

Exceptional Dispatch Report

Table 1: July 2017

CAISO Market Quality and Renewable Integration

September 15, 2017

TABLE OF CONTENTS

Introduction	3
The Nature of Exceptional Dispatch	
Appendix A: Explanation by Example	
Example 1: Exceptional Dispatch Instructions Prior to DAM	21
Example 2: Incremental Exceptional Dispatch Instructions in RTM	22
Example 3: Decremental Exceptional Dispatch Instructions in RTM	24
LIST OF TABLES AND FIGURES Table 1: Exceptional Dispatches in July 2017	
Table 2: Instructions Prior to Day-Ahead Market	
Table 3: FERC Summary of Instructions Prior to DAM	
Table 4: Incremental Exceptional Dispatch Instructions in RTM	
Table 5: FERC Summary of ED Instructions in RTM	
Table 6: Decremental Exceptional Dispatch Instructions in RTM	24
Table 7: FERC Summary of Decremental ED Instructions in RTM	

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 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 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.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 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

_

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. 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.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 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.

CAISO\Market Quality and Renewable Integration

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

Table 1: Exceptional Dispatches in 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 ket						Co mm				
Num	Тур		Locatio	Local Reliability			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

	Mar						Со				
Num	ket Typ		Locatio	Local Reliability			mm itm	INC	Hou	Begin	End
ber	e	Reason	n	Area	Trade Date	MW	ent	DEC_	rs	Time	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

	Mar						Со				
Num	ket		Locatio	Local Polichility			mm itm	INC	Hou	Pogin	End
ber	Typ e	Reason	n	Local Reliability Area	Trade Date	MW	ent	DEC_	rs	Begin Time	Time
46	RT	Incomplete or Inaccurate Transmission	PG&E	Fresno	7/18/2017	10- 40	No	DEC	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

	Mar ket						Co mm				
Num ber	Typ e	Reason	Locatio	Local Reliability Area	Trade Date	MW	itm ent	INC_ 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
13	111	moonipiete of maccurate Transmission	TOUL	Nem	7/11/2017	260-	140	IIVC	3	10.50	20.53
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
				Big Creek-							1
93	RT	Load Forecast Uncertainty	SCE	Ventura	7/6/2017	20- 140	Yes	INC	24	0:00	23:59
94	рт	Load Foregoet Uncertainty	SCE	Big Creek- Ventura	7/7/2017	100- 375	No	INC	6	10.15	22.50
94	RT	Load Forecast Uncertainty	SUE	Big Creek-	1/1/2017	3/5	No	INC	Ö	18:45	23:59
95	RT	Load Forecast Uncertainty	SCE	Ventura	7/8/2017	100	No	INC	22	0:00	21:59
		,		Big Creek-							
96	RT	Load Forecast Uncertainty	SCE	Ventura	7/9/2017	50	No	INC	24	0:00	23:59

	Mar						Со				
Num	ket		Locatio	Local Polichility			mm	INC	Hou	Pogin	End
Num ber	Typ e	Reason	Locatio	Local Reliability Area	Trade Date	MW	itm ent	DEC_	rs	Begin Time	End Time
DCI		NC43011		Big Creek-	Trade Date	50-	CIIL	DLO	13	Tillic	Time
97	RT	Load Forecast Uncertainty	SCE	Ventura	7/10/2017	1020	No	INC	24	0:00	23:59
				Big Creek-		100-					
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
400	рт	Load Foreset Uncertainty	SCE	Big Creek- Ventura	7/40/0047	100-	Na	INC	24	0.00	22.50
100	RT	Load Forecast Uncertainty	SCE	Big Creek-	7/13/2017	1400 100-	No	INC	24	0:00	23:59
101	RT	Load Forecast Uncertainty	SCE	Ventura	7/14/2017	243	No	INC	24	0:00	23:59
101	111	25dd i Groodst Grisoriainty	002	Big Creek-	771 1/2017	210	110	1110		0.00	20.00
102	RT	Load Forecast Uncertainty	SCE	Ventura	7/15/2017	100	No	INC	24	0:00	23:59
				Big Creek-							
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
105	DT	Load Foregoet Uncertainty	SCE	Big Creek- Ventura	7/31/2017	ΕO	No	INC		15:00	23:59
105	RT RT	Load Forecast Uncertainty Load Forecast Uncertainty	SCE	LA Basin	7/3/2017	50 10	No	INC	9 5	19:00	23:59
-		,	SCE			65	No	DEC	6		
107 108	RT	Load Forecast Uncertainty		LA Basin LA Basin	7/4/2017		No	INC	15	16:15	21:59
	RT	Load Forecast Uncertainty	SCE SCE		7/4/2017	20- 388		DEC	8	9:00	23:59
109	RT	Load Forecast Uncertainty	_	LA Basin	7/5/2017	65	No			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

	Mar						Со				
Num	ket		Locatio	Local Reliability			mm itm	INC	Hou	Dogin	End
ber	Typ e	Reason	n	Area	Trade Date	MW	ent	DEC_	rs	Begin Time	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						Со				
Num	ket Typ		Locatio	Local Reliability			mm itm	INC	Hou	Begin	End
ber	e	Reason	n	Area	Trade Date	MW	ent	DEC	rs	Time	Time
20.		House	••	Big Creek-	Trado Dato		0	720		1 11110	
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
		Operating Procedure Number and Constraint									
159	RT	(6310)	PG&E	Humboldt	7/21/2017	13- 28	No	DEC	24	0:00	23:59
		Operating Procedure Number and Constraint	5005		-/0.4/0.04-	40.00					
160	RT	(6310)	PG&E	Humboldt	7/21/2017	13- 28	No	INC	24	0:00	23:59
161	RT	Operating Procedure Number and Constraint (6310)	PG&E	Humboldt	7/26/2017	32- 44	No	DEC	14	6:35	20:29
101	K I	Operating Procedure Number and Constraint	PGQE	пиньош	1/20/2017	32- 44	INO	DEC	14	0.33	20.29
162	RT	(6310)	PG&E	Humboldt	7/26/2017	13- 129	No	INC	24	0:00	23:29
		Operating Procedure Number and Constraint			.,,,,,					0.00	
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
105	БТ	Operating Procedure Number and Constraint (7110)	DCOF	فالمام والمساول	7/0/0047	40	Na	DEC	7	4.40	7.50
165	RT	Operating Procedure Number and Constraint	PG&E	Humboldt	7/3/2017	12	No	DEC	/	1:10	7:59
166	RT	(7110)	PG&E	Humboldt	7/3/2017	12- 48	No	INC	23	0:00	22:29
100	111	(1110)	1 Oak	Humbolut	1/3/2011	12- 70	INU	IIVO	20	0.00	22.23

	Mar ket						Co mm				
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									
167	RT	(7110)	PG&E	Humboldt	7/6/2017	10	No	DEC	10	7:40	16:59
		Operating Procedure Number and Constraint									
168	RT	(7110)	PG&E	Humboldt	7/6/2017	10- 43	No	INC	16	7:40	22:59
400	БТ	Operating Procedure Number and Constraint	5005	11 1 16	7/7/0047	4.0		13.10		0.05	44.50
169	RT	(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	Llumboldt	7/8/2017	20	No	DEC	2	22:50	23:59
170	KI	Operating Procedure Number and Constraint	PG&E	Humboldt	1/6/2017	30	No	DEC	2	22.50	23.59
171	RT	(7110)	PG&E	Humboldt	7/8/2017	30	No	INC	2	22:50	23:59
171	111	Operating Procedure Number and Constraint	1 Oal	Tullibolat	170/2011	30	110	1140		22.50	20.00
172	RT	(7110)	PG&E	Humboldt	7/9/2017	22	No	DEC	5	9:40	14:29
		Operating Procedure Number and Constraint			1,70,2011						•
173	RT	(7110)	PG&E	Humboldt	7/9/2017	22- 30	No	INC	15	0:00	14:29
		Operating Procedure Number and Constraint									
174	RT	(7110)	PG&E	Humboldt	7/14/2017	12	No	DEC	6	3:15	9:14
		Operating Procedure Number and Constraint									
175	RT	(7110)	PG&E	Humboldt	7/14/2017	12	No	INC	6	3:15	9:14
4=0		Operating Procedure Number and Constraint	5005		-/40/004-			550			
176	RT	(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
177	KI	Operating Procedure Number and Constraint	PGQE	пиньони	7/10/2017	43	INO	INC	3	21.43	23.39
178	RT	(7110)	PG&E	Humboldt	7/17/2017	15- 64	No	DEC	20	0:00	19:59
170	111	Operating Procedure Number and Constraint	1 OGL	Turribolat	7/17/2017	10 04	110	DLO	20	0.00	13.33
179	RT	(7110)	PG&E	Humboldt	7/17/2017	16- 24	No	INC	20	0:00	19:59
		Operating Procedure Number and Constraint			· · · · · · · · · · · · · · · · · · ·						
180	RT	(7110)	PG&E	Humboldt	7/18/2017	16	No	DEC	3	21:35	23:59
		Operating Procedure Number and Constraint									
181	RT	(7110)	PG&E	Humboldt	7/18/2017	16	No	INC	2	21:40	23:29
		Operating Procedure Number and Constraint									
182	RT	(7110)	PG&E	Humboldt	7/19/2017	10- 16	No	DEC	24	0:15	23:29

	Mar ket						Co mm				
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									
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
40-		Operating Procedure Number and Constraint	5005		-/00/004-						
185	RT	(7110)	PG&E	Humboldt	7/20/2017	16- 51	No	INC	17	7:30	23:59
400	БТ	Operating Procedure Number and Constraint	DCOF	المام ما مادا	7/00/0047	40	Nia	DEC		0.00	7.50
186	RT	(7110) Operating Procedure Number and Constraint	PG&E	Humboldt	7/22/2017	13	No	DEC	8	0:00	7:59
187	RT	(7110)	PG&E	Humboldt	7/22/2017	13	No	INC	1	0:00	0:29
107	111	Operating Procedure Number and Constraint	TOUL	Turribolat	1/22/2011	13	110	1140	'	0.00	0.23
188	RT	(7110)	PG&E	Humboldt	7/24/2017	32	No	DEC	2	22:20	23:59
100		Operating Procedure Number and Constraint		Transolat	172 1720 11	02	110	520		22.20	20.00
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
		Operating Procedure Number and Constraint			_,_,_,						
192	RT	(7110)	PG&E	Humboldt	7/27/2017	13- 32	No	DEC	24	0:50	23:59
400	БТ	Operating Procedure Number and Constraint	PG&E	المام ما مدادا	7/07/0047	40 45	Nia	INIC	24	0.50	22.50
193	RT	(7110) Operating Procedure Number and Constraint	PG&E	Humboldt	7/27/2017	13- 45	No	INC	24	0:50	23:59
194	RT	(7110)	PG&E	Humboldt	7/28/2017	16	No	DEC	23	1:40	23:59
134	111	Operating Procedure Number and Constraint	TOGL	Turribolat	1/20/2011	10	110	DLC	23	1.40	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			3,23,23					0.00	200
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
		Operating Procedure Number and Constraint									
198	RT	(7110)	PG&E	Humboldt	7/30/2017	15- 30	No	DEC	4	16:50	19:59

Num	Mar ket Typ		Locatio	Local Reliability			Co mm itm	INC	Hou	Begin	End
ber	e	Reason	n	Area	Trade Date	MW	ent	DEC	rs	Time	Time
199	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/30/2017	15	No	INC	4	16:50	19:59
200	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/31/2017	32	No	DEC	2	22:45	23:59
201	RT	Operating Procedure Number and Constraint (7110)	PG&E	Humboldt	7/31/2017	25- 51	No	INC	17	7:30	23:59
202	RT	Operating Procedure Number and Constraint (7230)	PG&E	Sierra	7/4/2017	20	No	INC	5	18:50	22:59
203	RT	Operating Procedure Number and Constraint (7230)	PG&E	Sierra	7/8/2017	42	Yes	INC	1	23:00	23:59
204	RT	Operating Procedure Number and Constraint (7230)	PG&E	Sierra	7/9/2017	42	No	INC	2	22:55	23:59
205	RT	Operating Procedure Number and Constraint (7230)	PG&E	Sierra	7/14/2017	20	No	INC	2	22:30	23:59
206	RT	Operating Procedure Number and Constraint (7230)	PG&E	Sierra	7/15/2017	20	No	INC	1	0:00	0:44
207	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	7/1/2017	69- 140	No	DEC	19	5:21	23:59
208	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	7/1/2017	69- 75	No	INC	18	5:21	22:44
209	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	7/2/2017	67- 80	No	DEC	24	0:00	23:59
210	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	7/2/2017	70	No	INC	19	5:10	23:59
211	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	7/3/2017	65- 70	No	DEC	8	0:00	7:59
212	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	7/5/2017	75- 82	No	DEC	3	21:00	23:59
213	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	7/6/2017	75	No	DEC	3	21:40	23:59
214	RT	Operating Procedure Number and Constraint (7430)	PG&E	Fresno	7/6/2017	70- 75	No	INC	24	0:15	23:59

	Mar ket						Co mm				
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
0.47	БТ	Operating Procedure Number and Constraint	D00E	_	7/44/0047	70		550	4.0	0.00	40.50
217	RT	(7430)	PG&E	Fresno	7/11/2017	72	No	DEC	12	8:30	19:59
040	рт	Operating Procedure Number and Constraint	PG&E	Гиоспо	7/44/0047	70	Nia	INIC	40	0.00	40.50
218	RT	(7430) Operating Procedure Number and Constraint	PG&E	Fresno	7/11/2017	72	No	INC	12	8:30	19:59
219	RT	(7430)	PG&E	Fresno	7/12/2017	75- 84	No	DEC	4	20:05	23:59
213	111	Operating Procedure Number and Constraint	1 Oal	1 163110	1/12/2017	75- 04	110	DLC		20.03	25.55
220	RT	(7430)	PG&E	Fresno	7/12/2017	70- 84	No	INC	4	20:05	23:59
		Operating Procedure Number and Constraint		1.000	.,,				-		20.00
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
		Operating Procedure Number and Constraint		_					_		
224	RT	(7430)	PG&E	Fresno	7/23/2017	83	No	INC	1	23:00	23:59
225	рт	Operating Procedure Number and Constraint	חכיים	Гиоспо	7/05/0047	500	Nia	DEC	1	20.22	04.44
225	RT	(7430) Operating Procedure Number and Constraint	PG&E	Fresno	7/25/2017	500 330-	No	DEC	1	20:32	21:14
226	RT	(7430)	PG&E	Fresno	7/28/2017	525	No	DEC	2	20:14	21:59
220	18.1	Operating Procedure Number and Constraint	FGAL	1 165110	1/20/2017	323	INO	DLC		20.14	21.09
227	RT	(7430)	PG&E	Fresno	7/28/2017	175	No	INC	2	20:40	21:59
		Operating Procedure Number and Constraint	1 002	1 100110	772072011	170	110		_	20.10	21.00
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

	Mar ket						Co mm				
Num	Тур		Locatio	Local Reliability			itm	INC	Hou	Begin	End
ber	ė	Reason	n	Area	Trade Date	MW	ent	DEC	rs	Time	Time
				Big Creek-							
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
		Planned Transmission Outage and									
237	RT	Constraint	PG&E	Humboldt	7/10/2017	144	No	INC	17	7:00	23:59
000	БТ	Planned Transmission Outage and	5005	11 1 16	7/44/0047	40 70		550	0.4	0.45	00.50
238	RT	Constraint	PG&E	Humboldt	7/11/2017	48- 72	No	DEC	24	0:45	23:59
220	БТ	Planned Transmission Outage and	PG&E	l lumaha alak	7/44/0047	04 444	Nia	INIC	24	0.00	22.50
239	RT	Constraint Planned Transmission Outage and	PG&E	Humboldt	7/11/2017	24- 144	No	INC	24	0:00	23:59
240	RT	Constraint	PG&E	Humboldt	7/12/2017	24- 72	No	DEC	24	0:00	23:59
240	K1	Planned Transmission Outage and	PG&E	Пиниони	1/12/2017	24- 12	INO	DEC	24	0.00	23.39
241	RT	Constraint	PG&E	Humboldt	7/12/2017	48- 72	No	INC	24	0:00	23:59
241	111	Planned Transmission Outage and	1 Oak	Tidilibolat	1/12/2011	40- 72	110	1140	24	0.00	23.33
242	RT	Constraint	PG&E	Humboldt	7/13/2017	24- 72	No	DEC	24	0:00	23:59
	1 ()	Planned Transmission Outage and	1 002	Trambolat	1710/2011	21 72	110	520		0.00	20.00
243	RT	Constraint	PG&E	Humboldt	7/13/2017	48- 72	No	INC	24	0:00	23:59
		Planned Transmission Outage and			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					0.00	
244	RT	Constraint	PG&E	Humboldt	7/14/2017	24	No	DEC	21	3:10	23:59
		Planned Transmission Outage and									
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									
247	RT	Constraint	PG&E	Humboldt	7/18/2017	15	No	DEC	13	7:10	19:59

	Mar ket						Co mm				
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
		Planned Transmission Outage and							_		
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	0 5: 11/	7/5/0047	00		13.10		40.00	44.50
253	RT	Constraint	SDG&E	San Diego-IV	7/5/2017	20	No	INC	2	10:00	11:59
054	D.T.	Planned Transmission Outage and	00000	O = = Di = = = 1\/	7/0/0047	00 400	NI-	INIC		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	Can Diago IV	7/14/2017	15	No	INC	11	8:15	18:59
255	KI	Planned Transmission Outage and	SDG&E	San Diego-IV	7/14/2017	15	INO	INC	11	0.10	16.59
256	RT	Constraint	SDG&E	San Diego-IV	7/17/2017	37	No	INC	2	10:15	11:59
230	N1	Planned Transmission Outage and	SDG&E	San Diego-iv	1/11/2011	31	INO	INC		10.15	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	ODOGL	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		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	02.00.2		.,,					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		- 3-	-			_			
261	RT	Constraint	SDG&E	San Diego-IV	7/24/2017	260	No	INC	2	9:25	10:59
		Planned Transmission Outage and									
262	RT	Constraint	SDG&E	San Diego-IV	7/25/2017	68- 522	No	DEC	12	5:50	17:29
		Planned Transmission Outage and		-							
263	RT	Constraint	SDG&E	San Diego-IV	7/25/2017	20- 194	No	INC	22	2:00	23:59

	Mar ket						Co mm				
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									
264	RT	Constraint	SDG&E	San Diego-IV	7/26/2017	20- 337	No	INC	24	0:00	23:59
		Planned Transmission Outage and									
265	RT	Constraint	SDG&E	San Diego-IV	7/27/2017	37	No	INC	2	7:15	8:59
000	БТ	Planned Transmission Outage and	CDC 8 F	Oan Diam IV	7/00/0047	00	NI-	INIC	0.4	0.00	00.50
266	RT	Constraint Planned Transmission Outage and	SDG&E	San Diego-IV	7/28/2017	20	No	INC	24	0:00	23:59
267	RT	Constraint	SDG&E	San Diego-IV	7/29/2017	20	No	INC	24	0:00	23:59
201	1 1 1	Planned Transmission Outage and	ODGGE	Oan Diego IV	1/25/2011	20	140	1110	24	0.00	20.00
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

	Mar ket						Co				
Num	Тур		Locatio	Local Reliability			mm itm	INC	Hou	Begin	End
ber	e	Reason	n	Area	Trade Date	MW	ent	DEC	rs	Time	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

	Mar						Со				
	ket						mm				i
Num	Тур		Locatio	Local Reliability			itm	INC_	Hou	Begin	End
ber	e	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