California Independent System Operator



October 15, 2013

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

## Re: California Independent System Operator Corporation Docket Nos. ER08-1178-\_\_\_, and EL08-88-\_\_\_ August 2013 Exceptional Dispatch Report (Chart 1 data)

Dear Secretary Bose:

Pursuant to the Commission's September 2, 2009 and May 4, 2010 orders in the above referenced dockets, the California Independent System Operator Corporation submits the attached report. 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 ISO's September 14 motion for clarification, which the Commission granted in its May 4 order. The attached report provides Chart 1 data for the month of August 2013.

Respectfully submitted,

## By: /s/ Sidney M. Davies

Nancy Saracino General Counsel Roger Collanton Deputy General Counsel Sidney M. Davies Assistant General Counsel California Independent System Operator Corporation 250 Outcropping Way Folsom, CA 95630 Tel: (916) 608-7144 Fax (916) 608-7222 sdavies@casio.com

## **CERTIFICATE OF SERVICE**

I hereby certify that I have served the foregoing document upon the parties listed on the official service lists in the above-referenced 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 October 2013.

<u>(s/ Sarah Garcia</u> Sarah Garcia



# **Exceptional Dispatch Report**

# Table 1: August 2013

ISO Market Quality and Renewable Integration

October 15, 2013

CAISO 250 Outcropping Way Folsom, California 95630 (916) 351-4400

# TABLE OF CONTENTS

Introduction	3
The Nature of Exceptional Dispatch	3
Appendix A: Explanation by Example	
Example 1: Exceptional Dispatch Instructions Prior to DAM	.13
Example 2: Incremental Exceptional Dispatch Instructions in RTM	.14
Example 3: Decremental Exceptional Dispatch Instructions in RTM	.16

# LIST OF TABLES AND FIGURES

Table 1: Exceptional Dispatches in August 2013	6
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	14
Table 5: FERC Summary of ED Instructions in RTM	15
Table 6: Decremental Exceptional Dispatch Instructions in RTM	16
Table 7: FERC Summary of Decremental ED Instructions in RTM	16

# Introduction

This report is filed pursuant to FERC's September 2, 2009 and June 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 August 2013.

# The Nature of Exceptional Dispatch

The ISO can issue exceptional dispatch instructions for a resource as a pre-dayahead unit commitment, which may also include an indicative exceptional dispatch energy schedule, a post-day-ahead unit commitment, or a real-time exceptional dispatch<sup>1</sup>. 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. For the purposes of this report, a real-time exceptional dispatch above the resource day-ahead award is considered an incremental exceptional dispatch instruction and an exceptional dispatch below the day-ahead award is considered a decremental dispatch instruction.

The ISO issues exceptional dispatch instructions primarily for constraints which are not enforced or not completely enforced in the market software. Whenever the ISO issues an exceptional dispatch instruction, such instructions are logged into the scheduling and logging system ("SLIC"), including the associated reason. These reasons are associated with the constraints that are not currently incorporated into the market application. In addition to model constraints, the ISO also issues exceptional dispatch instructions for software failures.

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 requirements, such as ramp requirements and intertie emergency assistance. All of the transmission procedures are available on the CAISO website<sup>2</sup>.

In August 2013, the ISO issued exceptional dispatches for the following generation and transmission operating requirements:

<sup>&</sup>lt;sup>1</sup> The ISO can issue exceptional dispatch instructions subject to authority of the ISO Tariff Section 34.9 and in accordance with ISO Operating Procedure 2330 (formerly M-402).

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

Department of Market Qality and Renewable Integration - California ISO

(1) 6510, SCIT Operating procedure,

- (2) 7110, Humboldt Area
- (3) 7230, transmission facilities in Palermo Rio Oso area
- (4) 7320, Bay Area Transmission Management
- (5) 7430, transmission facilities in Fresno area

The following additional reason for exceptional dispatch instructions in August 2013 was not related to specific 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 ISO 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 day, then the ISO issues an exceptional dispatch to commit this resource in 2400 so that 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 August, which are self explanatory.

As mentioned earlier, the data shown 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/NA column specifies if there was an incremental dispatch, a decremental dispatch, or only a unit commitment. If the exceptional dispatch was only a unit commitment, the column shows NA for the classification. 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

<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.

Department of Market Qality and Renewable Integration - California ISO

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 that there were a total of 134 exceptional dispatches in August 2013, decreasing by 46 as compared to the July 2013.

# Table 1: Exceptional Dispatches in August 2013

California Independent System Operator Corporation
Exceptional Dispatch Report
October 15, 2013

# Chart 1: Table of Exceptional Dispatches for Period 01/Aug/2013 – 31/Aug/2013

Num ber	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_ DEC	Hours	Begin Time	End Time
1	DA	Reliability need cannot be met by other resources	PG&E	Kern	17-Aug-13	141	Yes	N/A	12	10:00	21:00
2	DA	Reliability need cannot be met by other resources	PG&E	Kern	18-Aug-13	141	Yes	N/A	12	10:00	21:00
3	DA	Reliability need cannot be met by other resources	PG&E	Kern	24-Aug-13	141	Yes	N/A	12	10:00	21:00
4	DA	Reliability need cannot be met by other resources	PG&E	Kern	25-Aug-13	141	Yes	N/A	12	10:00	21:00
5	DA	Reliability need cannot be met by other resources	PG&E	Sierra	17-Aug-13	42	Yes	N/A	17	7:00	23:00
6	DA	Reliability need cannot be met by other resources	PG&E	Sierra	18-Aug-13	42	Yes	N/A	24	0:00	23:00
7	RT	6510	SCE	Big Creek- Ventura	6-Aug-13	50	No	INC	7	15:00	21:14
8	RT	6510	SCE	LA Basin	6-Aug-13	241- 312	No	INC	11	11:00	21:59
9	RT	6510	SCE	LA Basin	16-Aug-13	0- 146	Yes	DEC	7	11:00	17:59
10	RT	6510	SCE	LA Basin	16-Aug-13	162- 243	Yes	INC	7	11:00	17:59
11	RT	6510	SCE	LA Basin	17-Aug-13	52- 303	Yes	DEC	9	11:50	19:59
12	RT	6510	SCE	LA Basin	17-Aug-13	0- 128	Yes	INC	10	11:50	20:59
13	RT	6510	SDG&E	San Diego-IV	30-Aug-13	15	Yes	INC	6	11:40	16:59
14	RT	7110	PG&E	Bay Area	1-Aug-13	180	Yes	INC	6	0:00	5:54

Num ber	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_ DEC	Hours	Begin Time	End Time
15	RT	7110	PG&E	Humboldt	1-Aug-13	15- 30	No	INC	8	10:00	17:59
16	RT	7110	PG&E	Humboldt	26-Aug-13	15- 111	No	INC	18	6:52	23:59
17	RT	7110	PG&E	Humboldt	27-Aug-13	30- 45	No	INC	3	0:00	2:59
18	RT	7110	PG&E	Humboldt	28-Aug-13	48	No	INC	3	20:00	22:59
19	RT	7230	PG&E	Sierra	3-Aug-13	20	Yes	INC	4	18:39	21:59
20	RT	7230	PG&E	Sierra	27-Aug-13	20	Yes	INC	1	14:16	14:59
21	RT	7230	PG&E	Sierra	31-Aug-13	20	Yes	INC	5	18:27	22:59
22	RT	7320	PG&E	Fresno	2-Aug-13	50	No	INC	1	19:05	19:59
23	RT	7320	PG&E	Fresno	3-Aug-13	50	No	INC	3	19:04	21:24
24	RT	7430	PG&E	Fresno	2-Aug-13	20	No	INC	1	17:27	17:59
25	RT	7430	PG&E	Fresno	3-Aug-13	50	No	INC	3	19:25	21:59
26	RT	7430	PG&E	Fresno	4-Aug-13	20	No	INC	2	19:38	20:17
27	RT	7430	PG&E	Fresno	5-Aug-13	20	No	INC	2	8:37	9:10
28	RT	7430	PG&E	Fresno	12-Aug-13	83	Yes	INC	1	21:45	21:54
29	RT	7430	PG&E	Fresno	16-Aug-13	40	No	INC	2	21:21	22:41
30	RT	7430	PG&E	Fresno	20-Aug-13	3	Yes	INC	1	14:05	14:27
31	RT	7430	PG&E	Fresno	25-Aug-13	20	No	INC	4	19:14	22:59
32	RT	Communication Failure	Intertie	N/A	23-Aug-13	0	No	INC	1	2:00	2:59
33	RT	Contingency	Intertie	N/A	23-Aug-13	200	No	DEC	3	16:17	18:59
34	RT	Contingency	PG&E	Fresno	18-Aug-13	83- 404	Yes	INC	2	16:14	17:03
35	RT	Contingency	PG&E	Fresno	23-Aug-13	244	Yes	INC	1	16:16	16:20
						195-					
36	RT	Contingency	SCE	LA Basin	18-Aug-13	578	Yes	INC	5	16:20	20:57
37	RT	Contingency	SCE	LA Basin	23-Aug-13	46	Yes	INC	1	16:20	16:54
38	RT	Fire	SCE	LA Basin	26-Aug-13	25	Yes	INC	9	15:00	23:59
39	RT	Fire	SDG&E	San Diego-IV	26-Aug-13	40	No	INC	12	12:00	23:59
40	RT	Fire	SDG&E	San Diego-IV	27-Aug-13	40	No	INC	24	0:00	23:59
41	RT	Gas/Fuel Supply Limitations	SCE	LA Basin	29-Aug-13	74	No	DEC	4	12:30	15:59
42	RT	Gas/Fuel Supply Limitations	SCE	LA Basin	29-Aug-13	0	No	INC	2	14:15	15:59

Num ber	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_ DEC	Hours	Begin Time	End Time
43	RT	Gas/Fuel Supply Limitations	SDG&E	San Diego-IV	29-Aug-13	44- 78	Yes	DEC	4	12:30	15:59
44	RT	Gas/Fuel Supply Limitations	SDG&E	San Diego-IV	29-Aug-13	0	Yes	INC	4	12:35	15:59
45	RT	Intertie Emergency Assistance	Intertie	N/A	21-Aug-13	60- 80	No	INC	2	11:40	12:59
46	RT	Intertie Emergency Assistance	Intertie	N/A	26-Aug-13	50	No	INC	1	8:03	8:59
47	RT	Intertie Emergency Assistance	Intertie	N/A	29-Aug-13	160- 330	No	INC	5	10:39	14:59
48	RT	Load Forecast Uncertainty	PG&E	Bay Area	14-Aug-13	45	Yes	INC	15	9:00	23:59
49	RT	Load Forecast Uncertainty	PG&E	N/A	8-Aug-13	142- 303	Yes	INC	11	13:15	23:59
50	RT	Load Forecast Uncertainty	PG&E	N/A	9-Aug-13	142	Yes	INC	2	0:00	1:14
51	RT	Load Forecast Uncertainty	PG&E	N/A	19-Aug-13	180	Yes	INC	11	13:00	23:59
52	RT	Load Forecast Uncertainty	PG&E	N/A	20-Aug-13	50	Yes	INC	2	22:00	23:59
53	RT	Load Forecast Uncertainty	PG&E	N/A	21-Aug-13	50	Yes	INC	24	0:00	23:59
54	RT	Load Forecast Uncertainty	PG&E	N/A	27-Aug-13	180	Yes	INC	10	12:00	21:59
55	RT	Load Forecast Uncertainty	SCE	Big Creek- Ventura	9-Aug-13	0	Yes	INC	1	0:00	0:34
56	RT	Load Forecast Uncertainty	SCE	Big Creek- Ventura	21-Aug-13	20- 40	Yes	INC	19	5:00	23:59
57	RT	Load Forecast Uncertainty	SCE	LA Basin	9-Aug-13	0	No	INC	1	0:00	0:04
58	RT	Load Forecast Uncertainty	SCE	LA Basin	20-Aug-13	0	Yes	INC	1	0:00	0:14
59	RT	Load Forecast Uncertainty	SCE	LA Basin	21-Aug-13	10- 65	Yes	INC	19	5:00	23:59
60	RT	Load Forecast Uncertainty	SCE	LA Basin	31-Aug-13	20	Yes	INC	24	0:00	23:59
61	RT	Load Forecast Uncertainty	SDG&E	San Diego-IV	31-Aug-13	20- 40	No	INC	22	2:00	23:59
62	RT	Market Disruption	SCE	LA Basin	25-Aug-13	215	No	INC	2	12:26	13:59
63	RT	Operating Reserve Deficiency	PG&E	Bay Area	28-Aug-13	120- 350	Yes	INC	6	14:45	19:59
64	RT	Over Generation	SCE	LA Basin	23-Aug-13	137	Yes	INC	1	16:20	16:54
65	RT	Over Generation	SCE	N/A	23-Aug-13	466	No	DEC	1	16:40	16:46

Num	Market	_		Local Reliability				INC_		Begin	End
ber	Туре	Reason	Location	Area	Trade Date	MW	Commitment	DEC	Hours	Time	Time
66	RT	Path 26	SCE	Big Creek- Ventura	28-Aug-13	50	Yes	INC	12	12:00	23:59
00			002	Big Creek-	207/0g 10	00	100		12	12.00	20.00
67	RT	SCE SOB 204	SCE	Ventura	14-Aug-13	44- 75	No	INC	2	18:25	19:25
				Big Creek-							
68	RT	SCE SOB 204	SCE	Ventura	20-Aug-13	78- 99	No	DEC	2	0:45	1:59
00	DT		0.05	Big Creek-	00 4	4 400	NLa			40.55	00.50
69	RT	SCE SOB 204	SCE	Ventura Big Creek-	30-Aug-13	4- 188	No	INC	4	19:55	22:59
70	RT	SCE SOB 204	SCE	Ventura	31-Aug-13	27- 147	No	DEC	9	15:20	23:59
10		30E 30B 204	JOL		31-Aug-13	21-141	INO .	DLO	3	10.20	20.00
71	RT	SCE SOB 204	SCE	Big Creek- Ventura	21 Aug 12	12- 185	No	INC	8	16:50	23:59
/ 1	ΓI	3CE 30B 204	SCE	ventura	31-Aug-13	302-	INU	INC	0	10.50	23.39
72	RT	SP26 Capacity	SCE	LA Basin	23-Aug-13	348	Yes	INC	5	16:15	20:59
73	RT	Software Limitation	PG&E	Bay Area	1-Aug-13	700	No	INC	3	1:52	3:59
74	RT	Software Limitation	PG&E	Bay Area	5-Aug-13	0	No	INC	8	12:45	19:59
75	RT	Software Limitation	PG&E	Fresno	1-Aug-13	310	No	DEC	1	4:15	4:59
76	RT	Software Limitation	PG&E	Fresno	26-Aug-13	0	Yes	INC	2	0:45	1:44
77	RT	Software Limitation	PG&E	Fresno	28-Aug-13	0	Yes	INC	2	1:15	2:14
78	RT	Software Limitation	PG&E	Humboldt	6-Aug-13	15	No	INC	11	7:40	17:29
				Big Creek-							
79	RT	Software Limitation	SCE	Ventura	8-Aug-13	0	Yes	INC	1	23:35	23:59
	DT		0.05	Big Creek-	10 1	0	N/s s		0	4.05	5.04
80	RT	Software Limitation	SCE	Ventura Big Creek-	13-Aug-13	0	Yes	INC	2	4:25	5:24
81	RT	Software Limitation	SCE	Ventura	21-Aug-13	0	Yes	INC	1	1:30	1:59
				Big Creek-	21-Aug-13	0	163		'	1.50	1.55
82	RT	Software Limitation	SCE	Ventura	22-Aug-13	0	Yes	INC	1	0:00	0:59
				Big Creek-							
83	RT	Software Limitation	SCE	Ventura	23-Aug-13	54	Yes	INC	1	16:20	16:54
84	RT	Software Limitation	SCE	Big Creek-	31-Aug-13	0	Yes	INC	2	1:45	2:14

Num ber	Market Type	Reason	Location	Local Reliability Area Ventura	Trade Date	MW	Commitment	INC_ DEC	Hours	Begin Time	End Time
85	RT	Software Limitation	SCE	LA Basin	1-Aug-13	96	Yes	DEC	2	16:55	17:24
86	RT	Software Limitation	SCE	LA Basin	1-Aug-13	0	Yes	INC	2	16:55	17:24
87	RT	Software Limitation	SCE	LA Basin	8-Aug-13	0	Yes	INC	21	3:35	23:59
88	RT	Software Limitation	SCE	LA Basin	17-Aug-13	0	Yes	INC	1	20:20	20:49
89	RT	Software Limitation	SCE	LA Basin	19-Aug-13	0	Yes	INC	1	23:15	23:59
90	RT	Software Limitation	SCE	LA Basin	22-Aug-13	0	Yes	INC	3	10:15	12:39
91	RT	Software Limitation	SCE	LA Basin	23-Aug-13	94	Yes	INC	6	16:20	21:49
92	RT	Software Limitation	SCE	LA Basin	25-Aug-13	0	Yes	INC	1	18:00	18:59
93	RT	Software Limitation	SCE	LA Basin	28-Aug-13	105	Yes	INC	9	14:45	22:39
94	RT	Software Limitation	SCE	LA Basin	31-Aug-13	0	Yes	INC	5	1:45	5:14
95	RT	Software Limitation	SDG&E	San Diego-IV	21-Aug-13	522	No	INC	2	9:50	10:09
96	RT	Software Limitation	SDG&E	San Diego-IV	28-Aug-13	33	Yes	INC	7	14:45	20:44
97	RT	System Energy	Intertie	N/A	6-Aug-13	75	No	INC	1	2:00	2:59
98	RT	System Energy	Intertie	N/A	9-Aug-13	500	No	INC	1	7:00	7:59
99	RT	System Energy	Intertie	N/A	19-Aug-13	686	No	INC	1	0:00	0:59
100	RT	System Energy	Intertie	N/A	29-Aug-13	80	No	INC	1	16:00	16:59
101	RT	Transmission Outage PG&E	PG&E	Bay Area	24-Aug-13	19	No	INC	3	12:27	14:59
102	RT	Transmission Outage PG&E	PG&E	Fresno	14-Aug-13	92	No	INC	9	9:50	17:59
103	RT	Transmission Outage PG&E	PG&E	Fresno	15-Aug-13	77	Yes	DEC	2	14:55	15:59
104	RT	Transmission Outage PG&E	PG&E	Fresno	15-Aug-13	83- 180	Yes	INC	5	11:04	15:59
105	RT	Transmission Outage PG&E	PG&E	Humboldt	6-Aug-13	16-46	No	INC	4	20:48	23:14
106	RT	Transmission Outage PG&E	PG&E	Humboldt	7-Aug-13	15- 30	No	INC	24	0:00	23:59
107	RT	Transmission Outage PG&E	PG&E	Humboldt	8-Aug-13	15- 30	No	INC	16	0:00	15:59
108	RT	Transmission Outage PG&E	PG&E	Sierra	18-Aug-13	63	Yes	INC	2	22:51	23:39
109	RT	Transmission Outage PG&E	PG&E	Stockton	16-Aug-13	10- 25	Yes	INC	4	18:55	21:59
110	RT	Transmission Outage SCE	SCE	Big Creek- Ventura	20-Aug-13	50- 75	Yes	INC	6	9:47	14:59
111	RT	Transmission Outage SCE	SCE	LA Basin	10-Aug-13	20	Yes	INC	12	0:00	11:59

Num ber	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_ DEC	Hours	Begin Time	End Time
112	RT	Transmission Outage SCE	SCE	LA Basin	28-Aug-13	46	Yes	INC	2	14:45	15:19
113	RT	Transmission Outage SCE	SDG&E	San Diego-IV	28-Aug-13	131	No	INC	8	11:05	18:59
114	RT	Transmission Outage SDG&E	SCE	LA Basin	16-Aug-13	0	Yes	INC	1	13:30	13:59
115	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	15-Aug-13	4	Yes	DEC	7	11:29	17:50
116	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	15-Aug-13	44	Yes	INC	7	11:29	17:50
117	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	16-Aug-13	350	No	INC	4	11:31	14:59
118	RT	Transmission Outage SDG&E	SDG&E	San Diego-IV	28-Aug-13	80- 82	No	INC	4	11:55	14:59
119	RT	Unit Testing	PG&E	Bay Area	1-Aug-13	180- 600	Yes	INC	19	5:55	23:59
120	RT	Unit Testing	PG&E	Bay Area	2-Aug-13	180- 600	No	INC	16	0:00	15:59
121	RT	Unit Testing	PG&E	Bay Area	3-Aug-13	190- 600	No	INC	21	3:20	23:59
122	RT	Unit Testing	PG&E	Bay Area	4-Aug-13	500- 600	No	INC	24	0:00	23:59
123	RT	Unit Testing	PG&E	Bay Area	5-Aug-13	600	No	INC	12	0:00	11:49
124	RT	Unit Testing	PG&E	Bay Area	7-Aug-13	181	Yes	INC	6	18:30	23:59
125	RT	Unit Testing	PG&E	Bay Area	8-Aug-13	183- 231	No	INC	2	21:50	22:59
126	RT	Unit Testing	PG&E	Humboldt	14-Aug-13	30	No	INC	6	11:56	16:59
127	RT	Unit Testing	SCE	LA Basin	1-Aug-13	150	No	INC	1	9:00	9:39
128	RT	Unit Testing	SCE	LA Basin	28-Aug-13	16- 24	No	INC	2	8:08	9:54
129	RT	Unit Testing	SDG&E	San Diego-IV	14-Aug-13	35	Yes	INC	2	9:09	10:09
130	RT	Weather	PG&E	N/A	19-Aug-13	52	No	INC	12	12:00	23:59
131	RT	Weather	SCE	Big Creek- Ventura	19-Aug-13	20	Yes	INC	4	11:00	14:59

Num ber	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_ DEC	Hours	Begin Time	End Time
132	RT	Weather	SCE	LA Basin	19-Aug-13	50	Yes	INC	15	9:00	23:59
133	RT	Weather	SCE	LA Basin	22-Aug-13	20	Yes	INC	21	0:00	20:59
134	RT	Weather	SDG&E	San Diego-IV	19-Aug-13	20	No	INC	15	9:00	23:59

# **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 ISO 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 ISO 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. In this case the dispatch levels are all at minimum load.

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

## Table 2: Instructions Prior to Day-Ahead Market

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. Thus 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 some 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 and end time can include null hours with no dispatch.

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

Table 3: FERC Summary of Instructions Prior to DAM

## **Example 2: Incremental Exceptional Dispatch Instructions in RTM**

In this fictitious example, the ISO 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 did not have a day-ahead award in those hours. The ISO 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.

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	А	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

Table 4: Incremental Exceptional Dispatch Instructions in RTM

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. Thus 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 some hours between the begin time and end time where there were no exceptional dispatch instructions for the given reason.

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

## Table 5: FERC Summary of ED Instructions in RTM

### 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 ISO 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 ISO issued additional exceptional dispatch instructions for resources B and C; details of those instructions are shown in Table 6.

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	А	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

## Table 6: Decremental Exceptional Dispatch Instructions in RTM

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. Thus 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

Numbe	er	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