Exceptional Dispatch Report

Table 1: October 2019

CAISO Market Quality and Renewable Integration **December 16, 2019**

CAISO
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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 October 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 October 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

[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

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 in October 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 302 exceptional dispatches in October 2019, as compared to 300 exceptional dispatches in September 2019. Exceptional dispatches issued for the following reasons accounted for approximately 61 percent of the total exceptional dispatches during the reporting period: planned

[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.

transmission outages, software limitations, load forecast uncertainty, and operating procedure number 7110 (along with 7430 and 7720). Many of the exceptional dispatches with the reason “Other Reliability Requirement” were due to Real Time Contingency Analysis.

Table 1: Exceptional Dispatches in October 2019

California Independent System Operator Corporation
Exceptional Dispatch Report
December 16, 2019

Chart 1: Table of Exceptional Dispatches for Period 01/October/2019 - 31/October/2019

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
1	RT	Bridging Schedules	SCE	LA Basin	10/24/2019	20	No	INC	4	20:00	0:00
2	RT	Conditions beyond the control of the CAISO	PGAE	NA	10/19/2019	197	No	DEC	1	17:00	17:10
3	RT	Conditions beyond the control of the CAISO	SCE	Big Creek-Ventura	10/19/2019	452	No	DEC	1	17:05	17:10
4	RT	Conditions beyond the control of the CAISO	SCE	NA	10/19/2019	471	No	DEC	1	17:05	17:10
5	RT	Conditions beyond the control of the CAISO	SDGE	San Diego-IV	10/19/2019	312	No	DEC	1	17:00	17:45
6	RT	Fast Start Unit Management	PGAE	Bay Area	10/31/2019	0	No	INC	2	7:00	8:05
7	RT	Fire Threats	PGAE	Bay Area	10/11/2019	175	No	INC	7	15:00	22:00
8	RT	Fire Threats	PGAE	Fresno	10/10/2019	83	No	INC	1	22:05	23:00
9	RT	Fire Threats	PGAE	NCNB	10/23/2019	60	No	DEC	1	23:30	0:00
10	RT	Fire Threats	PGAE	NCNB	10/24/2019	60 - 65	No	DEC	24	0:00	0:00
11	RT	Fire Threats	PGAE	NCNB	10/25/2019	65	No	DEC	1	0:00	1:00
12	RT	Fire Threats	PGAE	NCNB	10/25/2019	62 - 65	No	INC	1	0:00	1:00
13	RT	Fire Threats	SCE	LA Basin	10/11/2019	20	No	INC	8	16:30	0:00
14	RT	Fire Threats	SCE	LA Basin	10/24/2019	10 - 20	Yes	INC	5	19:00	0:00
15	RT	Fire Threats	SCE	LA Basin	10/25/2019	10 - 20	Yes	INC	24	0:00	0:00
16	RT	Fire Threats	SCE	LA Basin	10/30/2019	20	No	INC	12	12:00	0:00
17	RT	Fire Threats	SCE	LA Basin	10/31/2019	20	Yes	INC	24	0:00	0:00
18	RT	Incomplete or Inaccurate Transmission	PGAE	Fresno	10/22/2019	75	No	DEC	1	18:35	19:00
19	RT	Incomplete or Inaccurate Transmission	PGAE	Sierra	10/22/2019	0	No	DEC	1	19:00	20:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
20	RT	Incomplete or Inaccurate Transmission	PGAE	Stockton	10/30/2019	200 - 270	No	DEC	17	7:40	0:00
21	RT	Incomplete or Inaccurate Transmission	PGAE	Stockton	10/30/2019	240 - 270	No	INC	9	9:00	18:00
22	RT	Incomplete or Inaccurate Transmission	PGAE	Stockton	10/31/2019	200	No	DEC	2	0:00	2:00
23	RT	Load Forecast Uncertainty	PGAE	Bay Area	10/13/2019	175	No	INC	6	16:00	22:00
24	RT	Load Forecast Uncertainty	PGAE	Bay Area	10/17/2019	175	No	INC	16	6:00	22:00
25	RT	Load Forecast Uncertainty	PGAE	Bay Area	10/19/2019	120	No	INC	4	17:45	21:00
26	RT	Load Forecast Uncertainty	PGAE	Bay Area	10/29/2019	54	No	INC	11	12:00	23:00
27	RT	Load Forecast Uncertainty	PGAE	Bay Area	10/30/2019	120	No	INC	1	21:00	21:35
28	RT	Load Forecast Uncertainty	PGAE	Fresno	10/25/2019	83	No	DEC	1	17:00	18:00
29	RT	Load Forecast Uncertainty	PGAE	Fresno	10/25/2019	83	No	INC	1	16:50	17:00
30	RT	Load Forecast Uncertainty	PGAE	Fresno	10/30/2019	14 - 35	No	INC	1	21:00	21:35
31	RT	Load Forecast Uncertainty	PGAE	NA	10/7/2019	48.95	No	DEC	3	15:00	18:00
32	RT	Load Forecast Uncertainty	PGAE	NA	10/7/2019	48.95	No	INC	4	11:15	15:00
33	RT	Load Forecast Uncertainty	SCE	Big Creek-Ventura	10/30/2019	16	No	INC	1	21:00	21:35
34	RT	Load Forecast Uncertainty	SCE	LA Basin	10/12/2019	20	No	INC	5	17:00	22:00
35	RT	Load Forecast Uncertainty	SCE	LA Basin	10/28/2019	98	No	INC	1	23:00	0:00
36	RT	Load Forecast Uncertainty	SCE	LA Basin	10/29/2019	20 - 98	No	INC	24	0:00	0:00
37	RT	Load Forecast Uncertainty	SCE	LA Basin	10/30/2019	5 - 20	Yes	INC	22	0:00	21:35
38	RT	Load Forecast Uncertainty	SDGE	San Diego-IV	10/29/2019	225	No	INC	11	12:00	23:00
39	RT	Load Forecast Uncertainty	SDGE	San Diego-IV	10/30/2019	30	No	INC	1	21:00	21:35
40	RT	Market Disruption	SCE	LA Basin	10/22/2019	65 - 290	No	INC	4	9:30	13:00
41	RT	Market Disruption	SCE	NA	10/22/2019	241	No	INC	4	12:30	16:00
42	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/4/2019	45	No	INC	14	9:25	23:00
43	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/6/2019	32	No	DEC	4	17:00	21:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
44	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/6/2019	16 - 32	No	INC	17	7:05	0:00
45	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/7/2019	32 - 45	No	DEC	7	17:40	0:00
46	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/7/2019	32 - 45	No	INC	17	0:00	17:00
47	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/8/2019	14 - 32	No	DEC	22	0:00	21:40
48	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/8/2019	28 - 56	No	INC	23	1:00	0:00
49	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/9/2019	28 - 42	No	INC	2	0:00	1:45
50	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/11/2019	14 - 44	No	INC	18	2:00	19:45
51	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/13/2019	14 - 32	No	INC	19	3:15	21:30
52	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/15/2019	30	No	DEC	1	22:25	23:00
53	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/15/2019	16 - 30	No	INC	2	22:00	0:00
54	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/16/2019	30	No	DEC	3	17:00	20:00
55	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/16/2019	16 - 45	No	INC	24	0:00	0:00
56	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/17/2019	16	No	DEC	2	4:30	6:25
57	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/17/2019	30 - 42	No	INC	24	0:00	0:00
58	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	10/18/2019	28 - 30	No	INC	7	0:00	6:45
59	RT	Operating Procedure Number and Constraint (7430)	PGAE	Fresno	10/7/2019	75	No	INC	3	9:45	12:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
60	RT	Operating Procedure Number and Constraint (7430)	PGAE	Fresno	10/30/2019	80	No	INC	7	13:45	20:00
61	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/6/2019	415 - 440	No	DEC	7	17:30	0:00
62	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/6/2019	474	No	INC	2	16:10	17:30
63	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/7/2019	375 - 450	No	DEC	23	0:00	23:00
64	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/7/2019	435 - 470	No	INC	15	2:00	17:00
65	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/9/2019	430 - 450	No	DEC	5	17:15	22:00
66	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/9/2019	430 - 475	No	INC	16	7:50	23:00
67	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/12/2019	390 - 415	No	DEC	5	18:00	23:00
68	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/12/2019	415	No	INC	1	17:00	18:00
69	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/20/2019	375 - 411	No	DEC	23	1:00	0:00
70	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/20/2019	410 - 411	No	INC	17	0:55	17:00
71	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/21/2019	360 - 375	No	DEC	24	0:00	0:00
72	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/21/2019	360	No	INC	8	9:00	17:00
73	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/22/2019	360	No	DEC	1	0:00	1:00
74	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/22/2019	340 - 360	No	INC	10	14:10	0:00
75	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/23/2019	340	No	INC	1	0:00	1:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
76	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/24/2019	196 - 380	No	DEC	18	6:05	0:00
77	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/24/2019	195 - 300	No	INC	9	8:00	17:00
78	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/25/2019	300 - 320	No	DEC	24	0:00	0:00
79	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/25/2019	300 - 330	No	INC	8	8:00	16:00
80	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/26/2019	320 - 350	No	DEC	8	0:00	8:00
81	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/26/2019	300 - 350	No	INC	16	8:00	0:00
82	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/27/2019	300 - 350	No	INC	11	0:00	10:15
83	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/28/2019	415	No	DEC	1	22:00	23:00
84	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/28/2019	415	No	INC	8	16:45	0:00
85	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/29/2019	415	No	DEC	2	5:00	7:00
86	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/29/2019	415	No	INC	10	0:00	10:00
87	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	10/31/2019	410	No	DEC	7	17:00	0:00
88	RT	Other Reliability Requirement	PGAE	Bay Area	10/10/2019	20	No	INC	8	12:25	20:15
89	RT	Other Reliability Requirement	PGAE	Bay Area	10/12/2019	454	No	DEC	1	2:30	3:00
90	RT	Other Reliability Requirement	PGAE	Bay Area	10/12/2019	454	No	INC	1	3:00	3:45
91	RT	Other Reliability Requirement	PGAE	Bay Area	10/13/2019	450 - 485	No	DEC	2	22:45	0:00
92	RT	Other Reliability Requirement	PGAE	Bay Area	10/29/2019	20	No	INC	10	10:45	20:00
93	RT	Other Reliability Requirement	PGAE	Fresno	10/1/2019	4 - 12	No	INC	24	0:00	0:00
94	RT	Other Reliability Requirement	PGAE	Fresno	10/2/2019	4 - 12	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
95	RT	Other Reliability Requirement	PGAE	Fresno	10/3/2019	4 - 12	No	INC	24	0:00	0:00
96	RT	Other Reliability Requirement	PGAE	Fresno	10/4/2019	4 - 12	No	INC	24	0:00	0:00
97	RT	Other Reliability Requirement	PGAE	Fresno	10/5/2019	4 - 12	No	INC	24	0:00	0:00
98	RT	Other Reliability Requirement	PGAE	Fresno	10/6/2019	4 - 12	No	INC	24	0:00	0:00
99	RT	Other Reliability Requirement	PGAE	Fresno	10/7/2019	4 - 12	No	INC	24	0:00	0:00
100	RT	Other Reliability Requirement	PGAE	Fresno	10/8/2019	4 - 12	No	INC	24	0:00	0:00
101	RT	Other Reliability Requirement	PGAE	Fresno	10/9/2019	4 - 12	No	INC	24	0:00	0:00
102	RT	Other Reliability Requirement	PGAE	Fresno	10/10/2019	4 - 12	No	INC	24	0:00	0:00
103	RT	Other Reliability Requirement	PGAE	Fresno	10/11/2019	4 - 12	No	INC	24	0:00	0:00
104	RT	Other Reliability Requirement	PGAE	Fresno	10/12/2019	4 - 12	No	INC	24	0:00	0:00
105	RT	Other Reliability Requirement	PGAE	Fresno	10/13/2019	4 - 12	No	INC	24	0:00	0:00
106	RT	Other Reliability Requirement	PGAE	Fresno	10/14/2019	4 - 12	No	INC	24	0:00	0:00
107	RT	Other Reliability Requirement	PGAE	Fresno	10/15/2019	4 - 12	No	INC	24	0:00	0:00
108	RT	Other Reliability Requirement	PGAE	Fresno	10/16/2019	4 - 12	No	INC	24	0:00	0:00
109	RT	Other Reliability Requirement	PGAE	Fresno	10/17/2019	4 - 12	No	INC	24	0:00	0:00
110	RT	Other Reliability Requirement	PGAE	Fresno	10/18/2019	4 - 12	No	INC	24	0:00	0:00
111	RT	Other Reliability Requirement	PGAE	Fresno	10/19/2019	4 - 12	No	INC	24	0:00	0:00
112	RT	Other Reliability Requirement	PGAE	Fresno	10/20/2019	4 - 12	No	INC	24	0:00	0:00
113	RT	Other Reliability Requirement	PGAE	Fresno	10/21/2019	4 - 12	No	INC	24	0:00	0:00
114	RT	Other Reliability Requirement	PGAE	Fresno	10/22/2019	4 - 12	No	INC	24	0:00	0:00
115	RT	Other Reliability Requirement	PGAE	Fresno	10/23/2019	4 - 12	No	INC	24	0:00	0:00
116	RT	Other Reliability Requirement	PGAE	Fresno	10/24/2019	4 - 12	No	INC	24	0:00	0:00
117	RT	Other Reliability Requirement	PGAE	Fresno	10/25/2019	4 - 12	No	INC	24	0:00	0:00
118	RT	Other Reliability Requirement	PGAE	Fresno	10/26/2019	4 - 12	No	INC	24	0:00	0:00
119	RT	Other Reliability Requirement	PGAE	Fresno	10/27/2019	4 - 12	No	INC	24	0:00	0:00
120	RT	Other Reliability Requirement	PGAE	Fresno	10/28/2019	4 - 12	No	INC	24	0:00	0:00
121	RT	Other Reliability Requirement	PGAE	Fresno	10/29/2019	4 - 12	No	INC	24	0:00	0:00
122	RT	Other Reliability Requirement	PGAE	Fresno	10/30/2019	4 - 12	No	INC	24	0:00	0:00
123	RT	Other Reliability Requirement	PGAE	Fresno	10/31/2019	4 - 12	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
124	RT	Other Reliability Requirement	PGAE	Humboldt	10/7/2019	32	No	DEC	4	19:55	23:00
125	RT	Other Reliability Requirement	PGAE	NA	10/1/2019	38	No	INC	24	0:00	0:00
126	RT	Other Reliability Requirement	PGAE	NA	10/2/2019	38	No	INC	24	0:00	0:00
127	RT	Other Reliability Requirement	PGAE	NA	10/3/2019	38	No	INC	24	0:00	0:00
128	RT	Other Reliability Requirement	PGAE	NA	10/4/2019	38	No	INC	24	0:00	0:00
129	RT	Other Reliability Requirement	PGAE	NA	10/5/2019	38	No	INC	24	0:00	0:00
130	RT	Other Reliability Requirement	PGAE	NA	10/6/2019	38	No	INC	24	0:00	0:00
131	RT	Other Reliability Requirement	PGAE	NA	10/7/2019	38	No	INC	24	0:00	0:00
132	RT	Other Reliability Requirement	PGAE	NA	10/8/2019	38	No	INC	24	0:00	0:00
133	RT	Other Reliability Requirement	PGAE	NA	10/9/2019	38	No	INC	24	0:00	0:00
134	RT	Other Reliability Requirement	PGAE	NA	10/10/2019	38	No	INC	24	0:00	0:00
135	RT	Other Reliability Requirement	PGAE	NA	10/11/2019	38	No	INC	24	0:00	0:00
136	RT	Other Reliability Requirement	PGAE	NA	10/12/2019	38	No	INC	24	0:00	0:00
137	RT	Other Reliability Requirement	PGAE	NA	10/13/2019	38	No	INC	24	0:00	0:00
138	RT	Other Reliability Requirement	PGAE	NA	10/14/2019	38	No	INC	24	0:00	0:00
139	RT	Other Reliability Requirement	PGAE	NA	10/15/2019	38	No	INC	24	0:00	0:00
140	RT	Other Reliability Requirement	PGAE	NA	10/16/2019	38	No	INC	24	0:00	0:00
141	RT	Other Reliability Requirement	PGAE	NA	10/17/2019	38	No	INC	24	0:00	0:00
142	RT	Other Reliability Requirement	PGAE	NA	10/18/2019	38	No	INC	24	0:00	0:00
143	RT	Other Reliability Requirement	PGAE	NA	10/19/2019	38	No	INC	24	0:00	0:00
144	RT	Other Reliability Requirement	PGAE	NA	10/20/2019	38	No	INC	24	0:00	0:00
145	RT	Other Reliability Requirement	PGAE	NA	10/21/2019	38	No	INC	24	0:00	0:00
146	RT	Other Reliability Requirement	PGAE	NA	10/22/2019	20	No	DEC	3	11:45	14:15
147	RT	Other Reliability Requirement	PGAE	NA	10/22/2019	38	No	INC	24	0:00	0:00
148	RT	Other Reliability Requirement	PGAE	NA	10/23/2019	38	No	INC	24	0:00	0:00
149	RT	Other Reliability Requirement	PGAE	NA	10/24/2019	38	No	INC	24	0:00	0:00
150	RT	Other Reliability Requirement	PGAE	NA	10/25/2019	38	No	INC	24	0:00	0:00
151	RT	Other Reliability Requirement	PGAE	NA	10/26/2019	38	No	INC	24	0:00	0:00
152	RT	Other Reliability Requirement	PGAE	NA	10/27/2019	38	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
153	RT	Other Reliability Requirement	PGAE	NA	10/28/2019	38	No	INC	24	0:00	0:00
154	RT	Other Reliability Requirement	PGAE	NA	10/29/2019	38	No	INC	24	0:00	0:00
155	RT	Other Reliability Requirement	PGAE	NA	10/30/2019	38	No	INC	24	0:00	0:00
156	RT	Other Reliability Requirement	PGAE	NA	10/31/2019	38	No	INC	24	0:00	0:00
157	RT	Other Reliability Requirement	PGAE	NCNB	10/1/2019	70 - 80	No	DEC	15	9:55	0:00
158	RT	Other Reliability Requirement	PGAE	Sierra	10/2/2019	15 - 44	No	DEC	7	0:35	7:00
159	RT	Other Reliability Requirement	PGAE	Sierra	10/2/2019	15 - 29	No	INC	1	3:00	4:00
160	RT	Other Reliability Requirement	PGAE	Stockton	10/26/2019	215	No	DEC	3	19:30	22:00
161	RT	Other Reliability Requirement	PGAE	Stockton	10/26/2019	215	No	INC	2	22:00	0:00
162	RT	Planned Transmission Outage	PGAE	Bay Area	10/9/2019	175	No	INC	5	9:00	14:00
163	RT	Planned Transmission Outage	PGAE	Bay Area	10/10/2019	175	No	INC	13	9:00	22:00
164	RT	Planned Transmission Outage	PGAE	Bay Area	10/14/2019	54	No	INC	18	6:00	0:00
165	RT	Planned Transmission Outage	PGAE	Bay Area	10/15/2019	54	No	DEC	6	13:00	19:00
166	RT	Planned Transmission Outage	PGAE	Bay Area	10/15/2019	54	No	INC	13	0:00	13:00
167	RT	Planned Transmission Outage	PGAE	Bay Area	10/26/2019	175	No	INC	11	13:00	0:00
168	RT	Planned Transmission Outage	PGAE	Bay Area	10/27/2019	175	No	INC	24	0:00	0:00
169	RT	Planned Transmission Outage	PGAE	Bay Area	10/28/2019	175 - 360	No	INC	24	0:00	0:00
170	RT	Planned Transmission Outage	PGAE	Humboldt	10/1/2019	14 - 32	No	INC	24	0:00	0:00
171	RT	Planned Transmission Outage	PGAE	Humboldt	10/2/2019	14 - 32	No	INC	24	0:00	0:00
172	RT	Planned Transmission Outage	PGAE	Humboldt	10/3/2019	14 - 28	No	INC	24	0:00	0:00
173	RT	Planned Transmission Outage	PGAE	Humboldt	10/4/2019	14 - 32	No	INC	24	0:00	0:00
174	RT	Planned Transmission Outage	PGAE	Humboldt	10/5/2019	14 - 32	No	INC	24	0:00	0:00
175	RT	Planned Transmission Outage	PGAE	Humboldt	10/11/2019	28 - 32	No	DEC	6	16:00	22:00
176	RT	Planned Transmission Outage	PGAE	Humboldt	10/11/2019	28 - 44	No	INC	18	6:50	0:00
177	RT	Planned Transmission Outage	PGAE	Humboldt	10/12/2019	14	No	DEC	2	21:45	23:00
178	RT	Planned Transmission Outage	PGAE	Humboldt	10/12/2019	14 - 28	No	INC	24	0:00	0:00
179	RT	Planned Transmission Outage	PGAE	Humboldt	10/13/2019	14 - 28	No	INC	24	0:00	0:00
180	RT	Planned Transmission Outage	PGAE	Humboldt	10/14/2019	14	No	DEC	1	7:00	7:25

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
181	RT	Planned Transmission Outage	PGAE	Humboldt	10/14/2019	14 - 28	No	INC	24	0:00	0:00
182	RT	Planned Transmission Outage	PGAE	Humboldt	10/15/2019	14 - 45	No	DEC	17	6:10	22:30
183	RT	Planned Transmission Outage	PGAE	Humboldt	10/15/2019	14 - 65	No	INC	22	0:00	22:00
184	RT	Planned Transmission Outage	PGAE	Humboldt	10/18/2019	14 - 32	No	INC	18	6:25	0:00
185	RT	Planned Transmission Outage	PGAE	Humboldt	10/19/2019	16 - 32	No	INC	24	0:00	0:00
186	RT	Planned Transmission Outage	PGAE	Humboldt	10/20/2019	28	No	DEC	5	17:00	22:00
187	RT	Planned Transmission Outage	PGAE	Humboldt	10/20/2019	15 - 28	No	INC	24	0:00	0:00
188	RT	Planned Transmission Outage	PGAE	Humboldt	10/21/2019	28 - 45	No	DEC	6	16:00	22:00
189	RT	Planned Transmission Outage	PGAE	Humboldt	10/21/2019	28 - 45	No	INC	24	0:00	0:00
190	RT	Planned Transmission Outage	PGAE	Humboldt	10/22/2019	30 - 60	No	DEC	7	16:00	23:00
191	RT	Planned Transmission Outage	PGAE	Humboldt	10/22/2019	15 - 60	No	INC	24	0:00	0:00
192	RT	Planned Transmission Outage	PGAE	Humboldt	10/23/2019	16 - 60	No	DEC	9	15:00	0:00
193	RT	Planned Transmission Outage	PGAE	Humboldt	10/23/2019	16 - 60	No	INC	24	0:00	0:00
194	RT	Planned Transmission Outage	PGAE	Humboldt	10/24/2019	16 - 30	No	DEC	22	0:00	22:00
195	RT	Planned Transmission Outage	PGAE	Humboldt	10/24/2019	30 - 45	No	INC	24	0:00	0:00
196	RT	Planned Transmission Outage	PGAE	Humboldt	10/25/2019	30 - 45	No	DEC	5	17:00	22:00
197	RT	Planned Transmission Outage	PGAE	Humboldt	10/25/2019	30 - 45	No	INC	24	0:00	0:00
198	RT	Planned Transmission Outage	PGAE	Humboldt	10/26/2019	15	No	DEC	20	0:45	20:00
199	RT	Planned Transmission Outage	PGAE	Humboldt	10/26/2019	15 - 30	No	INC	22	0:00	22:00
200	RT	Planned Transmission Outage	PGAE	Humboldt	10/28/2019	30 - 45	No	INC	6	18:45	0:00
201	RT	Planned Transmission Outage	PGAE	Humboldt	10/29/2019	15 - 45	No	INC	24	0:00	0:00
202	RT	Planned Transmission Outage	PGAE	Humboldt	10/30/2019	45 - 60	No	DEC	5	17:00	22:00
203	RT	Planned Transmission Outage	PGAE	Humboldt	10/30/2019	45 - 60	No	INC	24	0:00	0:00
204	RT	Planned Transmission Outage	PGAE	Humboldt	10/31/2019	30 - 60	No	DEC	6	17:00	23:00
205	RT	Planned Transmission Outage	PGAE	Humboldt	10/31/2019	30 - 60	No	INC	24	0:00	0:00
206	RT	Planned Transmission Outage	PGAE	NA	10/22/2019	20	No	DEC	4	13:50	17:00
207	RT	Planned Transmission Outage	PGAE	NA	10/22/2019	20	No	INC	2	17:00	19:00
208	RT	Planned Transmission Outage	PGAE	NCNB	10/9/2019	60	No	DEC	5	9:00	14:00
209	RT	Planned Transmission Outage	PGAE	NCNB	10/9/2019	60	No	INC	14	1:45	15:45

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
210	RT	Planned Transmission Outage	PGAE	Sierra	10/4/2019	32	Yes	INC	1	23:00	0:00
211	RT	Planned Transmission Outage	PGAE	Sierra	10/5/2019	32	No	INC	17	0:00	17:00
212	RT	Planned Transmission Outage	PGAE	Stockton	10/31/2019	220	No	DEC	5	19:10	0:00
213	RT	Planned Transmission Outage	SCE	Big Creek-Ventura	10/21/2019	190 - 350	No	INC	1	7:50	8:45
214	RT	Planned Transmission Outage	SCE	Big Creek-Ventura	10/23/2019	47.1 - 400	No	INC	4	9:20	12:45
215	RT	Planned Transmission Outage	SCE	LA Basin	10/21/2019	225 - 335	No	INC	5	7:50	12:00
216	RT	Planned Transmission Outage	SCE	LA Basin	10/22/2019	147	No	DEC	2	20:50	22:00
217	RT	Planned Transmission Outage	SCE	LA Basin	10/22/2019	65 - 240	No	INC	14	9:10	23:00
218	RT	Planned Transmission Outage	SCE	LA Basin	10/23/2019	10 - 241	Yes	INC	22	2:00	0:00
219	RT	Planned Transmission Outage	SCE	LA Basin	10/24/2019	10 - 20	No	DEC	7	13:00	20:00
220	RT	Planned Transmission Outage	SCE	LA Basin	10/24/2019	10 - 20	No	INC	17	0:00	17:00
221	RT	Planned Transmission Outage	SCE	LA Basin	10/25/2019	20	No	INC	4	20:00	0:00
222	RT	Planned Transmission Outage	SCE	LA Basin	10/26/2019	20	Yes	INC	24	0:00	0:00
223	RT	Planned Transmission Outage	SCE	LA Basin	10/27/2019	20 - 98	No	INC	24	0:00	0:00
224	RT	Planned Transmission Outage	SCE	NA	10/1/2019	200	No	INC	1	0:00	1:00
225	RT	Planned Transmission Outage	SCE	NA	10/2/2019	625	No	DEC	7	15:35	22:00
226	RT	Planned Transmission Outage	SCE	NA	10/3/2019	200	No	DEC	7	17:00	0:00
227	RT	Planned Transmission Outage	SCE	NA	10/4/2019	200	No	DEC	24	0:00	0:00
228	RT	Planned Transmission Outage	SCE	NA	10/5/2019	200	No	DEC	24	0:00	0:00
229	RT	Planned Transmission Outage	SCE	NA	10/6/2019	200 - 695	No	DEC	21	0:00	21:00
230	RT	Planned Transmission Outage	SCE	NA	10/7/2019	200	No	DEC	7	17:00	0:00
231	RT	Planned Transmission Outage	SCE	NA	10/8/2019	200	No	DEC	7	17:00	0:00
232	RT	Planned Transmission Outage	SCE	NA	10/9/2019	200	No	DEC	8	16:00	0:00
233	RT	Planned Transmission Outage	SCE	NA	10/10/2019	200	No	DEC	8	16:00	0:00
234	RT	Planned Transmission Outage	SCE	NA	10/11/2019	200	No	DEC	8	16:00	0:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
235	RT	Planned Transmission Outage	SCE	NA	10/12/2019	200	No	DEC	8	16:00	0:00
236	RT	Planned Transmission Outage	SCE	NA	10/13/2019	200	No	DEC	8	16:00	0:00
237	RT	Planned Transmission Outage	SCE	NA	10/14/2019	200	No	DEC	8	16:00	0:00
238	RT	Planned Transmission Outage	SCE	NA	10/15/2019	200	No	DEC	8	16:00	0:00
239	RT	Planned Transmission Outage	SCE	NA	10/16/2019	200	No	DEC	8	16:00	0:00
240	RT	Planned Transmission Outage	SCE	NA	10/17/2019	200	No	DEC	8	16:00	0:00
241	RT	Planned Transmission Outage	SCE	NA	10/18/2019	200	No	DEC	8	16:00	0:00
242	RT	Planned Transmission Outage	SCE	NA	10/19/2019	200	No	DEC	8	16:00	0:00
243	RT	Planned Transmission Outage	SCE	NA	10/20/2019	200	No	DEC	8	16:00	0:00
244	RT	Planned Transmission Outage	SCE	NA	10/21/2019	200	No	DEC	8	16:00	0:00
245	RT	Planned Transmission Outage	SCE	NA	10/22/2019	200 - 226	No	DEC	16	8:30	0:00
246	RT	Planned Transmission Outage	SCE	NA	10/23/2019	200	No	DEC	8	16:00	0:00
247	RT	Planned Transmission Outage	SCE	NA	10/24/2019	200	No	DEC	8	16:00	0:00
248	RT	Planned Transmission Outage	SCE	NA	10/25/2019	200	No	DEC	8	16:00	0:00
249	RT	Planned Transmission Outage	SCE	NA	10/26/2019	200	No	DEC	8	16:00	0:00
250	RT	Planned Transmission Outage	SCE	NA	10/27/2019	200	No	DEC	8	16:00	0:00
251	RT	Planned Transmission Outage	SCE	NA	10/28/2019	200	No	DEC	8	16:00	0:00
252	RT	Planned Transmission Outage	SCE	NA	10/29/2019	200	No	DEC	8	16:00	0:00
253	RT	Planned Transmission Outage	SCE	NA	10/30/2019	200	No	DEC	8	16:00	0:00
254	RT	Planned Transmission Outage	SDGE	San Diego-IV	10/24/2019	282	No	DEC	4	20:20	0:00
255	RT	Planned Transmission Outage	SDGE	San Diego-IV	10/25/2019	282	No	INC	1	0:00	1:00
256	RT	Ramping Capacity	PGAE	Bay Area	10/4/2019	120 - 200	No	INC	3	17:50	20:00
257	RT	Ramping Capacity	PGAE	Bay Area	10/13/2019	200	No	INC	4	17:05	21:00
258	RT	Ramping Capacity	SCE	LA Basin	10/4/2019	40 - 96	No	INC	2	18:00	19:45
259	RT	Software Limitation	PGAE	Bay Area	10/2/2019	288 - 580	No	DEC	4	0:40	4:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
260	RT	Software Limitation	PGAE	Bay Area	10/2/2019	330 - 580	No	INC	2	2:55	4:00
261	RT	Software Limitation	PGAE	Bay Area	10/4/2019	120	No	INC	2	18:45	20:00
262	RT	Software Limitation	PGAE	Bay Area	10/9/2019	357	No	INC	2	16:25	17:30
263	RT	Software Limitation	PGAE	Bay Area	10/30/2019	120	No	INC	1	20:40	21:00
264	RT	Software Limitation	PGAE	Fresno	10/8/2019	83	No	DEC	2	19:05	21:00
265	RT	Software Limitation	PGAE	Fresno	10/22/2019	83	No	DEC	1	16:45	17:30
266	RT	Software Limitation	PGAE	Fresno	10/30/2019	14 - 35	No	INC	1	20:40	21:00
267	RT	Software Limitation	PGAE	Kern	10/4/2019	43	No	INC	3	21:25	0:00
268	RT	Software Limitation	SCE	Big Creek-Ventura	10/2/2019	452	No	DEC	2	2:55	4:00
269	RT	Software Limitation	SCE	Big Creek-Ventura	10/13/2019	49.9	No	DEC	1	16:15	17:00
270	RT	Software Limitation	SCE	Big Creek-Ventura	10/30/2019	33	No	INC	1	20:40	21:00
271	RT	Software Limitation	SCE	LA Basin	10/11/2019	65	No	INC	3	18:00	21:00
272	RT	Software Limitation	SCE	LA Basin	10/12/2019	65	No	INC	3	18:00	21:00
273	RT	Software Limitation	SCE	LA Basin	10/16/2019	0	No	INC	1	21:25	22:20
274	RT	Software Limitation	SCE	LA Basin	10/21/2019	194	No	INC	7	15:45	22:00
275	RT	Software Limitation	SCE	LA Basin	10/22/2019	0	No	DEC	1	11:45	12:15
276	RT	Software Limitation	SCE	LA Basin	10/22/2019	20	No	INC	13	0:00	13:00
277	RT	Software Limitation	SCE	LA Basin	10/23/2019	190 - 250	No	INC	8	12:50	20:45
278	RT	Software Limitation	SCE	LA Basin	10/24/2019	65 - 194	No	DEC	4	16:50	20:00
279	RT	Software Limitation	SCE	LA Basin	10/24/2019	65 - 194	No	INC	7	13:45	20:00
280	RT	Software Limitation	SCE	LA Basin	10/25/2019	65 - 194	No	INC	6	14:00	20:00
281	RT	Software Limitation	SCE	LA Basin	10/27/2019	190 - 194	No	INC	3	17:15	20:00
282	RT	Software Limitation	SCE	LA Basin	10/29/2019	190 - 194	No	INC	5	17:50	22:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
283	RT	Software Limitation	SCE	LA Basin	10/30/2019	5 - 194	No	INC	10	12:30	22:00
284	RT	Software Limitation	SCE	LA Basin	10/31/2019	190 - 194	No	INC	4	16:00	20:00
285	RT	Software Limitation	SDGE	San Diego-IV	10/30/2019	30	No	INC	1	20:40	21:00
286	RT	SOL	PGAE	Stockton	10/8/2019	145	No	DEC	4	18:00	22:00
287	RT	Unit Testing	PGAE	Fresno	10/29/2019	200	No	INC	1	15:50	16:20
288	RT	Unit Testing	SCE	Big Creek-Ventura	10/29/2019	49	No	DEC	1	13:35	14:00
289	RT	Unit Testing	SCE	Big Creek-Ventura	10/29/2019	160	No	INC	1	14:00	15:00
290	RT	Unplanned Outage	PGAE	Fresno	10/24/2019	83	No	INC	1	7:05	8:00
291	RT	Unplanned Outage	SDGE	San Diego-IV	10/29/2019	24	No	DEC	2	17:10	19:00
292	RT	Unplanned Outage	SDGE	San Diego-IV	10/29/2019	24	No	INC	1	19:00	20:00
293	RT	Voltage Support	PGAE	Fresno	10/14/2019	-314	No	DEC	2	3:00	5:00
294	RT	Voltage Support	PGAE	Fresno	10/16/2019	-306	No	DEC	3	3:25	6:00
295	RT	Voltage Support	PGAE	Fresno	10/29/2019	-317	No	DEC	3	2:50	5:00
296	RT	Voltage Support	PGAE	Fresno	10/30/2019	-317	No	DEC	3	2:15	5:00
297	RT	Voltage Support	PGAE	Humboldt	10/9/2019	16	No	DEC	2	20:55	22:50
298	RT	Voltage Support	PGAE	Humboldt	10/9/2019	32	No	INC	2	22:40	0:00
299	RT	Voltage Support	PGAE	Humboldt	10/10/2019	14	No	DEC	5	17:00	22:00
300	RT	Voltage Support	PGAE	Humboldt	10/10/2019	14 - 60	No	INC	24	0:00	0:00
301	RT	Voltage Support	PGAE	Humboldt	10/11/2019	14 - 60	No	INC	3	0:00	2:15
302	RT	Voltage Support	PGAE	Humboldt	10/27/2019	28	No	INC	1	21:10	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