	4/15/2016	119-200	No	INC	8	9:27	16:44
71	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/1/2016	50- 280	No	INC	21	3:50	23:59
72	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/2/2016	20- 225	No	INC	20	0:00	19:59
73	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/5/2016	200	No	INC	3	21:50	23:59
74	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/10/2016	130-150	No	INC	2	1:15	2:59
75	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/12/2016	90- 110	No	INC	6	13:35	18:59
76	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/13/2016	100-140	No	INC	21	1:00	21:59
77	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/14/2016	100-140	No	INC	23	1:15	23:59
78	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/15/2016	60- 120	No	INC	23	2:20	0:59
79	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/16/2016	90- 100	No	INC	21	1:00	21:59
80	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/17/2016	90- 110	No	INC	18	1:00	18:29
81	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/18/2016	110-150	No	INC	18	6:30	0:29
82	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/19/2016	130-135	No	INC	7	0:15	6:59

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
83	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/20/2016	155-160	No	INC	15	5:25	19:59
84	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/21/2016	15- 155	No	INC	17	6:15	22:29
85	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/22/2016	110-120	No	INC	17	3:30	19:59
86	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/23/2016	110-115	No	INC	3	17:25	19:59
87	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/24/2016	100-140	No	INC	14	6:10	19:59
88	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/25/2016	155-165	No	INC	17	6:50	23:19
89	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/26/2016	110-140	No	INC	17	5:30	21:59
90	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/27/2016	110-150	No	INC	15	5:30	19:59
91	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/28/2016	110	No	INC	8	1:55	9:44
92	RT	Planned Transmission Outage and Constraint	PG&E	Sierra	4/29/2016	140	No	INC	3	14:35	16:59
93	RT	Planned Transmission Outage and Constraint	PG&E	Stockton	4/5/2016	45- 60	No	INC	16	8:21	23:58
94	RT	Planned Transmission Outage and Constraint	PG&E	Stockton	4/6/2016	43	No	INC	16	1:59	17:52
95	RT	Planned Transmission Outage and Constraint	PG&E	Stockton	4/8/2016	65	No	INC	21	3:00	23:58
96	RT	Planned Transmission Outage and Constraint	PG&E	Stockton	4/18/2016	63	No	INC	12	12:38	23:58
97	RT	Planned Transmission Outage and Constraint	PG&E	Stockton	4/29/2016	67	No	INC	15	9:06	23:58
98	RT	Planned Transmission Outage and Constraint	SDG&E	San Diego-IV	4/1/2016	155	No	INC	19	2:00	20:59

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
99	RT	Planned Transmission Outage and Constraint	SDG&E	San Diego-IV	4/4/2016	30	No	INC	3	20:15	22:59
100	RT	Planned Transmission Outage and Constraint	SDG&E	San Diego-IV	4/5/2016	30	No	INC	3	19:55	21:59
101	RT	Planned Transmission Outage and Constraint	SDG&E	San Diego-IV	4/6/2016	30	No	INC	4	19:30	22:59
102	RT	Planned Transmission Outage and Constraint	SDG&E	San Diego-IV	4/7/2016	25- 33	No	INC	9	11:20	19:24
103	RT	Planned Transmission Outage and Constraint	SDG&E	San Diego-IV	4/12/2016	20- 126	No	INC	15	6:30	20:59
104	RT	Planned Transmission Outage and Constraint	SDG&E	San Diego-IV	4/13/2016	185	No	INC	20	2:00	21:59
105	RT	Planned Transmission Outage and Constraint	SDG&E	San Diego-IV	4/14/2016	150	No	INC	7	9:00	15:59
106	RT	Planned Transmission Outage and Constraint	SDG&E	San Diego-IV	4/15/2016	160-325	No	INC	6	10:56	15:59
107	RT	Planned Transmission Outage and Constraint	SDG&E	San Diego-IV	4/16/2016	160	No	INC	15	1:00	15:59
108	RT	Planned Transmission Outage and Constraint	SDG&E	San Diego-IV	4/18/2016	39- 115	Yes	INC	11	12:34	22:59
109	RT	Planned Transmission Outage and Constraint	SDG&E	San Diego-IV	4/19/2016	37	No	INC	8	12:30	19:59
110	RT	Planned Transmission Outage and Constraint	SDG&E	San Diego-IV	4/22/2016	20- 126	No	INC	19	5:00	23:59
111	RT	Planned Transmission Outage and Constraint	SDG&E	San Diego-IV	4/26/2016	20	No	INC	12	5:00	16:59
112	RT	Software Limitation	PG&E	Bay Area	4/2/2016	0	No	INC	4	8:00	11:59
113	RT	Software Limitation	PG&E	Bay Area	4/5/2016	0	No	INC	2	0:00	1:04
114	RT	Software Limitation	PG&E	Bay Area	4/24/2016	0	No	INC	1	18:55	19:49
115	RT	Software Limitation	PG&E	Fresno	4/4/2016	0	No	INC	8	16:40	23:59
116	RT	Software Limitation	PG&E	Fresno	4/5/2016	0	No	INC	1	9:45	10:44
117	RT	Software Limitation	PG&E	Fresno	4/10/2016	0	No	INC	1	17:45	18:44

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
118	RT	Software Limitation	PG&E	Fresno	4/14/2016	0	No	INC	1	23:35	23:39
119	RT	Software Limitation	PG&E	Fresno	4/15/2016	0	No	INC	20	0:00	19:09
120	RT	Software Limitation	PG&E	Fresno	4/24/2016	0	No	INC	1	19:05	19:59
121	RT	Software Limitation	PG&E	N/A	4/5/2016	0	No	INC	1	0:05	1:04
122	RT	Software Limitation	PG&E	N/A	4/25/2016	0	No	INC	4	1:00	4:59
123	RT	Software Limitation	PG&E	Sierra	4/5/2016	0	No	INC	2	0:00	1:04
124	RT	Software Limitation	PG&E	Stockton	4/12/2016	0	No	INC	2	3:00	4:04
125	RT	Software Limitation	SCE	Big Creek-Ventura	4/4/2016	0	No	INC	1	23:55	0:04
126	RT	Software Limitation	SCE	Big Creek-Ventura	4/5/2016	0	No	INC	2	0:00	1:14
127	RT	Software Limitation	SCE	Big Creek-Ventura	4/9/2016	245	No	INC	1	4:50	4:59
128	RT	Software Limitation	SCE	Big Creek-Ventura	4/15/2016	0	No	INC	1	18:30	19:29
129	RT	Software Limitation	SCE	LA Basin	4/5/2016	0	No	INC	1	0:00	0:59
130	RT	Software Limitation	SCE	LA Basin	4/19/2016	0	No	INC	1	9:25	9:49
131	RT	Software Limitation	SCE	LA Basin	4/25/2016	0	No	INC	3	21:00	23:59
132	RT	Software Limitation	SCE	N/A	4/13/2016	0	No	INC	6	18:55	0:09
133	RT	Software Limitation	SDG&E	San Diego-IV	4/19/2016	0	No	INC	2	8:45	10:09
134	RT	Start-Up Instructions	PG&E	Humboldt	4/9/2016	10- 20	No	INC	3	20:45	22:59
135	RT	Unit Testing	N/A	N/A	4/14/2016	299	No	INC	1	11:24	11:29
136	RT	Unit Testing	PG&E	Bay Area	4/19/2016	146	No	INC	1	10:36	10:49
137	RT	Unit Testing	PG&E	Bay Area	4/19/2016	120-294	No	INC	4	8:50	11:59
138	RT	Unit Testing	PG&E	Fresno	4/20/2016	21	No	INC	2	7:00	8:59
139	RT	Unit Testing	PG&E	N/A	4/14/2016	299	No	INC	1	11:24	11:29
140	RT	Unit Testing	PG&E	N/A	4/18/2016	146	No	INC	1	10:15	10:59
141	RT	Unit Testing	PG&E	N/A	4/18/2016	146	No	INC	1	10:07	10:19
142	RT	Unit Testing	PG&E	Sierra	4/18/2016	13	No	INC	1	9:40	9:54

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
143	RT	Unit Testing	PG&E	Sierra	4/18/2016	13	No	INC	1	9:29	9:40
144	RT	Unit Testing	SCE	Big Creek-Ventura	4/9/2016	16- 48	No	INC	1	9:50	10:49
145	RT	Unit Testing	SCE	Big Creek-Ventura	4/9/2016	48	No	INC	1	9:35	10:22
146	RT	Unit Testing	SCE	LA Basin	4/1/2016	48	No	INC	9	5:35	13:44
147	RT	Unit Testing	SCE	LA Basin	4/9/2016	46- 96	No	INC	3	9:35	12:34
148	RT	Unit Testing	SCE	LA Basin	4/9/2016	90- 96	No	INC	3	9:23	11:36
149	RT	Unit Testing	SCE	LA Basin	4/14/2016	114	No	INC	1	9:30	9:34
150	RT	Unit Testing	SCE	LA Basin	4/18/2016	47- 238	No	INC	2	14:30	15:59
151	RT	Unit Testing	SCE	LA Basin	4/18/2016	191	No	INC	1	14:03	14:49
152	RT	Unit Testing	SCE	LA Basin	4/19/2016	45- 192	No	INC	5	9:40	14:14
153	RT	Unit Testing	SCE	LA Basin	4/19/2016	43- 90	No	INC	4	9:32	13:19
154	RT	Unit Testing	SCE	LA Basin	4/26/2016	5	No	INC	2	11:33	12:34
155	RT	Voltage Support	PG&E	Fresno	4/3/2016	-318	No	INC	1	16:50	17:29
156	RT	Voltage Support	PG&E	Fresno	4/9/2016	-319	No	INC	6	6:05	11:59
157	RT	Voltage Support	PG&E	Fresno	4/16/2016	-310	No	INC	1	6:00	6:59
158	RT	Voltage Support	PG&E	Fresno	4/18/2016	-310	No	INC	3	5:15	7:59
159	RT	Voltage Support	PG&E	Fresno	4/19/2016	-310	No	INC	2	4:50	5:59
160	RT	Voltage Support	SCE	N/A	4/29/2016	172	No	INC	10	5:00	14:59

## Appendix A: Explanation by Example

All examples listed below are based on fictitious data.

### Example 1: Exceptional Dispatch Instructions Prior to DAM

In this fictitious example, the CAISO issued an exceptional dispatch instruction for resource A to be committed at its physical minimum (Pmin) of 50 MW from hours ending 5 through 10 for a generation procedure 7630. Similarly, the CAISO 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. Here the dispatch levels are all at minimum load.

**Table 2: Instructions Prior to Day-Ahead Market**

Date	Market	Resource	Location	Local Reliability Area (LRA)	Begin Time	End Time	Dispatch Level (MW)	Reason
01-Jul-09	DA	A	SCE	LA BASIN	05:00	10:00	50	7630
01-Jul-09	DA	B	SCE	LA BASIN	08:00	20:00	30	7630
01-Jul-09	DA	C	SCE	LA BASIN	09:00	23:00	20	7630

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. 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 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.

**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
1	DA	7630	SCE	LA Basin	1-Jul-09	20-100	Yes	N/A	19	05:00	23:00

**Example 2: Incremental Exceptional Dispatch Instructions in RTM**

In this fictitious example, the CAISO issued an exceptional dispatch instruction to resource A to be committed at its Pmin of 30 MW from hours ending 7 through 11 after completion of the day-ahead market for the transmission procedure 7110. This resource had no day-ahead award in those hours. The CAISO issued another exceptional dispatch instruction to resource B, to be dispatched at 40 MW from hours ending 8 through 9 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.

**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
01-Jul-09	RT	A	PG&E	Humboldt	06:00	11:00	30	0	Yes	INC	30	7110
01-Jul-09	RT	B	PG&E	Humboldt	07:00	09:00	40	20	No	INC	20	7110
01-Jul-09	RT	C	PG&E	Humboldt	12:00	15:00	50	50	No	INC	0	7110
01-Jul-09	RT	C	PG&E	Humboldt	16:00	20:00	50	40	No	INC	10	7110



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. 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 hours between the begin time and end time where there were no exceptional dispatch instructions for the given reason.

**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
1	RT	7110	PG&E	Humboldt	1-Jul-09	0-50	Yes	INC	15	06:00	20:00

### 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 CAISO 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 CAISO issued additional exceptional dispatch instructions for resources B and C; details of those instructions are shown in Table 6.

**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
01-Jul-09	RT	A	PG&E	Fresno	15:00	20:00	20	0	Yes	INC	20	7430
01-Jul-09	RT	B	PG&E	Fresno	07:00	09:00	40	60	No	DEC	20	7430
01-Jul-09	RT	C	PG&E	Fresno	10:00	14:00	40	50	No	DEC	10	7430

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 inc and dec 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. 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.

**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
1	RT	7430	PG&E	Fresno	1-Jul-09	20	Yes	INC	6	15:00	20:00
1	RT	7430	PG&E	Fresno	1-Jul-09	10-20	Yes	DEC	8	07:00	14:00

## **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 15<sup>th</sup> day of June 2016.

/s/ Grace Clark  
Grace Clark