



Exceptional Dispatch Report

Table 1: May 2010

TABLE OF CONTENTS

Introduction	3
The Nature of Exceptional Dispatch.....	3
Appendix A: Explanation by Example	14
Example 1: Exceptional Dispatch Instructions Prior to DAM	14
Example 2: Incremental Exceptional Dispatch Instructions in RTM.....	15
Example 3: Decremental Exceptional Dispatch Instructions in RTM.....	17

LIST OF TABLES AND FIGURES

Table 1: Exceptional Dispatches in May 2010	6
Table 2: Instructions Prior to Day-Ahead Market	14
Table 3: FERC Summary of Instructions Prior to DAM	15
Table 4: Incremental Exceptional Dispatch Instructions in RTM	15
Table 5: FERC Summary of ED Instructions in RTM	16
Table 6: Decremental Exceptional Dispatch Instructions in RTM	17
Table 7: FERC Summary of Decremental ED Instructions in RTM	17

Introduction

This report is filed pursuant to FERC’s September 2, 2009 and May 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 May 2010.

The Nature of Exceptional Dispatch

The ISO can issue exceptional dispatch instructions for a resource as a pre-day-ahead unit commitment, a post-day-ahead unit commitment, or a real-time exceptional dispatch¹. 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 inertia emergency assistance. All reason codes starting with “G” refer to an ISO operation procedure for generation requirements and reason codes starting with “T” refer to an ISO operating procedure for transmission facilities. Most of the generation procedures are internal to the ISO and not available on the ISO website. All of the transmission procedures are available on the CAISO website².

¹ The ISO can issue exceptional dispatch instruction subject to authority of the ISO Tariff Section 34.9 and in accordance with ISO Operating Procedure M-402.

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

In May 2010, the ISO issued exceptional dispatches for the following local area generation requirement: (1) G-206, San Diego area generation requirements; Exceptional dispatch instructions were also issued for the following transmission management requirements: (1) T-103, Southern California import transmission (SCIT) nomogram; (2) T-129, transmission facilities in Fresno area; (3) T-132, transmission facilities in San Diego and Imperial Valley area; (4) T-138, transmission facilities in Humboldt area; (5) T-154, Drum area; and (6) other transmission outages in PG&E, SCE and SDG&E area.

The following additional reasons for exceptional dispatch instructions in May 2010 were not related to specific generation or transmission operating procedures: (1) 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.); (2) Market Disruption, when the exceptional dispatch instructions were issued due to HASP failures; and (3) Ramp Rate, when exceptional dispatch instructions were issued to dispatch a resource above its physical minimum to a level where the resource has significantly higher ramp rate capability. For example, a resource could have a ramp rate of 2 MW/min at its physical minimum of 100 MW, but a significantly higher ramp rate of 10 MW/min at 250 MW. The operators could issue an exceptional dispatch for this resource to be dispatched to 250 MW, so that the resource could respond to the anticipated steep load ramp or to a potential contingency. There were a few other reasons used to explain exceptional dispatch instructions in May, which are self explanatory.

As mentioned earlier, the data shown in Table 1 is based on a template specified in the September 2009 order³. 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

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.

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 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 213 exceptional dispatches in May 2010, an increase of 49 exceptional dispatches compared with 164 such instances reported in the June 15, 2010 report. Real-time exceptional dispatches in May accounted for approximately 97 percent of all exceptional dispatches categorized by date and reason. Exceptional dispatches issued for the following reasons accounted for approximately 70 percent of the total exceptional dispatches during the reporting period: Transmission Outage in PG&E area, Software Limitation, and T-138. In day-ahead market, there were a total of 6 exceptional dispatches issued for Transmission Outage, T-103, T-132, and G-206. In real-time market, approximately 69 percent of the exceptional dispatches were issued for Transmission Outage in PG&E area, Software Limitation, and T-138.

Table 1: Exceptional Dispatches in May 2010

California Independent System Operator Corporation Exceptional Dispatch Report July 15, 2010											
Chart 1: Table of Exceptional Dispatches for Period 01/May/2010 - 31/May/2010											
Num ber	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commit ment	INC_DEC	Hours	Begin Time	End Time
1	DA	G-206	SDG&E	San Diego	4-May-10	200	Yes	N/A	24	0:00	23:00
2	DA	T-103	SCE	Big Creek- Ventura	1-May-10	140	Yes	N/A	2	22:00	23:00
3	DA	T-103	SCE	LA Basin	1-May-10	20- 90	Yes	N/A	24	0:00	23:00
4	DA	T-132	SDG&E	San Diego	1-May-10	20	Yes	N/A	24	0:00	23:00
5	DA	Transmission Outage Other	SCE	LA Basin	24-May-10	20- 595	Yes	N/A	24	0:00	23:00
6	DA	Transmission Outage Other	SDG&E	San Diego	24-May-10	355	Yes	N/A	15	6:00	20:00
7	RT	DC Circulation	N/A	N/A	5-May-10	126- 318	No	INC	2	21:00	22:59
8	RT	DC Circulation	N/A	N/A	25-May-10	2000	No	INC	1	6:00	6:59
9	RT	DC Circulation	N/A	N/A	26-May-10	824	No	INC	1	7:35	7:59
10	RT	Earthquake	SCE	LA Basin	23-May-10	20	Yes	INC	24	0:00	23:59
11	RT	Earthquake	SDG&E	San Diego	23-May-10	155	Yes	INC	16	8:00	23:59
12	RT	G-206	SDG&E	San Diego	1-May-10	200	Yes	INC	1	1:00	1:59
13	RT	G-206	SDG&E	San Diego	2-May-10	43	No	INC	3	0:45	2:14
14	RT	G-206	SDG&E	San Diego	30-May-10	200	No	INC	7	1:00	7:59
15	RT	G-206	SDG&E	San Diego	31-May-10	200	Yes	INC	8	1:00	8:59
16	RT	Generation Outage	PG&E	Fresno	13-May-10	321	No	INC	1	15:13	15:16
17	RT	Generation Outage	PG&E	Humboldt	5-May-10	0	No	INC	1	17:35	17:59
18	RT	Intertie Emergency Assistance	N/A	N/A	18-May-10	80	No	INC	1	20:10	20:59
19	RT	Intertie Emergency Assistance	N/A	N/A	21-May-10	20- 100	No	INC	2	15:00	16:59
20	RT	Intertie Emergency Assistance	N/A	N/A	31-May-10	100	No	INC	1	16:14	16:59

Department of Market Services – California ISO

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
21	RT	Market Disruption	N/A	N/A	26-May-10	34	No	DEC	1	23:00	23:59
22	RT	Market Disruption	N/A	N/A	26-May-10	50	Yes	INC	1	23:00	23:59
23	RT	NP 15 Capacity	PG&E	Bay Area	25-May-10	253	Yes	INC	1	23:00	23:59
24	RT	Over Generation	PG&E	Fresno	21-May-10	308	Yes	DEC	2	6:06	7:14
25	RT	Path 15 Mitigation	PG&E	Bay Area	6-May-10	70	No	INC	1	1:15	1:59
26	RT	Path 15 Mitigation	PG&E	Fresno	6-May-10	0	No	INC	3	0:45	2:59
27	RT	Path 15 Mitigation	PG&E	Fresno	26-May-10	308	Yes	INC	4	2:10	5:59
28	RT	Ramp Rate	SCE	LA Basin	3-May-10	0	No	INC	1	19:30	19:34
29	RT	Ramp Rate	SCE	LA Basin	26-May-10	72- 170	No	INC	5	18:35	22:09
30	RT	Ramp Rate	SDG&E	San Diego	3-May-10	43	No	INC	1	19:44	19:59
31	RT	Ramp Rate	SDG&E	San Diego	5-May-10	43	No	INC	1	23:33	23:58
32	RT	Ramp Rate	SDG&E	San Diego	6-May-10	43	No	INC	8	0:00	7:29
33	RT	Ramp Rate	SDG&E	San Diego	22-May-10	43	No	INC	10	12:00	21:59
34	RT	Ramp Rate	SDG&E	San Diego	23-May-10	77	No	DEC	4	18:45	21:59
35	RT	Ramp Rate	SDG&E	San Diego	23-May-10	43	No	INC	4	18:45	21:59
36	RT	Software Issue	SCE	LA Basin	21-May-10	160	Yes	INC	22	2:00	23:59
37	RT	Software Limitation	N/A	N/A	8-May-10	0	No	INC	2	0:00	1:59
38	RT	Software Limitation	PG&E	Bay Area	28-May-10	0	Yes	INC	2	0:55	1:14
39	RT	Software Limitation	PG&E	Fresno	1-May-10	0	No	INC	2	8:50	9:29
40	RT	Software Limitation	PG&E	Fresno	2-May-10	308	Yes	INC	8	4:50	11:39
41	RT	Software Limitation	PG&E	Fresno	3-May-10	308	No	INC	1	7:45	7:59
42	RT	Software Limitation	PG&E	Fresno	8-May-10	0	Yes	INC	1	4:00	4:59
43	RT	Software Limitation	PG&E	Fresno	13-May-10	22	Yes	INC	22	0:22	21:34
44	RT	Software Limitation	PG&E	Fresno	18-May-10	0	Yes	INC	2	1:20	2:19
45	RT	Software Limitation	PG&E	Fresno	19-May-10	0	No	INC	2	7:10	8:54
46	RT	Software Limitation	PG&E	Fresno	20-May-10	0	Yes	INC	3	5:20	7:19
47	RT	Software Limitation	PG&E	Fresno	21-May-10	308	Yes	INC	1	5:50	5:59
48	RT	Software Limitation	PG&E	Fresno	23-May-10	0	Yes	INC	21	3:00	23:59
49	RT	Software Limitation	PG&E	Fresno	24-May-10	308	Yes	INC	24	0:35	23:59

Department of Market Services – California ISO

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
50	RT	Software Limitation	PG&E	Fresno	25-May-10	0	Yes	DEC	2	8:21	9:01
51	RT	Software Limitation	PG&E	Fresno	25-May-10	0	Yes	INC	24	0:45	23:59
52	RT	Software Limitation	PG&E	Fresno	26-May-10	308	Yes	INC	11	0:00	10:39
53	RT	Software Limitation	PG&E	Fresno	27-May-10	308	No	DEC	2	6:35	7:24
54	RT	Software Limitation	PG&E	Fresno	27-May-10	0	No	INC	2	6:27	7:24
55	RT	Software Limitation	PG&E	Fresno	28-May-10	0	Yes	INC	24	0:00	23:59
56	RT	Software Limitation	PG&E	Fresno	29-May-10	308	Yes	INC	24	0:00	23:59
57	RT	Software Limitation	PG&E	Fresno	30-May-10	0	No	INC	24	0:00	23:59
58	RT	Software Limitation	PG&E	Fresno	31-May-10	308	No	INC	24	0:00	23:59
59	RT	Software Limitation	PG&E	Humboldt	4-May-10	0	Yes	INC	2	10:45	11:14
60	RT	Software Limitation	PG&E	Humboldt	5-May-10	0	Yes	INC	1	13:00	13:00
61	RT	Software Limitation	PG&E	Humboldt	7-May-10	0	Yes	INC	3	9:50	11:19
62	RT	Software Limitation	PG&E	N/A	3-May-10	28	Yes	DEC	1	14:15	14:19
63	RT	Software Limitation	PG&E	N/A	3-May-10	0	Yes	INC	1	14:20	14:59
64	RT	Software Limitation	PG&E	N/A	27-May-10	0	Yes	INC	2	6:30	7:29
65	RT	Software Limitation	PG&E	N/A	31-May-10	0	No	INC	9	15:00	23:59
66	RT	Software Limitation	PG&E	NCNB	8-May-10	0	No	INC	2	0:00	1:59
67	RT	Software Limitation	PG&E	Sierra	8-May-10	0	No	INC	2	0:00	1:59
68	RT	Software Limitation	PG&E	Sierra	13-May-10	10	No	DEC	4	3:35	6:54
69	RT	Software Limitation	PG&E	Stockton	8-May-10	0	No	INC	2	0:00	1:59
70	RT	Software Limitation	PG&E	Stockton	13-May-10	72	Yes	DEC	3	11:30	13:04
71	RT	Software Limitation	SCE	Big Creek-Ventura	8-May-10	0	No	INC	2	0:00	1:59
72	RT	Software Limitation	SCE	LA Basin	7-May-10	0	Yes	INC	1	18:25	18:54
73	RT	Software Limitation	SCE	LA Basin	8-May-10	0	Yes	INC	16	0:00	15:09
74	RT	Software Limitation	SCE	LA Basin	10-May-10	0	No	INC	3	0:48	2:59
75	RT	Software Limitation	SCE	LA Basin	13-May-10	46	Yes	INC	4	18:30	21:59
76	RT	Software Limitation	SCE	LA Basin	20-May-10	0	Yes	INC	3	6:50	8:19
77	RT	Software Limitation	SCE	LA Basin	25-May-10	36- 46	Yes	INC	17	6:30	22:29

Department of Market Services – California ISO

Num ber	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commit ment	INC_DEC	Hours	Begin Time	End Time
78	RT	Software Limitation	SCE	LA Basin	28-May-10	21	Yes	DEC	3	8:45	10:14
79	RT	Software Limitation	SCE	N/A	23-May-10	0	Yes	INC	8	16:45	23:59
80	RT	Software Limitation	SCE	N/A	24-May-10	0	No	INC	1	0:00	0:44
81	RT	Software Limitation	SDG&E	San Diego	1-May-10	0	Yes	INC	2	8:30	9:29
82	RT	Software Limitation	SDG&E	San Diego	3-May-10	43	No	INC	1	19:44	19:59
83	RT	Software Limitation	SDG&E	San Diego	15-May-10	95	Yes	INC	5	19:32	23:58
84	RT	Software Limitation	SDG&E	San Diego	26-May-10	0	No	INC	1	23:25	23:59
85	RT	Software Limitation	SDG&E	San Diego	27-May-10	0	No	INC	24	0:00	23:59
86	RT	Software Limitation	SDG&E	San Diego	28-May-10	0	No	INC	1	0:00	0:44
87	RT	System Energy	N/A	N/A	12-May-10	15- 30	Yes	INC	5	15:00	19:59
88	RT	System Energy	N/A	N/A	16-May-10	20- 50	Yes	INC	4	17:00	20:59
89	RT	System Energy	PG&E	Fresno	21-May-10	103	Yes	INC	5	17:08	21:14
90	RT	System Energy	SCE	LA Basin	21-May-10	239	Yes	INC	4	2:50	5:29
91	RT	System Energy	SCE	LA Basin	25-May-10	130	Yes	INC	2	20:34	21:34
92	RT	System Energy	SCE	LA Basin	31-May-10	25	Yes	INC	10	14:00	23:59
93	RT	T-103	SCE	LA Basin	21-May-10	45	No	DEC	7	17:05	23:59
94	RT	T-103	SCE	LA Basin	21-May-10	0	No	INC	7	17:05	23:59
95	RT	T-103	SCE	LA Basin	22-May-10	20	Yes	INC	24	0:00	23:59
96	RT	T-129	PG&E	Fresno	4-May-10	60- 70	Yes	INC	1	23:30	23:59
97	RT	T-129	PG&E	Fresno	5-May-10	10	Yes	DEC	22	2:25	23:59
98	RT	T-129	PG&E	Fresno	5-May-10	75	Yes	INC	24	0:00	23:59
99	RT	T-129	PG&E	Fresno	6-May-10	5	Yes	DEC	22	0:00	21:39
100	RT	T-129	PG&E	Fresno	6-May-10	35- 75	Yes	INC	22	0:00	21:39
101	RT	T-129	PG&E	Fresno	15-May-10	10	Yes	INC	2	17:18	18:59
102	RT	T-129	PG&E	Fresno	18-May-10	5	Yes	INC	5	19:00	23:59
103	RT	T-129	PG&E	Fresno	19-May-10	75	Yes	INC	3	0:00	2:29
104	RT	T-129	PG&E	Fresno	26-May-10	15- 18	Yes	DEC	9	8:01	16:59
105	RT	T-138	PG&E	Humboldt	1-May-10	5	No	INC	5	3:40	7:59
106	RT	T-138	PG&E	Humboldt	4-May-10	5	No	DEC	3	19:25	21:59

Department of Market Services – California ISO

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
107	RT	T-138	PG&E	Humboldt	4-May-10	5- 51	No	INC	23	1:05	23:44
108	RT	T-138	PG&E	Humboldt	5-May-10	15	No	DEC	6	17:35	22:59
109	RT	T-138	PG&E	Humboldt	5-May-10	5- 20	Yes	INC	24	0:20	23:59
110	RT	T-138	PG&E	Humboldt	6-May-10	5- 15	No	DEC	22	2:28	23:29
111	RT	T-138	PG&E	Humboldt	6-May-10	5- 25	No	INC	24	0:00	23:59
112	RT	T-138	PG&E	Humboldt	7-May-10	5	No	DEC	16	3:20	18:44
113	RT	T-138	PG&E	Humboldt	7-May-10	39	Yes	INC	19	0:05	18:44
114	RT	T-138	PG&E	Humboldt	8-May-10	0- 10	No	INC	16	7:20	22:44
115	RT	T-138	PG&E	Humboldt	9-May-10	5- 25	No	INC	8	16:05	23:59
116	RT	T-138	PG&E	Humboldt	10-May-10	45	Yes	INC	18	0:00	17:14
117	RT	T-138	PG&E	Humboldt	12-May-10	15	No	INC	9	0:00	8:39
118	RT	T-138	PG&E	Humboldt	14-May-10	10	No	DEC	2	18:38	19:07
119	RT	T-138	PG&E	Humboldt	14-May-10	5	No	INC	2	18:38	19:07
120	RT	T-138	PG&E	Humboldt	15-May-10	10	No	INC	12	11:15	22:59
121	RT	T-138	PG&E	Humboldt	16-May-10	10	No	INC	14	3:20	16:59
122	RT	T-138	PG&E	Humboldt	18-May-10	5- 15	No	DEC	3	18:35	20:59
123	RT	T-138	PG&E	Humboldt	18-May-10	5- 10	No	INC	3	18:25	20:59
124	RT	T-138	PG&E	Humboldt	19-May-10	5	No	DEC	2	22:55	23:59
125	RT	T-138	PG&E	Humboldt	19-May-10	5- 45	No	INC	8	16:00	23:59
126	RT	T-138	PG&E	Humboldt	20-May-10	5	No	DEC	1	6:00	6:54
127	RT	T-138	PG&E	Humboldt	20-May-10	20	No	INC	16	0:50	15:59
128	RT	T-138	PG&E	Humboldt	22-May-10	5- 10	No	INC	9	9:55	17:59
129	RT	T-138	PG&E	Humboldt	25-May-10	5- 10	No	DEC	8	16:00	23:29
130	RT	T-138	PG&E	Humboldt	25-May-10	10	No	INC	11	13:56	23:29
131	RT	T-138	PG&E	Humboldt	27-May-10	5- 25	No	DEC	7	16:42	22:59
132	RT	T-138	PG&E	Humboldt	27-May-10	10	No	INC	7	16:42	22:59
133	RT	T-138	PG&E	Humboldt	28-May-10	5- 10	No	DEC	4	19:25	22:59
134	RT	T-138	PG&E	Humboldt	28-May-10	30	No	INC	14	10:30	23:59
135	RT	T-138	PG&E	Humboldt	29-May-10	5	No	DEC	17	5:20	21:59

Department of Market Services – California ISO

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
136	RT	T-138	PG&E	Humboldt	29-May-10	5- 20	No	INC	22	0:00	21:59
137	RT	T-154	PG&E	Sierra	2-May-10	160	No	DEC	2	17:45	18:19
138	RT	T-154	PG&E	Sierra	12-May-10	5	Yes	DEC	3	13:15	15:39
139	RT	Transmission Outage Other	PG&E	Humboldt	10-May-10	15	Yes	INC	2	9:35	10:39
140	RT	Transmission Outage PG&E	PG&E	Bay Area	12-May-10	23	No	INC	1	8:30	8:34
141	RT	Transmission Outage PG&E	PG&E	Bay Area	26-May-10	180- 253	Yes	INC	24	0:00	23:59
142	RT	Transmission Outage PG&E	PG&E	Bay Area	27-May-10	180	Yes	INC	7	0:00	6:59
143	RT	Transmission Outage PG&E	PG&E	Fresno	26-May-10	160- 468	Yes	INC	6	1:50	6:59
144	RT	Transmission Outage PG&E	PG&E	Fresno	27-May-10	160	Yes	INC	6	0:00	5:59
145	RT	Transmission Outage PG&E	PG&E	Humboldt	3-May-10	20- 65	Yes	INC	12	6:54	17:59
146	RT	Transmission Outage PG&E	PG&E	Humboldt	4-May-10	40- 61	Yes	INC	11	6:40	16:14
147	RT	Transmission Outage PG&E	PG&E	Humboldt	5-May-10	36- 61	No	INC	12	6:35	17:34
148	RT	Transmission Outage PG&E	PG&E	Humboldt	7-May-10	10- 53	Yes	INC	11	6:20	16:09
149	RT	Transmission Outage PG&E	PG&E	Humboldt	10-May-10	10- 35	Yes	INC	10	7:20	16:59
150	RT	Transmission Outage PG&E	PG&E	Humboldt	19-May-10	41- 56	No	INC	7	9:05	15:44
151	RT	Transmission Outage PG&E	PG&E	Humboldt	20-May-10	20- 40	No	INC	5	7:26	11:24
152	RT	Transmission Outage PG&E	PG&E	N/A	7-May-10	200	Yes	INC	1	16:05	16:14
153	RT	Transmission Outage PG&E	PG&E	N/A	10-May-10	150- 210	Yes	DEC	10	14:55	23:59
154	RT	Transmission Outage PG&E	PG&E	N/A	10-May-10	150	Yes	INC	10	14:55	23:59
155	RT	Transmission Outage PG&E	PG&E	N/A	11-May-10	150	Yes	INC	5	13:00	17:54
156	RT	Transmission Outage PG&E	PG&E	N/A	22-May-10	200	Yes	DEC	1	21:00	21:09
157	RT	Transmission Outage PG&E	PG&E	Sierra	2-May-10	60- 110	No	DEC	22	0:35	21:59
158	RT	Transmission Outage PG&E	PG&E	Sierra	3-May-10	40- 100	No	DEC	22	2:35	23:59
159	RT	Transmission Outage PG&E	PG&E	Sierra	4-May-10	70- 189	No	DEC	24	0:05	23:59
160	RT	Transmission Outage PG&E	PG&E	Sierra	5-May-10	80- 140	No	DEC	24	0:30	23:59
161	RT	Transmission Outage PG&E	PG&E	Sierra	6-May-10	10- 80	No	DEC	24	0:00	23:59
162	RT	Transmission Outage PG&E	PG&E	Sierra	6-May-10	40	No	INC	24	0:00	23:59
163	RT	Transmission Outage PG&E	PG&E	Sierra	7-May-10	5- 60	No	DEC	20	2:35	21:59
164	RT	Transmission Outage PG&E	PG&E	Sierra	7-May-10	70	No	INC	24	0:15	23:59

Department of Market Services – California ISO

Num ber	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commit ment	INC_DEC	Hours	Begin Time	End Time
165	RT	Transmission Outage PG&E	PG&E	Sierra	8-May-10	40	No	INC	24	0:00	23:59
166	RT	Transmission Outage PG&E	PG&E	Sierra	9-May-10	0	No	INC	23	0:00	22:59
167	RT	Transmission Outage PG&E	PG&E	Sierra	10-May-10	7- 8	Yes	DEC	14	9:30	22:14
168	RT	Transmission Outage PG&E	PG&E	Sierra	10-May-10	108	Yes	INC	24	0:00	23:59
169	RT	Transmission Outage PG&E	PG&E	Sierra	11-May-10	4- 67	Yes	DEC	12	6:00	17:29
170	RT	Transmission Outage PG&E	PG&E	Sierra	11-May-10	76	Yes	INC	24	0:00	23:59
171	RT	Transmission Outage PG&E	PG&E	Sierra	12-May-10	10- 20	No	DEC	15	1:10	15:39
172	RT	Transmission Outage PG&E	PG&E	Sierra	12-May-10	50	No	INC	24	0:00	23:59
173	RT	Transmission Outage PG&E	PG&E	Sierra	13-May-10	10	No	DEC	11	3:35	13:44
174	RT	Transmission Outage PG&E	PG&E	Sierra	13-May-10	80	No	INC	24	0:25	23:59
175	RT	Transmission Outage PG&E	PG&E	Sierra	14-May-10	40	No	INC	24	0:00	23:59
176	RT	Transmission Outage PG&E	PG&E	Sierra	15-May-10	90	No	INC	24	0:35	23:59
177	RT	Transmission Outage PG&E	PG&E	Sierra	16-May-10	20- 110	No	INC	24	0:00	23:59
178	RT	Transmission Outage PG&E	PG&E	Sierra	17-May-10	10- 30	No	INC	24	0:00	23:59
179	RT	Transmission Outage PG&E	PG&E	Sierra	18-May-10	10	No	DEC	19	1:10	19:09
180	RT	Transmission Outage PG&E	PG&E	Sierra	18-May-10	10- 30	No	INC	24	0:00	23:59
181	RT	Transmission Outage PG&E	PG&E	Sierra	19-May-10	10- 87	No	DEC	21	3:20	23:59
182	RT	Transmission Outage PG&E	PG&E	Sierra	19-May-10	70	No	INC	24	0:00	23:59
183	RT	Transmission Outage PG&E	PG&E	Sierra	20-May-10	20- 60	No	DEC	21	1:40	21:59
184	RT	Transmission Outage PG&E	PG&E	Sierra	20-May-10	0	No	INC	4	3:45	6:59
185	RT	Transmission Outage PG&E	PG&E	Sierra	21-May-10	5- 40	No	DEC	19	1:10	19:09
186	RT	Transmission Outage PG&E	PG&E	Sierra	21-May-10	30	No	INC	17	7:10	23:59
187	RT	Transmission Outage PG&E	PG&E	Sierra	22-May-10	5- 10	No	DEC	3	3:25	5:39
188	RT	Transmission Outage PG&E	PG&E	Sierra	22-May-10	30	No	INC	24	0:15	23:59
189	RT	Transmission Outage PG&E	PG&E	Sierra	23-May-10	10- 50	No	INC	24	0:00	23:44
190	RT	Transmission Outage PG&E	PG&E	Sierra	24-May-10	10- 137	No	DEC	17	6:00	22:24
191	RT	Transmission Outage PG&E	PG&E	Sierra	24-May-10	20	No	INC	16	8:25	23:59
192	RT	Transmission Outage PG&E	PG&E	Sierra	25-May-10	10- 70	Yes	DEC	21	0:40	20:59
193	RT	Transmission Outage PG&E	PG&E	Sierra	25-May-10	20	Yes	INC	22	0:00	21:59

Department of Market Services – California ISO

Number	Market Type	Reason	Location	Local Reliability Area	Trade Date	MW	Commitment	INC_DEC	Hours	Begin Time	End Time
194	RT	Transmission Outage PG&E	PG&E	Sierra	26-May-10	5- 40	Yes	DEC	24	0:12	23:59
195	RT	Transmission Outage PG&E	PG&E	Sierra	26-May-10	20	Yes	INC	4	20:50	23:44
196	RT	Transmission Outage PG&E	PG&E	Sierra	27-May-10	10- 40	No	DEC	24	0:00	23:59
197	RT	Transmission Outage PG&E	PG&E	Sierra	27-May-10	20	No	INC	3	21:50	23:09
198	RT	Transmission Outage PG&E	PG&E	Sierra	28-May-10	20- 70	No	DEC	22	0:00	21:49
199	RT	Transmission Outage PG&E	PG&E	Sierra	28-May-10	0	No	INC	3	21:50	23:59
200	RT	Transmission Outage PG&E	PG&E	Sierra	29-May-10	20	No	DEC	11	1:20	11:54
201	RT	Transmission Outage PG&E	PG&E	Sierra	29-May-10	0	No	INC	24	0:00	23:59
202	RT	Transmission Outage PG&E	PG&E	Sierra	30-May-10	10	No	DEC	8	0:00	7:04
203	RT	Transmission Outage PG&E	PG&E	Sierra	30-May-10	10	No	INC	22	2:05	23:59
204	RT	Transmission Outage PG&E	PG&E	Sierra	31-May-10	4- 10	No	DEC	22	2:30	23:59
205	RT	Transmission Outage PG&E	PG&E	Sierra	31-May-10	0	No	INC	15	0:30	14:49
206	RT	Transmission Outage PG&E	SCE	LA Basin	7-May-10	0	No	INC	1	15:25	15:28
207	RT	Transmission Outage SCE	SDG&E	San Diego	10-May-10	119- 141	No	DEC	2	3:20	4:34
208	RT	Transmission Outage SDG&E	SDG&E	San Diego	1-May-10	43	No	INC	17	5:45	21:59
209	RT	Transmission Outage SDG&E	SDG&E	San Diego	2-May-10	17- 137	No	DEC	16	6:05	21:59
210	RT	Transmission Outage SDG&E	SDG&E	San Diego	2-May-10	43	No	INC	16	6:05	21:59
211	RT	Transmission Outage SDG&E	SDG&E	San Diego	14-May-10	45	Yes	INC	5	10:57	14:59
212	RT	Unit Testing	N/A	N/A	20-May-10	22- 100	No	INC	1	9:02	9:50
213	RT	Unit Testing	SCE	LA Basin	13-May-10	0	No	INC	3	12:30	14:44

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 G-206. 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.

Table 2: Instructions Prior to Day-Ahead Market

Date	Market	Resource	Location	Local Reliability Area (LRA)	Begin Time	End Time	Dispatch Level (MW)	Reason
01-Jul-09	DA	A	SCE	LA BASIN	05:00	10:00	50	G-219
01-Jul-09	DA	B	SCE	LA BASIN	08:00	20:00	30	G-219
01-Jul-09	DA	C	SCE	LA BASIN	09:00	23:00	20	G-219.

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 shows hour ending 5 as this was the hour ending for first dispatch of the day, and the end time 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 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	G-219	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 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 T-138. 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 T-138. 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 is shown in Table 4.

Table 4: Incremental Exceptional Dispatch Instructions in RTM

Date	Market	Resource	Location	Local Reliability Area (LRA)	Begin Time	End Time	Dispatch Level (MW)	Day-Ahead Award (MW)	Commitment	INC/DEC	ED (MW)	Reason
01-Jul-09	RT	A	PG&E	Humboldt	06:00	11:00	30	0	Yes	INC	30	t-138
01-Jul-09	RT	B	PG&E	Humboldt	07:00	09:00	40	20	No	INC	20	t-138
01-Jul-09	RT	C	PG&E	Humboldt	12:00	15:00	50	50	No	INC	0	t-138
01-Jul-09	RT	C	PG&E	Humboldt	16:00	20:00	50	40	No	INC	10	t-138

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 shows the time of the first dispatch of the day. This is a time not a range. Similarly the end time 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.

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	T-138	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 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 T-129. The ISO issued additional exceptional dispatch instructions for resources B and C; details of those instructions are shown in Table 6.

Table 6: Decremental Exceptional Dispatch Instructions in RTM

Date	Market Type	Resource	Location	Local Reliability Area (LRA)	Begin Time	End Time	Dispatch Level (MW)	Day-Ahead Award (MW)	Commitment	INC/DEC	ED (MW)	Reason
01-Jul-09	RT	A	PG&E	Fresno	15:00	20:00	20	0	Yes	INC	20	t-129
01-Jul-09	RT	B	PG&E	Fresno	07:00	09:00	40	60	No	DEC	20	t-129
01-Jul-09	RT	C	PG&E	Fresno	10:00	14:00	40	50	No	DEC	10	t-129

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

Number	Market Type	Reason	Location	Local Reliability Area (LRA)	Trade Date	MW	Commitment	INC/DEC	Hour	Begin Time	End Time
1	RT	T-129	PG&E	Fresno	1-Jul-09	20	Yes	INC	6	15:00	20:00
1	RT	T-129	PG&E	Fresno	1-Jul-09	10-20	Yes	DEC	8	07:00	14:00