



California ISO

# **Exceptional Dispatch Report**

## **Table 1: July 2024**

**CAISO Market Performance and Advanced Analytics    September 16, 2024**

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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 originally issued on the 30<sup>th</sup> of each month. Both Table 1 and Table 2 reports will be issued on the 15<sup>th</sup> of each month due to the availability of necessary data.

This report provides data on the frequency and reasons for Exceptional Dispatches issued in July 2024.

## 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.<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 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 this report month 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

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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.caiso.com/rules/Pages/OperatingProcedures/Default.aspx>

the CAISO software does not handle multi day commitment. For instance, a resource has a day-ahead schedule from 0600 till 2300, and then is shut down in 2400. If this resource had a minimum down time of 24 hours and it is required the following 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 this report month, 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.

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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 indicates there were 285 exceptional dispatches in July 2024, as compared to 176 exceptional dispatches in June 2024. There were no exceptional dispatches issued as a pre-day-ahead commitment.

Exceptional dispatches issued for the following reasons accounted for approximately 71 percent of the total exceptional dispatches during the reporting period: unit testing, 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. Reliability Assessment is the reason as explained in the operator procedure 2330C<sup>4</sup> 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 stud

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

**Table 1: Exceptional Dispatches in July 2024**

**California Independent System Operator Corporation  
Exceptional Dispatch Report  
September 13, 2024**

**Chart 1: Table of Exceptional Dispatches for Period 01/July/2024 - 31/July/2024**

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC DEC	Hours	Begin Time	End Time
1	RT	Bridging Schedules	PGAE	Big Creek-Ventura	7/8/2024	62	No	INC	6	9:00	15:00
2	RT	Bridging Schedules	PGAE	Kern	7/9/2024	32	Yes	INC	1	15:00	16:00
3	RT	Bridging Schedules	PGAE	Kern	7/10/2024	32	No	INC	1	14:00	15:00
4	RT	Bridging Schedules	PGAE	Sierra	7/7/2024	20	No	DEC	7	16:00	23:00
5	RT	Bridging Schedules	PGAE	Sierra	7/7/2024	20	No	INC	1	15:45	16:00
6	RT	Bridging Schedules	PGAE	NA	7/8/2024	65	No	INC	5	9:00	14:00
7	RT	Conditions beyond the control of the CAISO	Intertie	NA	7/2/2024	1	No	DEC	1	16:00	17:00
8	RT	Conditions beyond the control of the CAISO	Intertie	NA	7/2/2024	144	No	INC	1	17:00	18:00
9	RT	Conditions beyond the control of the CAISO	PGAE	Bay Area	7/3/2024	300 - 400	No	DEC	1	6:45	7:15
10	RT	Conditions beyond the control of the CAISO	PGAE	Bay Area	7/3/2024	400	No	INC	1	6:45	7:00
11	RT	Conditions beyond the control of the CAISO	PGAE	Fresno	7/23/2024	47 - 95	No	DEC	3	18:00	21:00
12	RT	Conditions beyond the control of the CAISO	PGAE	Fresno	7/23/2024	47 - 95	No	INC	2	17:40	19:00
13	RT	Conditions beyond the control of the CAISO	PGAE	Humboldt	7/17/2024	30	No	INC	4	8:40	12:00

14	RT	Conditions beyond the control of the CAISO	PGAE	Humboldt	7/18/2024	30	No	INC	10	14:50	0:00
15	RT	Conditions beyond the control of the CAISO	PGAE	NCNB	7/20/2024	45 - 60	No	DEC	7	17:25	0:00
16	RT	Conditions beyond the control of the CAISO	PGAE	NCNB	7/21/2024	50	No	DEC	17	0:00	17:00
17	RT	Conditions beyond the control of the CAISO	PGAE	NA	7/3/2024	400	No	DEC	1	6:55	7:30
18	RT	Conditions beyond the control of the CAISO	SCE	Big Creek-Ventura	7/3/2024	500	No	DEC	1	6:40	7:00
19	RT	Conditions beyond the control of the CAISO	SCE	NA	7/3/2024	0	No	DEC	1	6:55	7:00
20	RT	Conditions beyond the control of the CAISO	SDGE	San Diego-IV	7/3/2024	0 - 400	No	DEC	1	6:45	7:00
21	RT	Fast Start Unit Management	SCE	LA Basin	7/24/2024	0	No	INC	2	0:00	1:30
22	RT	Fast Start Unit Management	SDGE	San Diego-IV	7/24/2024	0	No	INC	1	0:45	1:15
23	RT	Incomplete or Inaccurate Transmission	PGAE	Bay Area	7/6/2024	40	No	DEC	3	18:00	21:00
24	RT	Incomplete or Inaccurate Transmission	PGAE	Bay Area	7/6/2024	40	No	INC	7	15:50	22:00
25	RT	Incomplete or Inaccurate Transmission	PGAE	Fresno	7/6/2024	55 - 80	No	DEC	3	18:00	20:30
26	RT	Incomplete or Inaccurate Transmission	PGAE	Sierra	7/6/2024	20	No	DEC	7	16:00	23:00
27	RT	Incomplete or Inaccurate Transmission	PGAE	Sierra	7/6/2024	20	No	INC	4	13:30	17:00
28	RT	Load Forecast Uncertainty	SCE	Big Creek-Ventura	7/10/2024	27.5 - 100	No	INC	18	6:15	0:00
29	RT	Load Forecast Uncertainty	SCE	Big Creek-Ventura	7/11/2024	27.5 - 100	No	INC	7	0:00	6:15
30	RT	Load Forecast Uncertainty	SCE	LA Basin	7/9/2024	20	No	INC	3	21:10	0:00
31	RT	Load Forecast Uncertainty	SCE	LA Basin	7/10/2024	20 - 320	No	INC	24	0:00	0:00
32	RT	Load Forecast Uncertainty	SCE	LA Basin	7/11/2024	20 - 70	Yes	INC	23	0:00	22:25
33	RT	Market Disruption	PGAE	Fresno	7/11/2024	407	No	INC	1	23:15	23:20
34	RT	Market Disruption	PGAE	Fresno	7/29/2024	83	No	INC	1	21:45	22:00
35	RT	Market Disruption	SCE	LA Basin	7/11/2024	0 - 46	No	DEC	1	22:45	23:00
36	RT	Market Disruption	SCE	LA Basin	7/11/2024	0	No	INC	1	23:00	23:40
37	RT	Other Reliability Requirement	PGAE	Fresno	7/23/2024	45438	No	DEC	2	18:35	20:00
38	RT	Other Reliability Requirement	PGAE	Sierra	7/2/2024	20	No	DEC	3	15:00	17:10

39	RT	Other Reliability Requirement	PGAE	Sierra	7/2/2024	20	No	INC	1	14:15	15:00
40	RT	Other Reliability Requirement	PGAE	Sierra	7/3/2024	20 - 40	No	DEC	8	14:45	22:00
41	RT	Other Reliability Requirement	PGAE	Sierra	7/3/2024	20 - 49	No	INC	11	11:30	22:00
42	RT	Other Reliability Requirement	PGAE	NA	7/1/2024	380	No	DEC	9	15:00	0:00
43	RT	Other Reliability Requirement	PGAE	NA	7/1/2024	200 - 380	No	INC	11	13:15	0:00
44	RT	Other Reliability Requirement	PGAE	NA	7/3/2024	60	No	INC	5	18:15	23:00
45	RT	Other Reliability Requirement	PGAE	NA	7/5/2024	14.3 - 60	No	INC	4	18:20	21:45
46	RT	Other Reliability Requirement	PGAE	NA	7/6/2024	60	No	INC	6	16:30	22:00
47	RT	Other Reliability Requirement	PGAE	NA	7/23/2024	60	No	INC	2	18:45	20:00
48	RT	Other Reliability Requirement	SCE	Big Creek-Ventura	7/23/2024	54	No	INC	2	18:35	20:00
49	RT	Planned Transmission Outage	PGAE	Bay Area	7/13/2024	175	No	INC	5	9:15	14:00
50	RT	Planned Transmission Outage	PGAE	Bay Area	7/14/2024	175	No	DEC	2	4:00	6:00
51	RT	Planned Transmission Outage	PGAE	Bay Area	7/14/2024	175	No	INC	8	6:00	14:00
52	RT	Planned Transmission Outage	PGAE	Bay Area	7/21/2024	175	No	DEC	3	13:00	15:45
53	RT	Planned Transmission Outage	PGAE	Bay Area	7/21/2024	175	No	INC	6	7:00	13:00
54	RT	Planned Transmission Outage	PGAE	Bay Area	7/31/2024	47	No	INC	3	9:00	12:00
55	RT	Planned Transmission Outage	PGAE	Fresno	7/21/2024	-310	No	DEC	10	4:45	14:00
56	RT	Planned Transmission Outage	PGAE	Humboldt	7/21/2024	15	No	DEC	15	9:00	0:00
57	RT	Planned Transmission Outage	PGAE	Humboldt	7/22/2024	15	No	DEC	24	0:00	0:00
58	RT	Planned Transmission Outage	PGAE	Humboldt	7/23/2024	15 - 30	No	DEC	24	0:00	0:00
59	RT	Planned Transmission Outage	PGAE	Humboldt	7/24/2024	15 - 60	No	DEC	24	0:00	0:00
60	RT	Planned Transmission Outage	PGAE	Humboldt	7/25/2024	15 - 60	No	DEC	24	0:10	0:00
61	RT	Planned Transmission Outage	PGAE	Humboldt	7/25/2024	15	No	INC	1	23:00	0:00
62	RT	Planned Transmission Outage	PGAE	Humboldt	7/26/2024	15	No	DEC	10	0:00	9:45
63	RT	Planned Transmission Outage	PGAE	Humboldt	7/26/2024	15	No	INC	10	0:00	9:45
64	RT	Planned Transmission Outage	PGAE	NCNB	7/26/2024	50	No	DEC	9	4:35	13:00
65	RT	Planned Transmission Outage	PGAE	NCNB	7/30/2024	42 - 50	No	DEC	10	4:35	13:45
66	RT	Planned Transmission Outage	PGAE	NCNB	7/31/2024	45 - 47	No	DEC	11	3:55	14:00
67	RT	Reliability Assessment	PGAE	Fresno	7/1/2024	20121	No	DEC	7	14:25	21:00
68	RT	Reliability Assessment	PGAE	Fresno	7/1/2024	12	No	INC	2	18:00	20:00
69	RT	Reliability Assessment	PGAE	Fresno	7/12/2024	70	No	DEC	4	16:55	20:00



70	RT	Reliability Assessment	PGAE	Fresno	7/19/2024	65	No	DEC	5	17:55	22:00
71	RT	Reliability Assessment	PGAE	Kern	7/15/2024	32	No	INC	3	21:55	0:00
72	RT	Reliability Assessment	PGAE	Kern	7/16/2024	32	No	INC	2	22:00	0:00
73	RT	Reliability Assessment	PGAE	Kern	7/17/2024	32	No	INC	5	19:50	0:00
74	RT	Reliability Assessment	PGAE	NCNB	7/7/2024	40 - 60	No	DEC	7	16:05	23:00
75	RT	Reliability Assessment	PGAE	NCNB	7/8/2024	42 - 57	No	DEC	6	16:55	22:00
76	RT	Reliability Assessment	PGAE	NCNB	7/9/2024	42 - 45	No	DEC	3	18:00	21:00
77	RT	Reliability Assessment	PGAE	NCNB	7/10/2024	39 - 58	No	DEC	7	16:35	23:00
78	RT	Reliability Assessment	PGAE	NCNB	7/11/2024	45 - 59	No	DEC	4	18:15	22:00
79	RT	Reliability Assessment	PGAE	NCNB	7/12/2024	40 - 45	No	DEC	4	18:30	22:00
80	RT	Reliability Assessment	PGAE	NCNB	7/22/2024	53 - 64	No	DEC	4	18:30	22:00
81	RT	Reliability Assessment	PGAE	Sierra	7/4/2024	40	No	DEC	6	16:00	22:00
82	RT	Reliability Assessment	PGAE	Sierra	7/4/2024	40	No	INC	2	14:15	16:00
83	RT	Reliability Assessment	PGAE	Sierra	7/6/2024	20	No	DEC	1	23:10	0:00
84	RT	Reliability Assessment	PGAE	Sierra	7/7/2024	20	No	DEC	7	16:00	23:00
85	RT	Reliability Assessment	PGAE	Sierra	7/7/2024	20 - 42	Yes	INC	9	14:30	23:00
86	RT	Reliability Assessment	PGAE	Sierra	7/8/2024	42	No	DEC	6	16:00	22:00
87	RT	Reliability Assessment	PGAE	Sierra	7/8/2024	42	No	INC	3	13:15	16:00
88	RT	Reliability Assessment	PGAE	Sierra	7/9/2024	42	No	INC	3	13:15	16:00
89	RT	Reliability Assessment	PGAE	Sierra	7/10/2024	42	No	DEC	7	15:00	22:00
90	RT	Reliability Assessment	PGAE	Sierra	7/10/2024	42	No	INC	2	13:00	15:00
91	RT	Reliability Assessment	PGAE	Sierra	7/11/2024	20 - 150	No	DEC	10	14:30	0:00
92	RT	Reliability Assessment	PGAE	Sierra	7/11/2024	20	No	INC	2	13:30	15:00
93	RT	Reliability Assessment	PGAE	Sierra	7/12/2024	20 - 100	No	DEC	8	14:00	22:00
94	RT	Reliability Assessment	PGAE	Sierra	7/12/2024	20 - 47	No	INC	1	13:00	14:00
95	RT	Reliability Assessment	PGAE	Sierra	7/13/2024	20	No	DEC	5	17:10	22:00
96	RT	Reliability Assessment	PGAE	Sierra	7/13/2024	40	No	INC	10	12:45	22:00
97	RT	Reliability Assessment	PGAE	Sierra	7/18/2024	20 - 42	No	DEC	7	15:00	22:00
98	RT	Reliability Assessment	PGAE	Sierra	7/18/2024	20 - 42	No	INC	8	14:30	22:00
99	RT	Reliability Assessment	PGAE	Sierra	7/19/2024	15462	No	DEC	7	15:00	22:00
100	RT	Reliability Assessment	PGAE	Sierra	7/19/2024	15462	No	INC	10	8:25	18:00
101	RT	Reliability Assessment	PGAE	Sierra	7/20/2024	42	No	DEC	5	17:00	22:00

102	RT	Reliability Assessment	PGAE	Sierra	7/20/2024	42	No	INC	1	16:00	17:00
103	RT	Reliability Assessment	PGAE	Sierra	7/22/2024	20 - 42	No	DEC	7	15:00	22:00
104	RT	Reliability Assessment	PGAE	Sierra	7/22/2024	17564	Yes	INC	6	13:25	19:00
105	RT	Reliability Assessment	PGAE	Sierra	7/23/2024	20	No	DEC	9	14:00	23:00
106	RT	Reliability Assessment	PGAE	Sierra	7/23/2024	20	No	INC	14	8:00	22:00
107	RT	Reliability Assessment	PGAE	Sierra	7/24/2024	20	No	DEC	12	8:55	20:00
108	RT	Reliability Assessment	PGAE	Sierra	7/24/2024	20	No	INC	5	9:00	14:00
109	RT	Reliability Assessment	PGAE	Sierra	7/31/2024	40	No	DEC	1	21:10	22:00
110	RT	Reliability Assessment	PGAE	Sierra	7/31/2024	40	No	INC	1	22:00	23:00
111	RT	Reliability Assessment	PGAE	Stockton	7/1/2024	20	No	INC	2	19:35	20:45
112	RT	Reliability Assessment	PGAE	Stockton	7/2/2024	23	No	INC	4	19:00	23:00
113	RT	Reliability Assessment	PGAE	Stockton	7/3/2024	20	No	INC	3	19:20	22:00
114	RT	Reliability Assessment	PGAE	Stockton	7/4/2024	10	No	DEC	1	11:00	12:00
115	RT	Reliability Assessment	PGAE	Stockton	7/4/2024	10	No	INC	3	8:35	11:00
116	RT	Reliability Assessment	PGAE	Stockton	7/6/2024	20	No	INC	4	19:10	23:00
117	RT	Reliability Assessment	PGAE	Stockton	7/7/2024	20	No	INC	4	19:00	23:00
118	RT	Reliability Assessment	PGAE	Stockton	7/8/2024	20	No	INC	4	18:45	22:00
119	RT	Reliability Assessment	PGAE	Stockton	7/10/2024	20	No	DEC	3	18:45	21:00
120	RT	Reliability Assessment	PGAE	Stockton	7/10/2024	20	No	INC	1	21:00	22:00
121	RT	Reliability Assessment	PGAE	Stockton	7/11/2024	20	No	DEC	3	18:00	21:00
122	RT	Reliability Assessment	PGAE	Stockton	7/11/2024	20	No	INC	9	14:45	23:00
123	RT	Reliability Assessment	PGAE	Stockton	7/19/2024	20	No	INC	3	19:20	22:00
124	RT	Reliability Assessment	PGAE	Stockton	7/20/2024	20	No	INC	2	19:00	20:30
125	RT	Reliability Assessment	PGAE	Stockton	7/22/2024	75	No	INC	4	7:35	11:00
126	RT	Reliability Assessment	PGAE	Stockton	7/25/2024	20	No	DEC	1	19:00	20:00
127	RT	Reliability Assessment	PGAE	Stockton	7/25/2024	20	No	INC	6	16:25	22:00
128	RT	Reliability Assessment	PGAE	NA	7/5/2024	60	No	INC	1	21:25	21:30
129	RT	Reliability Assessment	PGAE	NA	7/8/2024	14.3 - 60	No	INC	4	18:45	22:00
130	RT	Reliability Assessment	PGAE	NA	7/9/2024	60	No	INC	3	18:40	21:30
131	RT	Reliability Assessment	PGAE	NA	7/10/2024	30	No	INC	4	18:35	22:30
132	RT	Reliability Assessment	PGAE	NA	7/11/2024	15 - 30	No	DEC	4	18:00	22:00
133	RT	Reliability Assessment	PGAE	NA	7/11/2024	30 - 60	No	INC	6	17:00	23:00

134	RT	Reliability Assessment	PGAE	NA	7/12/2024	0 - 60	No	INC	7	16:30	22:40
135	RT	Reliability Assessment	PGAE	NA	7/19/2024	14.3	No	INC	3	17:20	20:00
136	RT	Reliability Assessment	PGAE	NA	7/22/2024	54	No	INC	1	19:15	20:15
137	RT	Reliability Assessment	SCE	Big Creek-Ventura	7/13/2024	400	No	DEC	3	15:00	17:15
138	RT	Reliability Assessment	SCE	Big Creek-Ventura	7/13/2024	400	No	INC	1	14:35	15:00
139	RT	Reliability Assessment	SDGE	San Diego-IV	7/19/2024	18.2	No	INC	5	17:35	22:00
140	RT	Software Limitation	PGAE	Fresno	7/23/2024	19.44 - 44.05	No	INC	1	17:50	18:45
141	RT	Software Limitation	PGAE	NA	7/4/2024	0	No	INC	1	22:30	23:10
142	RT	Software Limitation	PGAE	NA	7/20/2024	0	No	INC	1	8:25	9:20
143	RT	Software Limitation	PGAE	NA	7/22/2024	0	No	INC	1	8:00	8:55
144	RT	Software Limitation	PGAE	NA	7/23/2024	0 - 82.55	No	INC	12	8:15	19:40
145	RT	Software Limitation	PGAE	NA	7/24/2024	0	No	INC	1	13:50	14:50
146	RT	Software Limitation	SCE	Big Creek-Ventura	7/23/2024	45.34 - 54	No	INC	2	17:50	19:40
147	RT	Software Limitation	SCE	LA Basin	7/3/2024	400	No	DEC	1	6:45	7:00
148	RT	Software Limitation	SCE	LA Basin	7/3/2024	400	No	INC	1	7:00	7:30
149	RT	Software Limitation	SCE	LA Basin	7/9/2024	36	No	INC	3	18:50	21:00
150	RT	Software Limitation	SCE	LA Basin	7/20/2024	41.5 - 41.9	No	DEC	1	17:20	18:15
151	RT	Software Limitation	SCE	LA Basin	7/20/2024	41.5	No	INC	1	17:20	18:00
152	RT	Software Limitation	SCE	LA Basin	7/23/2024	5.5 - 22.38	No	INC	1	18:50	19:40
153	RT	Software Limitation	SCE	NA	7/9/2024	241	No	INC	9	15:00	0:00
154	RT	Software Limitation	SDGE	San Diego-IV	7/23/2024	37.2	No	INC	1	17:50	18:45
155	RT	Unit Testing	PGAE	Bay Area	7/31/2024	175	No	DEC	7	11:00	17:30
156	RT	Unit Testing	PGAE	Bay Area	7/31/2024	175	No	INC	1	12:00	12:30
157	RT	Unit Testing	PGAE	Fresno	7/3/2024	212	No	INC	1	23:10	23:55
158	RT	Unit Testing	PGAE	Fresno	7/12/2024	0	No	INC	1	9:55	10:40
159	RT	Unit Testing	PGAE	Stockton	7/8/2024	16	No	INC	5	8:15	13:00
160	RT	Unit Testing	PGAE	Stockton	7/9/2024	19	No	INC	9	7:35	16:00
161	RT	Unit Testing	PGAE	NA	7/4/2024	40	No	INC	1	19:30	20:10

162	RT	Unit Testing	SCE	Big Creek-Ventura	7/4/2024	6.68	No	INC	1	18:45	19:25
163	RT	Unit Testing	SCE	LA Basin	7/3/2024	27.06	No	INC	1	22:30	23:10
164	RT	Unit Testing	SCE	LA Basin	7/4/2024	14 - 97.11	No	INC	18	2:20	19:40
165	RT	Unit Testing	SCE	LA Basin	7/11/2024	445 - 480	No	INC	2	1:15	3:15
166	RT	Unit Testing	SCE	LA Basin	7/26/2024	45.28	No	INC	1	15:15	16:00
167	RT	Unit Testing	SCE	NA	7/4/2024	15.53 - 80	No	INC	2	18:40	20:05
168	RT	Unit Testing	SDGE	San Diego-IV	7/3/2024	543.21	No	DEC	1	21:55	22:00
169	RT	Unit Testing	SDGE	San Diego-IV	7/3/2024	543.21	No	INC	1	22:00	22:40
170	RT	Unit Testing	SDGE	San Diego-IV	7/4/2024	45295	No	DEC	1	20:00	20:10
171	RT	Unit Testing	SDGE	San Diego-IV	7/4/2024	1 - 131	No	INC	1	19:30	20:00
172	RT	Unit Testing	SDGE	San Diego-IV	7/12/2024	0.03	No	INC	1	11:15	11:55
173	RT	Unplanned Outage	PGAE	Bay Area	7/3/2024	40	No	DEC	2	19:00	21:00
174	RT	Unplanned Outage	PGAE	Bay Area	7/3/2024	40	No	INC	5	17:25	22:00
175	RT	Unplanned Outage	PGAE	Bay Area	7/15/2024	140	No	DEC	1	4:35	5:00
176	RT	Unplanned Outage	PGAE	Bay Area	7/15/2024	140 - 175	No	INC	9	1:00	9:45
177	RT	Unplanned Outage	PGAE	Fresno	7/15/2024	83	No	INC	8	0:10	8:00
178	RT	Unplanned Outage	PGAE	Kern	7/20/2024	32	No	INC	1	23:30	0:00
179	RT	Unplanned Outage	PGAE	Kern	7/21/2024	32	No	DEC	1	0:00	0:20
180	RT	Unplanned Outage	PGAE	Kern	7/21/2024	32	No	INC	23	1:00	0:00
181	RT	Unplanned Outage	PGAE	Kern	7/22/2024	32	No	DEC	7	16:00	23:00
182	RT	Unplanned Outage	PGAE	Kern	7/22/2024	32 - 40	No	INC	24	0:00	0:00
183	RT	Unplanned Outage	PGAE	Kern	7/23/2024	40	No	INC	10	0:00	9:45
184	RT	Unplanned Outage	PGAE	Sierra	7/2/2024	20 - 47	No	DEC	8	16:00	0:00
185	RT	Unplanned Outage	PGAE	Sierra	7/2/2024	20 - 47	No	INC	9	15:00	0:00
186	RT	Unplanned Outage	PGAE	Sierra	7/3/2024	20	No	DEC	1	0:00	0:30
187	RT	Unplanned Outage	PGAE	Sierra	7/3/2024	20 - 40	No	INC	1	0:00	1:00
188	RT	Unplanned Outage	PGAE	NA	7/2/2024	30 - 60	No	INC	8	15:40	23:00
189	RT	Unplanned Outage	PGAE	NA	7/15/2024	225 - 288	No	DEC	4	6:00	9:45
190	RT	Unplanned Outage	SCE	NA	7/24/2024	30	No	DEC	3	21:35	0:00
191	RT	Unplanned Outage	SCE	NA	7/25/2024	30	No	DEC	3	0:00	2:30
192	RT	Voltage Support	PGAE	Fresno	7/1/2024	83	No	INC	3	4:45	7:00

193	RT	Voltage Support	PGAE	Fresno	7/3/2024	15 - 21	No	DEC	7	16:00	23:00
194	RT	Voltage Support	PGAE	Fresno	7/3/2024	21 - 83	No	INC	5	15:15	20:00
195	RT	Voltage Support	PGAE	Fresno	7/4/2024	83	No	DEC	5	18:00	23:00
196	RT	Voltage Support	PGAE	Fresno	7/4/2024	83	No	INC	6	17:05	23:00
197	RT	Voltage Support	PGAE	Fresno	7/5/2024	21 - 83	No	DEC	5	17:50	22:00
198	RT	Voltage Support	PGAE	Fresno	7/5/2024	83	Yes	INC	9	15:25	0:00
199	RT	Voltage Support	PGAE	Fresno	7/6/2024	18476	No	DEC	9	14:30	23:00
200	RT	Voltage Support	PGAE	Fresno	7/6/2024	15 - 83	No	INC	10	14:30	0:00
201	RT	Voltage Support	PGAE	Fresno	7/7/2024	15	No	DEC	1	20:30	21:00
202	RT	Voltage Support	PGAE	Fresno	7/7/2024	15 - 83	No	INC	8	16:30	0:00
203	RT	Voltage Support	PGAE	Fresno	7/8/2024	15 - 20	No	DEC	3	19:45	22:00
204	RT	Voltage Support	PGAE	Fresno	7/8/2024	15 - 83	No	INC	9	15:15	0:00
205	RT	Voltage Support	PGAE	Fresno	7/9/2024	30529	No	DEC	6	16:00	22:00
206	RT	Voltage Support	PGAE	Fresno	7/9/2024	15 - 83	No	INC	9	15:15	23:30
207	RT	Voltage Support	PGAE	Fresno	7/10/2024	15 - 83	No	DEC	6	16:00	22:00
208	RT	Voltage Support	PGAE	Fresno	7/10/2024	22 - 83	No	INC	9	15:00	0:00
209	RT	Voltage Support	PGAE	Fresno	7/11/2024	21 - 83	No	DEC	6	16:00	22:00
210	RT	Voltage Support	PGAE	Fresno	7/11/2024	15 - 83	No	INC	24	0:00	0:00
211	RT	Voltage Support	PGAE	Fresno	7/12/2024	15 - 83	No	DEC	5	17:00	22:00
212	RT	Voltage Support	PGAE	Fresno	7/12/2024	15 - 83	Yes	INC	24	0:00	0:00
213	RT	Voltage Support	PGAE	Fresno	7/13/2024	83	No	INC	6	0:00	6:00
214	RT	Voltage Support	PGAE	Fresno	7/14/2024	83	No	DEC	1	20:45	21:00
215	RT	Voltage Support	PGAE	Fresno	7/14/2024	83	No	INC	3	21:00	0:00
216	RT	Voltage Support	PGAE	Fresno	7/15/2024	83	No	INC	23	0:00	23:00
217	RT	Voltage Support	PGAE	Fresno	7/16/2024	21 - 83	No	INC	3	20:00	23:00
218	RT	Voltage Support	PGAE	Fresno	7/17/2024	83	No	INC	2	21:00	23:00
219	RT	Voltage Support	PGAE	Fresno	7/18/2024	83	Yes	INC	2	22:30	0:00
220	RT	Voltage Support	PGAE	Fresno	7/19/2024	21	No	DEC	1	19:45	20:00
221	RT	Voltage Support	PGAE	Fresno	7/19/2024	21 - 83	Yes	INC	21	0:00	21:00
222	RT	Voltage Support	PGAE	Fresno	7/20/2024	21	No	DEC	1	19:00	20:00
223	RT	Voltage Support	PGAE	Fresno	7/20/2024	21	No	INC	5	18:45	23:00
224	RT	Voltage Support	PGAE	Fresno	7/22/2024	83	No	INC	3	15:20	18:00

225	RT	Voltage Support	PGAE	Fresno	7/23/2024	22	No	DEC	4	19:00	23:00
226	RT	Voltage Support	PGAE	Fresno	7/23/2024	22 - 83	No	INC	9	14:10	23:00
227	RT	Voltage Support	PGAE	Fresno	7/24/2024	83	Yes	INC	4	14:30	18:00
228	RT	Voltage Support	PGAE	Fresno	7/25/2024	83	No	INC	5	13:55	18:00
229	RT	Voltage Support	PGAE	Fresno	7/28/2024	-315	No	DEC	4	4:20	8:00
230	RT	Voltage Support	PGAE	Fresno	7/29/2024	83	No	INC	2	22:20	0:00
231	RT	Voltage Support	PGAE	Fresno	7/30/2024	83	Yes	INC	24	0:00	0:00
232	RT	Voltage Support	PGAE	Fresno	7/31/2024	83	Yes	INC	6	0:00	6:00
233	RT	Voltage Support	PGAE	Humboldt	7/1/2024	15	No	DEC	24	0:00	0:00
234	RT	Voltage Support	PGAE	Humboldt	7/2/2024	15 - 30	No	DEC	23	0:00	23:00
235	RT	Voltage Support	PGAE	Humboldt	7/2/2024	30 - 60	No	INC	8	16:00	0:00
236	RT	Voltage Support	PGAE	Humboldt	7/3/2024	30 - 45	No	DEC	24	0:00	0:00
237	RT	Voltage Support	PGAE	Humboldt	7/3/2024	60	No	INC	11	0:00	10:15
238	RT	Voltage Support	PGAE	Humboldt	7/4/2024	30	No	DEC	24	0:00	0:00
239	RT	Voltage Support	PGAE	Humboldt	7/5/2024	15 - 30	No	DEC	24	0:00	0:00
240	RT	Voltage Support	PGAE	Humboldt	7/6/2024	15 - 30	No	DEC	24	0:00	0:00
241	RT	Voltage Support	PGAE	Humboldt	7/7/2024	30	No	DEC	24	0:00	0:00
242	RT	Voltage Support	PGAE	Humboldt	7/7/2024	15	No	INC	24	0:00	0:00
243	RT	Voltage Support	PGAE	Humboldt	7/8/2024	15 - 30	No	DEC	24	0:00	0:00
244	RT	Voltage Support	PGAE	Humboldt	7/8/2024	15	No	INC	14	0:00	14:00
245	RT	Voltage Support	PGAE	Humboldt	7/9/2024	15 - 30	No	DEC	5	19:15	0:00
246	RT	Voltage Support	PGAE	Humboldt	7/10/2024	15 - 30	No	DEC	24	0:00	0:00
247	RT	Voltage Support	PGAE	Humboldt	7/10/2024	15	No	INC	14	0:00	14:00
248	RT	Voltage Support	PGAE	Humboldt	7/11/2024	15 - 30	No	DEC	24	0:00	0:00
249	RT	Voltage Support	PGAE	Humboldt	7/12/2024	15 - 30	No	DEC	24	0:00	0:00
250	RT	Voltage Support	PGAE	Humboldt	7/13/2024	15 - 30	No	DEC	24	0:00	0:00
251	RT	Voltage Support	PGAE	Humboldt	7/13/2024	30	No	INC	2	22:00	0:00
252	RT	Voltage Support	PGAE	Humboldt	7/14/2024	15	No	DEC	23	0:00	23:00
253	RT	Voltage Support	PGAE	Humboldt	7/14/2024	15 - 30	No	INC	24	0:00	0:00
254	RT	Voltage Support	PGAE	Humboldt	7/15/2024	15	No	DEC	24	0:00	0:00
255	RT	Voltage Support	PGAE	Humboldt	7/15/2024	30	No	INC	24	0:00	0:00
256	RT	Voltage Support	PGAE	Humboldt	7/16/2024	15	No	DEC	2	22:00	0:00

257	RT	Voltage Support	PGAE	Humboldt	7/16/2024	15 - 30	No	INC	24	0:00	0:00
258	RT	Voltage Support	PGAE	Humboldt	7/17/2024	15	No	DEC	8	16:00	0:00
259	RT	Voltage Support	PGAE	Humboldt	7/17/2024	15	No	INC	24	0:00	0:00
260	RT	Voltage Support	PGAE	Humboldt	7/18/2024	15 - 30	No	INC	17	0:00	16:30
261	RT	Voltage Support	PGAE	Humboldt	7/19/2024	15 - 30	No	DEC	24	0:45	0:00
262	RT	Voltage Support	PGAE	Humboldt	7/19/2024	30	No	INC	4	7:55	11:00
263	RT	Voltage Support	PGAE	Humboldt	7/20/2024	30	No	DEC	24	0:00	0:00
264	RT	Voltage Support	PGAE	Humboldt	7/21/2024	30	No	DEC	24	0:00	0:00
265	RT	Voltage Support	PGAE	Humboldt	7/22/2024	30	No	DEC	16	0:00	15:30
266	RT	Voltage Support	PGAE	Humboldt	7/26/2024	15	No	DEC	15	9:45	0:00
267	RT	Voltage Support	PGAE	Humboldt	7/26/2024	15	No	INC	15	9:45	0:00
268	RT	Voltage Support	PGAE	Humboldt	7/27/2024	15	No	DEC	23	0:00	23:00
269	RT	Voltage Support	PGAE	Humboldt	7/27/2024	15	No	INC	24	0:00	0:00
270	RT	Voltage Support	PGAE	Humboldt	7/28/2024	15	No	DEC	4	18:00	22:00
271	RT	Voltage Support	PGAE	Humboldt	7/28/2024	15	No	INC	24	0:00	0:00
272	RT	Voltage Support	PGAE	Humboldt	7/29/2024	15 - 30	No	INC	24	0:00	0:00
273	RT	Voltage Support	PGAE	Humboldt	7/30/2024	15	No	DEC	2	22:25	0:00
274	RT	Voltage Support	PGAE	Humboldt	7/30/2024	15 - 30	No	INC	24	0:00	0:00
275	RT	Voltage Support	PGAE	Humboldt	7/31/2024	15 - 30	No	DEC	24	0:00	0:00
276	RT	Voltage Support	PGAE	Humboldt	7/31/2024	15 - 30	No	INC	15	0:00	15:00
277	RT	Voltage Support	PGAE	Kern	7/1/2024	12	No	DEC	5	18:00	23:00
278	RT	Voltage Support	PGAE	Kern	7/1/2024	12	Yes	INC	18	0:00	18:00
279	RT	Voltage Support	PGAE	Kern	7/2/2024	12	No	DEC	6	17:00	23:00
280	RT	Voltage Support	PGAE	Kern	7/2/2024	12	No	INC	7	10:40	17:00
281	RT	Voltage Support	PGAE	Sierra	7/11/2024	20	No	DEC	1	0:50	1:00
282	RT	Voltage Support	PGAE	Sierra	7/11/2024	20	No	INC	5	1:00	6:00
283	RT	Voltage Support	PGAE	Sierra	7/17/2024	20	No	INC	5	2:00	7:00
284	RT	Voltage Support	PGAE	Stockton	7/23/2024	20	No	DEC	1	20:50	21:00
285	RT	Voltage Support	PGAE	Stockton	7/23/2024	20	No	INC	1	21:00	22:00





## 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