



# **Exceptional Dispatch Report**

## **Table 1: November 2018**

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## Introduction

This report is filed pursuant to FERC's September 2, 2009, and May 4, 2010, orders in Docket No. 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 November 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.<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 November 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

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<sup>1</sup> 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).

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

following 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 November 2018, 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 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 180 exceptional dispatches in November 2018, as compared to 233 exceptional dispatches in October 2018. Exceptional dispatches issued for the following reasons accounted for approximately 72 percent of the total exceptional dispatches during the reporting period: planned transmission outages, software limitations, load forecast uncertainty, and operating procedure number 7110 (along with 7630 and 7720). Many of the exceptional dispatches with the reason “Other Reliability Requirement” were due to Real Time Contingency Analysis.

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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 November 2018**

**California Independent System Operator Corporation  
Exceptional Dispatch Report  
January 15, 2019**

**Chart 1: Table of Exceptional Dispatches for Period 01/November/2018 - 30/November/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	SCE	LA Basin	11/15/2018	10 - 20	Yes	INC	24	0:00	0:00
2	RT	Conditions beyond the control of the CAISO	SDGE	San Diego-IV	11/1/2018	225	No	INC	7	0:00	7:00
3	RT	Contingency Dispatch	PGAE	Fresno	11/21/2018	141	No	INC	1	9:55	10:00
4	RT	Contingency Dispatch	SCE	LA Basin	11/9/2018	147	No	INC	2	7:45	9:35
5	RT	Fast Start Unit Management	SCE	LA Basin	11/10/2018	0	No	INC	2	0:45	1:50
6	RT	Incomplete or Inaccurate Transmission	PGAE	Fresno	11/22/2018	4.1 - 13.6	No	DEC	3	10:45	13:00
7	RT	Incomplete or Inaccurate Transmission	PGAE	Fresno	11/22/2018	4.1 - 13.6	No	INC	7	10:45	17:00
8	RT	Load Forecast Uncertainty	PGAE	Bay Area	11/7/2018	141.02	No	INC	10	14:00	0:00
9	RT	Load Forecast Uncertainty	PGAE	Bay Area	11/9/2018	120	No	INC	1	7:30	8:20
10	RT	Load Forecast Uncertainty	SCE	LA Basin	11/9/2018	45.24 - 51.52	No	INC	1	7:30	8:20
11	RT	Load Forecast Uncertainty	SCE	LA Basin	11/12/2018	20 - 194	No	INC	15	9:00	0:00
12	RT	Load Forecast Uncertainty	SCE	LA Basin	11/13/2018	65 - 194	No	INC	9	12:00	21:00
13	RT	Load Forecast Uncertainty	SCE	LA Basin	11/14/2018	65 - 194	No	INC	9	12:00	21:00
14	RT	Load Forecast Uncertainty	SCE	LA Basin	11/16/2018	20	Yes	INC	24	0:00	0:00
15	RT	Load Forecast Uncertainty	SCE	LA Basin	11/19/2018	20 - 98	No	INC	18	6:00	0:00
16	RT	Load Forecast Uncertainty	SCE	LA Basin	11/20/2018	65 - 191	No	INC	5	14:30	19:00
17	RT	Load Forecast Uncertainty	SCE	LA Basin	11/21/2018	190	No	INC	8	13:15	21:00
18	RT	Load Forecast Uncertainty	SCE	LA Basin	11/24/2018	190	No	INC	6	15:40	21:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
19	RT	Load Forecast Uncertainty	SCE	LA Basin	11/29/2018	190 - 194	No	INC	5	16:05	21:00
20	RT	Load Forecast Uncertainty	SCE	LA Basin	11/30/2018	190 - 194	No	INC	7	14:15	21:00
21	RT	Load Forecast Uncertainty	SDGE	San Diego-IV	11/8/2018	20	No	INC	23	1:30	0:00
22	RT	Load Forecast Uncertainty	SDGE	San Diego-IV	11/12/2018	20 - 68	No	INC	14	8:30	22:00
23	RT	Load Pull	PGAE	Bay Area	11/17/2018	23.6	No	DEC	1	17:00	18:00
24	RT	Load Pull	SCE	LA Basin	11/15/2018	190 - 194	No	INC	3	16:40	19:30
25	RT	Load Pull	SCE	LA Basin	11/19/2018	65 - 190	No	INC	7	13:55	20:00
26	RT	Market Disruption	PGAE	Bay Area	11/15/2018	554	No	DEC	2	18:00	19:15
27	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/2/2018	32	No	DEC	5	16:00	21:00
28	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/2/2018	28 - 32	No	INC	18	6:25	0:00
29	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/3/2018	42	No	DEC	1	19:45	20:00
30	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/3/2018	28 - 42	No	INC	23	0:00	23:00
31	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/4/2018	32	No	INC	4	20:35	0:00
32	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/5/2018	16	No	DEC	11	1:00	12:00
33	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/5/2018	15 - 32	No	INC	24	0:00	0:00
34	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/6/2018	30 - 32	No	INC	18	6:40	0:00
35	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/7/2018	32	No	INC	3	21:25	0:00
36	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/8/2018	15	No	DEC	12	12:00	0:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
37	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/8/2018	32	No	INC	12	0:00	12:00
38	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/9/2018	15 - 32	No	DEC	17	0:00	16:45
39	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/9/2018	32	No	INC	15	9:55	0:00
40	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/10/2018	30 - 32	No	INC	23	0:00	22:30
41	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/11/2018	14	No	INC	1	8:15	8:30
42	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/12/2018	32	No	INC	9	6:05	15:00
43	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/13/2018	32	No	DEC	3	16:00	19:00
44	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/13/2018	32	No	INC	7	9:00	16:00
45	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/15/2018	30 - 42	No	DEC	8	15:00	23:00
46	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/15/2018	30 - 42	No	INC	17	7:05	23:45
47	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/17/2018	32	No	DEC	1	22:40	23:00
48	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/17/2018	32	No	INC	1	23:00	0:00
49	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/18/2018	16	No	DEC	8	0:45	8:00
50	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/18/2018	32	No	INC	1	0:00	0:45
51	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/25/2018	30	No	INC	5	17:05	22:00
52	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/26/2018	32	No	DEC	8	15:00	23:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
53	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/26/2018	32	No	INC	18	6:50	0:00
54	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/27/2018	16	No	DEC	4	0:45	4:45
55	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/27/2018	0 - 32	No	INC	24	0:00	0:00
56	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/28/2018	16	No	DEC	2	0:15	1:45
57	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	11/28/2018	32	No	INC	1	0:00	0:15
58	RT	Operating Procedure Number and Constraint (7630)	SCE	LA Basin	11/15/2018	65	No	INC	6	13:35	19:00
59	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	11/1/2018	475	No	DEC	4	17:00	21:00
60	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	11/1/2018	475	No	INC	1	16:15	17:00
61	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	11/2/2018	477	No	DEC	1	19:00	20:00
62	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	11/2/2018	477 - 482	No	INC	2	20:00	22:00
63	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	11/3/2018	240 - 412	No	DEC	3	18:00	20:30
64	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	11/4/2018	475 - 480	No	DEC	2	17:00	18:30
65	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	11/5/2018	465	No	DEC	7	17:00	0:00
66	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	11/5/2018	465	No	INC	6	15:50	21:00
67	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	11/6/2018	470	No	DEC	7	17:00	0:00
68	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	11/6/2018	470	No	INC	2	15:00	17:00



Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
69	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	11/7/2018	475	No	DEC	7	17:00	0:00
70	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	11/7/2018	475	No	INC	1	16:00	17:00
71	RT	Other Reliability Requirement	PGAE	Sierra	11/13/2018	30	No	DEC	4	8:35	12:00
72	RT	Other Reliability Requirement	SCE	Big Creek-Ventura	11/13/2018	500	No	DEC	1	23:15	23:45
73	RT	Other Reliability Requirement	SCE	LA Basin	11/13/2018	65 - 195	No	INC	1	23:00	23:45
74	RT	Other Reliability Requirement	SCE	NA	11/13/2018	500	No	DEC	1	23:15	23:45
75	RT	Other Reliability Requirement	SCE	NA	11/17/2018	475	No	DEC	1	20:00	21:00
76	RT	Other Reliability Requirement	SCE	NA	11/17/2018	475	No	INC	3	17:55	20:00
77	RT	Planned Transmission Outage	PGAE	Bay Area	11/30/2018	54	No	INC	6	9:45	15:00
78	RT	Planned Transmission Outage	PGAE	Fresno	11/28/2018	40	No	DEC	3	16:00	19:00
79	RT	Planned Transmission Outage	PGAE	Fresno	11/28/2018	40 - 98	No	INC	10	14:00	0:00
80	RT	Planned Transmission Outage	PGAE	Fresno	11/29/2018	44 - 98	No	INC	5	0:00	5:00
81	RT	Planned Transmission Outage	PGAE	Humboldt	11/1/2018	32	No	DEC	6	16:00	22:00
82	RT	Planned Transmission Outage	PGAE	Humboldt	11/1/2018	28 - 32	No	INC	18	6:25	0:00
83	RT	Planned Transmission Outage	PGAE	Humboldt	11/2/2018	28	No	INC	2	0:00	2:00
84	RT	Planned Transmission Outage	PGAE	Humboldt	11/4/2018	32	No	INC	13	7:45	20:00
85	RT	Planned Transmission Outage	PGAE	Humboldt	11/6/2018	42	No	INC	8	8:10	16:00
86	RT	Planned Transmission Outage	PGAE	Humboldt	11/7/2018	28	No	INC	15	6:05	21:00
87	RT	Planned Transmission Outage	PGAE	Humboldt	11/10/2018	30	No	INC	2	22:00	0:00
88	RT	Planned Transmission Outage	PGAE	Humboldt	11/11/2018	14 - 30	No	INC	24	0:00	0:00
89	RT	Planned Transmission Outage	PGAE	Humboldt	11/12/2018	32	No	DEC	1	22:35	23:00
90	RT	Planned Transmission Outage	PGAE	Humboldt	11/12/2018	14 - 32	No	INC	24	0:00	0:00
91	RT	Planned Transmission Outage	PGAE	Humboldt	11/13/2018	16	No	DEC	2	1:35	3:00
92	RT	Planned Transmission Outage	PGAE	Humboldt	11/13/2018	32	No	INC	2	0:00	1:30
93	RT	Planned Transmission Outage	PGAE	Humboldt	11/14/2018	14	No	DEC	6	1:00	6:25
94	RT	Planned Transmission Outage	PGAE	Humboldt	11/14/2018	30 - 45	No	INC	21	0:00	20:45

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
95	RT	Planned Transmission Outage	PGAE	NA	11/3/2018	30 - 46	No	INC	6	17:30	23:00
96	RT	Planned Transmission Outage	PGAE	NA	11/4/2018	30	No	INC	5	0:00	3:30
97	RT	Planned Transmission Outage	PGAE	NA	11/6/2018	32	No	INC	12	12:45	0:00
98	RT	Planned Transmission Outage	PGAE	NA	11/7/2018	32	Yes	INC	24	0:00	0:00
99	RT	Planned Transmission Outage	PGAE	NA	11/8/2018	32	Yes	INC	24	0:00	0:00
100	RT	Planned Transmission Outage	PGAE	NA	11/9/2018	32	Yes	INC	24	0:00	0:00
101	RT	Planned Transmission Outage	PGAE	NA	11/10/2018	32	No	INC	24	0:00	0:00
102	RT	Planned Transmission Outage	PGAE	NA	11/11/2018	32	Yes	INC	24	0:00	0:00
103	RT	Planned Transmission Outage	PGAE	NA	11/12/2018	32	Yes	INC	24	0:00	0:00
104	RT	Planned Transmission Outage	PGAE	NA	11/13/2018	32	Yes	INC	24	0:00	0:00
105	RT	Planned Transmission Outage	PGAE	NA	11/14/2018	32	No	INC	12	0:00	11:45
106	RT	Planned Transmission Outage	PGAE	Sierra	11/12/2018	42	No	INC	9	11:00	20:00
107	RT	Planned Transmission Outage	PGAE	Sierra	11/13/2018	42	No	INC	4	7:00	11:00
108	RT	Planned Transmission Outage	PGAE	Sierra	11/15/2018	24	No	DEC	4	15:00	19:00
109	RT	Planned Transmission Outage	PGAE	Sierra	11/15/2018	24	No	INC	3	12:00	15:00
110	RT	Planned Transmission Outage	PGAE	Sierra	11/16/2018	5 - 15	No	INC	4	5:45	9:30
111	RT	Planned Transmission Outage	PGAE	Stockton	11/3/2018	50 - 67	No	INC	6	17:15	23:00
112	RT	Planned Transmission Outage	PGAE	Stockton	11/4/2018	10 - 30	No	INC	4	0:00	2:45
113	RT	Planned Transmission Outage	PGAE	Stockton	11/28/2018	34 - 200	No	DEC	17	5:00	22:00
114	RT	Planned Transmission Outage	PGAE	Stockton	11/28/2018	34 - 200	No	INC	23	0:40	23:00
115	RT	Planned Transmission Outage	SCE	Big Creek-Ventura	11/14/2018	54	No	INC	2	18:00	20:00
116	RT	Planned Transmission Outage	SCE	LA Basin	11/1/2018	46 - 247.1	Yes	INC	2	21:05	22:30
117	RT	Planned Transmission Outage	SCE	LA Basin	11/3/2018	10 - 20	Yes	INC	19	4:30	23:00
118	RT	Planned Transmission Outage	SCE	LA Basin	11/4/2018	10 - 20	Yes	INC	25	0:00	0:00
119	RT	Planned Transmission Outage	SCE	LA Basin	11/5/2018	10 - 70	Yes	INC	24	0:00	0:00
120	RT	Planned Transmission Outage	SCE	LA Basin	11/6/2018	70	No	INC	2	0:00	2:00
121	RT	Planned Transmission Outage	SCE	LA Basin	11/12/2018	10 - 20	No	INC	2	22:25	0:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
122	RT	Planned Transmission Outage	SCE	LA Basin	11/13/2018	10 - 20	No	INC	24	0:00	0:00
123	RT	Planned Transmission Outage	SCE	LA Basin	11/14/2018	10 - 20	No	INC	24	0:00	0:00
124	RT	Planned Transmission Outage	SCE	NA	11/1/2018	68	No	DEC	6	11:15	17:00
125	RT	Planned Transmission Outage	SCE	NA	11/7/2018	125 - 300	No	INC	7	8:00	15:00
126	RT	Planned Transmission Outage	SCE	NA	11/13/2018	200	No	DEC	24	0:00	0:00
127	RT	Planned Transmission Outage	SCE	NA	11/14/2018	125.1 - 200	No	DEC	24	0:00	0:00
128	RT	Planned Transmission Outage	SCE	NA	11/14/2018	150	No	INC	6	9:40	15:00
129	RT	Planned Transmission Outage	SCE	NA	11/15/2018	125.1 - 200	No	DEC	24	0:00	0:00
130	RT	Planned Transmission Outage	SCE	NA	11/16/2018	200	No	DEC	24	0:00	0:00
131	RT	Planned Transmission Outage	SCE	NA	11/17/2018	200	No	DEC	24	0:00	0:00
132	RT	Planned Transmission Outage	SCE	NA	11/18/2018	200	No	DEC	24	0:00	0:00
133	RT	Planned Transmission Outage	SCE	NA	11/19/2018	200	No	DEC	24	0:00	0:00
134	RT	Planned Transmission Outage	SCE	NA	11/20/2018	200	No	DEC	24	0:00	0:00
135	RT	Planned Transmission Outage	SCE	NA	11/21/2018	200	No	DEC	18	0:00	17:45
136	RT	Planned Transmission Outage	SDGE	San Diego-IV	11/1/2018	20 - 270	No	INC	17	5:30	22:00
137	RT	Planned Transmission Outage	SDGE	San Diego-IV	11/5/2018	20	No	INC	2	4:30	6:00
138	RT	Planned Transmission Outage	SDGE	San Diego-IV	11/6/2018	20 - 155	No	INC	22	2:00	0:00
139	RT	Planned Transmission Outage	SDGE	San Diego-IV	11/7/2018	20 - 68	No	INC	24	0:00	0:00
140	RT	Planned Transmission Outage	SDGE	San Diego-IV	11/8/2018	20 - 68	No	INC	22	0:00	22:00
141	RT	Planned Transmission Outage	SDGE	San Diego-IV	11/19/2018	30	No	DEC	2	17:00	19:00
142	RT	Planned Transmission Outage	SDGE	San Diego-IV	11/19/2018	30	No	INC	1	16:30	17:00
143	RT	Software Limitation	PGAE	Bay Area	11/1/2018	0	No	INC	1	0:00	0:40
144	RT	Software Limitation	PGAE	Humboldt	11/1/2018	32.1	No	INC	1	23:30	0:00
145	RT	Software Limitation	PGAE	NA	11/2/2018	0	No	DEC	1	20:30	21:10
146	RT	Software Limitation	SCE	LA Basin	11/9/2018	152	No	INC	2	9:35	11:00
147	RT	Software Limitation	SDGE	San Diego-IV	11/5/2018	63	No	INC	3	6:00	9:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
148	RT	Unit Testing	SDGE	NA	11/6/2018	220 - 330	No	INC	2	13:05	15:00
149	RT	Unit Testing	SDGE	NA	11/7/2018	162 - 330	No	INC	6	10:25	16:00
150	RT	Unit Testing	SDGE	NA	11/15/2018	24 - 422	No	INC	13	7:10	19:30
151	RT	Unit Testing	SDGE	NA	11/16/2018	105 - 422	No	INC	4	15:40	19:30
152	RT	Unit Testing	SDGE	NA	11/17/2018	105 - 422	No	INC	13	7:30	19:45
153	RT	Unit Testing	SDGE	NA	11/18/2018	105 - 422	No	INC	10	12:45	22:15
154	RT	Unit Testing	SDGE	NA	11/19/2018	315 - 422	No	INC	6	10:00	16:00
155	RT	Unit Testing	SDGE	NA	11/20/2018	48 - 320	No	INC	10	7:00	16:10
156	RT	Unit Testing	SDGE	NA	11/26/2018	105 - 422	No	INC	10	11:15	20:30
157	RT	Unit Testing	SDGE	NA	11/27/2018	400	No	DEC	1	18:00	19:00
158	RT	Unit Testing	SDGE	NA	11/27/2018	100 - 400	Yes	INC	17	6:00	22:45
159	RT	Unit Testing	SDGE	NA	11/28/2018	100 - 400	Yes	INC	7	6:15	13:00
160	RT	Unit Testing	SDGE	NA	11/30/2018	100	No	INC	3	14:00	17:00
161	RT	Unplanned Outage	PGAE	Sierra	11/8/2018	42	Yes	INC	1	23:00	0:00
162	RT	Unplanned Outage	PGAE	Sierra	11/9/2018	42	No	INC	7	0:00	7:00
163	RT	Unplanned Outage	SDGE	San Diego-IV	11/8/2018	20	No	INC	2	22:00	0:00
164	RT	Unplanned Outage	SDGE	San Diego-IV	11/9/2018	20 - 290	No	INC	24	0:00	0:00
165	RT	Unplanned Outage	SDGE	San Diego-IV	11/10/2018	20	No	INC	22	0:00	22:00
166	RT	Voltage Support	PGAE	Fresno	11/17/2018	83	No	INC	1	23:20	23:30
167	RT	Voltage Support	PGAE	Fresno	11/18/2018	83	No	INC	8	0:00	8:00
168	RT	Voltage Support	PGAE	Fresno	11/28/2018	-308	No	DEC	4	2:05	5:30
169	RT	Voltage Support	PGAE	Sierra	11/17/2018	1 - 25	Yes	INC	5	2:00	7:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
170	RT	Voltage Support	SCE	NA	11/1/2018	200	No	DEC	24	0:00	0:00
171	RT	Voltage Support	SCE	NA	11/2/2018	200	No	DEC	24	0:00	0:00
172	RT	Voltage Support	SCE	NA	11/5/2018	200	No	DEC	7	17:20	0:00
173	RT	Voltage Support	SCE	NA	11/6/2018	200	No	DEC	24	0:00	0:00
174	RT	Voltage Support	SCE	NA	11/7/2018	200	No	DEC	10	14:00	0:00
175	RT	Voltage Support	SCE	NA	11/7/2018	200	No	INC	14	0:00	14:00
176	RT	Voltage Support	SCE	NA	11/8/2018	200	No	DEC	24	0:00	0:00
177	RT	Voltage Support	SCE	NA	11/9/2018	200	No	DEC	24	0:00	0:00
178	RT	Voltage Support	SCE	NA	11/10/2018	200	No	DEC	24	0:00	0:00
179	RT	Voltage Support	SCE	NA	11/11/2018	200	No	DEC	24	0:00	0:00
180	RT	Voltage Support	SCE	NA	11/12/2018	200	No	DEC	24	0:00	0:00

## 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