



Exceptional Dispatch Report

Table 1: March 2021

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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 15th of each month and one originally issued on the 30th of each month. Both Table 1 and Table 2 reports will be issued on the 15th of each month due to the availability of necessary data. This report provides data on the frequency and reasons for Exceptional Dispatches issued in March 2021.

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 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 2021 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

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.aiso.com/thegrid/operations/opsdoc/index.html>

day-ahead schedule from 0600 till 2300, and then is shut down in 2400. If this resource had a minimum down time of 24 hours and it is required the following day, then the 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 March 2021, 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 271 exceptional dispatches in March 2021, as compared to 207 exceptional dispatches in February 2021. Exceptional dispatches issued for the following reasons accounted for approximately 85

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.

percent of the total exceptional dispatches during the reporting period: planned transmission outages, reliability assessment, and voltage support. Exceptional dispatches with the reason “Reliability Assessment” were due to Real Time Contingency Analysis, Voltage Stability Analysis, and operating procedure number 7110 (along with 7720). Reliability Assessment is the reason as explained in the operator procedure 2330C⁴ that encompasses Control Point (CP), Interconnection Reliability Operating Limit (IROL), System Operating Limit (SOL) and congestion related EDs. This reason is used to mitigate reliability issues identified through the real – time assessment tools such as Real Time Contingency Analysis (RTCA), Voltage Stability Analysis (VSA), Dynamic Stability Analysis (DSA) and/or Operating Procedure (OP) or offline study.

1) ⁴ The operator procedure 2330C - <http://www.caiso.com/Documents/2330C.pdf>

Table 1: Exceptional Dispatches in March 2021

**California Independent System Operator Corporation
Exceptional Dispatch Report
May 17, 2021**

Chart 1: Table of Exceptional Dispatches for Period 01/March/2021 - 31/March/2021

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	PGAE	Bay Area	3/10/2021	0 - 120	No	INC	7	6:20	12:50
2	RT	Fast Start Unit Management	PGAE	Bay Area	3/24/2021	0	No	INC	2	7:30	9:20
3	RT	Fast Start Unit Management	PGAE	NA	3/10/2021	0 - 60	No	INC	1	6:20	7:15
4	RT	Fast Start Unit Management	SCE	LA Basin	3/10/2021	5 - 48.39	No	INC	1	6:20	7:15
5	RT	Fast Start Unit Management	SCE	LA Basin	3/24/2021	0	No	INC	1	9:00	9:30
6	RT	Fast Start Unit Management	SDGE	San Diego-IV	3/24/2021	0	No	INC	9	8:15	17:00
7	RT	Incomplete or Inaccurate Transmission	PGAE	Humboldt	3/27/2021	15	No	DEC	2	22:00	0:00
8	RT	Incomplete or Inaccurate Transmission	PGAE	Humboldt	3/27/2021	15 - 30	No	INC	2	22:00	0:00
9	RT	Incomplete or Inaccurate Transmission	PGAE	Humboldt	3/28/2021	15	No	DEC	6	0:00	6:00
10	RT	Incomplete or Inaccurate Transmission	PGAE	Humboldt	3/28/2021	15 - 45	No	INC	14	0:00	14:00
11	RT	Other Reliability Requirement	PGAE	Fresno	3/21/2021	83	No	INC	1	3:05	4:00
12	RT	Other Reliability Requirement	PGAE	Fresno	3/24/2021	0	No	DEC	1	6:15	6:45
13	RT	Other Reliability Requirement	PGAE	Fresno	3/24/2021	76	No	INC	1	5:55	6:15
14	RT	Other Reliability Requirement	PGAE	NA	3/24/2021	0 - 60	No	INC	1	5:55	6:45
15	RT	Other Reliability Requirement	SCE	LA Basin	3/24/2021	51.29 - 57.09	No	DEC	1	6:00	6:15
16	RT	Other Reliability Requirement	SCE	LA Basin	3/24/2021	5 - 147	No	INC	1	5:55	6:45
17	RT	Other Reliability Requirement	SDGE	San Diego-IV	3/24/2021	30 - 38.38	No	INC	1	5:55	6:45
18	RT	Planned Transmission Outage	PGAE	Bay Area	3/20/2021	231 - 288	No	INC	9	9:00	18:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
19	RT	Planned Transmission Outage	PGAE	Bay Area	3/21/2021	231 - 380	No	INC	8	9:00	17:00
20	RT	Planned Transmission Outage	PGAE	Fresno	3/7/2021	83	No	INC	1	15:30	16:15
21	RT	Planned Transmission Outage	PGAE	Fresno	3/17/2021	-313	No	DEC	5	0:45	5:30
22	RT	Planned Transmission Outage	PGAE	Humboldt	3/1/2021	42 - 45	No	DEC	8	16:00	0:00
23	RT	Planned Transmission Outage	PGAE	Humboldt	3/1/2021	30 - 56	No	INC	24	0:00	0:00
24	RT	Planned Transmission Outage	PGAE	Humboldt	3/2/2021	28 - 42	No	DEC	24	0:00	0:00
25	RT	Planned Transmission Outage	PGAE	Humboldt	3/2/2021	28 - 45	No	INC	17	0:00	17:00
26	RT	Planned Transmission Outage	PGAE	Humboldt	3/3/2021	42	No	DEC	1	0:00	1:00
27	RT	Planned Transmission Outage	PGAE	Humboldt	3/3/2021	28 - 60	No	INC	24	0:00	0:00
28	RT	Planned Transmission Outage	PGAE	Humboldt	3/4/2021	30 - 60	No	INC	24	0:00	0:00
29	RT	Planned Transmission Outage	PGAE	Humboldt	3/5/2021	30 - 45	No	DEC	4	17:00	21:00
30	RT	Planned Transmission Outage	PGAE	Humboldt	3/5/2021	30 - 60	No	INC	24	0:00	0:00
31	RT	Planned Transmission Outage	PGAE	Humboldt	3/6/2021	15 - 42	No	DEC	8	15:00	23:00
32	RT	Planned Transmission Outage	PGAE	Humboldt	3/6/2021	15 - 42	No	INC	24	0:00	0:00
33	RT	Planned Transmission Outage	PGAE	Humboldt	3/7/2021	30 - 45	No	DEC	6	16:00	22:00
34	RT	Planned Transmission Outage	PGAE	Humboldt	3/7/2021	30 - 45	No	INC	24	0:00	0:00
35	RT	Planned Transmission Outage	PGAE	Humboldt	3/8/2021	42	No	DEC	5	17:00	22:00
36	RT	Planned Transmission Outage	PGAE	Humboldt	3/8/2021	28 - 45	No	INC	24	0:00	0:00
37	RT	Planned Transmission Outage	PGAE	Humboldt	3/9/2021	30 - 60	No	INC	24	0:00	0:00
38	RT	Planned Transmission Outage	PGAE	Humboldt	3/10/2021	30 - 45	No	DEC	19	5:00	0:00
39	RT	Planned Transmission Outage	PGAE	Humboldt	3/10/2021	30 - 45	No	INC	6	0:00	6:00
40	RT	Planned Transmission Outage	PGAE	Humboldt	3/11/2021	28 - 45	No	DEC	24	0:00	0:00
41	RT	Planned Transmission Outage	PGAE	Humboldt	3/12/2021	30 - 45	No	DEC	11	0:00	11:00
42	RT	Planned Transmission Outage	PGAE	Humboldt	3/12/2021	30 - 45	No	INC	13	11:00	0:00
43	RT	Planned Transmission Outage	PGAE	Humboldt	3/13/2021	30	No	DEC	7	0:00	7:00
44	RT	Planned Transmission Outage	PGAE	Humboldt	3/13/2021	15 - 45	No	INC	24	0:00	0:00
45	RT	Planned Transmission Outage	PGAE	Humboldt	3/14/2021	30 - 45	No	INC	23	0:00	0:00
46	RT	Planned Transmission Outage	PGAE	Humboldt	3/15/2021	14 - 75	No	INC	24	0:00	0:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
47	RT	Planned Transmission Outage	PGAE	Humboldt	3/16/2021	30 - 45	No	DEC	6	18:00	0:00
48	RT	Planned Transmission Outage	PGAE	Humboldt	3/16/2021	30 - 60	No	INC	18	0:00	18:00
49	RT	Planned Transmission Outage	PGAE	Humboldt	3/17/2021	30 - 45	No	DEC	23	0:00	23:00
50	RT	Planned Transmission Outage	PGAE	Humboldt	3/17/2021	30 - 60	No	INC	22	2:00	0:00
51	RT	Planned Transmission Outage	PGAE	Humboldt	3/18/2021	30 - 60	No	INC	24	0:00	0:00
52	RT	Planned Transmission Outage	PGAE	Humboldt	3/19/2021	30 - 60	No	INC	24	0:00	0:00
53	RT	Planned Transmission Outage	PGAE	Humboldt	3/20/2021	30 - 45	No	INC	24	0:00	0:00
54	RT	Planned Transmission Outage	PGAE	Humboldt	3/21/2021	30 - 45	No	INC	24	0:00	0:00
55	RT	Planned Transmission Outage	PGAE	Humboldt	3/22/2021	30 - 45	No	INC	24	0:00	0:00
56	RT	Planned Transmission Outage	PGAE	Humboldt	3/23/2021	30 - 45	No	INC	24	0:00	0:00
57	RT	Planned Transmission Outage	PGAE	Humboldt	3/24/2021	15 - 45	No	INC	24	0:00	0:00
58	RT	Planned Transmission Outage	PGAE	Humboldt	3/25/2021	30 - 45	No	DEC	15	5:00	20:00
59	RT	Planned Transmission Outage	PGAE	Humboldt	3/25/2021	30 - 45	No	INC	24	0:00	0:00
60	RT	Planned Transmission Outage	PGAE	Humboldt	3/26/2021	15 - 45	No	INC	24	0:00	0:00
61	RT	Planned Transmission Outage	PGAE	Humboldt	3/27/2021	15	No	DEC	5	17:00	22:00
62	RT	Planned Transmission Outage	PGAE	Humboldt	3/27/2021	15 - 45	No	INC	22	0:00	22:00
63	RT	Planned Transmission Outage	PGAE	Humboldt	3/28/2021	30	No	INC	4	14:00	18:00
64	RT	Planned Transmission Outage	PGAE	Humboldt	3/29/2021	30	No	DEC	4	18:00	22:00
65	RT	Planned Transmission Outage	PGAE	Humboldt	3/29/2021	30 - 60	No	INC	19	5:00	0:00
66	RT	Planned Transmission Outage	PGAE	Humboldt	3/30/2021	30 - 46	No	DEC	5	17:00	22:00
67	RT	Planned Transmission Outage	PGAE	Humboldt	3/30/2021	30 - 46	No	INC	24	0:00	0:00
68	RT	Planned Transmission Outage	PGAE	Humboldt	3/31/2021	45	No	DEC	6	18:00	0:00
69	RT	Planned Transmission Outage	PGAE	Humboldt	3/31/2021	30 - 45	No	INC	18	0:00	18:00
70	RT	Planned Transmission Outage	PGAE	NA	3/23/2021	40	No	INC	4	13:15	16:30
71	RT	Planned Transmission Outage	PGAE	NCNB	3/10/2021	70	No	DEC	11	10:20	21:00
72	RT	Planned Transmission Outage	PGAE	NCNB	3/10/2021	70	No	INC	7	17:00	0:00
73	RT	Planned Transmission Outage	PGAE	NCNB	3/11/2021	55 - 60	No	DEC	4	7:15	10:55
74	RT	Planned Transmission Outage	PGAE	NCNB	3/11/2021	55 - 80	No	INC	24	0:00	0:00
75	RT	Planned Transmission Outage	PGAE	NCNB	3/12/2021	48 - 72	No	DEC	24	0:00	0:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
76	RT	Planned Transmission Outage	PGAE	NCNB	3/12/2021	48 - 72	No	INC	23	1:00	0:00
77	RT	Planned Transmission Outage	PGAE	NCNB	3/13/2021	72 - 75	No	DEC	2	2:00	4:00
78	RT	Planned Transmission Outage	PGAE	NCNB	3/13/2021	72 - 75	No	INC	24	0:00	0:00
79	RT	Planned Transmission Outage	PGAE	NCNB	3/14/2021	70 - 75	No	DEC	14	6:00	20:00
80	RT	Planned Transmission Outage	PGAE	NCNB	3/14/2021	70 - 75	No	INC	18	0:00	19:00
81	RT	Planned Transmission Outage	PGAE	NCNB	3/28/2021	42 - 47	No	DEC	9	9:00	18:00
82	RT	Planned Transmission Outage	PGAE	NCNB	3/28/2021	42 - 55	No	INC	9	7:25	16:00
83	RT	Planned Transmission Outage	PGAE	Sierra	3/29/2021	20	Yes	DEC	10	8:00	18:00
84	RT	Planned Transmission Outage	PGAE	Sierra	3/29/2021	20	Yes	INC	6	18:00	0:00
85	RT	Planned Transmission Outage	PGAE	Sierra	3/30/2021	40	No	INC	3	21:00	23:15
86	RT	Planned Transmission Outage	PGAE	Stockton	3/1/2021	88.8	No	DEC	24	0:00	0:00
87	RT	Planned Transmission Outage	PGAE	Stockton	3/1/2021	88.8	No	INC	8	8:00	16:00
88	RT	Planned Transmission Outage	PGAE	Stockton	3/2/2021	88.8	No	DEC	24	0:00	0:00
89	RT	Planned Transmission Outage	PGAE	Stockton	3/2/2021	88.8	No	INC	15	1:00	16:00
90	RT	Planned Transmission Outage	PGAE	Stockton	3/3/2021	88.8	No	DEC	24	0:00	0:00
91	RT	Planned Transmission Outage	PGAE	Stockton	3/3/2021	88.8	No	INC	15	1:00	16:00
92	RT	Planned Transmission Outage	PGAE	Stockton	3/4/2021	88.8	No	DEC	20	4:00	0:00
93	RT	Planned Transmission Outage	PGAE	Stockton	3/4/2021	88.8	No	INC	16	0:00	16:00
94	RT	Planned Transmission Outage	PGAE	Stockton	3/5/2021	88.8	No	DEC	20	4:00	0:00
95	RT	Planned Transmission Outage	PGAE	Stockton	3/5/2021	88.8	No	INC	16	0:00	16:00
96	RT	Planned Transmission Outage	PGAE	Stockton	3/6/2021	5 - 88.8	No	DEC	24	0:00	0:00
97	RT	Planned Transmission Outage	PGAE	Stockton	3/6/2021	88.8	No	INC	15	2:00	17:00
98	RT	Planned Transmission Outage	PGAE	Stockton	3/7/2021	88.8	No	DEC	24	0:00	0:00
99	RT	Planned Transmission Outage	PGAE	Stockton	3/7/2021	88.8	No	INC	13	3:00	16:00
100	RT	Planned Transmission Outage	PGAE	Stockton	3/8/2021	88.8	No	DEC	20	4:00	0:00
101	RT	Planned Transmission Outage	PGAE	Stockton	3/8/2021	88.8	No	INC	16	0:00	16:00
102	RT	Planned Transmission Outage	PGAE	Stockton	3/9/2021	88.8	No	DEC	24	0:00	0:00
103	RT	Planned Transmission Outage	PGAE	Stockton	3/9/2021	88.8	No	INC	13	2:00	15:00
104	RT	Planned Transmission Outage	PGAE	Stockton	3/10/2021	88.8	No	DEC	24	0:00	0:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
105	RT	Planned Transmission Outage	PGAE	Stockton	3/10/2021	88.8	No	INC	14	1:00	15:00
106	RT	Planned Transmission Outage	PGAE	Stockton	3/11/2021	88.8	No	DEC	24	0:00	0:00
107	RT	Planned Transmission Outage	PGAE	Stockton	3/11/2021	88.8	No	INC	6	10:00	16:00
108	RT	Planned Transmission Outage	PGAE	Stockton	3/12/2021	88.8	No	DEC	24	0:00	0:00
109	RT	Planned Transmission Outage	PGAE	Stockton	3/12/2021	88.8	No	INC	6	10:00	16:00
110	RT	Planned Transmission Outage	PGAE	Stockton	3/13/2021	88.8	No	DEC	24	0:00	0:00
111	RT	Planned Transmission Outage	PGAE	Stockton	3/13/2021	88.8	No	INC	16	1:00	17:00
112	RT	Planned Transmission Outage	PGAE	Stockton	3/14/2021	88.8	No	DEC	19	5:00	0:00
113	RT	Planned Transmission Outage	PGAE	Stockton	3/14/2021	88.8	No	INC	16	0:00	17:00
114	RT	Planned Transmission Outage	PGAE	Stockton	3/15/2021	88.8	No	DEC	19	5:00	0:00
115	RT	Planned Transmission Outage	PGAE	Stockton	3/15/2021	88.8	No	INC	17	0:00	17:00
116	RT	Planned Transmission Outage	PGAE	Stockton	3/16/2021	88.8	No	DEC	24	0:00	0:00
117	RT	Planned Transmission Outage	PGAE	Stockton	3/16/2021	88.8	No	INC	14	3:00	17:00
118	RT	Planned Transmission Outage	PGAE	Stockton	3/17/2021	88.8	No	DEC	24	0:00	0:00
119	RT	Planned Transmission Outage	PGAE	Stockton	3/17/2021	88.8	No	INC	2	13:00	15:00
120	RT	Planned Transmission Outage	PGAE	Stockton	3/18/2021	88.8	No	DEC	24	0:00	0:00
121	RT	Planned Transmission Outage	PGAE	Stockton	3/18/2021	88.8	No	INC	15	3:00	18:00
122	RT	Planned Transmission Outage	PGAE	Stockton	3/19/2021	88.8	No	DEC	11	0:00	11:00
123	RT	Planned Transmission Outage	PGAE	Stockton	3/19/2021	88.8	No	INC	14	3:00	16:30
124	RT	Planned Transmission Outage	SCE	Big Creek-Ventura	3/29/2021	140	No	INC	8	9:00	17:00
125	RT	Planned Transmission Outage	SCE	Big Creek-Ventura	3/30/2021	140	No	INC	8	9:00	17:00
126	RT	Planned Transmission Outage	SCE	LA Basin	3/1/2021	335	No	INC	5	10:00	15:00
127	RT	Planned Transmission Outage	SCE	LA Basin	3/3/2021	46 - 673	No	INC	7	8:05	15:00
128	RT	Planned Transmission Outage	SCE	LA Basin	3/4/2021	20	No	INC	17	7:00	0:00
129	RT	Planned Transmission Outage	SCE	LA Basin	3/15/2021	45.24 - 45.38	No	INC	13	5:00	17:30
130	RT	Planned Transmission Outage	SCE	LA Basin	3/16/2021	0 - 45.38	No	DEC	2	6:00	7:30

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
131	RT	Planned Transmission Outage	SCE	LA Basin	3/16/2021	0 - 45.38	No	INC	2	4:00	6:00
132	RT	Planned Transmission Outage	SCE	LA Basin	3/17/2021	45.24 - 50	No	DEC	16	6:00	22:00
133	RT	Planned Transmission Outage	SCE	LA Basin	3/17/2021	45.24 - 50	No	INC	16	6:35	22:30
134	RT	Planned Transmission Outage	SCE	LA Basin	3/30/2021	132.76	No	INC	6	10:00	16:00
135	RT	Planned Transmission Outage	SCE	NA	3/10/2021	410	No	DEC	7	17:10	0:00
136	RT	Planned Transmission Outage	SCE	NA	3/11/2021	410 - 450	No	DEC	20	4:25	0:00
137	RT	Planned Transmission Outage	SCE	NA	3/11/2021	450	No	INC	11	7:00	18:00
138	RT	Planned Transmission Outage	SCE	NA	3/12/2021	450	No	DEC	5	0:00	5:00
139	RT	Planned Transmission Outage	SCE	NA	3/12/2021	450	No	INC	12	5:00	16:45
140	RT	Planned Transmission Outage	SDGE	San Diego-IV	3/7/2021	50	No	INC	1	15:30	16:00
141	RT	Planned Transmission Outage	SDGE	San Diego-IV	3/18/2021	350 - 380	No	DEC	2	7:30	9:00
142	RT	Planned Transmission Outage	SDGE	San Diego-IV	3/18/2021	380	No	INC	1	9:00	9:15
143	RT	Pump Management	PGAE	Fresno	3/17/2021	0	No	DEC	6	0:25	5:45
144	RT	Pump Management	PGAE	Fresno	3/17/2021	0	No	INC	4	1:00	5:00
145	RT	Reliability Assessment	PGAE	Fresno	3/1/2021	0 - 10	No	DEC	4	11:25	15:00
146	RT	Reliability Assessment	PGAE	Fresno	3/12/2021	30 - 50	No	DEC	6	8:40	14:00
147	RT	Reliability Assessment	PGAE	Fresno	3/12/2021	50	No	INC	3	12:40	14:45
148	RT	Reliability Assessment	PGAE	Fresno	3/14/2021	40	No	INC	2	10:50	12:00
149	RT	Reliability Assessment	PGAE	Fresno	3/17/2021	192	No	DEC	1	0:00	0:15
150	RT	Reliability Assessment	PGAE	Fresno	3/31/2021	30	No	DEC	3	15:00	18:00
151	RT	Reliability Assessment	PGAE	Fresno	3/31/2021	30	No	INC	1	18:00	18:30
152	RT	Reliability Assessment	PGAE	Humboldt	3/28/2021	30	No	INC	10	14:00	0:00
153	RT	Reliability Assessment	PGAE	Humboldt	3/29/2021	30	No	INC	6	0:00	5:15
154	RT	Reliability Assessment	PGAE	NA	3/17/2021	206	No	DEC	1	0:00	0:15
155	RT	Reliability Assessment	PGAE	NCNB	3/1/2021	70 - 75	No	DEC	11	13:40	0:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
156	RT	Reliability Assessment	PGAE	NCNB	3/2/2021	65 - 70	No	DEC	5	14:00	19:00
157	RT	Reliability Assessment	PGAE	NCNB	3/2/2021	65 - 85	No	INC	24	0:00	0:00
158	RT	Reliability Assessment	PGAE	NCNB	3/3/2021	65 - 80	No	DEC	22	0:00	22:00
159	RT	Reliability Assessment	PGAE	NCNB	3/3/2021	65 - 80	No	INC	24	0:00	0:00
160	RT	Reliability Assessment	PGAE	NCNB	3/4/2021	70 - 80	No	DEC	21	3:00	0:00
161	RT	Reliability Assessment	PGAE	NCNB	3/4/2021	70 - 80	No	INC	24	0:00	0:00
162	RT	Reliability Assessment	PGAE	NCNB	3/5/2021	70	No	DEC	16	0:00	16:00
163	RT	Reliability Assessment	PGAE	NCNB	3/5/2021	70 - 80	No	INC	21	3:00	0:00
164	RT	Reliability Assessment	PGAE	NCNB	3/6/2021	80	No	DEC	24	0:00	0:00
165	RT	Reliability Assessment	PGAE	NCNB	3/6/2021	80	No	INC	18	0:00	18:00
166	RT	Reliability Assessment	PGAE	NCNB	3/7/2021	80	No	DEC	19	0:00	19:00
167	RT	Reliability Assessment	PGAE	NCNB	3/7/2021	80	No	INC	5	19:00	0:00
168	RT	Reliability Assessment	PGAE	NCNB	3/8/2021	80	No	INC	2	0:00	1:15
169	RT	Reliability Assessment	PGAE	NCNB	3/17/2021	30 - 70	No	DEC	10	14:20	0:00
170	RT	Reliability Assessment	PGAE	Sierra	3/11/2021	20	No	INC	1	20:15	21:00
171	RT	Reliability Assessment	SCE	Big Creek-Ventura	3/23/2021	50	No	DEC	4	13:10	17:00
172	RT	Reliability Assessment	SCE	Big Creek-Ventura	3/23/2021	50	No	INC	1	17:00	18:00
173	RT	Reliability Assessment	SCE	NA	3/1/2021	410 - 450	No	DEC	24	0:00	23:15
174	RT	Reliability Assessment	SCE	NA	3/1/2021	425 - 450	No	INC	19	5:05	0:00
175	RT	Reliability Assessment	SCE	NA	3/2/2021	390 - 425	No	DEC	19	5:00	0:00
176	RT	Reliability Assessment	SCE	NA	3/2/2021	425	No	INC	17	0:00	17:00
177	RT	Reliability Assessment	SCE	NA	3/3/2021	195 - 400	No	DEC	24	0:00	0:00
178	RT	Reliability Assessment	SCE	NA	3/3/2021	315 - 400	No	INC	13	3:00	16:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
179	RT	Reliability Assessment	SCE	NA	3/4/2021	195 - 330	No	DEC	24	0:00	0:00
180	RT	Reliability Assessment	SCE	NA	3/5/2021	330 - 450	No	DEC	24	0:00	0:00
181	RT	Reliability Assessment	SCE	NA	3/5/2021	330	No	INC	1	7:00	8:00
182	RT	Reliability Assessment	SCE	NA	3/6/2021	450 - 474	No	DEC	6	0:00	6:00
183	RT	Reliability Assessment	SCE	NA	3/6/2021	450 - 474	No	INC	5	3:00	8:00
184	RT	Reliability Assessment	SCE	NA	3/8/2021	425	No	DEC	6	18:00	0:00
185	RT	Reliability Assessment	SCE	NA	3/8/2021	425	No	INC	1	17:00	18:00
186	RT	Reliability Assessment	SCE	NA	3/9/2021	405 - 425	No	DEC	24	0:00	0:00
187	RT	Reliability Assessment	SCE	NA	3/9/2021	405 - 425	No	INC	11	6:00	17:00
188	RT	Reliability Assessment	SCE	NA	3/10/2021	405	No	DEC	7	0:00	7:00
189	RT	Reliability Assessment	SDGE	San Diego-IV	3/11/2021	15 - 18	No	INC	2	9:20	10:45
190	RT	Software Limitation	PGAE	Bay Area	3/24/2021	120	No	INC	1	5:55	6:45
191	RT	Software Limitation	PGAE	Fresno	3/16/2021	0	No	DEC	2	5:00	7:00
192	RT	Software Limitation	PGAE	Fresno	3/17/2021	0	No	INC	1	10:00	10:30
193	RT	Software Limitation	SCE	LA Basin	3/10/2021	0	No	INC	1	9:50	10:20
194	RT	Software Limitation	SCE	LA Basin	3/20/2021	0	No	INC	1	7:10	7:40
195	RT	Software Limitation	SCE	LA Basin	3/24/2021	45.38 - 45.56	No	DEC	1	6:15	6:45
196	RT	Software Limitation	SCE	LA Basin	3/24/2021	48.29 - 147	No	INC	1	6:15	6:45
197	RT	Software Limitation	SDGE	San Diego-IV	3/24/2021	0	No	INC	2	10:30	11:55
198	RT	Unit Testing	Intertie	NA	3/13/2021	38 - 57	No	INC	3	10:00	12:45
199	RT	Unit Testing	PGAE	Bay Area	3/23/2021	121	No	INC	1	21:50	22:00
200	RT	Unit Testing	PGAE	Bay Area	3/30/2021	100	No	INC	4	6:00	10:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
201	RT	Unit Testing	PGAE	Bay Area	3/31/2021	-100	No	DEC	4	6:00	10:00
202	RT	Unit Testing	PGAE	Fresno	3/16/2021	107	No	INC	1	6:00	6:45
203	RT	Unit Testing	PGAE	Fresno	3/17/2021	83	No	DEC	4	18:00	21:15
204	RT	Unit Testing	SCE	LA Basin	3/13/2021	-37.72	No	INC	1	2:00	2:45
205	RT	Unit Testing	SCE	LA Basin	3/16/2021	30 - 48.01	No	INC	2	19:00	20:45
206	RT	Unit Testing	SCE	LA Basin	3/23/2021	88	No	INC	1	18:50	19:00
207	RT	Unit Testing	SCE	LA Basin	3/24/2021	150 - 250	No	INC	4	8:00	12:00
208	RT	Unit Testing	SDGE	San Diego-IV	3/16/2021	44 - 107.8	No	INC	4	19:05	22:20
209	RT	Unit Testing	SDGE	San Diego-IV	3/17/2021	-250	No	DEC	1	11:00	11:40
210	RT	Unit Testing	SDGE	San Diego-IV	3/23/2021	44	No	INC	1	20:45	21:00
211	RT	Voltage Support	PGAE	Fresno	3/5/2021	-310	No	DEC	5	1:15	5:30
212	RT	Voltage Support	PGAE	Fresno	3/6/2021	-310	No	DEC	4	2:45	6:00
213	RT	Voltage Support	PGAE	Fresno	3/7/2021	-310	No	DEC	4	2:00	6:00
214	RT	Voltage Support	PGAE	Fresno	3/8/2021	-310	No	DEC	4	2:35	6:00
215	RT	Voltage Support	PGAE	Fresno	3/9/2021	-314	No	DEC	6	0:45	6:00
216	RT	Voltage Support	PGAE	Fresno	3/10/2021	-314	No	DEC	7	0:00	6:15
217	RT	Voltage Support	PGAE	Fresno	3/11/2021	83	No	DEC	2	4:00	6:00
218	RT	Voltage Support	PGAE	Fresno	3/11/2021	83	No	INC	3	1:40	4:00
219	RT	Voltage Support	PGAE	Fresno	3/12/2021	-314	No	DEC	4	1:30	5:30
220	RT	Voltage Support	PGAE	Fresno	3/13/2021	-316 - - 315	No	DEC	20	4:15	0:00
221	RT	Voltage Support	PGAE	Fresno	3/14/2021	-316	No	DEC	8	0:00	9:00
222	RT	Voltage Support	PGAE	Fresno	3/15/2021	-315	No	DEC	1	23:45	0:00
223	RT	Voltage Support	PGAE	Fresno	3/15/2021	83	No	INC	14	4:45	18:00
224	RT	Voltage Support	PGAE	Fresno	3/16/2021	-315	No	DEC	7	0:00	7:00
225	RT	Voltage Support	PGAE	Fresno	3/17/2021	-310 - 0	No	DEC	24	0:15	0:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
226	RT	Voltage Support	PGAE	Fresno	3/18/2021	-313 - 310	No	DEC	24	0:00	0:00
227	RT	Voltage Support	PGAE	Fresno	3/19/2021	-313	No	DEC	24	0:00	0:00
228	RT	Voltage Support	PGAE	Fresno	3/20/2021	-313	No	DEC	6	0:00	5:45
229	RT	Voltage Support	PGAE	Fresno	3/20/2021	83	No	INC	1	23:25	0:00
230	RT	Voltage Support	PGAE	Fresno	3/21/2021	83	No	DEC	1	0:25	1:00
231	RT	Voltage Support	PGAE	Fresno	3/21/2021	83	No	INC	24	0:00	0:00
232	RT	Voltage Support	PGAE	Fresno	3/22/2021	83	No	INC	6	0:00	6:00
233	RT	Voltage Support	PGAE	Fresno	3/23/2021	0 - 83	No	DEC	6	18:00	0:00
234	RT	Voltage Support	PGAE	Fresno	3/23/2021	83	No	INC	1	17:15	18:00
235	RT	Voltage Support	PGAE	Fresno	3/24/2021	-313 - 0	No	DEC	24	0:00	0:00
236	RT	Voltage Support	PGAE	Fresno	3/25/2021	-313 - 83	No	DEC	19	0:00	19:00
237	RT	Voltage Support	PGAE	Fresno	3/25/2021	83	No	INC	2	16:10	18:00
238	RT	Voltage Support	PGAE	Fresno	3/26/2021	-311	No	DEC	20	4:15	0:00
239	RT	Voltage Support	PGAE	Fresno	3/27/2021	-311	No	DEC	8	0:00	8:00
240	RT	Voltage Support	PGAE	Fresno	3/28/2021	-310	No	DEC	10	0:10	10:00
241	RT	Voltage Support	PGAE	Fresno	3/29/2021	-310	No	DEC	5	0:00	4:45
242	RT	Voltage Support	PGAE	Fresno	3/29/2021	83	No	INC	1	23:15	0:00
243	RT	Voltage Support	PGAE	Fresno	3/30/2021	0 - 83	No	DEC	19	5:00	0:00
244	RT	Voltage Support	PGAE	Fresno	3/30/2021	83	Yes	INC	5	0:05	5:00
245	RT	Voltage Support	PGAE	Fresno	3/31/2021	-311	No	DEC	4	0:00	4:00
246	RT	Voltage Support	PGAE	Fresno	3/31/2021	83	No	INC	1	4:15	5:00
247	RT	Voltage Support	PGAE	NA	3/16/2021	205	No	DEC	1	23:40	0:00
248	RT	Voltage Support	PGAE	NA	3/17/2021	205	No	DEC	23	0:00	23:00
249	RT	Voltage Support	PGAE	NA	3/17/2021	205	No	INC	23	1:00	0:00
250	RT	Voltage Support	PGAE	NA	3/18/2021	205	No	DEC	2	20:20	22:00
251	RT	Voltage Support	PGAE	NA	3/18/2021	205	No	INC	24	0:00	0:00
252	RT	Voltage Support	PGAE	NA	3/19/2021	49	No	DEC	1	21:00	22:00
253	RT	Voltage Support	PGAE	NA	3/19/2021	49 - 205	No	INC	24	0:00	0:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
254	RT	Voltage Support	PGAE	NA	3/20/2021	49	No	DEC	1	7:00	8:00
255	RT	Voltage Support	PGAE	NA	3/20/2021	49	No	INC	9	0:00	8:45
256	RT	Voltage Support	PGAE	NA	3/21/2021	49	No	INC	24	0:15	0:00
257	RT	Voltage Support	PGAE	NA	3/22/2021	103	No	DEC	2	6:00	8:00
258	RT	Voltage Support	PGAE	NA	3/22/2021	49 - 103	No	INC	6	0:00	6:00
259	RT	Voltage Support	PGAE	NA	3/25/2021	49	No	DEC	3	18:00	21:00
260	RT	Voltage Support	PGAE	NA	3/25/2021	49 - 50	No	INC	8	16:40	0:00
261	RT	Voltage Support	PGAE	NA	3/26/2021	49	No	INC	6	0:00	6:00
262	RT	Voltage Support	PGAE	NA	3/30/2021	97.9 - 147	No	INC	23	1:05	0:00
263	RT	Voltage Support	PGAE	NA	3/31/2021	97.9	No	INC	7	0:00	7:00
264	RT	Voltage Support	PGAE	Sierra	3/1/2021	20 - 23	Yes	INC	8	0:00	8:00
265	RT	Voltage Support	PGAE	Sierra	3/6/2021	20	No	INC	8	12:10	20:00
266	RT	Voltage Support	PGAE	Sierra	3/12/2021	20	No	INC	7	12:45	19:00
267	RT	Voltage Support	PGAE	Sierra	3/13/2021	20	No	INC	10	10:45	20:00
268	RT	Voltage Support	PGAE	Sierra	3/14/2021	20	No	INC	10	11:10	21:00
269	RT	Voltage Support	PGAE	Sierra	3/21/2021	20	No	INC	18	6:40	0:00
270	RT	Voltage Support	PGAE	Sierra	3/22/2021	20	Yes	INC	7	0:00	7:00
271	RT	Voltage Support	PGAE	Sierra	3/23/2021	20 - 24	No	INC	5	16:00	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