

September 16, 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-___
July 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 July 2019.

Respectfully submitted,

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Exceptional Dispatch Report

Table 1: July 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 July 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 July 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 following

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>

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 July 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 336 exceptional dispatches in July 2019, as compared to 423 exceptional dispatches in June 2019. Exceptional dispatches issued for the following reasons accounted for approximately 38 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 7430, 7450, and 7720). Many of the exceptional

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.

dispatches with the reason “Other Reliability Requirement” were due to Real Time Contingency Analysis.

Table 1: Exceptional Dispatches in July 2019

**California Independent System Operator Corporation
Exceptional Dispatch Report
September 16, 2019**

Chart 1: Table of Exceptional Dispatches for Period 01/July/2019 - 31/July/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	7/2/2019	20	No	INC	5	19:00	0:00
2	RT	Bridging Schedules	SCE	LA Basin	7/23/2019	10 - 20	Yes	INC	4	20:00	0:00
3	RT	Bridging Schedules	SCE	LA Basin	7/25/2019	10	Yes	INC	24	0:00	0:00
4	RT	Bridging Schedules	SCE	LA Basin	7/26/2019	10	No	INC	4	0:00	4:00
5	RT	Bridging Schedules	SCE	LA Basin	7/27/2019	10	Yes	INC	1	23:00	0:00
6	RT	Bridging Schedules	SCE	LA Basin	7/28/2019	10 - 70	Yes	INC	16	0:00	16:00
7	RT	Bridging Schedules	SCE	LA Basin	7/29/2019	70	No	INC	6	18:00	0:00
8	RT	Bridging Schedules	SCE	LA Basin	7/30/2019	70	No	INC	14	0:00	14:00
9	RT	Conditions beyond the control of the CAISO	SCE	LA Basin	7/29/2019	20	No	INC	3	21:00	0:00
10	RT	Conditions beyond the control of the CAISO	SCE	LA Basin	7/30/2019	10 - 20	No	INC	22	0:00	22:00
11	RT	Fast Start Unit Management	SCE	LA Basin	7/8/2019	0	No	INC	1	23:45	0:00
12	RT	Fast Start Unit Management	SCE	LA Basin	7/9/2019	0	No	INC	2	0:00	1:15
13	RT	Fire Threats	PGAE	Bay Area	7/29/2019	54 - 175	No	INC	4	13:40	17:00
14	RT	Fire Threats	PGAE	Fresno	7/28/2019	83	No	DEC	1	19:00	20:00
15	RT	Fire Threats	PGAE	Fresno	7/28/2019	20 - 400	No	INC	5	17:20	22:00
16	RT	Fire Threats	PGAE	NA	7/28/2019	20	No	DEC	1	19:25	20:00
17	RT	Fire Threats	PGAE	NA	7/28/2019	20 - 21	No	INC	4	18:45	22:00
18	RT	Fire Threats	SCE	Big Creek-Ventura	7/28/2019	53.9 - 720	No	INC	4	17:20	21:00
19	RT	Fire Threats	SCE	LA Basin	7/28/2019	34.24	No	DEC	1	19:40	20:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
20	RT	Fire Threats	SCE	LA Basin	7/28/2019	34.24 - 495	No	INC	4	17:15	21:00
21	RT	Fire Threats	SCE	LA Basin	7/29/2019	10 - 130	Yes	INC	24	0:00	0:00
22	RT	Fire Threats	SCE	LA Basin	7/30/2019	10 - 130	No	INC	22	0:00	21:30
23	RT	Fire Threats	SDGE	San Diego-IV	7/28/2019	24.25 - 200	No	DEC	2	18:00	20:00
24	RT	Fire Threats	SDGE	San Diego-IV	7/28/2019	21 - 200	No	INC	5	17:25	22:00
25	RT	Incomplete or Inaccurate Transmission	PGAE	Fresno	7/23/2019	70	No	DEC	2	16:40	18:00
26	RT	Incomplete or Inaccurate Transmission	PGAE	Fresno	7/23/2019	70	No	INC	2	18:00	20:00
27	RT	Incomplete or Inaccurate Transmission	PGAE	Sierra	7/28/2019	32 - 42	No	INC	19	5:00	0:00
28	RT	Incomplete or Inaccurate Transmission	PGAE	Sierra	7/29/2019	32	No	INC	7	0:00	7:00
29	RT	Intertie Emergency Assistance	Intertie	NA	7/26/2019	75	No	DEC	1	18:00	19:00
30	RT	Load Forecast Uncertainty	PGAE	Bay Area	7/29/2019	300 - 615	No	INC	5	17:00	22:00
31	RT	Load Forecast Uncertainty	PGAE	Fresno	7/22/2019	83	No	INC	3	12:45	15:00
32	RT	Load Forecast Uncertainty	PGAE	NA	7/13/2019	301	No	DEC	5	16:50	21:00
33	RT	Load Forecast Uncertainty	PGAE	NA	7/23/2019	50	No	DEC	5	16:00	21:00
34	RT	Load Forecast Uncertainty	PGAE	Stockton	7/21/2019	240	No	INC	4	18:00	22:00
35	RT	Load Forecast Uncertainty	SCE	Big Creek-Ventura	7/23/2019	50 - 405	No	INC	14	10:00	0:00
36	RT	Load Forecast Uncertainty	SCE	Big Creek-Ventura	7/24/2019	50 - 410	No	INC	14	10:00	0:00
37	RT	Load Forecast Uncertainty	SCE	Big Creek-Ventura	7/25/2019	50 - 100	No	INC	24	0:00	0:00
38	RT	Load Forecast Uncertainty	SCE	Big Creek-Ventura	7/26/2019	50	No	INC	24	0:00	0:00
39	RT	Load Forecast Uncertainty	SCE	Big Creek-Ventura	7/27/2019	50	No	INC	24	0:00	0:00
40	RT	Load Forecast Uncertainty	SCE	Big Creek-Ventura	7/28/2019	50	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
41	RT	Load Forecast Uncertainty	SCE	Big Creek-Ventura	7/29/2019	50 - 740	No	INC	24	0:00	0:00
42	RT	Load Forecast Uncertainty	SCE	Big Creek-Ventura	7/30/2019	50	No	INC	12	0:00	12:00
43	RT	Load Forecast Uncertainty	SCE	LA Basin	7/1/2019	200	No	INC	3	19:45	22:00
44	RT	Load Forecast Uncertainty	SCE	LA Basin	7/22/2019	65	No	DEC	3	18:00	21:00
45	RT	Load Forecast Uncertainty	SCE	LA Basin	7/22/2019	10 - 194	No	INC	13	11:00	0:00
46	RT	Load Forecast Uncertainty	SCE	LA Basin	7/23/2019	65 - 225	No	DEC	6	15:00	21:00
47	RT	Load Forecast Uncertainty	SCE	LA Basin	7/23/2019	10 - 332	No	INC	11	13:30	0:00
48	RT	Load Forecast Uncertainty	SCE	LA Basin	7/24/2019	48 - 335	No	DEC	11	13:00	0:00
49	RT	Load Forecast Uncertainty	SCE	LA Basin	7/24/2019	10 - 475	No	INC	24	0:00	0:00
50	RT	Load Forecast Uncertainty	SCE	LA Basin	7/25/2019	130	No	INC	24	0:00	0:00
51	RT	Load Forecast Uncertainty	SCE	LA Basin	7/26/2019	10 - 130	Yes	INC	24	0:00	0:00
52	RT	Load Forecast Uncertainty	SCE	LA Basin	7/27/2019	20 - 130	No	INC	24	0:00	0:00
53	RT	Load Forecast Uncertainty	SCE	LA Basin	7/28/2019	130	No	INC	24	0:00	0:00
54	RT	Load Forecast Uncertainty	SCE	LA Basin	7/29/2019	65 - 490	No	INC	9	13:20	22:00
55	RT	Load Forecast Uncertainty	SCE	NA	7/18/2019	250	No	INC	3	18:00	21:00
56	RT	Load Forecast Uncertainty	SDGE	San Diego-IV	7/21/2019	281	No	INC	4	18:15	22:00
57	RT	Load Forecast Uncertainty	SDGE	San Diego-IV	7/26/2019	155	No	INC	9	12:00	21:00
58	RT	Load Forecast Uncertainty	SDGE	San Diego-IV	7/29/2019	155 - 600	No	INC	23	0:00	23:00
59	RT	Load Pull	PGAE	Bay Area	7/25/2019	700	No	DEC	1	16:50	17:45
60	RT	Load Pull	PGAE	Fresno	7/25/2019	83	No	DEC	3	18:00	21:00
61	RT	Load Pull	PGAE	Fresno	7/25/2019	83	No	INC	7	15:55	22:00
62	RT	Load Pull	PGAE	Stockton	7/25/2019	200	No	DEC	5	16:15	21:00
63	RT	Load Pull	SCE	Big Creek-Ventura	7/25/2019	650 - 714	No	INC	7	13:00	20:00
64	RT	Load Pull	SCE	Big Creek-Ventura	7/26/2019	750	No	INC	6	16:00	22:00
65	RT	Load Pull	SCE	LA Basin	7/11/2019	65	No	INC	2	18:35	20:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
66	RT	Load Pull	SCE	LA Basin	7/12/2019	65	No	DEC	3	18:00	21:00
67	RT	Load Pull	SCE	LA Basin	7/12/2019	65 - 194	No	INC	5	17:00	22:00
68	RT	Load Pull	SCE	LA Basin	7/13/2019	194 - 240	No	INC	5	16:00	21:00
69	RT	Load Pull	SCE	LA Basin	7/14/2019	190 - 194	No	INC	5	16:00	21:00
70	RT	Load Pull	SCE	LA Basin	7/15/2019	65 - 194	No	INC	4	16:00	20:00
71	RT	Load Pull	SCE	LA Basin	7/16/2019	151	No	DEC	4	18:15	22:00
72	RT	Load Pull	SCE	LA Basin	7/16/2019	65 - 190	No	INC	4	16:00	20:00
73	RT	Load Pull	SCE	LA Basin	7/17/2019	190	No	INC	4	16:00	20:00
74	RT	Load Pull	SCE	LA Basin	7/25/2019	200 - 300	No	DEC	5	15:00	20:00
75	RT	Load Pull	SCE	LA Basin	7/25/2019	100 - 440	No	INC	10	13:00	23:00
76	RT	Load Pull	SCE	LA Basin	7/26/2019	150 - 495	No	INC	10	12:25	22:00
77	RT	Load Pull	SDGE	San Diego-IV	7/15/2019	37	No	DEC	2	18:00	20:00
78	RT	Load Pull	SDGE	San Diego-IV	7/15/2019	21 - 37	No	INC	4	16:40	20:00
79	RT	Market Disruption	PGAE	Bay Area	7/4/2019	260	No	DEC	2	19:00	20:15
80	RT	Market Disruption	PGAE	Bay Area	7/4/2019	125 - 510	No	INC	3	18:20	21:00
81	RT	Market Disruption	PGAE	Bay Area	7/10/2019	175	No	INC	4	17:55	21:00
82	RT	Market Disruption	PGAE	Fresno	7/4/2019	83	No	DEC	2	19:15	21:00
83	RT	Market Disruption	PGAE	Fresno	7/4/2019	83 - 407	No	INC	1	18:15	19:15
84	RT	Market Disruption	PGAE	NA	7/10/2019	400	No	DEC	1	19:00	19:30
85	RT	Market Disruption	PGAE	NA	7/10/2019	400	No	INC	1	18:50	19:00
86	RT	Market Disruption	PGAE	Stockton	7/4/2019	192	No	INC	4	18:55	22:00
87	RT	Market Disruption	SCE	LA Basin	7/10/2019	96	No	DEC	2	18:40	20:00
88	RT	Market Disruption	SCE	LA Basin	7/10/2019	65 - 194	No	INC	2	18:25	20:00
89	RT	Market Disruption	SDGE	San Diego-IV	7/4/2019	24 - 422	No	INC	3	18:25	21:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
90	RT	Market Disruption	SDGE	San Diego-IV	7/10/2019	305 - 595	No	INC	2	18:15	20:00
91	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	7/12/2019	42 - 64	No	DEC	5	17:30	22:00
92	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	7/12/2019	42	No	INC	2	22:00	0:00
93	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	7/13/2019	42 - 60	No	INC	24	0:00	0:00
94	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	7/14/2019	15	No	DEC	2	22:00	0:00
95	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	7/14/2019	28 - 48	No	INC	22	0:00	22:00
96	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	7/15/2019	15	No	DEC	7	0:00	7:00
97	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	7/24/2019	32	No	DEC	1	11:00	12:00
98	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	7/24/2019	32	No	INC	4	7:40	11:00
99	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	7/25/2019	45	No	INC	2	22:45	0:00
100	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	7/26/2019	15	No	DEC	1	23:45	0:00
101	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	7/26/2019	16 - 45	No	INC	10	0:00	9:30
102	RT	Operating Procedure Number and Constraint (7110)	PGAE	Humboldt	7/27/2019	15 - 32	No	INC	8	0:00	8:00
103	RT	Operating Procedure Number and Constraint (7430)	PGAE	Fresno	7/4/2019	60	No	DEC	1	8:40	9:05
104	RT	Operating Procedure Number and Constraint (7430)	PGAE	Fresno	7/4/2019	65	No	INC	11	9:05	20:00
105	RT	Operating Procedure Number and Constraint (7430)	PGAE	Fresno	7/5/2019	65 - 70	No	INC	18	6:15	0:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
106	RT	Operating Procedure Number and Constraint (7430)	PGAE	Fresno	7/7/2019	70	No	INC	14	6:25	20:00
107	RT	Operating Procedure Number and Constraint (7430)	PGAE	Fresno	7/26/2019	83	No	INC	3	21:55	0:00
108	RT	Operating Procedure Number and Constraint (7430)	PGAE	Fresno	7/27/2019	83	Yes	INC	2	0:00	1:30
109	RT	Operating Procedure Number and Constraint (7450)	PGAE	Kern	7/26/2019	38	No	INC	7	16:30	23:00
110	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/15/2019	430	No	INC	5	17:50	22:00
111	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/18/2019	410	No	INC	3	19:25	22:00
112	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/21/2019	450	No	DEC	2	15:00	17:00
113	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/21/2019	450	No	INC	10	14:45	0:00
114	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/22/2019	420	No	DEC	2	19:00	21:00
115	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/22/2019	420 - 460	No	INC	24	0:15	0:00
116	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/23/2019	430	No	DEC	3	18:00	21:00
117	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/23/2019	425 - 445	No	INC	22	0:00	22:00
118	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/24/2019	375 - 425	No	DEC	10	12:00	22:00
119	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/24/2019	409 - 425	No	INC	15	8:55	23:00
120	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/25/2019	460	No	INC	12	8:40	20:00
121	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/26/2019	390 - 460	No	INC	12	12:45	0:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
122	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/27/2019	390 - 460	No	INC	24	0:00	0:00
123	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/28/2019	410 - 450	No	INC	24	0:00	0:00
124	RT	Operating Procedure Number and Constraint (7720)	SCE	NA	7/29/2019	420 - 475.01	No	INC	24	0:00	0:00
125	RT	Other Reliability Requirement	PGAE	Fresno	7/1/2019	4 - 12	No	INC	24	0:00	0:00
126	RT	Other Reliability Requirement	PGAE	Fresno	7/2/2019	4 - 12	No	INC	24	0:00	0:00
127	RT	Other Reliability Requirement	PGAE	Fresno	7/3/2019	4 - 12	No	INC	24	0:00	0:00
128	RT	Other Reliability Requirement	PGAE	Fresno	7/4/2019	4 - 12	No	INC	24	0:00	0:00
129	RT	Other Reliability Requirement	PGAE	Fresno	7/5/2019	4 - 12	No	INC	24	0:00	0:00
130	RT	Other Reliability Requirement	PGAE	Fresno	7/6/2019	4 - 12	No	INC	24	0:00	0:00
131	RT	Other Reliability Requirement	PGAE	Fresno	7/7/2019	4 - 12	No	INC	24	0:00	0:00
132	RT	Other Reliability Requirement	PGAE	Fresno	7/8/2019	4 - 12	No	INC	24	0:00	0:00
133	RT	Other Reliability Requirement	PGAE	Fresno	7/9/2019	4 - 12	No	INC	24	0:00	0:00
134	RT	Other Reliability Requirement	PGAE	Fresno	7/10/2019	4 - 12	No	INC	24	0:00	0:00
135	RT	Other Reliability Requirement	PGAE	Fresno	7/11/2019	4 - 12	No	INC	24	0:00	0:00
136	RT	Other Reliability Requirement	PGAE	Fresno	7/12/2019	4 - 12	No	INC	24	0:50	0:00
137	RT	Other Reliability Requirement	PGAE	Fresno	7/13/2019	4 - 12	No	INC	24	0:00	0:00
138	RT	Other Reliability Requirement	PGAE	Fresno	7/14/2019	4 - 12	No	INC	24	0:00	0:00
139	RT	Other Reliability Requirement	PGAE	Fresno	7/15/2019	4 - 12	No	INC	24	0:00	0:00
140	RT	Other Reliability Requirement	PGAE	Fresno	7/16/2019	4 - 12	No	INC	24	0:00	0:00
141	RT	Other Reliability Requirement	PGAE	Fresno	7/17/2019	4 - 12	No	INC	24	0:00	0:00
142	RT	Other Reliability Requirement	PGAE	Fresno	7/18/2019	4 - 12	No	INC	24	0:00	0:00
143	RT	Other Reliability Requirement	PGAE	Fresno	7/19/2019	4 - 83	No	INC	24	0:00	0:00
144	RT	Other Reliability Requirement	PGAE	Fresno	7/20/2019	4 - 12	No	INC	24	0:00	0:00
145	RT	Other Reliability Requirement	PGAE	Fresno	7/21/2019	4 - 83	No	INC	18	6:00	0:00
146	RT	Other Reliability Requirement	PGAE	Fresno	7/22/2019	4 - 12	No	INC	24	0:00	0:00
147	RT	Other Reliability Requirement	PGAE	Fresno	7/23/2019	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
148	RT	Other Reliability Requirement	PGAE	Fresno	7/24/2019	0	No	DEC	6	14:30	20:00
149	RT	Other Reliability Requirement	PGAE	Fresno	7/24/2019	0 - 19	No	INC	24	0:00	0:00
150	RT	Other Reliability Requirement	PGAE	Fresno	7/25/2019	0 - 19	No	INC	24	0:00	0:00
151	RT	Other Reliability Requirement	PGAE	Fresno	7/26/2019	4 - 12	No	INC	24	0:00	0:00
152	RT	Other Reliability Requirement	PGAE	Fresno	7/27/2019	4 - 12	No	INC	24	0:00	0:00
153	RT	Other Reliability Requirement	PGAE	Fresno	7/28/2019	4 - 12	No	INC	24	0:00	0:00
154	RT	Other Reliability Requirement	PGAE	Fresno	7/29/2019	4 - 12	No	INC	24	0:00	0:00
155	RT	Other Reliability Requirement	PGAE	Fresno	7/30/2019	4 - 12	No	INC	24	0:00	0:00
156	RT	Other Reliability Requirement	PGAE	Fresno	7/31/2019	4 - 12	No	INC	24	0:00	0:00
157	RT	Other Reliability Requirement	PGAE	Kern	7/29/2019	32 - 44	No	INC	5	19:15	23:30
158	RT	Other Reliability Requirement	PGAE	Kern	7/30/2019	32	No	INC	6	18:15	23:30
159	RT	Other Reliability Requirement	PGAE	Kern	7/31/2019	32	Yes	INC	7	17:15	0:00
160	RT	Other Reliability Requirement	PGAE	NA	7/1/2019	38	No	INC	24	0:00	0:00
161	RT	Other Reliability Requirement	PGAE	NA	7/2/2019	38	No	INC	24	0:00	0:00
162	RT	Other Reliability Requirement	PGAE	NA	7/3/2019	38	No	INC	24	0:00	0:00
163	RT	Other Reliability Requirement	PGAE	NA	7/4/2019	38	No	INC	24	0:00	0:00
164	RT	Other Reliability Requirement	PGAE	NA	7/5/2019	38	No	INC	24	0:00	0:00
165	RT	Other Reliability Requirement	PGAE	NA	7/6/2019	38	No	INC	24	0:00	0:00
166	RT	Other Reliability Requirement	PGAE	NA	7/7/2019	38	No	INC	24	0:00	0:00
167	RT	Other Reliability Requirement	PGAE	NA	7/8/2019	38	No	INC	24	0:00	0:00
168	RT	Other Reliability Requirement	PGAE	NA	7/9/2019	38	No	INC	24	0:00	0:00
169	RT	Other Reliability Requirement	PGAE	NA	7/10/2019	38	No	INC	24	0:00	0:00
170	RT	Other Reliability Requirement	PGAE	NA	7/11/2019	38	No	INC	24	0:00	0:00
171	RT	Other Reliability Requirement	PGAE	NA	7/12/2019	38	No	INC	23	1:00	0:00
172	RT	Other Reliability Requirement	PGAE	NA	7/13/2019	38	No	INC	24	0:00	0:00
173	RT	Other Reliability Requirement	PGAE	NA	7/14/2019	38	No	INC	24	0:00	0:00
174	RT	Other Reliability Requirement	PGAE	NA	7/15/2019	40	No	DEC	18	5:45	23:00
175	RT	Other Reliability Requirement	PGAE	NA	7/15/2019	38	No	INC	24	0:00	0:00
176	RT	Other Reliability Requirement	PGAE	NA	7/16/2019	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
177	RT	Other Reliability Requirement	PGAE	NA	7/17/2019	38	No	INC	24	0:00	0:00
178	RT	Other Reliability Requirement	PGAE	NA	7/18/2019	38	No	INC	24	0:00	0:00
179	RT	Other Reliability Requirement	PGAE	NA	7/19/2019	38	No	INC	24	0:00	0:00
180	RT	Other Reliability Requirement	PGAE	NA	7/20/2019	38	No	INC	24	0:00	0:00
181	RT	Other Reliability Requirement	PGAE	NA	7/21/2019	38	No	INC	18	6:00	0:00
182	RT	Other Reliability Requirement	PGAE	NA	7/22/2019	38	No	INC	24	0:00	0:00
183	RT	Other Reliability Requirement	PGAE	NA	7/23/2019	38	No	INC	24	0:00	0:00
184	RT	Other Reliability Requirement	PGAE	NA	7/24/2019	38	No	INC	24	0:00	0:00
185	RT	Other Reliability Requirement	PGAE	NA	7/25/2019	38	No	INC	24	0:00	0:00
186	RT	Other Reliability Requirement	PGAE	NA	7/26/2019	38	No	INC	24	0:00	0:00
187	RT	Other Reliability Requirement	PGAE	NA	7/27/2019	38	No	INC	24	0:00	0:00
188	RT	Other Reliability Requirement	PGAE	NA	7/28/2019	38	No	INC	24	0:00	0:00
189	RT	Other Reliability Requirement	PGAE	NA	7/29/2019	38	No	INC	24	0:00	0:00
190	RT	Other Reliability Requirement	PGAE	NA	7/30/2019	38	No	INC	24	0:00	0:00
191	RT	Other Reliability Requirement	PGAE	NA	7/31/2019	38	No	INC	24	0:00	0:00
192	RT	Other Reliability Requirement	PGAE	Sierra	7/17/2019	5	No	DEC	3	17:20	20:00
193	RT	Other Reliability Requirement	PGAE	Stockton	7/5/2019	50 - 55	No	DEC	16	8:30	0:00
194	RT	Other Reliability Requirement	PGAE	Stockton	7/7/2019	55	No	DEC	14	6:30	20:00
195	RT	Other Reliability Requirement	PGAE	Stockton	7/7/2019	55	No	INC	1	7:00	8:00
196	RT	Other Reliability Requirement	PGAE	Stockton	7/24/2019	35 - 50	No	DEC	13	6:45	19:00
197	RT	Other Reliability Requirement	PGAE	Stockton	7/24/2019	40 - 50	No	INC	10	7:00	17:00
198	RT	Other Reliability Requirement	PGAE	Stockton	7/30/2019	60	No	DEC	7	1:55	8:30
199	RT	Other Reliability Requirement	SCE	LA Basin	7/30/2019	240	No	INC	8	14:00	21:30
200	RT	Planned Transmission Outage	PGAE	Humboldt	7/1/2019	16	No	DEC	6	1:15	6:25
201	RT	Planned Transmission Outage	PGAE	Humboldt	7/1/2019	32	No	INC	24	0:00	0:00
202	RT	Planned Transmission Outage	PGAE	Humboldt	7/2/2019	16	No	DEC	1	7:45	7:55
203	RT	Planned Transmission Outage	PGAE	Humboldt	7/2/2019	32	No	INC	24	0:00	0:00
204	RT	Planned Transmission Outage	PGAE	Humboldt	7/3/2019	16	No	DEC	19	5:00	0:00
205	RT	Planned Transmission Outage	PGAE	Humboldt	7/3/2019	16 - 32	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
206	RT	Planned Transmission Outage	PGAE	Humboldt	7/4/2019	16	No	DEC	24	0:00	0:00
207	RT	Planned Transmission Outage	PGAE	Humboldt	7/4/2019	16 - 30	No	INC	24	0:00	0:00
208	RT	Planned Transmission Outage	PGAE	Humboldt	7/5/2019	16	No	DEC	2	0:00	2:00
209	RT	Planned Transmission Outage	PGAE	Humboldt	7/5/2019	30 - 32	No	INC	24	0:00	0:00
210	RT	Planned Transmission Outage	PGAE	Humboldt	7/6/2019	0 - 32	No	INC	24	0:00	0:00
211	RT	Planned Transmission Outage	PGAE	Humboldt	7/7/2019	16	No	DEC	4	15:00	18:25
212	RT	Planned Transmission Outage	PGAE	Humboldt	7/7/2019	15 - 32	No	INC	24	0:00	0:00
213	RT	Planned Transmission Outage	PGAE	Humboldt	7/8/2019	16	No	DEC	5	1:30	6:00
214	RT	Planned Transmission Outage	PGAE	Humboldt	7/8/2019	14 - 42	No	INC	24	0:00	0:00
215	RT	Planned Transmission Outage	PGAE	Humboldt	7/9/2019	14 - 56	No	INC	24	0:00	0:00
216	RT	Planned Transmission Outage	PGAE	Humboldt	7/10/2019	28 - 65	No	INC	24	0:00	0:00
217	RT	Planned Transmission Outage	PGAE	Humboldt	7/11/2019	45 - 48	No	DEC	5	15:00	19:30
218	RT	Planned Transmission Outage	PGAE	Humboldt	7/11/2019	28 - 60	No	INC	24	0:00	0:00
219	RT	Planned Transmission Outage	PGAE	Humboldt	7/12/2019	28 - 42	No	DEC	3	14:00	16:45
220	RT	Planned Transmission Outage	PGAE	Humboldt	7/12/2019	14 - 42	No	INC	14	0:00	14:00
221	RT	Planned Transmission Outage	PGAE	Humboldt	7/15/2019	15 - 30	No	INC	18	6:50	0:00
222	RT	Planned Transmission Outage	PGAE	Humboldt	7/16/2019	15 - 45	No	INC	24	0:00	0:00
223	RT	Planned Transmission Outage	PGAE	Humboldt	7/17/2019	14 - 30	No	INC	24	0:00	0:00
224	RT	Planned Transmission Outage	PGAE	Humboldt	7/18/2019	14 - 48	No	INC	24	0:00	0:00
225	RT	Planned Transmission Outage	PGAE	Humboldt	7/19/2019	15 - 48	No	INC	24	0:00	0:00
226	RT	Planned Transmission Outage	PGAE	Humboldt	7/20/2019	48	No	INC	24	0:00	0:00
227	RT	Planned Transmission Outage	PGAE	Humboldt	7/21/2019	14 - 48	No	INC	22	0:00	21:30
228	RT	Planned Transmission Outage	PGAE	Humboldt	7/26/2019	30	No	DEC	8	13:45	21:00
229	RT	Planned Transmission Outage	PGAE	Humboldt	7/26/2019	45	No	INC	3	9:15	12:00
230	RT	Planned Transmission Outage	PGAE	Humboldt	7/27/2019	14 - 28	No	DEC	10	13:00	23:00
231	RT	Planned Transmission Outage	PGAE	Humboldt	7/27/2019	14 - 28	No	INC	17	7:45	0:00
232	RT	Planned Transmission Outage	PGAE	Humboldt	7/28/2019	14 - 45	No	DEC	10	12:00	22:00
233	RT	Planned Transmission Outage	PGAE	Humboldt	7/28/2019	14 - 45	No	INC	24	0:00	0:00
234	RT	Planned Transmission Outage	PGAE	Humboldt	7/29/2019	15 - 45	No	DEC	12	10:00	22:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
235	RT	Planned Transmission Outage	PGAE	Humboldt	7/29/2019	14 - 45	No	INC	24	0:00	0:00
236	RT	Planned Transmission Outage	PGAE	Humboldt	7/30/2019	14	No	DEC	1	18:00	18:45
237	RT	Planned Transmission Outage	PGAE	Humboldt	7/30/2019	14 - 45	No	INC	24	0:00	0:00
238	RT	Planned Transmission Outage	PGAE	Humboldt	7/31/2019	15 - 60	No	INC	24	0:00	0:00
239	RT	Planned Transmission Outage	PGAE	NA	7/17/2019	20	No	DEC	2	18:10	20:00
240	RT	Planned Transmission Outage	PGAE	NA	7/17/2019	105	No	INC	2	18:10	20:00
241	RT	Planned Transmission Outage	PGAE	Sierra	7/23/2019	32	No	DEC	13	6:00	19:00
242	RT	Planned Transmission Outage	PGAE	Stockton	7/23/2019	50	No	DEC	5	8:30	13:30
243	RT	Planned Transmission Outage	PGAE	Stockton	7/24/2019	50	No	DEC	2	5:20	7:00
244	RT	Planned Transmission Outage	PGAE	Stockton	7/24/2019	50	No	INC	2	7:00	8:15
245	RT	Planned Transmission Outage	SDGE	San Diego-IV	7/7/2019	37 - 39	No	INC	3	12:30	15:00
246	RT	Pump Management	PGAE	Fresno	7/20/2019	11	No	INC	24	0:00	0:00
247	RT	Pump Management	PGAE	Fresno	7/21/2019	11	No	INC	18	6:00	0:00
248	RT	Pump Management	PGAE	Fresno	7/22/2019	11	No	INC	1	12:25	12:45
249	RT	Software Limitation	PGAE	Bay Area	7/18/2019	290	No	DEC	2	16:45	18:00
250	RT	Software Limitation	PGAE	Bay Area	7/24/2019	0	No	INC	2	10:20	11:25
251	RT	Software Limitation	PGAE	Fresno	7/25/2019	0	No	INC	1	1:00	1:30
252	RT	Software Limitation	PGAE	Humboldt	7/8/2019	16	No	INC	1	23:30	0:00
253	RT	Software Limitation	PGAE	NA	7/10/2019	0	No	INC	6	0:00	6:00
254	RT	Software Limitation	PGAE	NA	7/22/2019	0	No	INC	2	0:30	2:05
255	RT	Software Limitation	SCE	Big Creek-Ventura	7/27/2019	400	No	INC	6	16:00	22:00
256	RT	Software Limitation	SCE	Big Creek-Ventura	7/28/2019	405	No	INC	6	16:00	22:00
257	RT	Software Limitation	SCE	LA Basin	7/2/2019	0	No	INC	1	22:55	23:25
258	RT	Software Limitation	SCE	LA Basin	7/21/2019	0	No	INC	1	20:00	20:30
259	RT	Software Limitation	SCE	LA Basin	7/24/2019	155	No	INC	7	14:00	21:00
260	RT	Software Limitation	SCE	LA Basin	7/26/2019	290	No	DEC	1	15:00	16:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
261	RT	Software Limitation	SCE	LA Basin	7/26/2019	155 - 290	No	INC	8	12:30	20:30
262	RT	Software Limitation	SCE	LA Basin	7/27/2019	65 - 240	No	INC	6	16:00	22:00
263	RT	Software Limitation	SCE	LA Basin	7/28/2019	65 - 240	No	INC	6	16:00	22:00
264	RT	Software Limitation	SCE	LA Basin	7/29/2019	194	No	INC	3	13:20	16:05
265	RT	Software Limitation	SCE	LA Basin	7/31/2019	65 - 190	No	INC	8	14:00	22:00
266	RT	Software Limitation	SDGE	San Diego-IV	7/11/2019	25	No	DEC	2	18:00	20:00
267	RT	Software Limitation	SDGE	San Diego-IV	7/23/2019	470	No	DEC	3	19:25	21:30
268	RT	SOL	PGAE	Fresno	7/24/2019	83	No	INC	2	22:00	0:00
269	RT	SOL	PGAE	NA	7/24/2019	20	No	DEC	1	23:15	0:00
270	RT	Unit Testing	Intertie	NA	7/1/2019	130	Yes	INC	24	0:00	0:00
271	RT	Unit Testing	Intertie	NA	7/2/2019	1 - 144	No	INC	24	0:00	0:00
272	RT	Unit Testing	Intertie	NA	7/3/2019	1	No	INC	24	0:00	0:00
273	RT	Unit Testing	Intertie	NA	7/4/2019	144	No	INC	24	0:00	0:00
274	RT	Unit Testing	Intertie	NA	7/5/2019	144	Yes	INC	24	0:00	0:00
275	RT	Unit Testing	Intertie	NA	7/6/2019	10 - 158	No	INC	24	0:00	0:00
276	RT	Unit Testing	Intertie	NA	7/7/2019	10 - 158	No	INC	24	0:00	0:00
277	RT	Unit Testing	Intertie	NA	7/8/2019	50 - 171	No	INC	24	0:00	0:00
278	RT	Unit Testing	Intertie	NA	7/9/2019	171	Yes	INC	24	0:00	0:00
279	RT	Unit Testing	Intertie	NA	7/10/2019	20 - 144	No	INC	24	0:00	0:00
280	RT	Unit Testing	Intertie	NA	7/11/2019	19 - 144	No	INC	24	0:00	0:00
281	RT	Unit Testing	Intertie	NA	7/12/2019	30 - 158	No	INC	24	0:00	0:00
282	RT	Unit Testing	Intertie	NA	7/13/2019	30 - 185	No	INC	24	0:00	0:00
283	RT	Unit Testing	Intertie	NA	7/14/2019	185	No	INC	24	0:00	0:00
284	RT	Unit Testing	Intertie	NA	7/15/2019	1 - 185	No	INC	24	0:00	0:00
285	RT	Unit Testing	Intertie	NA	7/16/2019	50	No	INC	24	0:00	0:00
286	RT	Unit Testing	Intertie	NA	7/17/2019	100	Yes	INC	24	0:00	0:00
287	RT	Unit Testing	Intertie	NA	7/18/2019	25 - 200	No	INC	24	0:00	0:00
288	RT	Unit Testing	Intertie	NA	7/19/2019	91 - 200	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
289	RT	Unit Testing	Intertie	NA	7/20/2019	40 - 161	No	INC	24	0:00	0:00
290	RT	Unit Testing	Intertie	NA	7/21/2019	34 - 200	No	INC	24	0:00	0:00
291	RT	Unit Testing	Intertie	NA	7/22/2019	200	No	INC	24	0:00	0:00
292	RT	Unit Testing	Intertie	NA	7/26/2019	81 - 154	No	INC	24	0:00	0:00
293	RT	Unit Testing	Intertie	NA	7/27/2019	200	No	INC	24	0:00	0:00
294	RT	Unit Testing	Intertie	NA	7/28/2019	10 - 200	No	INC	24	0:00	0:00
295	RT	Unit Testing	Intertie	NA	7/29/2019	82 - 150	No	INC	24	0:00	0:00
296	RT	Unit Testing	Intertie	NA	7/30/2019	200	Yes	INC	17	0:00	17:00
297	RT	Unit Testing	Intertie	NA	7/31/2019	200	No	INC	24	0:00	0:00
298	RT	Unit Testing	PGAE	Bay Area	7/8/2019	185	No	INC	6	12:20	17:30
299	RT	Unit Testing	PGAE	Bay Area	7/9/2019	299	No	INC	9	7:55	16:15
300	RT	Unit Testing	PGAE	Bay Area	7/10/2019	190 - 285	No	INC	10	8:15	18:00
301	RT	Unit Testing	PGAE	Bay Area	7/12/2019	470	No	DEC	2	16:00	18:00
302	RT	Unit Testing	PGAE	Bay Area	7/12/2019	299 - 470	No	INC	10	6:50	16:00
303	RT	Unit Testing	PGAE	Bay Area	7/13/2019	299	No	INC	6	6:45	12:45
304	RT	Unit Testing	PGAE	NA	7/12/2019	52.8	No	INC	1	22:50	23:10
305	RT	Unit Testing	PGAE	NA	7/16/2019	53	No	INC	1	15:35	16:00
306	RT	Unit Testing	PGAE	NA	7/17/2019	140	No	INC	3	14:30	17:00
307	RT	Unit Testing	PGAE	Stockton	7/17/2019	237	No	INC	2	8:30	10:30
308	RT	Unit Testing	SCE	Big Creek-Ventura	7/18/2019	550	No	DEC	1	18:00	19:00
309	RT	Unit Testing	SCE	Big Creek-Ventura	7/18/2019	550	No	INC	9	9:20	18:00
310	RT	Unit Testing	SCE	LA Basin	7/12/2019	206	No	INC	1	19:45	20:00
311	RT	Unplanned Outage	Intertie	NA	7/23/2019	34 - 125	No	INC	1	18:00	19:00
312	RT	Unplanned Outage	PGAE	Sierra	7/1/2019	13	No	DEC	2	13:40	14:45
313	RT	Voltage Support	PGAE	Sierra	7/19/2019	32	No	INC	1	23:25	0:00

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
314	RT	Voltage Support	PGAE	Sierra	7/20/2019	32	No	INC	12	0:00	12:00
315	RT	Voltage Support	SCE	NA	7/1/2019	125	No	DEC	24	0:00	0:00
316	RT	Voltage Support	SCE	NA	7/1/2019	125	No	INC	6	7:00	13:00
317	RT	Voltage Support	SCE	NA	7/2/2019	125	No	DEC	24	0:00	0:00
318	RT	Voltage Support	SCE	NA	7/2/2019	125	No	INC	6	7:00	13:00
319	RT	Voltage Support	SCE	NA	7/3/2019	125	No	DEC	24	0:00	0:00
320	RT	Voltage Support	SCE	NA	7/3/2019	125	No	INC	5	8:00	13:00
321	RT	Voltage Support	SCE	NA	7/4/2019	125	No	DEC	24	0:00	0:00
322	RT	Voltage Support	SCE	NA	7/4/2019	125	No	INC	12	5:00	17:00
323	RT	Voltage Support	SCE	NA	7/5/2019	125	No	DEC	24	0:00	0:00
324	RT	Voltage Support	SCE	NA	7/5/2019	125	No	INC	5	7:00	12:00
325	RT	Voltage Support	SCE	NA	7/6/2019	125	No	DEC	24	0:00	0:00
326	RT	Voltage Support	SCE	NA	7/6/2019	125	No	INC	10	6:00	16:00
327	RT	Voltage Support	SCE	NA	7/7/2019	125	No	DEC	24	0:00	0:00
328	RT	Voltage Support	SCE	NA	7/7/2019	125	No	INC	14	4:00	18:00
329	RT	Voltage Support	SCE	NA	7/8/2019	125	No	DEC	24	0:00	0:00
330	RT	Voltage Support	SCE	NA	7/8/2019	125	No	INC	14	3:00	17:00
331	RT	Voltage Support	SCE	NA	7/9/2019	125	No	DEC	24	0:00	0:00
332	RT	Voltage Support	SCE	NA	7/9/2019	125	No	INC	5	7:00	12:00
333	RT	Voltage Support	SCE	NA	7/10/2019	125	No	DEC	24	0:00	0:00
334	RT	Voltage Support	SCE	NA	7/10/2019	125	No	INC	4	8:00	12:00
335	RT	Voltage Support	SCE	NA	7/11/2019	125	No	DEC	24	0:00	0:00
336	RT	Voltage Support	SCE	NA	7/11/2019	125	No	INC	2	8:00	10:00

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 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 16th day of September, 2019.

Is/ Anna Pascuzzo
Anna Pascuzzo