

September 15, 2017

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

> **California Independent System Operator Corporation** Docket Nos. ER08-1178- and EL08-88-July 2017 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 2017.

Respectfully submitted,

#### By: /s/ Sidney L. Mannheim

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# **Exceptional Dispatch Report**

**Table 1: July 2017** 

**CAISO Market Quality and Renewable Integration** 

**September 15, 2017** 

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#### Introduction

This report is filed pursuant to FERC's September 2, 2009 and July 4, 2010 orders in ER08-1178. These orders require two monthly Exceptional Dispatch reports—one issued on the 15<sup>th</sup> of each month and one issued on the 30<sup>th</sup> of each month. This report provides data on the frequency and reasons for Exceptional Dispatches issued in July 2017.

## The Nature of Exceptional Dispatch

The CAISO can issue exceptional dispatch instructions for a resource as a preday-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. 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 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 2017 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

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

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. There were a few other reasons used to explain exceptional dispatch instructions in July 2017, which are self explanatory.

The data in Table 1 is based on a template specified in the September 2009 order.<sup>3</sup> Each entry in Attachment A is a summary of exceptional dispatches classified by (1) the reason for the exceptional dispatch; (2) the location of the resource by Participating Transmission Owner ("PTO") service area; (3) the Local Reliability Area ("LRA") where applicable; (4) the market in which the exceptional dispatch occurred (day-ahead vs. real-time); and (5) the date of the exceptional dispatch. For each classification the following information is provided: (1) Megawatts (MW); (2) Commitment (3) Inc or Dec (4) Hours; (5) Begin Time; and (6) End Time.

The MW column shows the range of exceptional dispatch instructions in MW for the classification. The Commitment column specifies if there was a unit commitment for the classification. The INC/DEC column specifies if there was an incremental dispatch or a decremental dispatch from the IFM schedule. The Begin Time column shows the start of exceptional dispatch for the classification and the End Time column shows the end of exceptional dispatch for the classification. The column Hours is the difference between end time and begin time rounded up to the next hour. The data shown is further explained by way of example in Attachment A.

Table 1 indicates there were 318 exceptional dispatches in July 2017, as compared to 383 exceptional dispatches in June 2017. 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, and operating procedure number 7110 (along with 6310, 7230, 7430, and 7820). Many of the exceptional dispatches with the reason "Other Reliability Requirement" were due to Real Time Contingency Analysis.

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

Table 1: Exceptional Dispatches in July 2017

## California Independent System Operator Corporation Exceptional Dispatch Report September 15, 2017

# Chart 1: Table of Exceptional Dispatches for Period 01/July/2017 - 31/July/2017

	Mar						Со				
Num	ket Typ		Locatio	Local Reliability			mm itm	INC_	Hou	Begin	End
ber	е	Reason	n	Area	Trade Date	MW	ent	DEC	rs	Time	Time
				Big Creek-							
1	RT	Bridging Schedules	SCE	Ventura	7/8/2017	50	No	INC	2	22:00	23:59
2	RT	Bridging Schedules	SCE	LA Basin	7/9/2017	20	No	INC	2	22:50	23:59
3	RT	Bridging Schedules	SCE	LA Basin	7/31/2017	10	Yes	INC	1	23:00	23:59
4	RT	Conditions beyond the control of the CAISO	PG&E	Bay Area	7/27/2017	235	No	INC	8	14:30	21:59
		•		Big Creek-							
5	RT	Conditions beyond the control of the CAISO	SCE	Ventura	7/14/2017	0	No	INC	4	15:05	18:29
				Big Creek-							
6	RT	Conditions beyond the control of the CAISO	SCE	Ventura	7/14/2017	0	No	INC	4	15:30	18:59
7	RT	Contingency Dispatch	PG&E	Bay Area	7/13/2017	240	No	INC	1	11:39	12:29
				Big Creek-							
8	RT	Contingency Dispatch	SCE	Ventura	7/13/2017	63- 80	No	INC	1	11:39	12:29
						509-					
9	RT	Contingency Dispatch	SCE	LA Basin	7/13/2017	515	No	INC	1	11:39	12:29
10	RT	Fast Start Unit Management	PG&E	Bay Area	7/14/2017	0	No	INC	1	3:05	3:59
11	RT	Fast Start Unit Management	PG&E	Bay Area	7/14/2017	0	No	INC	1	2:55	3:29
12	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/1/2017	5- 40	No	DEC	24	0:00	23:59
13	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/1/2017	4- 40	No	INC	24	0:00	23:59
14	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/2/2017	10- 40	No	DEC	24	0:00	23:59
15	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/2/2017	26- 40	No	INC	24	0:00	23:59
16	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/3/2017	10- 40	No	DEC	24	0:00	23:59

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Mirros	ket		Lassia	Local Daliability			mm :4	INIC	Han	Danin	□ od
Num ber	Typ e	Reason	Locatio n	Local Reliability Area	Trade Date	MW	itm ent	INC_ DEC	Hou rs	Begin Time	End Time
17	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/3/2017	26- 40	No	INC	24	0:00	23:59
18	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/4/2017	10- 40	No	DEC	24	0:00	23:59
19	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/4/2017	26- 40	No	INC	24	0:00	23:59
20	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/5/2017	10- 40	No	DEC	24	0:00	23:59
21	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/5/2017	13- 40	No	INC	24	0:00	23:59
22	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/6/2017	10- 40	No	DEC	24	0:00	23:59
23	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/6/2017	13- 40	No	INC	24	0:00	23:59
24	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/7/2017	10- 40	No	DEC	24	0:00	23:59
25	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/7/2017	13- 40	No	INC	24	0:00	23:59
26	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/8/2017	5- 40	No	DEC	24	0:00	23:59
27	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/8/2017	13- 40	No	INC	24	0:00	23:59
28	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/9/2017	10- 40	No	DEC	24	0:00	23:59
29	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/9/2017	13- 40	No	INC	24	0:00	23:59
30	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/10/2017	10- 40	No	DEC	24	0:00	23:59
31	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/10/2017	13- 40	No	INC	24	0:00	23:59
32	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/11/2017	10- 40	No	DEC	24	0:00	23:59
33	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/11/2017	13- 40	No	INC	24	0:00	23:59
34	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/12/2017	10- 40	No	DEC	24	0:00	23:59
35	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/12/2017	13- 40	No	INC	24	0:00	23:59
36	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/13/2017	10- 40	No	DEC	24	0:00	23:59
37	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/13/2017	13- 40	No	INC	24	0:00	23:59
38	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/14/2017	10- 40	No	DEC	24	0:00	23:59
39	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/14/2017	13- 40	No	INC	24	0:00	23:59
40	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/15/2017	10- 40	No	DEC	24	0:00	23:59
41	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/15/2017	13- 40	No	INC	24	0:00	23:59
42	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/16/2017	10- 40	No	DEC	24	0:00	23:59
43	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/16/2017	16- 40	No	INC	24	0:00	23:59
44	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/17/2017	10- 40	No	DEC	24	0:00	23:59
45	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/17/2017	13- 40	No	INC	24	0:00	23:59

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Num	Тур	D	Locatio	Local Reliability	Tuesda Data	B.#NA/	itm	INC_	Hou	Begin	End
ber	е	Reason Transmission	n DC o C	Area	Trade Date	MW	ent	DEC DEC	rs	Time	Time
46	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/18/2017	10- 40	No		24	0:00	23:59
47	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/18/2017	13- 40	No	INC	24	0:00	23:59
48	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/19/2017	10- 40	No	DEC	24	0:00	23:59
49	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/19/2017	13- 40	No	INC	24	0:00	23:59
50	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/20/2017	10- 40	No	DEC	24	0:00	23:59
51	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/20/2017	13- 40	No	INC	24	0:00	23:59
52	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/21/2017	10- 40	No	DEC	24	0:00	23:59
53	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/21/2017	13- 40	No	INC	24	0:00	23:59
54	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/22/2017	10- 40	No	DEC	24	0:00	23:59
55	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/22/2017	4- 40	No	INC	24	0:00	23:59
56	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/23/2017	10- 40	No	DEC	24	0:00	23:59
57	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/23/2017	4- 40	No	INC	24	0:00	23:59
58	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/24/2017	10- 40	No	DEC	24	0:00	23:59
59	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/24/2017	13- 40	No	INC	24	0:00	23:59
60	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/25/2017	10- 40	No	DEC	24	0:00	23:59
61	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/25/2017	13- 40	No	INC	24	0:00	23:59
62	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/26/2017	10- 40	No	DEC	24	0:00	23:59
63	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/26/2017	13- 40	No	INC	24	0:00	23:59
64	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/27/2017	10- 40	No	DEC	24	0:00	23:59
65	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/27/2017	13- 40	No	INC	24	0:00	23:59
66	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/28/2017	10- 40	No	DEC	24	0:00	23:59
67	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/28/2017	16- 40	No	INC	24	0:00	23:59
68	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/29/2017	10- 40	No	DEC	24	0:00	23:59
69	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/29/2017	16- 40	No	INC	24	0:00	23:59
70	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/30/2017	10- 40	No	DEC	24	0:00	23:59
71	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/30/2017	13- 40	No	INC	24	0:00	23:59
72	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/31/2017	5- 40	No	DEC	24	0:00	23:14
73	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/31/2017	13- 40	No	INC	24	0:00	23:59
74	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	8/1/2017	40	No	INC	23	0:00	22:29
_ / ¬	111	moompicte of maccurate fransmission	I OGL	1 163110	0/1/2017	70	110	1110	20	0.00	22.23

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Nives	ket		Lacatio	Local Daliability			mm :4	INC	Han	Donin	□ al
Num ber	Typ e	Reason	Locatio	Local Reliability Area	Trade Date	MW	itm ent	DEC_	Hou rs	Begin Time	End Time
75	RT	Incomplete or Inaccurate Transmission	PG&E	Kern	7/11/2017	32	No	INC	5	16:50	20:59
					.,,,,,	260-					
76	RT	Incomplete or Inaccurate Transmission	PG&E	Stockton	7/7/2017	280	No	DEC	2	19:45	20:59
						260-					
77	RT	Incomplete or Inaccurate Transmission	PG&E	Stockton	7/7/2017	280	No	INC	2	19:45	20:59
78	RT	Incomplete or Inaccurate Transmission	PG&E	Stockton	7/9/2017	20	No	DEC	4	8:00	11:59
79	RT	Incomplete or Inaccurate Transmission	PG&E	Stockton	7/9/2017	20	No	INC	4	8:00	11:59
80	RT	Incomplete or Inaccurate Transmission	PG&E	Stockton	7/13/2017	25	No	DEC	2	4:00	5:44
81	RT	Incomplete or Inaccurate Transmission	PG&E	Stockton	7/13/2017	25	No	INC	2	4:00	5:44
82	RT	Incomplete or Inaccurate Transmission	PG&E	Stockton	7/14/2017	15	No	DEC	2	3:40	5:29
83	RT	Incomplete or Inaccurate Transmission	PG&E	Stockton	7/14/2017	15	No	INC	2	3:40	5:29
84	RT	Incomplete or Inaccurate Transmission	SDG&E	San Diego-IV	7/27/2017	25	No	INC	6	14:40	19:59
85	RT	Load Forecast Uncertainty	PG&E	Bay Area	7/7/2017	117	No	INC	16	8:00	23:59
86	RT	Load Forecast Uncertainty	PG&E	Bay Area	7/13/2017	54- 303	No	INC	15	7:45	21:59
87	RT	Load Forecast Uncertainty	PG&E	Bay Area	7/27/2017	100	No	DEC	2	18:00	19:59
88	RT	Load Forecast Uncertainty	PG&E	Bay Area	7/27/2017	117	No	INC	11	13:00	23:59
89	RT	Load Forecast Uncertainty	PG&E	Bay Area	7/31/2017	117	No	INC	8	14:00	21:59
90	RT	Load Forecast Uncertainty	PG&E	Fresno	7/2/2017	83	No	INC	1	17:34	17:59
91	RT	Load Forecast Uncertainty	PG&E	Fresno	7/7/2017	48	No	DEC	3	17:00	19:59
		·		Big Creek-							
92	RT	Load Forecast Uncertainty	SCE	Ventura	7/5/2017	20	Yes	INC	8	16:30	23:59
			005	Big Creek-	= /0/00 4=	00 110					
93	RT	Load Forecast Uncertainty	SCE	Ventura	7/6/2017	20- 140	Yes	INC	24	0:00	23:59
94	RT	Load Forecast Uncertainty	SCE	Big Creek- Ventura	7/7/2017	100- 375	No	INC	6	18:45	23:59
94	N I	Load Forecast Officertaility	SCE	Big Creek-	1/1/2011	3/3	INU	INC	U	10.43	23.38
95	RT	Load Forecast Uncertainty	SCE	Ventura	7/8/2017	100	No	INC	22	0:00	21:59
				Big Creek-			- 10		_ <b>_</b> _		
96	RT	Load Forecast Uncertainty	SCE	Ventura	7/9/2017	50	No	INC	24	0:00	23:59

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	ket						mm				
Num	Тур	B	Locatio	Local Reliability	Totale Date	3.6347	itm	INC_	Hou	Begin	End
ber	е	Reason	n	Area Pig Crook	Trade Date	<b>MW</b> 50-	ent	DEC	rs	Time	Time
97	RT	Load Forecast Uncertainty	SCE	Big Creek- Ventura	7/10/2017	1020	No	INC	24	0:00	23:59
31	1 1 1	Load Forecast officertainty	302	Big Creek-	7/10/2017	100-	140	1110	24	0.00	25.55
98	RT	Load Forecast Uncertainty	SCE	Ventura	7/11/2017	520	Yes	INC	14	10:00	23:59
		,		Big Creek-		100-					
99	RT	Load Forecast Uncertainty	SCE	Ventura	7/12/2017	802	No	INC	24	0:00	23:59
				Big Creek-		100-					
100	RT	Load Forecast Uncertainty	SCE	Ventura	7/13/2017	1400	No	INC	24	0:00	23:59
404	БТ	Local Forescat House to be	005	Big Creek-	7/4 4/0047	100-	NI.	INIO	0.4	0.00	00.50
101	RT	Load Forecast Uncertainty	SCE	Ventura	7/14/2017	243	No	INC	24	0:00	23:59
102	RT	Load Forecast Uncertainty	SCE	Big Creek- Ventura	7/15/2017	100	No	INC	24	0:00	23:59
102	1 1 1	Load Forecast officertainty	302	Big Creek-	7/13/2017	100	140	1110	24	0.00	25.55
103	RT	Load Forecast Uncertainty	SCE	Ventura	7/16/2017	100	No	INC	24	0:00	23:59
		,		Big Creek-							
104	RT	Load Forecast Uncertainty	SCE	Ventura	7/17/2017	20- 40	Yes	INC	11	13:00	23:59
				Big Creek-							
105	RT	Load Forecast Uncertainty	SCE	Ventura	7/31/2017	50	No	INC	9	15:00	23:59
106	RT	Load Forecast Uncertainty	SCE	LA Basin	7/3/2017	10	No	INC	5	19:00	23:59
107	RT	Load Forecast Uncertainty	SCE	LA Basin	7/4/2017	65	No	DEC	6	16:15	21:59
108	RT	Load Forecast Uncertainty	SCE	LA Basin	7/4/2017	20- 388	No	INC	15	9:00	23:59
109	RT	Load Forecast Uncertainty	SCE	LA Basin	7/5/2017	65	No	DEC	8	13:15	20:59
110	RT	Load Forecast Uncertainty	SCE	LA Basin	7/5/2017	10- 390	Yes	INC	21	3:00	23:59
111	RT	Load Forecast Uncertainty	SCE	LA Basin	7/6/2017	10- 110	Yes	INC	15	9:00	23:59
112	RT	Load Forecast Uncertainty	SCE	LA Basin	7/7/2017	70- 528	No	INC	21	0:00	20:59
113	RT	Load Forecast Uncertainty	SCE	LA Basin	7/8/2017	25- 50	Yes	INC	14	10:00	23:59
114	RT	Load Forecast Uncertainty	SCE	LA Basin	7/9/2017	50	Yes	INC	24	0:00	23:59
115	RT	Load Forecast Uncertainty	SCE	LA Basin	7/10/2017	20- 214	Yes	INC	24	0:00	23:59
116	RT	Load Forecast Uncertainty	SCE	LA Basin	7/11/2017	35- 346	Yes	INC	24	0:00	23:59
117	RT	Load Forecast Uncertainty	SCE	LA Basin	7/16/2017	10	Yes	INC	24	0:00	23:59
118	RT	Load Forecast Uncertainty	SCE	LA Basin	7/17/2017	130	No	DEC	14	10:00	23:58

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Mirro	ket		Locatio	Lead Polichility			mm	INC	Lla	Bogin	End
Num ber	Typ e	Reason	Locatio n	Local Reliability Area	Trade Date	MW	itm ent	INC_ DEC	Hou rs	Begin Time	End Time
119	RT	Load Forecast Uncertainty	SCE	LA Basin	7/17/2017	10	Yes	INC	24	0:00	23:59
120	RT	Load Forecast Uncertainty	SCE	LA Basin	7/19/2017	130	No	INC	22	2:00	23:59
121	RT	Load Forecast Uncertainty	SCE	LA Basin	7/27/2017	20- 40	Yes	INC	17	7:00	23:59
122	RT	Load Forecast Uncertainty	SCE	LA Basin	7/28/2017	20	Yes	INC	14	7:00	20:59
123	RT	Load Forecast Uncertainty	SCE	LA Basin	7/30/2017	130	No	INC	10	14:00	23:58
124	RT	Load Forecast Uncertainty	SCE	LA Basin	7/31/2017	25- 240	Yes	INC	14	10:00	23:59
		·				172-					
125	RT	Load Forecast Uncertainty	SCE	N/A	7/5/2017	710	No	INC	8	13:00	20:59
126	RT	Load Forecast Uncertainty	SCE	N/A	7/10/2017	10- 20	No	DEC	13	10:45	23:44
127	RT	Load Forecast Uncertainty	SCE	N/A	7/10/2017	10	No	INC	13	11:15	23:44
128	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/5/2017	20- 262	No	INC	12	12:00	23:59
129	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/6/2017	20- 40	Yes	INC	24	0:00	23:59
130	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/7/2017	20	Yes	INC	2	22:00	23:59
131	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/8/2017	20- 244	Yes	INC	24	0:00	23:59
132	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/9/2017	20	No	INC	24	0:00	23:59
133	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/10/2017	20- 146	No	INC	12	12:00	23:59
134	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/11/2017	20- 136	No	INC	22	2:00	23:59
135	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/12/2017	20- 126	No	INC	24	0:00	23:59
136	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/13/2017	20	No	INC	24	0:00	23:59
137	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/14/2017	20- 126	No	INC	24	0:00	23:59
138	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/15/2017	20	No	INC	24	0:00	23:59
139	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/16/2017	20	No	INC	24	0:00	23:59
140	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/17/2017	20	No	INC	12	12:00	23:59
141	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/26/2017	20	No	INC	2	22:00	23:59
142	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/27/2017	40	No	INC	24	0:00	23:59
143	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/30/2017	68	No	INC	4	17:45	20:59
144	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	7/31/2017	20- 63	No	INC	14	10:00	23:59
145	RT	Load Pull	PG&E	Bay Area	7/10/2017	98	No	DEC	2	18:00	19:59

	Mar						Co				
	ket						mm				
Num	Тур	Danasia	Locatio	Local Reliability	Trada Data	BANA/	itm	INC_ DEC	Hou	Begin	End
ber	е	Reason	n	Area Big Creek-	Trade Date	MW	ent	DEC	rs	Time	Time
146	RT	Load Pull	SCE	Ventura	7/31/2017	250	No	INC	5	16:30	20:59
147	RT	Load Pull	SCE	LA Basin	7/2/2017	190	No	DEC	4	17:00	20:59
148	RT	Load Pull	SCE	LA Basin	7/2/2017	190	No	INC	4	17:00	20:59
149	RT	Load Pull	SCE	LA Basin	7/3/2017	380	No	INC	4	17:43	20:59
150	RT	Load Pull	SCE	LA Basin	7/24/2017	130	No	DEC	11	9:40	19:59
151	RT	Load Pull	SCE	LA Basin	7/31/2017	194	No	DEC	6	15:20	20:59
152	RT	Load Pull	SCE	LA Basin	7/31/2017	142	No	INC	7	14:00	20:59
153	RT	Load Pull	SDG&E	San Diego-IV	7/24/2017	68	No	DEC	12	8:55	19:59
154	RT	Load Pull	SDG&E	San Diego-IV	7/24/2017	63- 68	No	INC	12	8:55	19:59
155	RT	Load Pull	SDG&E	San Diego-IV	7/25/2017	68	No	DEC	10	10:00	19:59
156	RT	Load Pull	SDG&E	San Diego-IV	7/25/2017	63	No	INC	10	10:00	19:59
157	RT	Load Pull	SDG&E	San Diego-IV	7/27/2017	131	No	INC	8	14:00	21:59
158	RT	Load Pull	SDG&E	San Diego-IV	7/29/2017	68	No	INC	6	16:05	21:59
100		Operating Procedure Number and Constraint	00000	Can Diogo IV	172072011	- 00				10.00	21.00
159	RT	(6310)	PG&E	Humboldt	7/21/2017	13- 28	No	DEC	24	0:00	23:59
		Operating Procedure Number and Constraint									
160	RT	(6310)	PG&E	Humboldt	7/21/2017	13- 28	No	INC	24	0:00	23:59
404	5-	Operating Procedure Number and Constraint	5005		7/00/00/17	00 44		550			
161	RT	(6310)	PG&E	Humboldt	7/26/2017	32- 44	No	DEC	14	6:35	20:29
162	RT	Operating Procedure Number and Constraint (6310)	PG&E	Humboldt	7/26/2017	13- 129	No	INC	24	0:00	23:29
102	1 1 1	Operating Procedure Number and Constraint	1 Oal	Hambolat	1/20/2011	10- 123	110	1140	24	0.00	25.25
163	RT	(7110)	PG&E	Humboldt	7/1/2017	11- 16	No	INC	14	10:45	23:59
		Operating Procedure Number and Constraint					_				
164	RT	(7110)	PG&E	Humboldt	7/2/2017	11- 44	No	INC	24	0:00	23:59
		Operating Procedure Number and Constraint									
165	RT	(7110)	PG&E	Humboldt	7/3/2017	12	No	DEC	7	1:10	7:59
166	рт	Operating Procedure Number and Constraint	DC 0 E	Llumbaldt	7/2/2017	10 10	No	INIC	22	0.00	22.20
166	RT	(7110)	PG&E	Humboldt	7/3/2017	12- 48	No	INC	23	0:00	22:29

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Num ber	Typ e	Reason	Locatio n	Local Reliability Area	Trade Date	MW	itm ent	INC_ DEC	Hou rs	Begin Time	End Time
501		Operating Procedure Number and Constraint	•••	71100	Trado Dato	11111	One	<u> </u>	10	111110	111110
167	RT	(7110)	PG&E	Humboldt	7/6/2017	10	No	DEC	10	7:40	16:59
168	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/6/2017	10- 43	No	INC	16	7:40	22:59
169	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/7/2017	10	No	INC	4	8:25	11:59
170	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/8/2017	30	No	DEC	2	22:50	23:59
171	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/8/2017	30	No	INC	2	22:50	23:59
172	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/9/2017	22	No	DEC	5	9:40	14:29
173	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/9/2017	22- 30	No	INC	15	0:00	14:29
174	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/14/2017	12	No	DEC	6	3:15	9:14
175	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/14/2017	12	No	INC	6	3:15	9:14
176	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/16/2017	16- 43	No	DEC	3	21:45	23:59
177	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/16/2017	43	No	INC	3	21:45	23:59
178	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/17/2017	15- 64	No	DEC	20	0:00	19:59
179	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/17/2017	16- 24	No	INC	20	0:00	19:59
180	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/18/2017	16	No	DEC	3	21:35	23:59
181	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/18/2017	16	No	INC	2	21:40	23:29
182	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/19/2017	10- 16	No	DEC	24	0:15	23:29

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Num	Typ		Locatio	Local Reliability			itm	INC_	Hou	Begin	End
ber	e	Reason	n	Area	Trade Date	MW	ent	DEC	rs	Time	Time
		Operating Procedure Number and Constraint									
183	RT	(7110)	PG&E	Humboldt	7/19/2017	15- 24	No	INC	24	0:00	23:29
		Operating Procedure Number and Constraint							_		
184	RT	(7110)	PG&E	Humboldt	7/20/2017	15- 16	No	DEC	7	17:00	23:59
405	БТ	Operating Procedure Number and Constraint	D00F	l loure le edelé	7/00/0047	40 54	NI-	INIC	47	7.00	00.50
185	RT	(7110) Operating Procedure Number and Constraint	PG&E	Humboldt	7/20/2017	16- 51	No	INC	17	7:30	23:59
186	RT	(7110)	PG&E	Humboldt	7/22/2017	13	No	DEC	8	0:00	7:59
100	18.1	Operating Procedure Number and Constraint	FOOL	Turribolat	1/22/2011	13	INO	DLC	0	0.00	7.55
187	RT	(7110)	PG&E	Humboldt	7/22/2017	13	No	INC	1	0:00	0:29
101		Operating Procedure Number and Constraint	. 00.2	Transolat	1722/2011		110		•	0.00	0.20
188	RT	(7110)	PG&E	Humboldt	7/24/2017	32	No	DEC	2	22:20	23:59
		Operating Procedure Number and Constraint									
189	RT	(7110)	PG&E	Humboldt	7/24/2017	32	No	INC	2	22:20	23:59
		Operating Procedure Number and Constraint									
190	RT	(7110)	PG&E	Humboldt	7/25/2017	16	No	DEC	6	1:20	6:59
		Operating Procedure Number and Constraint									
191	RT	(7110)	PG&E	Humboldt	7/25/2017	13- 32	No	INC	24	0:00	23:59
400	БТ	Operating Procedure Number and Constraint	DONE	L.L. salas Lili	7/07/0047	40.00	N	DEO	0.4	0.50	00.50
192	RT	(7110)	PG&E	Humboldt	7/27/2017	13- 32	No	DEC	24	0:50	23:59
193	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/27/2017	13- 45	No	INC	24	0:50	23:59
193	17.1	Operating Procedure Number and Constraint	FOOL	Turribolat	1/21/2011	15- 45	INO	INC	24	0.50	23.39
194	RT	(7110)	PG&E	Humboldt	7/28/2017	16	No	DEC	23	1:40	23:59
101		Operating Procedure Number and Constraint	. 00.2	Transolat	1720/2011		110	520		11.10	20.00
195	RT	(7110)	PG&E	Humboldt	7/28/2017	16- 45	No	INC	22	0:00	21:59
		Operating Procedure Number and Constraint				_					
196	RT	(7110)	PG&E	Humboldt	7/29/2017	13- 30	No	DEC	23	0:00	22:59
		Operating Procedure Number and Constraint									
197	RT	(7110)	PG&E	Humboldt	7/29/2017	13- 16	No	INC	23	0:00	22:59
400		Operating Procedure Number and Constraint	5005		=/00/00/1=	4	l	550		40.50	,, -,
198	RT	(7110)	PG&E	Humboldt	7/30/2017	15- 30	No	DEC	4	16:50	19:59

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Num	Тур		Locatio	Local Reliability			itm	INC_	Hou	Begin	End
ber	е	Reason	n	Area	Trade Date	MW	ent	DEC	rs	Time	Time
		Operating Procedure Number and Constraint									
199	RT	(7110)	PG&E	Humboldt	7/30/2017	15	No	INC	4	16:50	19:59
		Operating Procedure Number and Constraint									
200	RT	(7110)	PG&E	Humboldt	7/31/2017	32	No	DEC	2	22:45	23:59
		Operating Procedure Number and Constraint									
201	RT	(7110)	PG&E	Humboldt	7/31/2017	25- 51	No	INC	17	7:30	23:59
		Operating Procedure Number and Constraint							_		
202	RT	(7230)	PG&E	Sierra	7/4/2017	20	No	INC	5	18:50	22:59
000	БТ	Operating Procedure Number and Constraint	5005	0:	7/0/0047	40		11.10	_	00.00	00.50
203	RT	(7230)	PG&E	Sierra	7/8/2017	42	Yes	INC	1	23:00	23:59
004	D.T.	Operating Procedure Number and Constraint	DONE	0:	7/0/0047	40	NI-	INIC		00.55	00.50
204	RT	(7230)	PG&E	Sierra	7/9/2017	42	No	INC	2	22:55	23:59
205	RT	Operating Procedure Number and Constraint	PG&E	Ciorro	7/4/4/2047	20	No	INC	2	22.20	22.50
205	KI	(7230) Operating Procedure Number and Constraint	PG&E	Sierra	7/14/2017	20	No	IIIC		22:30	23:59
206	RT	(7230)	PG&E	Sierra	7/15/2017	20	No	INC	1	0:00	0:44
200	111	Operating Procedure Number and Constraint	FGQL	Sierra	1/13/2017	20	INO	IIVC	1	0.00	0.44
207	RT	(7430)	PG&E	Fresno	7/1/2017	69- 140	No	DEC	19	5:21	23:59
201	111	Operating Procedure Number and Constraint	1 Oal	1 163110	1/1/2011	09-140	110	DLC	13	J.Z I	20.00
208	RT	(7430)	PG&E	Fresno	7/1/2017	69- 75	No	INC	18	5:21	22:44
200	111	Operating Procedure Number and Constraint	1 Oak	1 103110	171/2011	05 75	140	1140	10	5.21	22.77
209	RT	(7430)	PG&E	Fresno	7/2/2017	67- 80	No	DEC	24	0:00	23:59
		Operating Procedure Number and Constraint			.,_,_,	0. 00				0.00	20.00
210	RT	(7430)	PG&E	Fresno	7/2/2017	70	No	INC	19	5:10	23:59
		Operating Procedure Number and Constraint			1,7,2,2,1						
211	RT	(7430)	PG&E	Fresno	7/3/2017	65- 70	No	DEC	8	0:00	7:59
		Operating Procedure Number and Constraint									
212	RT	(7430)	PG&E	Fresno	7/5/2017	75- 82	No	DEC	3	21:00	23:59
		Operating Procedure Number and Constraint									
213	RT	(7430)	PG&E	Fresno	7/6/2017	75	No	DEC	3	21:40	23:59
		Operating Procedure Number and Constraint									
214	RT	(7430)	PG&E	Fresno	7/6/2017	70- 75	No	INC	24	0:15	23:59

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Num	Тур		Locatio	Local Reliability			itm	INC	Hou	Begin	End
ber	e	Reason	n	Area	Trade Date	MW	ent	DEC	rs	Time	Time
		Operating Procedure Number and Constraint									
215	RT	(7430)	PG&E	Fresno	7/7/2017	67	No	DEC	3	2:25	4:59
		Operating Procedure Number and Constraint		_	_/_/_						
216	RT	(7430)	PG&E	Fresno	7/7/2017	70- 75	No	INC	6	0:00	5:59
047	БТ	Operating Procedure Number and Constraint	ם מר	<b></b>	7/44/0047	70	NI-	DEC	40	0.00	40.50
217	RT	(7430)	PG&E	Fresno	7/11/2017	72	No	DEC	12	8:30	19:59
218	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	7/11/2017	72	No	INC	12	8:30	19:59
210	KI	Operating Procedure Number and Constraint	ruae	riesiio	7/11/2017	12	INO	INC	12	0.30	19.59
219	RT	(7430)	PG&E	Fresno	7/12/2017	75- 84	No	DEC	4	20:05	23:59
210	101	Operating Procedure Number and Constraint	1 001	1 100110	1712/2011	70 01	110	520		20.00	20.00
220	RT	(7430)	PG&E	Fresno	7/12/2017	70- 84	No	INC	4	20:05	23:59
		Operating Procedure Number and Constraint									
221	RT	(7430)	PG&E	Fresno	7/13/2017	70	No	INC	2	0:00	1:59
		Operating Procedure Number and Constraint				130-					
222	RT	(7430)	PG&E	Fresno	7/14/2017	513	No	DEC	4	20:10	23:14
		Operating Procedure Number and Constraint									
223	RT	(7430)	PG&E	Fresno	7/14/2017	75- 593	No	INC	3	20:50	23:44
004	БТ	Operating Procedure Number and Constraint	D00F	_	7/00/0047			13.10	_	00.00	00.50
224	RT	(7430)	PG&E	Fresno	7/23/2017	83	No	INC	1	23:00	23:59
225	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	7/25/2017	500	No	DEC	1	20:32	21:14
223	K1	Operating Procedure Number and Constraint	ruae	LIESHO	1/25/2017	330-	INO	DEC	1	20.32	21.14
226	RT	(7430)	PG&E	Fresno	7/28/2017	525	No	DEC	2	20:14	21:59
220	111	Operating Procedure Number and Constraint	1 Oal	1 163110	7/20/2017	323	110	DLC		20.14	21.00
227	RT	(7430)	PG&E	Fresno	7/28/2017	175	No	INC	2	20:40	21:59
		Operating Procedure Number and Constraint							-		
228	RT	(7430)	PG&E	N/A	7/10/2017	47	No	INC	1	0:50	1:29
		Operating Procedure Number and Constraint									
229	RT	(7820)	SDG&E	San Diego-IV	7/20/2017	63- 64	No	INC	9	11:45	19:59
				Big Creek-		_			_		
230	RT	Other Reliability Requirement	SCE	Ventura	7/14/2017	0	No	INC	6	18:30	23:59

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Num	ket		Locatio	Local Reliability			mm itm	INC	Hou	Begin	End
ber	Typ e	Reason	n	Area	Trade Date	MW	ent	DEC_	rs	Time	Time
<b>30</b> 1		TOUGO!!		Big Creek-	Tiddo Dato	10100	One	720		111110	111110
231	RT	Other Reliability Requirement	SCE	Ventura	7/15/2017	0	No	INC	24	0:00	23:59
		•		Big Creek-							
232	RT	Other Reliability Requirement	SCE	Ventura	7/16/2017	0	No	INC	15	0:25	14:29
233	RT	Other Reliability Requirement	SCE	LA Basin	7/10/2017	422	No	DEC	1	15:20	15:24
234	RT	Other Reliability Requirement	SDG&E	San Diego-IV	7/10/2017	311	No	DEC	1	15:02	15:24
		Planned Transmission Outage and									
235	RT	Constraint	PG&E	Humboldt	7/5/2017	10	No	INC	2	7:50	9:44
		Planned Transmission Outage and									
236	RT	Constraint	PG&E	Humboldt	7/10/2017	144	No	DEC	17	7:00	23:59
237	RT	Planned Transmission Outage and	PG&E	l lumah alak	7/10/2017	144	No	INC	17	7.00	23:59
231	KI	Constraint Planned Transmission Outage and	PG&E	Humboldt	7/10/2017	144	INO	INC	17	7:00	23.59
238	RT	Constraint	PG&E	Humboldt	7/11/2017	48- 72	No	DEC	24	0:45	23:59
200	1 1 1	Planned Transmission Outage and	1 Cal	Tidilibolat	7711/2017	40 72	140	DEC	27	0.40	20.00
239	RT	Constraint	PG&E	Humboldt	7/11/2017	24- 144	No	INC	24	0:00	23:59
		Planned Transmission Outage and									
240	RT	Constraint	PG&E	Humboldt	7/12/2017	24- 72	No	DEC	24	0:00	23:59
		Planned Transmission Outage and									
241	RT	Constraint	PG&E	Humboldt	7/12/2017	48- 72	No	INC	24	0:00	23:59
0.40		Planned Transmission Outage and	5005		-/40/004-			5-0			
242	RT	Constraint	PG&E	Humboldt	7/13/2017	24- 72	No	DEC	24	0:00	23:59
243	RT	Planned Transmission Outage and Constraint	PG&E	Humboldt	7/13/2017	48- 72	No	INC	24	0:00	23:59
243	KI	Planned Transmission Outage and	FGaE	Пиньони	1/13/2011	40- 72	INO	INC	24	0.00	23.59
244	RT	Constraint	PG&E	Humboldt	7/14/2017	24	No	DEC	21	3:10	23:59
	111	Planned Transmission Outage and		Transolat	7711/2011	<u> </u>	110	220		0.10	
245	RT	Constraint	PG&E	Humboldt	7/14/2017	24- 72	No	INC	24	0:00	23:59
		Planned Transmission Outage and									
246	RT	Constraint	PG&E	Humboldt	7/15/2017	24	No	INC	4	0:00	3:14
		Planned Transmission Outage and									i 7
247	RT	Constraint	PG&E	Humboldt	7/18/2017	15	No	DEC	13	7:10	19:59

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Num	Тур		Locatio	Local Reliability			itm	INC	Hou	Begin	End
ber	e	Reason	n	Area	Trade Date	MW	ent	DEC	rs	Time	Time
		Planned Transmission Outage and									
248	RT	Constraint	PG&E	Humboldt	7/18/2017	15	No	INC	13	7:10	19:59
		Planned Transmission Outage and									
249	RT	Constraint	PG&E	Humboldt	7/27/2017	30- 76	No	DEC	6	9:05	14:59
		Planned Transmission Outage and			_,_,_,				_		
250	RT	Constraint	PG&E	Humboldt	7/27/2017	38- 46	No	INC	6	9:05	14:59
		Planned Transmission Outage and							_		
251	RT	Constraint	PG&E	N/A	7/5/2017	40- 55	No	DEC	2	18:20	19:59
050	БТ	Planned Transmission Outage and	5005	0, 1,	7/4/0047	05 74		11.10	_	7.50	44.50
252	RT	Constraint	PG&E	Stockton	7/4/2017	35- 71	No	INC	5	7:50	11:59
050	БТ	Planned Transmission Outage and	00005	O D' 1)/	7/5/0047	00		1110		40.00	44.50
253	RT	Constraint	SDG&E	San Diego-IV	7/5/2017	20	No	INC	2	10:00	11:59
254	рт	Planned Transmission Outage and	CDC%E	Can Diago IV	7/0/2047	20 420	Nia	INC		0.00	40.50
254	RT	Constraint Planned Transmission Outage and	SDG&E	San Diego-IV	7/6/2017	20- 126	No	INC	9	8:00	16:59
255	RT	Constraint	SDG&E	San Diego-IV	7/14/2017	15	No	INC	11	8:15	18:59
255	ΚI	Planned Transmission Outage and	SDG&E	San Diego-iv	7/14/2017	15	INO	INC	11	0.13	10.59
256	RT	Constraint	SDG&E	San Diego-IV	7/17/2017	37	No	INC	2	10:15	11:59
230	17.1	Planned Transmission Outage and	SDG&L	San Diego-IV	7/17/2017	31	INO	IIVC		10.13	11.59
257	RT	Constraint	SDG&E	San Diego-IV	7/20/2017	20	No	INC	4	20:00	23:59
231	111	Planned Transmission Outage and	ODORL	San Diego-iv	1/20/2011	20	110	1140	-	20.00	20.00
258	RT	Constraint	SDG&E	San Diego-IV	7/21/2017	39	No	DEC	10	10:40	20:29
		Planned Transmission Outage and	02002	Can Biogo IV	172172011	- 55	110	520		10.10	20.20
259	RT	Constraint	SDG&E	San Diego-IV	7/21/2017	20- 59	No	INC	21	0:00	20:29
		Planned Transmission Outage and	0200.2		.,,					0.00	
260	RT	Constraint	SDG&E	San Diego-IV	7/24/2017	260	No	DEC	2	9:25	10:59
		Planned Transmission Outage and		· · · · · · · · · · · · · · · · · ·	.,, <b></b>	=55	1				
261	RT	Constraint	SDG&E	San Diego-IV	7/24/2017	260	No	INC	2	9:25	10:59
		Planned Transmission Outage and		<u> </u>							
262	RT	Constraint	SDG&E	San Diego-IV	7/25/2017	68- 522	No	DEC	12	5:50	17:29
		Planned Transmission Outage and		<u> </u>							
263	RT	Constraint	SDG&E	San Diego-IV	7/25/2017	20- 194	No	INC	22	2:00	23:59

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Num	Тур		Locatio	Local Reliability			itm	INC_	Hou	Begin	End
ber	е	Reason	n	Area	Trade Date	MW	ent	DEC	rs	Time	Time
004	БТ	Planned Transmission Outage and	CDC 0 F	Can Diago IV	7/00/0047	20 227	Nia	INIC	24	0.00	22.50
264	RT	Constraint Planned Transmission Outage and	SDG&E	San Diego-IV	7/26/2017	20- 337	No	INC	24	0:00	23:59
265	RT	Constraint	SDG&E	San Diego-IV	7/27/2017	37	No	INC	2	7:15	8:59
		Planned Transmission Outage and	02 0 0.12		.,,	<u> </u>			_		0.00
266	RT	Constraint	SDG&E	San Diego-IV	7/28/2017	20	No	INC	24	0:00	23:59
		Planned Transmission Outage and		Ğ							
267	RT	Constraint	SDG&E	San Diego-IV	7/29/2017	20	No	INC	24	0:00	23:59
		Planned Transmission Outage and									
268	RT	Constraint	SDG&E	San Diego-IV	7/30/2017	20	No	INC	24	0:00	23:59
269	RT	Software Limitation	PG&E	Fresno	7/2/2017	0	No	INC	1	0:00	0:59
270	RT	Software Limitation	PG&E	Fresno	7/4/2017	0	No	INC	5	7:10	12:04
271	RT	Software Limitation	PG&E	Fresno	7/23/2017	0	No	INC	1	23:00	23:59
272	RT	Software Limitation	PG&E	Humboldt	7/5/2017	0	No	INC	1	10:00	10:59
273	RT	Software Limitation	PG&E	Humboldt	7/24/2017	33	No	DEC	1	22:35	22:59
274	RT	Software Limitation	PG&E	Kern	7/27/2017	0	No	INC	1	23:00	23:59
275	RT	Software Limitation	PG&E	Kern	7/28/2017	0	No	INC	1	0:00	0:59
276	RT	Software Limitation	PG&E	N/A	7/7/2017	0	No	INC	2	22:49	23:59
277	RT	Software Limitation	PG&E	N/A	7/8/2017	0	No	INC	24	0:00	23:34
278	RT	Software Limitation	SCE	LA Basin	7/7/2017	10	Yes	INC	2	22:00	23:59
279	RT	Software Limitation	SCE	LA Basin	7/16/2017	150	No	INC	1	23:15	23:59
280	RT	Software Limitation	SCE	LA Basin	7/17/2017	20- 150	No	INC	24	0:00	23:59
281	RT	Software Limitation	SCE	LA Basin	7/30/2017	20- 30	No	INC	20	4:00	23:59
282	RT	Software Limitation	SDG&E	San Diego-IV	7/26/2017	68	No	DEC	14	6:00	19:59
283	RT	Software Limitation	SDG&E	San Diego-IV	7/26/2017	63- 131	No	INC	15	5:15	19:59
284	RT	Unit Testing	Intertie	N/A	7/1/2017	42	No	INC	24	0:00	23:59
285	RT	Unit Testing	Intertie	N/A	7/2/2017	42	No	INC	24	0:00	23:59
286	RT	Unit Testing	Intertie	N/A	7/3/2017	42	No	INC	24	0:00	23:59
287	RT	Unit Testing	Intertie	N/A	7/4/2017	42	No	INC	24	0:00	23:59
288	RT	Unit Testing	Intertie	N/A	7/5/2017	42	No	INC	24	0:00	23:59

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Num ber	Typ e	Reason	Locatio	Local Reliability Area	Trade Date	MW	itm ent	DEC_	rs	Begin Time	End Time
289	RT	Unit Testing	Intertie	N/A	7/6/2017	42	No	INC	24	0:00	23:59
290	RT	Unit Testing	Intertie	N/A	7/7/2017	42	No	INC	17	0:00	16:59
291	RT	Unit Testing	Intertie	N/A	7/15/2017	4	No	INC	12	12:20	23:59
292	RT	Unit Testing	Intertie	N/A	7/16/2017	12- 24	No	INC	24	0:00	23:59
293	RT	Unit Testing	Intertie	N/A	7/17/2017	24	No	INC	24	0:00	23:59
294	RT	Unit Testing	Intertie	N/A	7/18/2017	24- 42	No	INC	24	0:00	23:59
295	RT	Unit Testing	Intertie	N/A	7/19/2017	42	No	INC	24	0:00	23:59
296	RT	Unit Testing	Intertie	N/A	7/20/2017	42	No	INC	24	0:00	23:59
297	RT	Unit Testing	Intertie	N/A	7/21/2017	42	No	INC	24	0:00	23:59
298	RT	Unit Testing	Intertie	N/A	7/22/2017	42	No	INC	21	0:00	20:59
299	RT	Unit Testing	Intertie	N/A	7/23/2017	42	No	INC	24	0:00	23:59
300	RT	Unit Testing	Intertie	N/A	7/24/2017	42	No	INC	24	0:40	23:59
301	RT	Unit Testing	Intertie	N/A	7/25/2017	42	No	INC	24	0:00	23:59
302	RT	Unit Testing	Intertie	N/A	7/26/2017	63	No	INC	24	0:00	23:59
303	RT	Unit Testing	Intertie	N/A	7/27/2017	63	No	INC	14	10:00	23:59
304	RT	Unit Testing	Intertie	N/A	7/28/2017	126	No	INC	24	0:00	23:59
305	RT	Unit Testing	Intertie	N/A	7/29/2017	63	No	INC	24	0:00	23:59
306	RT	Unit Testing	Intertie	N/A	7/30/2017	63	No	INC	24	0:00	23:59
307	RT	Unit Testing	Intertie	N/A	7/31/2017	63	No	INC	21	3:30	23:59
308	RT	Unit Testing	PG&E	Bay Area	7/7/2017	468	No	DEC	4	15:10	18:59
309	RT	Unit Testing	PG&E	Bay Area	7/25/2017	572	No	DEC	1	15:14	15:44
310	RT	Unit Testing	PG&E	N/A	7/13/2017	71	No	DEC	1	13:29	13:39
311	RT	Unit Testing	SCE	LA Basin	7/26/2017	19	No	INC	1	18:30	19:29
312	RT	Unit Testing	SCE	LA Basin	7/28/2017	19	No	INC	17	0:00	16:19
313	RT	Unit Testing	SDG&E	San Diego-IV	7/6/2017	96	No	INC	1	20:00	20:09
314	RT	Unit Testing	SDG&E	San Diego-IV	7/26/2017	18	No	INC	1	19:30	19:59
315	RT	Voltage Support	PG&E	Sierra	7/14/2017	20	No	INC	1	23:45	23:59
316	RT	Voltage Support	PG&E	Sierra	7/15/2017	20	Yes	INC	24	0:00	23:59
317	RT	Voltage Support	PG&E	Sierra	7/16/2017	20	Yes	INC	24	0:00	23:59

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Num	Тур		Locatio	Local Reliability			itm	INC_	Hou	Begin	End
ber	е	Reason	n	Area	Trade Date	MW	ent	DEC	rs	Time	Time
318	RT	Voltage Support	PG&E	Sierra	7/17/2017	20- 40	Yes	INC	4	0:00	3:29

# **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	Α	SCE	LA BASIN	05:00	10:00	50	7630
01-Jul-09	DA	В	SCE	LA BASIN	08:00	20:00	30	7630
01-Jul-09	DA	С	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	Α	PG&E	Humboldt	06:00	11:00	30	0	Yes	INC	30	7110
01-Jul-09	RT	В	PG&E	Humboldt	07:00	09:00	40	20	No	INC	20	7110
01-Jul-09	RT	С	PG&E	Humboldt	12:00	15:00	50	50	No	INC	0	7110
01-Jul-09	RT	С	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	Α	PG&E	Fresno	15:00	20:00	20	0	Yes	INC	20	7430
01-Jul-09	RT	В	PG&E	Fresno	07:00	09:00	40	60	No	DEC	20	7430
01-Jul-09	RT	С	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 15<sup>th</sup> day of September, 2017

/s/ Grace Clark
Grace Clark