

March 15, 2019

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 Frist Street, NE
Washington, DC 20426

**Re: California Independent System Operator Corporation
Docket Nos. ER08-1178-___ and EL08-88-___
January 2019 Exceptional Dispatch Report (Chart 1 data)**

Dear Secretary Bose:

Pursuant to the Federal Energy Regulatory Commission's (Commission) September 2, 2009 (September 2 Order), and May 4, 2010 (May 4 Order) orders in the above-referenced dockets, the California Independent System Operator Corporation (CAISO) submits the attached report for filing. The attached report provides details concerning Exceptional Dispatches the Commission directed to be included in "Chart 1" as set forth in Appendix A of the September 2 Order, as modified by the CAISO's September 14, 2009, motion for clarification, which the Commission granted in its May 4 Order. The attached report provides Chart 1 data for the month of January 2019.

Respectfully submitted,

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Exceptional Dispatch Report

Table 1: January 2019

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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 issued on the 30th of each month. This report provides data on the frequency and reasons for Exceptional Dispatches issued in January 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 January 2019 was not related to generation or transmission operating procedures: Software Limitation, when an exceptional dispatch instruction was used to bridge schedules across days for resources with a minimum down time of 24 hours, as the CAISO software does not handle multi-day commitment. For instance, a resource has a day-ahead schedule from 0600 till 2300, and then is shut down in 2400. If this resource had a minimum down time of 24 hours and it is required the

¹ The CAISO can issue exceptional dispatch instructions subject to authority of the CAISO Tariff Section 34.11 and in accordance with CAISO Operating Procedure 2330 (formerly M-402).

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

following day, then the CAISO issues an exceptional dispatch to commit this resource in 2400 so it can be dispatched economically in the following day. Software limitation reason was also used for exceptional dispatches to manually issue shut down instructions to a resource because of a temporary Automatic Dispatch System (“ADS”) failure, or similar issues. Interconnection Reliability Operating Limits (IROL) are system operating limits that are established to prevent instability, uncontrolled separation or cascading as described in operating procedure 3100. There were a few other reasons used to explain exceptional dispatch instructions in January 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 152 exceptional dispatches in January 2019, as compared to 136 exceptional dispatches in December 2018. Exceptional dispatches issued for the following reasons accounted for approximately 40 percent of the total exceptional dispatches during the reporting period: planned transmission outages, software limitations, load forecast uncertainty, and operating procedure number 7110 (along with 7720 and 7820).

³ The data in Table 1 is principally SLIC information supplemented with data from the Market Quality System (MQS). It is the most accurate currently available and it is worth noting that this data has been through the T+38B initial statement process wherein many unresolved issues are fixed. The CAISO believes that this data will correlate well with the settlements data that will be available when the CAISO files the Table 2 report for the reporting period.

Table 1: Exceptional Dispatches in January 2019

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

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

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
1	RT	Fast Start Unit Management	SCE	Big Creek-Ventura	1/29/2019	0	No	INC	1	21:35	22:35
2	RT	Incomplete or Inaccurate Transmission	PGAE	Sierra	1/28/2019	10 - 80	No	INC	6	9:35	15:00
3	RT	IROL	PGAE	Fresno	1/31/2019	400	No	INC	1	7:45	8:15
4	RT	IROL	SCE	LA Basin	1/31/2019	225	No	INC	1	8:00	8:15
5	RT	Load Forecast Uncertainty	PGAE	Fresno	1/14/2019	83	No	INC	4	8:15	12:00
6	RT	Load Forecast Uncertainty	PGAE	Fresno	1/15/2019	83	Yes	INC	3	13:35	16:00
7	RT	Load Forecast Uncertainty	PGAE	Fresno	1/28/2019	83	No	DEC	1	6:00	7:00
8	RT	Load Forecast Uncertainty	PGAE	NA	1/15/2019	47	No	INC	3	12:00	15:00
9	RT	Market Disruption	PGAE	Bay Area	1/1/2019	288 - 408	No	DEC	3	21:45	0:00
10	RT	Market Disruption	PGAE	Bay Area	1/1/2019	544	No	INC	1	23:25	23:30
11	RT	Market Disruption	PGAE	Bay Area	1/2/2019	288	No	DEC	3	0:00	2:30
12	RT	Market Disruption	PGAE	Fresno	1/1/2019	0	No	INC	1	22:00	23:00
13	RT	Market Disruption	PGAE	NA	1/1/2019	306 - 350	No	DEC	3	21:45	0:00
14	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/1/2019	30	No	INC	5	17:30	22:00
15	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/2/2019	14	No	INC	6	7:05	13:00
16	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/3/2019	14	No	INC	8	7:25	15:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
17	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/4/2019	14 - 32	No	INC	17	6:30	23:00
18	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/10/2019	14	No	INC	3	7:35	10:00
19	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/14/2019	32	No	INC	1	23:10	0:00
20	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/15/2019	16	No	DEC	6	1:30	7:00
21	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/15/2019	32	No	INC	2	0:00	1:30
22	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/16/2019	32	No	INC	7	17:30	0:00
23	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/17/2019	16	No	DEC	3	4:00	7:00
24	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/17/2019	32	No	INC	23	0:00	23:00
25	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/20/2019	30	No	INC	3	17:30	20:00
26	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/21/2019	32	No	INC	14	8:00	22:00
27	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/22/2019	32	No	INC	15	8:45	23:00
28	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/23/2019	32	No	INC	13	7:10	20:00
29	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/24/2019	30	No	INC	14	7:40	21:00
30	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/25/2019	16	No	DEC	12	12:00	0:00
31	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/25/2019	32	No	INC	14	8:05	22:00
32	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/26/2019	16	No	DEC	1	0:00	0:45

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
33	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/29/2019	32	No	INC	5	18:00	23:00
34	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	1/31/2019	32	No	INC	3	7:35	10:00
35	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	1/2/2019	475 - 476	No	INC	1	17:35	18:30
36	RT	Operating Procedure Number and Constraint (7820)	SDGE	San Diego-IV	1/2/2019	155	No	INC	8	14:45	22:30
37	RT	Other Reliability Requirement	Intertie	CAISO Import	1/8/2019	10	No	INC	1	15:10	16:00
38	RT	Planned Transmission Outage	PGAE	Fresno	1/6/2019	10 - 18	No	INC	5	1:25	5:30
39	RT	Planned Transmission Outage	PGAE	Fresno	1/7/2019	83	No	INC	1	8:05	8:10
40	RT	Planned Transmission Outage	PGAE	Fresno	1/11/2019	83 - 220	No	INC	8	9:30	17:00
41	RT	Planned Transmission Outage	PGAE	Fresno	1/22/2019	90	Yes	INC	3	9:25	11:45
42	RT	Planned Transmission Outage	PGAE	Fresno	1/31/2019	400	No	INC	1	7:15	7:55
43	RT	Planned Transmission Outage	PGAE	Humboldt	1/9/2019	15	No	INC	14	7:55	21:00
44	RT	Planned Transmission Outage	PGAE	Humboldt	1/11/2019	30	No	INC	10	7:20	17:00
45	RT	Planned Transmission Outage	PGAE	Humboldt	1/14/2019	48	No	INC	2	7:50	9:00
46	RT	Planned Transmission Outage	PGAE	Humboldt	1/15/2019	15 - 30	No	INC	13	7:10	20:00
47	RT	Planned Transmission Outage	PGAE	Humboldt	1/18/2019	45	No	INC	5	10:30	15:00
48	RT	Planned Transmission Outage	PGAE	Stockton	1/10/2019	20	No	DEC	1	15:00	15:30
49	RT	Planned Transmission Outage	PGAE	Stockton	1/10/2019	15 - 20	No	INC	5	10:55	15:00
50	RT	Planned Transmission Outage	PGAE	Stockton	1/11/2019	25	No	DEC	1	14:00	15:00
51	RT	Planned Transmission Outage	PGAE	Stockton	1/11/2019	25	No	INC	1	13:00	14:00
52	RT	Planned Transmission Outage	PGAE	Stockton	1/12/2019	230 - 235	No	DEC	1	19:55	20:40
53	RT	Planned Transmission Outage	PGAE	Stockton	1/12/2019	237	No	INC	2	20:40	22:00
54	RT	Planned Transmission Outage	PGAE	Stockton	1/14/2019	225	No	DEC	3	5:30	8:30
55	RT	Planned Transmission Outage	PGAE	NA	1/12/2019	9	No	DEC	3	11:55	14:00
56	RT	Planned Transmission Outage	PGAE	NA	1/12/2019	9	No	INC	2	14:00	15:45
57	RT	Planned Transmission Outage	SCE	LA Basin	1/31/2019	225	No	INC	1	7:30	8:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
58	RT	Planned Transmission Outage	SCE	NA	1/14/2019	196 - 200	No	DEC	8	10:35	18:00
59	RT	Planned Transmission Outage	SCE	NA	1/17/2019	190 - 226	No	DEC	9	15:30	0:00
60	RT	Planned Transmission Outage	SCE	NA	1/18/2019	166 - 196	No	DEC	7	17:40	0:00
61	RT	Planned Transmission Outage	SCE	NA	1/19/2019	166 - 190	No	DEC	20	0:00	20:00
62	RT	Planned Transmission Outage	SCE	NA	1/31/2019	150	No	DEC	1	7:50	8:10
63	RT	Planned Transmission Outage	SDGE	San Diego-IV	1/10/2019	21	No	INC	4	10:00	14:00
64	RT	Pump Management	PGAE	Fresno	1/28/2019	0	No	DEC	1	5:00	6:00
65	RT	Pump Management	PGAE	Fresno	1/28/2019	0	No	INC	1	5:30	6:30
66	RT	Ramping Capacity	SDGE	San Diego-IV	1/28/2019	50	No	INC	1	9:15	10:00
67	RT	Software Limitation	PGAE	Bay Area	1/27/2019	545	No	INC	1	9:00	9:15
68	RT	Software Limitation	PGAE	Fresno	1/14/2019	0	No	DEC	1	18:25	18:55
69	RT	Software Limitation	PGAE	Fresno	1/14/2019	0	No	INC	1	18:25	18:55
70	RT	Software Limitation	PGAE	Sierra	1/2/2019	0	No	DEC	1	1:50	2:50
71	RT	Software Limitation	SCE	LA Basin	1/16/2019	15	No	DEC	2	1:40	3:00
72	RT	Software Limitation	SDGE	San Diego-IV	1/16/2019	0	No	DEC	5	19:55	0:00
73	RT	Software Limitation	SDGE	San Diego-IV	1/17/2019	0	No	INC	1	0:00	0:55
74	RT	Software Limitation	SDGE	San Diego-IV	1/23/2019	522	No	INC	3	17:30	20:00
75	RT	Unit Testing	Intertie	NA	1/15/2019	20	No	INC	1	7:10	8:00
76	RT	Unit Testing	PGAE	Fresno	1/15/2019	370	No	INC	1	18:35	19:30
77	RT	Unit Testing	PGAE	Fresno	1/22/2019	83	No	DEC	1	18:00	19:00
78	RT	Unit Testing	PGAE	Sierra	1/17/2019	16	No	INC	1	1:10	1:35
79	RT	Unit Testing	PGAE	NA	1/17/2019	484	No	DEC	1	23:40	0:00
80	RT	Unit Testing	PGAE	NA	1/19/2019	80	No	INC	1	10:30	11:00
81	RT	Unit Testing	PGAE	NA	1/24/2019	38.96	No	INC	1	20:05	20:35
82	RT	Unit Testing	SCE	Big Creek-Ventura	1/11/2019	48.44	No	INC	1	6:10	7:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
83	RT	Unit Testing	SCE	Big Creek-Ventura	1/19/2019	48	No	INC	1	6:20	6:50
84	RT	Unit Testing	SCE	LA Basin	1/3/2019	11	No	INC	1	0:10	0:40
85	RT	Unit Testing	SCE	LA Basin	1/11/2019	90.38	No	INC	1	6:10	7:00
86	RT	Unit Testing	SCE	LA Basin	1/15/2019	72 - 90	No	INC	3	0:15	3:00
87	RT	Unit Testing	SCE	LA Basin	1/29/2019	96	No	INC	6	11:15	16:20
88	RT	Unit Testing	SDGE	San Diego-IV	1/26/2019	25 - 92	No	INC	10	7:30	17:00
89	RT	Unit Testing	SDGE	San Diego-IV	1/27/2019	75 - 88	No	INC	6	8:45	14:00
90	RT	Unplanned Outage	PGAE	Bay Area	1/2/2019	175	No	INC	6	15:30	21:00
91	RT	Unplanned Outage	SCE	LA Basin	1/2/2019	98	No	INC	7	17:00	0:00
92	RT	Unplanned Outage	SDGE	San Diego-IV	1/2/2019	335 - 350	No	DEC	2	10:15	12:00
93	RT	Unplanned Outage	SDGE	San Diego-IV	1/2/2019	200	No	INC	3	11:15	13:30
94	RT	Voltage Support	PGAE	Fresno	1/1/2019	83	No	INC	17	0:00	17:00
95	RT	Voltage Support	PGAE	Fresno	1/5/2019	-303	No	DEC	22	2:00	0:00
96	RT	Voltage Support	PGAE	Fresno	1/6/2019	-303	No	DEC	6	0:00	5:30
97	RT	Voltage Support	PGAE	Fresno	1/6/2019	83	No	INC	2	7:10	8:15
98	RT	Voltage Support	PGAE	Fresno	1/8/2019	-313	No	DEC	23	1:00	0:00
99	RT	Voltage Support	PGAE	Fresno	1/9/2019	-313.5 - - 313	No	DEC	24	0:00	0:00
100	RT	Voltage Support	PGAE	Fresno	1/10/2019	-313.5 - - 313	No	DEC	24	0:00	0:00
101	RT	Voltage Support	PGAE	Fresno	1/11/2019	-313	No	DEC	7	0:00	7:00
102	RT	Voltage Support	PGAE	Fresno	1/12/2019	-320 - - 313	No	DEC	24	0:30	0:00
103	RT	Voltage Support	PGAE	Fresno	1/13/2019	-315 - - 313	No	DEC	24	0:00	0:00
104	RT	Voltage Support	PGAE	Fresno	1/14/2019	-315	No	DEC	6	0:00	5:45
105	RT	Voltage Support	PGAE	Fresno	1/15/2019	-315 - - 311	No	DEC	23	1:15	0:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
106	RT	Voltage Support	PGAE	Fresno	1/16/2019	-315 -- 311	No	DEC	24	0:00	0:00
107	RT	Voltage Support	PGAE	Fresno	1/17/2019	-318 -- 315	No	DEC	24	0:00	0:00
108	RT	Voltage Support	PGAE	Fresno	1/18/2019	-318.5 -- 318	No	DEC	24	0:00	0:00
109	RT	Voltage Support	PGAE	Fresno	1/19/2019	-318.5 -- 318	No	DEC	24	0:00	0:00
110	RT	Voltage Support	PGAE	Fresno	1/20/2019	-318	No	DEC	16	0:00	16:00
111	RT	Voltage Support	PGAE	Fresno	1/20/2019	-318 - 83	Yes	INC	7	10:00	17:00
112	RT	Voltage Support	PGAE	Fresno	1/21/2019	-318	No	DEC	6	4:30	10:00
113	RT	Voltage Support	PGAE	Fresno	1/22/2019	-317.5 -- 317	No	DEC	21	3:30	0:00
114	RT	Voltage Support	PGAE	Fresno	1/23/2019	-317.5 -- 317	No	DEC	24	0:00	0:00
115	RT	Voltage Support	PGAE	Fresno	1/24/2019	-317	No	DEC	24	0:00	0:00
116	RT	Voltage Support	PGAE	Fresno	1/25/2019	-317	No	DEC	6	0:00	5:45
117	RT	Voltage Support	PGAE	Fresno	1/26/2019	-312	No	DEC	3	4:30	7:00
118	RT	Voltage Support	PGAE	Fresno	1/26/2019	83	Yes	INC	2	15:45	17:00
119	RT	Voltage Support	PGAE	Fresno	1/27/2019	-312	No	DEC	24	0:15	0:00
120	RT	Voltage Support	PGAE	Fresno	1/27/2019	83	No	INC	2	15:35	17:00
121	RT	Voltage Support	PGAE	Fresno	1/28/2019	-312 -- 305	No	DEC	24	0:00	0:00
122	RT	Voltage Support	PGAE	Fresno	1/29/2019	-305	No	DEC	5	0:00	4:30
123	RT	Voltage Support	PGAE	Fresno	1/30/2019	-312	No	DEC	24	0:30	0:00
124	RT	Voltage Support	PGAE	Fresno	1/31/2019	-312 -- 311	No	DEC	24	0:00	0:00
125	RT	Voltage Support	SCE	NA	1/4/2019	125	No	DEC	24	0:00	0:00
126	RT	Voltage Support	SCE	NA	1/5/2019	125	No	DEC	24	0:00	0:00
127	RT	Voltage Support	SCE	NA	1/6/2019	125	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
128	RT	Voltage Support	SCE	NA	1/7/2019	125	No	DEC	24	0:00	0:00
129	RT	Voltage Support	SCE	NA	1/8/2019	125	No	DEC	24	0:00	0:00
130	RT	Voltage Support	SCE	NA	1/9/2019	125	No	DEC	24	0:00	0:00
131	RT	Voltage Support	SCE	NA	1/10/2019	125	No	DEC	24	0:00	0:00
132	RT	Voltage Support	SCE	NA	1/11/2019	125	No	DEC	24	0:00	0:00
133	RT	Voltage Support	SCE	NA	1/12/2019	125	No	DEC	24	0:00	0:00
134	RT	Voltage Support	SCE	NA	1/13/2019	125	No	DEC	24	0:00	0:00
135	RT	Voltage Support	SCE	NA	1/14/2019	125	No	DEC	24	0:00	0:00
136	RT	Voltage Support	SCE	NA	1/15/2019	125	No	DEC	24	0:00	0:00
137	RT	Voltage Support	SCE	NA	1/16/2019	125	No	DEC	24	0:00	0:00
138	RT	Voltage Support	SCE	NA	1/17/2019	125	No	DEC	24	0:00	0:00
139	RT	Voltage Support	SCE	NA	1/18/2019	125	No	DEC	24	0:00	0:00
140	RT	Voltage Support	SCE	NA	1/19/2019	125	No	DEC	24	0:00	0:00
141	RT	Voltage Support	SCE	NA	1/20/2019	125	No	DEC	24	0:00	0:00
142	RT	Voltage Support	SCE	NA	1/21/2019	125	No	DEC	24	0:00	0:00
143	RT	Voltage Support	SCE	NA	1/22/2019	125	No	DEC	24	0:00	0:00
144	RT	Voltage Support	SCE	NA	1/23/2019	125	No	DEC	24	0:00	0:00
145	RT	Voltage Support	SCE	NA	1/24/2019	125	No	DEC	24	0:00	0:00
146	RT	Voltage Support	SCE	NA	1/25/2019	125	No	DEC	24	0:00	0:00
147	RT	Voltage Support	SCE	NA	1/26/2019	125	No	DEC	24	0:00	0:00
148	RT	Voltage Support	SCE	NA	1/27/2019	125	No	DEC	24	0:00	0:00
149	RT	Voltage Support	SCE	NA	1/28/2019	125	No	DEC	24	0:00	0:00
150	RT	Voltage Support	SCE	NA	1/29/2019	125	No	DEC	24	0:00	0:00
151	RT	Voltage Support	SCE	NA	1/30/2019	125	No	DEC	24	0:00	0:00
152	RT	Voltage Support	SCE	NA	1/31/2019	125	No	DEC	24	0:00	0:00

Appendix A: Explanation by Example

All examples listed below are based on fictitious data.

Example 1: Exceptional Dispatch Instructions Prior to DAM

In this fictitious example, the CAISO issued an exceptional dispatch instruction for resource A to be committed at its physical minimum (Pmin) of 50 MW from hours ending 5 through 10 for a generation procedure 7630. Similarly, the CAISO issued additional instructions to resources B and C for the same reason as shown in Table 2. Generally, exceptional dispatches prior to the day-ahead market are commitments to minimum load. Here the dispatch levels are all at minimum load.

Table 2: Instructions Prior to Day-Ahead Market

Date	Market	Resource	Location	Local Reliability Area (LRA)	Begin Time	End Time	Dispatch Level (MW)	Reason
01-Jul-09	DA	A	SCE	LA BASIN	05:00	10:00	50	7630
01-Jul-09	DA	B	SCE	LA BASIN	08:00	20:00	30	7630
01-Jul-09	DA	C	SCE	LA BASIN	09:00	23:00	20	7630

This data is summarized as shown in Table 3, which is the prescribed format specified in the FERC order on September 02, 2009. This summary classifies the data by reason, resource location, local reliability area, and trade date. The MW column in Table 3 is the range of MW; in this case the minimum instruction MW is 20 MW for resource C which occurs from hours ending 21 through 23. The maximum instruction occurs in hour ending 10. In this hour, resource A is committed at 50 MW; resource B is committed at 30 MW; and resource C is committed at 20 MW. This adds up to 100 MW. The MW column shows the minimum and maximum of the overlaps of all the exceptional dispatch instructions. The Commitment column shows whether a resource was committed between the begin time and end time. Commitments are broken out separately from energy dispatches. In the day-ahead however, the exceptional dispatches are nearly always just commitments, as in this example. The Begin Time column shows hour ending 5 as this was the hour ending for first dispatch of the day, and the End Time column shows hour ending 23, as this was the hour with last dispatch. It is also possible that there might be hours between the begin time and the end time where there might not be exceptional dispatch instructions for the given reason, meaning that the range between the begin time and end time can include null hours with no dispatch.

Table 3: FERC Summary of Instructions Prior to DAM

Number	Market Type	Reason	Location	Local Reliability Area (LRA)	Trade Date	MW	Commitment	INC/DEC	Hour	Begin Time	End Time
1	DA	7630	SCE	LA Basin	1-Jul-09	20-100	Yes	N/A	19	05:00	23:00

Example 2: Incremental Exceptional Dispatch Instructions in RTM

In this fictitious example, the CAISO issued an exceptional dispatch instruction to resource A to be committed at its Pmin of 30 MW from hours ending 7 through 11 after completion of the day-ahead market for the transmission procedure 7110. This resource had no day-ahead award in those hours. The CAISO issued another exceptional dispatch instruction to resource B, to be dispatched at 40 MW from hours ending 8 through 9 in real-time for the transmission procedure 7110. This resource had a day-ahead schedule of 20 MW from the day-ahead market, which implies that this exceptional dispatch instruction was an incremental instruction and the exceptional dispatch MW was 20 MW. Similarly, the details of exceptional dispatch (ED) instruction for resource C are shown in Table 4.

Table 4: Incremental Exceptional Dispatch Instructions in RTM

Date	Market	Resource	Location	Local Reliability Area (LRA)	Begin Time	End Time	Dispatch Level (MW)	Day-Ahead Award (MW)	Commitment	INC/DEC	ED (MW)	Reason
01-Jul-09	RT	A	PG&E	Humboldt	06:00	11:00	30	0	Yes	INC	30	7110
01-Jul-09	RT	B	PG&E	Humboldt	07:00	09:00	40	20	No	INC	20	7110
01-Jul-09	RT	C	PG&E	Humboldt	12:00	15:00	50	50	No	INC	0	7110
01-Jul-09	RT	C	PG&E	Humboldt	16:00	20:00	50	40	No	INC	10	7110

This data is summarized as shown in Table 5 and is classified by reason, resource location, local reliability area, and trade date. The MW column in Table 5 is the range of MW; in this case the minimum instruction MW is 0 MW for resource C, which occurs from hours ending 13 through 15. The maximum instruction occurs in hours ending 8 & 9, as during these two hours both resources A and B have an ED MW of 30MW and 20MW, respectively. This adds up to 50 MW. The MW column shows the minimum and maximum of the overlaps of all the exceptional dispatch instructions. The Commitment column shows whether a resource was committed between the begin time and end time. This column shows a commitment if there was a single commitment in the entire interval of exceptional dispatch. The Begin Time column shows the time of the first dispatch of the day. This is a time not a range. Similarly the End Time column shows a time and not a range. Exceptional dispatches occurred between these two times. Since there was a commitment between the begin time and end time then the Commitment column displays yes for the summary. Similarly, the INC/DEC column shows an INC as there was an incremental dispatch between the begin time and end time. As mentioned in the previous example it is possible that there might be hours between the begin time and end time where there were no exceptional dispatch instructions for the given reason.

Table 5: FERC Summary of ED Instructions in RTM

Number	Market Type	Reason	Location	Local Reliability Area (LRA)	Trade Date	MW	Commitment	INC/DEC	Hour	Begin Time	End Time
1	RT	7110	PG&E	Humboldt	1-Jul-09	0-50	Yes	INC	15	06:00	20:00

Example 3: Decremental Exceptional Dispatch Instructions in RTM

This example highlights decremental exceptional dispatch instructions in the real-time market. In this fictitious example the CAISO issued an exceptional dispatch instruction to resource A to be committed at its Pmin of 20 MW from hours ending 15 through 20 after completion of the day-ahead market for the transmission procedure 7430. The CAISO issued additional exceptional dispatch instructions for resources B and C; details of those instructions are shown in Table 6.

Table 6: Decremental Exceptional Dispatch Instructions in RTM

Date	Market Type	Resource	Location	Local Reliability Area (LRA)	Begin Time	End Time	Dispatch Level (MW)	Day-Ahead Award (MW)	Commitment	INC/DEC	ED (MW)	Reason
01-Jul-09	RT	A	PG&E	Fresno	15:00	20:00	20	0	Yes	INC	20	7430
01-Jul-09	RT	B	PG&E	Fresno	07:00	09:00	40	60	No	DEC	20	7430
01-Jul-09	RT	C	PG&E	Fresno	10:00	14:00	40	50	No	DEC	10	7430

This data is summarized according to FERC convention as shown in Table 7. This summary classifies the data by reason, resource location, local reliability area, and trade date. Please note that inc and dec are broken out separately. The inc entry is self-explanatory and similar to the previous example. Regarding the dec entry the MW column is the range of MW; in this case the minimum dec instruction is 10 MW (actually -10MW as it is a dec) for resource C which occurs from hours ending 10 through 14. The maximum instruction occurs from hours ending 7 through 9, when resource B was issued a dec instruction of 20 MW. The MW column shows the minimum and maximum of the overlaps of all the exceptional dispatch instructions. The Commitment column shows whether a resource was committed between the begin time and end time.

Table 7: FERC Summary of Decremental ED Instructions in RTM

Number	Market Type	Reason	Location	Local Reliability Area (LRA)	Trade Date	MW	Commitment	INC/DEC	Hour	Begin Time	End Time
1	RT	7430	PG&E	Fresno	1-Jul-09	20	Yes	INC	6	15:00	20:00
1	RT	7430	PG&E	Fresno	1-Jul-09	10-20	Yes	DEC	8	07:00	14:00

CERTIFICATE OF SERVICE

I certify that I have served the foregoing document upon the parties listed on the official service list in the captioned proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California, this 15th day of March, 2019.

1st Grace Clark
Grace Clark