



Exceptional Dispatch Report

Table 1: February 2019

TABLE OF CONTENTS

Introduction	3
The Nature of Exceptional Dispatch.....	3
Appendix A: Explanation by Example	12
Example 1: Exceptional Dispatch Instructions Prior to DAM	12
Example 2: Incremental Exceptional Dispatch Instructions in RTM.....	13
Example 3: Decremental Exceptional Dispatch Instructions in RTM	15

LIST OF TABLES AND FIGURES

Table 1: Exceptional Dispatches in February 2019.....	5
Table 2: Instructions Prior to Day-Ahead Market	12
Table 3: FERC Summary of Instructions Prior to DAM	13
Table 4: Incremental Exceptional Dispatch Instructions in RTM	13
Table 5: FERC Summary of ED Instructions in RTM	14
Table 6: Decremental Exceptional Dispatch Instructions in RTM	15
Table 7: FERC Summary of Decremental ED Instructions in RTM.....	15

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 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 February 2019.

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 February 2019 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

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>

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. Interconnection Reliability Operating Limits (IROL) are system operating limits that are established to prevent instability, uncontrolled separation or cascading as described in operating procedure 3100. System Operating Limit (SOL) are the facility ratings, system voltage limits, transient stability limits, and voltage stability limits that are used in the operating horizon – any of which can be the most restrictive limit at any point in time, pre – or post – contingency. Control Point (CP) are imposed to protect the area transmission network against N – 1 contingencies. There were a few other reasons used to explain exceptional dispatch instructions in February 2019, 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 155 exceptional dispatches in February 2019, as compared to 152 exceptional dispatches in January 2019. Exceptional dispatches issued for the following reasons accounted for approximately 65 percent of the total exceptional dispatches during the reporting period: planned transmission outages, software limitations, load forecast uncertainty, and operating procedure number 7110.

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 February 2019

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

Chart 1: Table of Exceptional Dispatches for Period 01/February/2019 - 28/February/2019

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	SCE	Big Creek-Ventura	2/3/2019	0	No	INC	1	19:25	20:20
2	RT	Fast Start Unit Management	SCE	Big Creek-Ventura	2/4/2019	0	No	INC	1	21:40	22:40
3	RT	Fast Start Unit Management	SCE	LA Basin	2/28/2019	0	No	INC	2	2:20	3:25
4	RT	Load Forecast Uncertainty	PGAE	Bay Area	2/4/2019	175	No	INC	8	14:00	22:00
5	RT	Load Forecast Uncertainty	PGAE	Bay Area	2/27/2019	357	No	INC	7	13:00	20:00
6	RT	Load Forecast Uncertainty	PGAE	Fresno	2/2/2019	83 - 400	No	INC	7	8:50	15:00
7	RT	Load Forecast Uncertainty	PGAE	Fresno	2/6/2019	83	No	INC	9	8:45	17:00
8	RT	Load Forecast Uncertainty	PGAE	Fresno	2/16/2019	83	No	INC	3	19:00	21:15
9	RT	Load Forecast Uncertainty	PGAE	NA	2/18/2019	175	No	INC	8	14:00	22:00
10	RT	Load Forecast Uncertainty	SCE	LA Basin	2/5/2019	20 - 194	No	INC	11	13:35	0:00
11	RT	Load Forecast Uncertainty	SCE	LA Basin	2/6/2019	0	No	DEC	1	7:45	8:00
12	RT	Load Forecast Uncertainty	SCE	LA Basin	2/6/2019	0 - 194	No	INC	20	0:00	20:00
13	RT	Load Forecast Uncertainty	SDGE	San Diego-IV	2/5/2019	155 - 290	No	INC	7	15:00	22:00
14	RT	Load Forecast Uncertainty	SDGE	San Diego-IV	2/7/2019	155	No	INC	7	14:00	21:00
15	RT	Load Forecast Uncertainty	SDGE	San Diego-IV	2/10/2019	290	No	INC	7	15:00	22:00
16	RT	Load Forecast Uncertainty	SDGE	San Diego-IV	2/13/2019	155	No	INC	7	15:00	22:00
17	RT	Load Forecast Uncertainty	SDGE	San Diego-IV	2/18/2019	155	No	INC	8	14:00	22:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
18	RT	Load Forecast Uncertainty	SDGE	San Diego-IV	2/19/2019	155 - 225	No	INC	16	8:00	0:00
19	RT	Load Pull	SCE	LA Basin	2/10/2019	194	No	INC	3	16:00	19:00
20	RT	Load Pull	SDGE	San Diego-IV	2/19/2019	155 - 291	No	INC	5	17:15	22:00
21	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/4/2019	32	No	DEC	1	22:00	23:00
22	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/4/2019	15 - 32	No	INC	17	7:30	0:00
23	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/5/2019	32	No	DEC	16	4:00	20:00
24	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/5/2019	32	No	INC	16	0:00	16:00
25	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/6/2019	48	No	DEC	4	4:00	8:00
26	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/6/2019	32	No	INC	8	8:00	16:00
27	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/8/2019	32	No	DEC	1	21:35	22:00
28	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/8/2019	14 - 32	No	INC	16	8:00	0:00
29	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/9/2019	16 - 32	No	INC	23	0:00	23:00
30	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/11/2019	14	No	INC	5	7:25	12:00
31	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/13/2019	16	No	DEC	6	13:00	19:00
32	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/13/2019	16 - 30	No	INC	17	7:00	0:00
33	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/14/2019	32	No	DEC	1	10:35	11:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
34	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/14/2019	15 - 32	No	INC	13	11:00	0:00
35	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/15/2019	16 - 30	No	DEC	16	6:50	22:00
36	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/15/2019	16 - 30	No	INC	18	6:50	0:00
37	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/16/2019	16	No	DEC	7	1:15	8:00
38	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/16/2019	30	No	INC	2	0:00	1:15
39	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/17/2019	32	No	DEC	1	21:40	21:45
40	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/18/2019	0 - 16	No	INC	4	20:00	0:00
41	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/19/2019	0 - 15	No	INC	24	0:00	0:00
42	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/22/2019	32	No	INC	3	8:00	10:45
43	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/26/2019	32	No	INC	8	7:45	15:00
44	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/27/2019	32	No	INC	18	6:00	0:00
45	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	2/28/2019	15 - 32	No	INC	24	0:00	0:00
46	RT	Other Reliability Requirement	PGAE	Bay Area	2/25/2019	100	No	DEC	1	18:15	19:00
47	RT	Other Reliability Requirement	PGAE	NA	2/23/2019	32	No	INC	5	18:50	23:15
48	RT	Planned Transmission Outage	PGAE	Bay Area	2/5/2019	75	No	INC	2	6:20	7:30
49	RT	Planned Transmission Outage	PGAE	Bay Area	2/6/2019	37	No	DEC	2	18:15	20:00
50	RT	Planned Transmission Outage	PGAE	Bay Area	2/6/2019	37	No	INC	1	20:00	21:00
51	RT	Planned Transmission Outage	PGAE	Bay Area	2/22/2019	20	No	INC	1	7:00	7:30
52	RT	Planned Transmission Outage	PGAE	Fresno	2/5/2019	83 - 200	No	DEC	4	6:00	10:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
53	RT	Planned Transmission Outage	PGAE	Fresno	2/7/2019	250 - 320	No	DEC	20	4:30	0:00
54	RT	Planned Transmission Outage	PGAE	Fresno	2/7/2019	250	No	INC	1	8:00	9:00
55	RT	Planned Transmission Outage	PGAE	Fresno	2/8/2019	320	Yes	INC	2	0:00	1:30
56	RT	Planned Transmission Outage	PGAE	Fresno	2/13/2019	20 - 40	No	DEC	3	12:15	15:00
57	RT	Planned Transmission Outage	PGAE	Fresno	2/18/2019	10 - 70	No	DEC	8	9:45	17:15
58	RT	Planned Transmission Outage	PGAE	Fresno	2/22/2019	110	No	DEC	13	6:10	18:30
59	RT	Planned Transmission Outage	PGAE	Fresno	2/22/2019	0 - 110	No	INC	10	8:00	18:00
60	RT	Planned Transmission Outage	PGAE	Fresno	2/26/2019	50	No	DEC	2	9:20	11:15
61	RT	Planned Transmission Outage	PGAE	Fresno	2/26/2019	0	No	INC	2	10:00	11:30
62	RT	Planned Transmission Outage	PGAE	Humboldt	2/7/2019	15 - 32	No	INC	7	9:40	16:00
63	RT	Planned Transmission Outage	PGAE	Humboldt	2/13/2019	32	No	INC	7	0:00	7:00
64	RT	Planned Transmission Outage	PGAE	Humboldt	2/25/2019	30	No	DEC	1	16:00	17:00
65	RT	Planned Transmission Outage	PGAE	Humboldt	2/25/2019	30 - 42	No	INC	9	7:10	16:00
66	RT	Planned Transmission Outage	PGAE	Sierra	2/4/2019	10	No	INC	5	10:00	15:00
67	RT	Planned Transmission Outage	PGAE	Sierra	2/5/2019	40	No	DEC	2	17:00	18:30
68	RT	Planned Transmission Outage	PGAE	Sierra	2/5/2019	40	No	INC	8	9:15	17:00
69	RT	Planned Transmission Outage	PGAE	Sierra	2/6/2019	6.9 - 20	No	INC	5	9:30	14:30
70	RT	Planned Transmission Outage	PGAE	Sierra	2/15/2019	2	No	DEC	2	6:25	7:30
71	RT	Planned Transmission Outage	PGAE	Stockton	2/19/2019	230	No	DEC	3	17:00	20:00
72	RT	Planned Transmission Outage	PGAE	Stockton	2/19/2019	230	No	INC	9	8:00	17:00
73	RT	Planned Transmission Outage	PGAE	Stockton	2/20/2019	230	No	DEC	4	17:00	20:45
74	RT	Planned Transmission Outage	PGAE	Stockton	2/20/2019	230	No	INC	9	8:00	17:00
75	RT	Planned Transmission Outage	PGAE	Stockton	2/21/2019	145 - 240	No	INC	8	8:00	16:00
76	RT	Planned Transmission Outage	PGAE	Stockton	2/22/2019	145	No	DEC	9	8:35	16:45
77	RT	Planned Transmission Outage	PGAE	Stockton	2/22/2019	145	No	INC	6	10:00	16:00
78	RT	Planned Transmission Outage	PGAE	Stockton	2/25/2019	236	No	DEC	2	6:45	8:00
79	RT	Planned Transmission Outage	PGAE	NA	2/18/2019	10	No	DEC	1	9:45	10:45

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
80	RT	Planned Transmission Outage	PGAE	NA	2/18/2019	10	No	INC	1	9:50	10:45
81	RT	Planned Transmission Outage	PGAE	NA	2/20/2019	32	No	INC	14	10:00	0:00
82	RT	Planned Transmission Outage	PGAE	NA	2/21/2019	32	No	INC	24	0:00	0:00
83	RT	Planned Transmission Outage	PGAE	NA	2/22/2019	32	No	INC	13	0:00	12:45
84	RT	Planned Transmission Outage	SCE	Big Creek-Ventura	2/19/2019	566 - 650	No	DEC	3	6:10	8:15
85	RT	Planned Transmission Outage	SCE	Big Creek-Ventura	2/22/2019	350 - 400	No	DEC	12	6:20	18:00
86	RT	Planned Transmission Outage	SCE	Big Creek-Ventura	2/27/2019	695	No	INC	3	6:25	9:00
87	RT	Planned Transmission Outage	SCE	LA Basin	2/9/2019	48 - 251	No	INC	9	13:05	22:00
88	RT	Planned Transmission Outage	SCE	LA Basin	2/18/2019	255	No	INC	8	12:30	20:00
89	RT	Planned Transmission Outage	SCE	LA Basin	2/20/2019	255	No	INC	9	11:00	20:00
90	RT	Planned Transmission Outage	SCE	NA	2/11/2019	200	No	DEC	7	17:00	0:00
91	RT	Planned Transmission Outage	SCE	NA	2/12/2019	200	No	DEC	1	0:00	1:00
92	RT	Planned Transmission Outage	SCE	NA	2/13/2019	200	No	INC	13	2:00	15:00
93	RT	Planned Transmission Outage	SCE	NA	2/14/2019	200	No	DEC	24	0:00	0:00
94	RT	Planned Transmission Outage	SDGE	San Diego-IV	2/23/2019	37	No	DEC	1	15:00	16:00
95	RT	Planned Transmission Outage	SDGE	San Diego-IV	2/23/2019	37	No	INC	6	11:35	17:30
96	RT	Planned Transmission Outage	SDGE	San Diego-IV	2/26/2019	350 - 400	No	DEC	3	8:45	11:00
97	RT	Planned Transmission Outage	SDGE	San Diego-IV	2/26/2019	350 - 400	No	INC	4	11:00	14:30
98	RT	Pump Management	PGAE	Fresno	2/13/2019	0	No	INC	1	5:45	6:45
99	RT	Software Limitation	PGAE	Fresno	2/5/2019	0	No	DEC	1	0:10	1:00
100	RT	Software Limitation	PGAE	Fresno	2/5/2019	0 - 20	No	INC	7	1:00	7:30
101	RT	Software Limitation	PGAE	Fresno	2/11/2019	-320	No	DEC	1	15:00	16:00
102	RT	Software Limitation	PGAE	Fresno	2/11/2019	-320	No	INC	1	14:45	15:00
103	RT	Software Limitation	PGAE	Fresno	2/16/2019	83	No	DEC	3	17:00	20:00
104	RT	Software Limitation	PGAE	Fresno	2/16/2019	83	No	INC	7	15:00	22:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
105	RT	Software Limitation	PGAE	Stockton	2/9/2019	89	No	INC	1	4:00	5:00
106	RT	Software Limitation	SCE	LA Basin	2/8/2019	35	No	INC	1	1:00	1:15
107	RT	Software Limitation	SCE	LA Basin	2/13/2019	0	No	INC	4	9:55	13:00
108	RT	Software Limitation	SDGE	San Diego-IV	2/10/2019	155	No	INC	2	22:05	0:00
109	RT	Software Limitation	SDGE	San Diego-IV	2/11/2019	155	No	INC	2	0:00	2:00
110	RT	SOL	PGAE	Fresno	2/21/2019	10	No	DEC	1	12:10	12:40
111	RT	SOL	PGAE	Fresno	2/21/2019	15	No	INC	1	12:40	13:30
112	RT	Unit Testing	Intertie	CAISO Import	2/28/2019	155	No	INC	1	4:20	4:30
113	RT	Unit Testing	PGAE	Bay Area	2/7/2019	46.2	No	INC	1	18:20	19:05
114	RT	Unit Testing	PGAE	Fresno	2/7/2019	16	No	INC	1	19:15	20:00
115	RT	Unit Testing	SCE	Big Creek-Ventura	2/26/2019	47.1	No	INC	1	22:40	23:40
116	RT	Unit Testing	SCE	LA Basin	2/13/2019	107	No	INC	8	8:55	16:15
117	RT	Unit Testing	SCE	LA Basin	2/26/2019	72.38	No	INC	2	4:10	5:15
118	RT	Unit Testing	SCE	LA Basin	2/28/2019	90	No	INC	1	1:20	2:20
119	RT	Unit Testing	SDGE	San Diego-IV	2/28/2019	515	No	INC	2	10:05	12:00
120	RT	Voltage Support	PGAE	Fresno	2/1/2019	-311	No	DEC	5	0:00	4:45
121	RT	Voltage Support	PGAE	Fresno	2/1/2019	0 - 83	No	INC	2	22:15	0:00
122	RT	Voltage Support	PGAE	Fresno	2/2/2019	-315	No	DEC	23	1:30	0:00
123	RT	Voltage Support	PGAE	Fresno	2/2/2019	0 - 83	No	INC	17	0:00	17:00
124	RT	Voltage Support	PGAE	Fresno	2/3/2019	-315	No	DEC	24	0:00	0:00
125	RT	Voltage Support	PGAE	Fresno	2/3/2019	-315 - 0	No	INC	16	3:00	18:45
126	RT	Voltage Support	PGAE	Fresno	2/4/2019	-315	No	DEC	24	0:00	0:00
127	RT	Voltage Support	PGAE	Fresno	2/5/2019	-315 - 83	No	DEC	6	0:00	5:15
128	RT	Voltage Support	PGAE	Fresno	2/5/2019	83	No	INC	1	4:15	5:00
129	RT	Voltage Support	PGAE	Fresno	2/6/2019	83	No	INC	3	2:00	5:00
130	RT	Voltage Support	PGAE	Fresno	2/8/2019	-315	No	DEC	6	1:30	7:00
131	RT	Voltage Support	PGAE	Fresno	2/9/2019	-328	No	DEC	24	0:20	0:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
132	RT	Voltage Support	PGAE	Fresno	2/10/2019	-328 - - 327	No	DEC	24	0:00	0:00
133	RT	Voltage Support	PGAE	Fresno	2/10/2019	5	No	INC	9	0:30	9:00
134	RT	Voltage Support	PGAE	Fresno	2/11/2019	-330 - - 327	No	DEC	24	0:00	0:00
135	RT	Voltage Support	PGAE	Fresno	2/12/2019	-330	No	DEC	24	0:00	0:00
136	RT	Voltage Support	PGAE	Fresno	2/12/2019	83	No	INC	1	5:15	6:00
137	RT	Voltage Support	PGAE	Fresno	2/13/2019	-330	No	DEC	24	0:00	0:00
138	RT	Voltage Support	PGAE	Fresno	2/14/2019	-330	No	DEC	24	0:00	0:00
139	RT	Voltage Support	PGAE	Fresno	2/15/2019	-330.5 - - 330	No	DEC	24	0:00	0:00
140	RT	Voltage Support	PGAE	Fresno	2/16/2019	-330.5	No	DEC	8	0:00	8:00
141	RT	Voltage Support	PGAE	Fresno	2/17/2019	-333 - 83	No	DEC	24	0:00	0:00
142	RT	Voltage Support	PGAE	Fresno	2/17/2019	83	No	INC	2	7:00	9:00
143	RT	Voltage Support	PGAE	Fresno	2/18/2019	-333	No	DEC	5	0:00	4:45
144	RT	Voltage Support	PGAE	Fresno	2/20/2019	-334	No	DEC	5	0:00	5:00
145	RT	Voltage Support	PGAE	Fresno	2/21/2019	-334	No	DEC	3	1:00	4:00
146	RT	Voltage Support	PGAE	Fresno	2/24/2019	-335 - - 334	No	DEC	22	2:00	0:00
147	RT	Voltage Support	PGAE	Fresno	2/25/2019	-335 - - 315	No	DEC	24	0:00	0:00
148	RT	Voltage Support	PGAE	Fresno	2/26/2019	-315	No	DEC	24	0:00	0:00
149	RT	Voltage Support	PGAE	Fresno	2/27/2019	-334 - - 315	No	DEC	24	0:00	0:00
150	RT	Voltage Support	PGAE	Fresno	2/27/2019	83	No	INC	2	4:10	5:30
151	RT	Voltage Support	PGAE	Fresno	2/28/2019	-334	No	DEC	24	0:00	0:00
152	RT	Voltage Support	PGAE	Fresno	2/28/2019	83	Yes	INC	1	5:30	6:30
153	RT	Voltage Support	SCE	NA	2/1/2019	125	No	DEC	24	0:00	0:00
154	RT	Voltage Support	SCE	NA	2/2/2019	125	No	DEC	24	0:00	0:00
155	RT	Voltage Support	SCE	NA	2/3/2019	125	No	DEC	21	0:00	21:00

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