May 15, 2018

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

Re: California Independent System Operator Corporation
Docket Nos. ER08-1178-_____ and EL08-88-____
March 2018 Exceptional Dispatch Report (Chart 1 data)

Dear Secretary Bose:

Pursuant to the Federal Energy Regulatory Commission's (Commission) September 2, 2009 (September 2 Order), and May 4, 2010 (May 4 Order) orders in the above referenced dockets, the California Independent System Operator Corporation (CAISO) submits the attached report for filing. 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 CAISO's September 14, 2009, motion for clarification, which the Commission granted in its May 4 Order. The attached report provides Chart 1 data for the month of March 2018.

Respectfully submitted,

By: *<u>/s/ Sidney L. Mannheim</u>*

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Exceptional Dispatch Report

Table 1: March 2018

CAISO Market Quality and Renewable Integration **May 15, 2018**

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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 15th of each month and one issued on the 30th of each month. This report provides data on the frequency and reasons for Exceptional Dispatches issued in March 2018.

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.[1] 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.[2]

The following reason for exceptional dispatch instructions in March 2018 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

[1] The CAISO can issue exceptional dispatch instructions subject to authority of the CAISO Tariff Section 34.11 and in accordance with CAISO Operating Procedure 2330 (formerly M-402).

[2] 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 March 2018, which are self explanatory.

The data in Table 1 is based on a template specified in the September 2009 order.[3] 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 column specifies if there was an incremental dispatch or a decremental dispatch from the IFM schedule. 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 217 exceptional dispatches in March 2018, as compared to 185 exceptional dispatches in February 2018. Exceptional dispatches issued for the following reasons accounted for approximately 62 percent of the total exceptional dispatches during the reporting period: planned transmission outages, software limitations, and operating procedure number 7110 and 7720. Many of the exceptional dispatches with the reason "Other Reliability Requirement" were due to Real Time Contingency Analysis.

[3] 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 March 2018

California Independent System Operator Corporation
Exceptional Dispatch Report
May 15, 2018

Chart 1: Table of Exceptional Dispatches for Period 01/March/2018 - 31/March/2018

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
1	RT	Conditions beyond the control of the CAISO	PG&E	Fresno	3/10/2018	83- 166	No	INC	1	12:30	13:29
2	RT	Conditions beyond the control of the CAISO	PG&E	Fresno	3/12/2018	811	No	INC	1	16:10	16:44
3	RT	Conditions beyond the control of the CAISO	SCE	LA Basin	3/10/2018	92	No	INC	1	12:32	12:59
4	RT	Fast Start Unit Management	SCE	LA Basin	3/10/2018	0	No	INC	2	22:15	23:19
5	RT	Fast Start Unit Management	SCE	LA Basin	3/12/2018	0	No	INC	1	1:30	2:29
6	RT	Load Forecast Uncertainty	PG&E	Bay Area	3/14/2018	175	No	INC	7	11:00	17:59
7	RT	Load Forecast Uncertainty	PG&E	Fresno	3/10/2018	83	No	INC	1	16:30	16:59
8	RT	Load Forecast Uncertainty	PG&E	Fresno	3/11/2018	48	No	DEC	1	19:45	20:29
9	RT	Load Forecast Uncertainty	PG&E	Fresno	3/11/2018	83-1200	No	INC	4	18:24	21:59
10	RT	Load Forecast Uncertainty	PG&E	Fresno	3/16/2018	0	No	INC	1	16:45	16:54
11	RT	Load Forecast Uncertainty	PG&E	Fresno	3/31/2018	0	No	INC	1	16:35	17:34
12	RT	Load Forecast Uncertainty	SCE	LA Basin	3/11/2018	49	No	DEC	1	19:45	20:29
13	RT	Load Forecast Uncertainty	SCE	LA Basin	3/11/2018	96	No	INC	1	19:45	20:29
14	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	3/13/2018	20- 150	No	INC	14	6:00	19:59
15	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	3/15/2018	40- 189	No	INC	13	6:00	18:59
16	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	3/18/2018	20- 63	No	INC	5	17:25	21:59
17	RT	Operating Procedure Number and Constraint	PG&E	Fresno	3/17/2018	32	No	INC	1	20:20	20:34
18	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/1/2018	16- 32	No	DEC	24	0:45	23:59

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
19	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/1/2018	14- 48	No	INC	23	0:45	23:44
20	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/2/2018	16- 28	No	DEC	20	0:00	19:59
21	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/2/2018	14- 30	No	INC	19	5:00	23:59
22	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/3/2018	14	No	INC	1	0:00	0:59
23	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/4/2018	28	No	INC	1	0:00	0:49
24	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/5/2018	30	No	INC	2	22:10	23:59
25	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/6/2018	30- 45	No	DEC	10	7:25	16:59
26	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/6/2018	30- 45	No	INC	17	0:05	16:59
27	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/7/2018	32	No	DEC	3	21:15	23:59
28	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/7/2018	32	No	INC	3	21:15	23:59
29	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/8/2018	30	No	DEC	3	21:10	23:59
30	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/8/2018	14- 30	No	INC	15	9:50	23:59
31	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/9/2018	14	No	DEC	3	8:20	11:14
32	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/9/2018	14- 28	No	INC	17	6:35	23:29
33	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/10/2018	30- 45	No	DEC	16	6:40	22:29
34	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/10/2018	30- 45	No	INC	18	6:40	23:59

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
35	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/11/2018	32	No	INC	5	0:00	4:29
36	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/11/2018	16	No	DEC	3	5:00	7:59
37	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/11/2018	28	No	INC	3	9:00	11:59
38	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/12/2018	30	No	DEC	13	9:40	21:44
39	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/12/2018	30- 45	No	INC	16	8:00	23:59
40	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/13/2018	32	No	DEC	13	9:45	21:59
41	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/13/2018	30- 64	No	INC	15	9:16	23:59
42	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/14/2018	16	No	DEC	16	7:33	22:59
43	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/14/2018	16- 44	No	INC	17	7:33	23:59
44	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/15/2018	32	No	DEC	13	6:02	18:59
45	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/15/2018	15- 32	No	INC	17	6:02	22:59
46	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/16/2018	31	No	DEC	17	7:45	23:59
47	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/16/2018	15- 46	No	INC	17	7:45	23:59
48	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/17/2018	15- 32	No	INC	16	7:30	22:59
49	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/18/2018	32	No	DEC	17	7:45	23:59
50	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/18/2018	32	No	INC	17	7:45	23:59

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
51	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/19/2018	16- 45	No	DEC	6	17:00	22:59
52	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/19/2018	16- 45	No	INC	7	17:00	23:59
53	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/20/2018	30- 31	No	DEC	12	3:50	14:59
54	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/20/2018	30- 31	No	INC	12	3:50	14:59
55	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/21/2018	28- 56	No	DEC	14	8:30	21:59
56	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/21/2018	28- 56	No	INC	14	8:30	21:59
57	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/22/2018	30- 47	No	DEC	12	12:05	23:59
58	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/22/2018	30- 47	No	INC	15	9:05	23:59
59	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/23/2018	57	No	DEC	18	5:30	22:59
60	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/23/2018	28- 57	No	INC	18	5:30	22:59
61	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/24/2018	30- 61	No	INC	19	5:30	23:59
62	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/25/2018	14- 28	No	INC	17	7:05	23:59
63	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/26/2018	15	No	DEC	15	5:00	19:59
64	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/26/2018	15	No	INC	15	5:00	19:59
65	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/28/2018	90	No	DEC	13	7:05	20:04
66	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/28/2018	90	No	INC	13	7:05	20:04

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
67	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/30/2018	28- 45	No	INC	16	8:00	23:59
68	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	3/31/2018	32	No	INC	10	0:00	9:59
69	RT	Operating Procedure Number and Constraint (7720)	SCE	N/A	3/1/2018	400-465	No	DEC	24	0:40	23:59
70	RT	Operating Procedure Number and Constraint (7720)	SCE	N/A	3/1/2018	435-475	No	INC	18	0:40	17:44
71	RT	Operating Procedure Number and Constraint (7720)	SCE	N/A	3/2/2018	400-435	No	DEC	24	0:00	23:59
72	RT	Operating Procedure Number and Constraint (7720)	SCE	N/A	3/2/2018	435	No	INC	23	1:30	23:59
73	RT	Operating Procedure Number and Constraint (7720)	SCE	N/A	3/4/2018	440	No	INC	5	18:55	22:59
74	RT	Operating Procedure Number and Constraint (7720)	SCE	N/A	3/5/2018	411	No	DEC	6	18:20	23:44
75	RT	Operating Procedure Number and Constraint (7720)	SCE	N/A	3/5/2018	411	No	INC	6	18:20	23:44
76	RT	Operating Procedure Number and Constraint (7720)	SCE	N/A	3/6/2018	340	No	DEC	11	6:25	17:14
77	RT	Operating Procedure Number and Constraint (7720)	SCE	N/A	3/6/2018	340	No	INC	11	6:25	17:14
78	RT	Operating Procedure Number and Constraint (7720)	SCE	N/A	3/8/2018	411-425	No	DEC	6	17:30	22:59
79	RT	Operating Procedure Number and Constraint (7720)	SCE	N/A	3/8/2018	411-450	No	INC	7	17:30	23:59
80	RT	Operating Procedure Number and Constraint (7720)	SCE	N/A	3/9/2018	465	No	INC	4	17:45	20:59
81	RT	Operating Procedure Number and Constraint (7720)	SCE	N/A	3/10/2018	430-440	No	DEC	18	6:10	23:59
82	RT	Other Reliability Requirement	PG&E	Fresno	3/25/2018	15	No	INC	6	10:55	15:59
83	RT	Other Reliability Requirement	PG&E	Fresno	3/28/2018	30- 47	No	DEC	8	10:10	17:59

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
84	RT	Other Reliability Requirement	PG&E	Fresno	3/28/2018	7- 17	No	INC	8	10:15	17:59
85	RT	Other Reliability Requirement	PG&E	Humboldt	3/28/2018	15	No	DEC	13	7:50	19:59
86	RT	Other Reliability Requirement	PG&E	Humboldt	3/28/2018	15	No	INC	13	7:50	19:59
87	RT	Other Reliability Requirement	SCE	LA Basin	3/12/2018	165	No	DEC	1	9:00	9:29
88	RT	Other Reliability Requirement	SCE	LA Basin	3/16/2018	194	No	DEC	2	19:25	20:59
89	RT	Over Generation	PG&E	Fresno	3/8/2018	-317	No	DEC	2	8:23	9:59
90	RT	Planned Transmission Outage	Intertie	N/A	3/27/2018	600	No	DEC	2	17:00	18:59
91	RT	Planned Transmission Outage	Intertie	N/A	3/27/2018	600	No	INC	2	17:00	18:59
92	RT	Planned Transmission Outage	Intertie	N/A	3/28/2018	800	No	INC	6	15:00	20:59
93	RT	Planned Transmission Outage	Intertie	N/A	3/29/2018	600	No	DEC	1	10:00	10:59
94	RT	Planned Transmission Outage	Intertie	N/A	3/30/2018	600	No	INC	2	21:35	22:59
95	RT	Planned Transmission Outage	PG&E	Bay Area	3/27/2018	175	No	INC	8	8:00	15:59
96	RT	Planned Transmission Outage	PG&E	Bay Area	3/28/2018	175	No	INC	5	10:00	14:59
97	RT	Planned Transmission Outage	PG&E	Bay Area	3/29/2018	175	No	INC	3	9:00	11:59
98	RT	Planned Transmission Outage	PG&E	Bay Area	3/30/2018	175	No	INC	13	7:00	19:59
99	RT	Planned Transmission Outage	PG&E	Humboldt	3/7/2018	28- 30	No	DEC	11	6:55	16:59
100	RT	Planned Transmission Outage	PG&E	Humboldt	3/7/2018	28- 60	No	INC	11	6:55	16:59
101	RT	Planned Transmission Outage	PG&E	Humboldt	3/11/2018	30	No	DEC	4	20:34	23:59
102	RT	Planned Transmission Outage	PG&E	Humboldt	3/11/2018	30	No	INC	4	20:34	23:59
103	RT	Planned Transmission Outage	PG&E	Humboldt	3/12/2018	30	No	INC	6	0:00	5:59
104	RT	Planned Transmission Outage	PG&E	Humboldt	3/19/2018	30- 32	No	INC	4	8:00	11:44
105	RT	Planned Transmission Outage	PG&E	Humboldt	3/23/2018	16	No	INC	17	7:35	23:59
106	RT	Planned Transmission Outage	PG&E	Humboldt	3/26/2018	28- 42	No	DEC	2	20:45	22:29
107	RT	Planned Transmission Outage	PG&E	Humboldt	3/26/2018	14- 28	No	INC	3	20:50	22:59
108	RT	Planned Transmission Outage	PG&E	Humboldt	3/27/2018	14	No	DEC	8	12:40	19:59
109	RT	Planned Transmission Outage	PG&E	Humboldt	3/27/2018	14- 79	No	INC	17	7:00	23:29
110	RT	Planned Transmission Outage	PG&E	Humboldt	3/28/2018	28	No	INC	18	5:45	22:59
111	RT	Planned Transmission Outage	PG&E	Humboldt	3/29/2018	28- 45	No	INC	18	5:45	23:29
112	RT	Planned Transmission Outage	PG&E	Humboldt	3/30/2018	28- 56	No	INC	3	5:45	7:59

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
113	RT	Planned Transmission Outage	PG&E	N/A	3/3/2018	182	No	DEC	3	5:10	7:59
114	RT	Planned Transmission Outage	PG&E	NCNB	3/31/2018	55	No	DEC	1	17:10	17:59
115	RT	Planned Transmission Outage	SCE	LA Basin	3/14/2018	194	No	DEC	14	6:46	19:59
116	RT	Planned Transmission Outage	SCE	LA Basin	3/14/2018	194	No	INC	14	6:46	19:59
117	RT	Planned Transmission Outage	SCE	LA Basin	3/15/2018	194	No	DEC	13	6:00	18:59
118	RT	Planned Transmission Outage	SCE	LA Basin	3/15/2018	194	No	INC	13	6:00	18:59
119	RT	Planned Transmission Outage	SCE	LA Basin	3/19/2018	70- 528	No	INC	24	0:00	23:59
120	RT	Planned Transmission Outage	SCE	LA Basin	3/20/2018	194	No	DEC	12	8:15	19:59
121	RT	Planned Transmission Outage	SCE	LA Basin	3/20/2018	194	No	INC	12	8:15	19:59
122	RT	Planned Transmission Outage	SCE	LA Basin	3/21/2018	194	No	DEC	7	5:05	11:59
123	RT	Planned Transmission Outage	SCE	LA Basin	3/21/2018	194	No	INC	7	5:05	11:59
124	RT	Planned Transmission Outage	SCE	LA Basin	3/22/2018	194	No	DEC	12	8:00	19:59
125	RT	Planned Transmission Outage	SCE	LA Basin	3/23/2018	194	No	INC	14	6:00	19:59
126	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/8/2018	40- 590	No	DEC	13	7:41	19:59
127	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/12/2018	23- 48	No	INC	10	8:15	17:44
128	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/13/2018	40- 140	No	DEC	11	9:05	19:59
129	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/13/2018	50- 100	No	INC	11	9:05	19:59
130	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/14/2018	47	No	DEC	7	13:00	19:14
131	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/14/2018	22- 47	No	INC	12	8:00	19:14
132	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/17/2018	48	No	INC	3	8:45	11:44
133	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/18/2018	20- 126	No	INC	12	6:00	17:59
134	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/20/2018	75	No	DEC	5	15:20	19:59
135	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/20/2018	23- 95	No	INC	10	10:22	19:59
136	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/21/2018	40	No	DEC	8	8:45	16:44
137	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/21/2018	20- 177	Yes	INC	15	5:30	19:59
138	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/22/2018	63	No	INC	8	7:00	14:29
139	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/26/2018	24	No	INC	8	8:25	15:59
140	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/27/2018	24	No	INC	12	7:50	18:59
141	RT	Planned Transmission Outage	SDG&E	San Diego-IV	3/28/2018	25	No	INC	1	9:00	9:59

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
142	RT	Software Limitation	PG&E	Bay Area	3/4/2018	330-370	No	DEC	5	19:00	23:59
143	RT	Software Limitation	PG&E	Fresno	3/8/2018	0	No	INC	1	15:45	15:59
144	RT	Software Limitation	PG&E	Fresno	3/11/2018	30	No	INC	1	8:30	8:34
145	RT	Software Limitation	PG&E	Fresno	3/17/2018	83	No	INC	1	22:00	22:59
146	RT	Software Limitation	PG&E	Fresno	3/30/2018	83	No	INC	3	21:55	23:59
147	RT	Software Limitation	PG&E	Humboldt	3/1/2018	48	No	DEC	1	21:35	21:59
148	RT	Software Limitation	PG&E	Humboldt	3/1/2018	32	No	INC	1	23:30	23:59
149	RT	Software Limitation	PG&E	Humboldt	3/2/2018	32	No	INC	1	0:00	0:29
150	RT	Software Limitation	PG&E	Humboldt	3/19/2018	48	No	INC	2	8:00	9:14
151	RT	Software Limitation	PG&E	Humboldt	3/25/2018	0	No	INC	1	0:00	0:29
152	RT	Software Limitation	PG&E	Sierra	3/17/2018	0	No	INC	6	7:10	13:09
153	RT	Software Limitation	SCE	LA Basin	3/19/2018	0	No	INC	1	3:25	4:24
154	RT	Software Limitation	SCE	LA Basin	3/20/2018	0	No	INC	1	23:45	23:59
155	RT	Software Limitation	SCE	LA Basin	3/21/2018	0	No	DEC	7	17:50	23:59
156	RT	Software Limitation	SCE	LA Basin	3/21/2018	0	No	INC	24	0:00	23:59
157	RT	Software Limitation	SCE	LA Basin	3/22/2018	10	No	INC	23	1:10	23:59
158	RT	Software Limitation	SDG&E	San Diego-IV	3/4/2018	0	No	INC	1	21:00	21:59
159	RT	Unit Testing	PG&E	Fresno	3/3/2018	49	No	INC	1	18:28	19:09
160	RT	Unit Testing	PG&E	Fresno	3/12/2018	-325	No	DEC	1	1:00	1:14
161	RT	Unit Testing	PG&E	Sierra	3/8/2018	201	No	INC	1	12:20	12:49
162	RT	Unit Testing	SCE	LA Basin	3/8/2018	45	No	INC	1	14:13	14:59
163	RT	Unit Testing	SCE	LA Basin	3/21/2018	90	No	INC	1	16:00	16:44
164	RT	Unit Testing	SCE	N/A	3/15/2018	475	No	INC	6	12:45	18:29
165	RT	Unit Testing	SDG&E	San Diego-IV	3/27/2018	5	No	DEC	1	17:20	17:24
166	RT	Unplanned Outage	PG&E	Humboldt	3/3/2018	14	No	INC	4	8:50	11:59
167	RT	Unplanned Outage	PG&E	Humboldt	3/5/2018	28	No	DEC	5	11:45	15:59
168	RT	Unplanned Outage	PG&E	Humboldt	3/5/2018	28- 42	No	INC	9	7:00	15:59
169	RT	Unplanned Outage	PG&E	N/A	3/4/2018	47	No	DEC	4	3:20	6:59

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
170	RT	Unplanned Outage	PG&E	N/A	3/4/2018	110-250	No	INC	14	8:00	21:59
171	RT	Unplanned Outage	PG&E	Stockton	3/29/2018	23	No	INC	9	9:20	17:59
172	RT	Unplanned Outage	SCE	N/A	3/4/2018	241	No	INC	8	8:00	15:59
173	RT	Unplanned Outage	SDG&E	San Diego-IV	3/4/2018	40	No	INC	14	6:00	19:59
174	RT	Unplanned Outage	SDG&E	San Diego-IV	3/7/2018	0	No	DEC	2	12:38	13:39
175	RT	Unplanned Outage	SDG&E	San Diego-IV	3/7/2018	63- 238	No	INC	6	11:54	16:59
176	RT	Voltage Support	PG&E	Fresno	3/1/2018	-334	No	DEC	3	1:50	4:44
177	RT	Voltage Support	PG&E	Fresno	3/2/2018	83	No	INC	3	2:55	4:59
178	RT	Voltage Support	PG&E	Fresno	3/3/2018	-331	No	DEC	2	3:15	4:44
179	RT	Voltage Support	PG&E	Fresno	3/4/2018	-331	No	DEC	6	5:35	10:59
180	RT	Voltage Support	PG&E	Fresno	3/5/2018	-331	No	DEC	1	23:35	23:59
181	RT	Voltage Support	PG&E	Fresno	3/6/2018	-331	No	DEC	24	0:00	23:59
182	RT	Voltage Support	PG&E	Fresno	3/7/2018	-331	No	DEC	5	0:00	4:59
183	RT	Voltage Support	PG&E	Fresno	3/8/2018	-330	No	DEC	6	0:15	5:44
184	RT	Voltage Support	PG&E	Fresno	3/9/2018	-319	No	DEC	6	0:00	5:59
185	RT	Voltage Support	PG&E	Fresno	3/10/2018	-328	No	DEC	5	0:00	4:44
186	RT	Voltage Support	PG&E	Fresno	3/11/2018	-328	No	DEC	7	1:30	7:59
187	RT	Voltage Support	PG&E	Fresno	3/11/2018	83	Yes	INC	3	7:45	10:29
188	RT	Voltage Support	PG&E	Fresno	3/12/2018	-325	No	DEC	5	1:00	5:44
189	RT	Voltage Support	PG&E	Fresno	3/13/2018	-310	No	DEC	1	23:42	23:59
190	RT	Voltage Support	PG&E	Fresno	3/14/2018	-310- 83	No	DEC	6	0:00	5:29
191	RT	Voltage Support	PG&E	Fresno	3/14/2018	83	No	INC	1	4:30	5:29
192	RT	Voltage Support	PG&E	Fresno	3/15/2018	-315	No	DEC	5	0:05	4:44
193	RT	Voltage Support	PG&E	Fresno	3/16/2018	0	No	INC	3	2:10	4:59
194	RT	Voltage Support	PG&E	Fresno	3/17/2018	-323	No	DEC	10	1:15	10:59
195	RT	Voltage Support	PG&E	Fresno	3/18/2018	-646--323	No	DEC	24	0:30	23:59
196	RT	Voltage Support	PG&E	Fresno	3/19/2018	-323	No	DEC	4	0:00	3:44

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
197	RT	Voltage Support	PG&E	Fresno	3/19/2018	83	Yes	INC	1	4:00	4:59
198	RT	Voltage Support	PG&E	Fresno	3/20/2018	-323	No	DEC	24	0:15	23:59
199	RT	Voltage Support	PG&E	Fresno	3/20/2018	83	Yes	INC	1	5:00	5:59
200	RT	Voltage Support	PG&E	Fresno	3/21/2018	-323	No	DEC	24	0:00	23:59
201	RT	Voltage Support	PG&E	Fresno	3/21/2018	83	Yes	INC	1	5:15	5:59
202	RT	Voltage Support	PG&E	Fresno	3/22/2018	-323	No	DEC	5	0:00	4:14
203	RT	Voltage Support	PG&E	Fresno	3/22/2018	83	Yes	INC	1	5:15	5:59
204	RT	Voltage Support	PG&E	Fresno	3/23/2018	83- 166	Yes	INC	5	0:15	4:59
205	RT	Voltage Support	PG&E	Fresno	3/24/2018	0	No	INC	23	1:55	23:59
206	RT	Voltage Support	PG&E	Fresno	3/25/2018	83	No	DEC	5	4:00	8:29
207	RT	Voltage Support	PG&E	Fresno	3/25/2018	83	No	INC	9	0:00	8:29
208	RT	Voltage Support	PG&E	Fresno	3/26/2018	83	No	INC	1	4:30	5:29
209	RT	Voltage Support	PG&E	Fresno	3/28/2018	-330--320	No	DEC	2	3:20	4:44
210	RT	Voltage Support	PG&E	Fresno	3/30/2018	-330	No	DEC	3	1:45	4:44
211	RT	Voltage Support	PG&E	Fresno	3/31/2018	-323	No	DEC	8	1:35	8:59
212	RT	Voltage Support	PG&E	Humboldt	3/20/2018	32	No	INC	1	23:00	23:59
213	RT	Voltage Support	PG&E	Humboldt	3/21/2018	15- 16	No	DEC	2	2:00	3:44
214	RT	Voltage Support	PG&E	Humboldt	3/21/2018	32- 96	No	INC	24	0:00	23:59
215	RT	Voltage Support	PG&E	Humboldt	3/22/2018	16	No	DEC	1	0:00	0:59
216	RT	Voltage Support	PG&E	Humboldt	3/22/2018	48	No	INC	1	0:00	0:29
217	RT	Voltage Support	PG&E	Humboldt	3/31/2018	16	No	INC	4	20:10	23:59

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 certify that I have served the foregoing document upon the parties listed on the official service list in the captioned 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 15th day of May, 2018.

/s/ Grace Clark

Grace Clark