



# **Exceptional Dispatch Report**

## **Table 1: April 2010**

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## 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 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 April 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 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 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 website<sup>2</sup>.

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<sup>1</sup> 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.

<sup>2</sup> 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 April 2010, the ISO issued exceptional dispatches for the following local area generation requirement: (1) G-206, San Diego area generation requirements; and (2) G-217, South of Lugo 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-122, Path 15 nomogram; (3) T-132, transmission facilities in San Diego and Imperial Valley area; (4) T-138, transmission facilities in Humboldt area; and (5) other transmission outages in PG&E, SCE and SDG&E area.

The following additional reasons for exceptional dispatch instructions in April 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 April, 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

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<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.

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 164 exceptional dispatches in April, increasing by 21 from 143 exceptional dispatches reported in the May 17, 2010 report. Real-time exceptional dispatches in April accounted for approximately 78 percent of all exceptional dispatches categorized by date and reason. Exceptional dispatches issued for the following reasons accounted for approximately 58 percent of the total exceptional dispatches during the reporting period: Software Limitation, T-138, G-206, Transmission Outage in PG&E area, and Transmission Outage in SCE area. In day-ahead market, approximately 53 percent of the exceptional dispatches were issued for Transmission Outage in SCE area and G-206. In real-time market, approximately 57 percent of the exceptional dispatches were issued for Software Limitation, T-138, Transmission Outage in PG&E area, and G-206.

**Table 1: Exceptional Dispatches in April 2010**

**California Independent System Operator Corporation  
Exceptional Dispatch Report  
June 15, 2010**

**Chart 1: Table of Exceptional Dispatches for Period 01/Apr/2010 - 30/Apr/2010**

| Num<br>ber | Market<br>Type | Reason        | Location | Local<br>Reliability<br>Area | Trade<br>Date | MW          | Commit<br>ment | INC_DEC | Hours | Begin<br>Time | End<br>Time |
|------------|----------------|---------------|----------|------------------------------|---------------|-------------|----------------|---------|-------|---------------|-------------|
| 1          | DA             | G-206         | SDG&E    | San Diego                    | 5-Apr-10      | 20          | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 2          | DA             | G-206         | SDG&E    | San Diego                    | 6-Apr-10      | 20          | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 3          | DA             | G-206         | SDG&E    | San Diego                    | 7-Apr-10      | 20          | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 4          | DA             | G-206         | SDG&E    | San Diego                    | 8-Apr-10      | 20          | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 5          | DA             | G-206         | SDG&E    | San Diego                    | 9-Apr-10      | 20          | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 6          | DA             | G-206         | SDG&E    | San Diego                    | 10-Apr-10     | 20          | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 7          | DA             | G-206         | SDG&E    | San Diego                    | 11-Apr-10     | 20          | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 8          | DA             | G-206         | SDG&E    | San Diego                    | 12-Apr-10     | 20          | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 9          | DA             | G-206         | SDG&E    | San Diego                    | 13-Apr-10     | 20          | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 10         | DA             | SP26 Capacity | SCE      | LA Basin                     | 16-Apr-10     | 20          | Yes            | N/A     | 9     | 7:00          | 15:00       |
| 11         | DA             | SP26 Capacity | SDG&E    | San Diego                    | 1-Apr-10      | 20          | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 12         | DA             | SP26 Capacity | SDG&E    | San Diego                    | 2-Apr-10      | 20          | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 13         | DA             | SP26 Capacity | SDG&E    | San Diego                    | 3-Apr-10      | 20          | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 14         | DA             | T-103         | SCE      | LA Basin                     | 6-Apr-10      | 65- 85      | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 15         | DA             | T-103         | SCE      | LA Basin                     | 10-Apr-10     | 20- 90      | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 16         | DA             | T-103         | SCE      | LA Basin                     | 11-Apr-10     | 90          | Yes            | N/A     | 22    | 0:00          | 21:00       |
| 17         | DA             | T-103         | SDG&E    | San Diego                    | 6-Apr-10      | 240-<br>395 | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 18         | DA             | T-103         | SDG&E    | San Diego                    | 11-Apr-10     | 40          | Yes            | N/A     | 22    | 0:00          | 21:00       |
| 19         | DA             | T-132         | SDG&E    | San Diego                    | 24-Apr-10     | 200         | Yes            | N/A     | 24    | 0:00          | 23:00       |
| 20         | DA             | T-132         | SDG&E    | San Diego                    | 25-Apr-10     | 200         | Yes            | N/A     | 24    | 0:00          | 23:00       |

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| Number | Market Type | Reason                    | Location | Local Reliability Area | Trade Date | MW      | Commitment | INC_DEC | Hours | Begin Time | End Time |
|--------|-------------|---------------------------|----------|------------------------|------------|---------|------------|---------|-------|------------|----------|
| 21     | DA          | T-132                     | SDG&E    | San Diego              | 26-Apr-10  | 200     | Yes        | N/A     | 8     | 0:00       | 7:00     |
| 22     | DA          | T-132                     | SDG&E    | San Diego              | 27-Apr-10  | 200     | Yes        | N/A     | 24    | 0:00       | 23:00    |
| 23     | DA          | T-132                     | SDG&E    | San Diego              | 28-Apr-10  | 200     | Yes        | N/A     | 24    | 0:00       | 23:00    |
| 24     | DA          | T-132                     | SDG&E    | San Diego              | 29-Apr-10  | 200     | Yes        | N/A     | 24    | 0:00       | 23:00    |
| 25     | DA          | Transmission Outage Other | SCE      | LA Basin               | 22-Apr-10  | 30-125  | Yes        | N/A     | 22    | 0:00       | 21:00    |
| 26     | DA          | Transmission Outage Other | SDG&E    | San Diego              | 22-Apr-10  | 20- 40  | Yes        | N/A     | 22    | 0:00       | 21:00    |
| 27     | DA          | Transmission Outage SCE   | SCE      | Big Creek-Ventura      | 18-Apr-10  | 50      | Yes        | N/A     | 6     | 18:00      | 23:00    |
| 28     | DA          | Transmission Outage SCE   | SCE      | Big Creek-Ventura      | 19-Apr-10  | 50      | Yes        | N/A     | 24    | 0:00       | 23:00    |
| 29     | DA          | Transmission Outage SCE   | SCE      | Big Creek-Ventura      | 20-Apr-10  | 50      | Yes        | N/A     | 24    | 0:00       | 23:00    |
| 30     | DA          | Transmission Outage SCE   | SCE      | LA Basin               | 18-Apr-10  | 20      | Yes        | N/A     | 24    | 0:00       | 23:00    |
| 31     | DA          | Transmission Outage SCE   | SCE      | LA Basin               | 19-Apr-10  | 80      | Yes        | N/A     | 24    | 0:00       | 23:00    |
| 32     | DA          | Transmission Outage SCE   | SCE      | LA Basin               | 20-Apr-10  | 75      | Yes        | N/A     | 24    | 0:00       | 23:00    |
| 33     | DA          | Transmission Outage SCE   | SCE      | LA Basin               | 21-Apr-10  | 125     | Yes        | N/A     | 24    | 0:00       | 23:00    |
| 34     | DA          | Transmission Outage SCE   | SDG&E    | San Diego              | 19-Apr-10  | 40      | Yes        | N/A     | 24    | 0:00       | 23:00    |
| 35     | DA          | Transmission Outage SCE   | SDG&E    | San Diego              | 20-Apr-10  | 40      | Yes        | N/A     | 24    | 0:00       | 23:00    |
| 36     | DA          | Transmission Outage SCE   | SDG&E    | San Diego              | 21-Apr-10  | 40      | Yes        | N/A     | 24    | 0:00       | 23:00    |
| 37     | RT          | Earthquake                | PG&E     | Fresno                 | 4-Apr-10   | 83-171  | No         | INC     | 4     | 15:50      | 18:59    |
| 38     | RT          | Earthquake                | SCE      | Big Creek-Ventura      | 4-Apr-10   | 64      | No         | INC     | 3     | 15:49      | 17:04    |
| 39     | RT          | Earthquake                | SCE      | LA Basin               | 4-Apr-10   | 37      | No         | INC     | 3     | 15:49      | 17:04    |
| 40     | RT          | Earthquake                | SDG&E    | San Diego              | 4-Apr-10   | 157-307 | Yes        | INC     | 4     | 16:11      | 19:59    |
| 41     | RT          | Earthquake                | SDG&E    | San Diego              | 5-Apr-10   | 20- 40  | Yes        | INC     | 19    | 5:00       | 23:59    |
| 42     | RT          | G-206                     | PG&E     | Humboldt               | 3-Apr-10   | 5- 10   | Yes        | INC     | 3     | 10:40      | 12:39    |
| 43     | RT          | G-206                     | SDG&E    | San Diego              | 3-Apr-10   | 36-284  | Yes        | INC     | 7     | 10:00      | 16:04    |

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| Number | Market Type | Reason                        | Location | Local Reliability Area | Trade Date | MW      | Commitment | INC_DEC | Hours | Begin Time | End Time |
|--------|-------------|-------------------------------|----------|------------------------|------------|---------|------------|---------|-------|------------|----------|
| 44     | RT          | G-206                         | SDG&E    | San Diego              | 4-Apr-10   | 20-150  | Yes        | INC     | 24    | 0:00       | 23:59    |
| 45     | RT          | G-206                         | SDG&E    | San Diego              | 21-Apr-10  | 89      | No         | INC     | 2     | 19:30      | 20:39    |
| 46     | RT          | G-206                         | SDG&E    | San Diego              | 22-Apr-10  | 100-222 | No         | DEC     | 2     | 5:15       | 6:19     |
| 47     | RT          | G-206                         | SDG&E    | San Diego              | 22-Apr-10  | 48-219  | Yes        | INC     | 21    | 0:00       | 20:59    |
| 48     | RT          | G-206                         | SDG&E    | San Diego              | 29-Apr-10  | 100-222 | No         | DEC     | 4     | 20:40      | 23:59    |
| 49     | RT          | G-206                         | SDG&E    | San Diego              | 29-Apr-10  | 43      | No         | INC     | 2     | 19:07      | 20:39    |
| 50     | RT          | G-206                         | SDG&E    | San Diego              | 30-Apr-10  | 200     | Yes        | INC     | 6     | 0:00       | 5:59     |
| 51     | RT          | G-217                         | SCE      | LA Basin               | 13-Apr-10  | 25- 71  | Yes        | INC     | 17    | 6:00       | 22:29    |
| 52     | RT          | G-217                         | SCE      | LA Basin               | 14-Apr-10  | 25      | Yes        | INC     | 24    | 0:00       | 23:59    |
| 53     | RT          | Generation Outage             | PG&E     | Bay Area               | 12-Apr-10  | 41- 45  | No         | DEC     | 2     | 10:35      | 11:59    |
| 54     | RT          | Generation Outage             | PG&E     | Bay Area               | 12-Apr-10  | 34-103  | No         | INC     | 2     | 9:00       | 10:34    |
| 55     | RT          | Generation Outage             | SDG&E    | San Diego              | 12-Apr-10  | 255-283 | No         | DEC     | 2     | 10:45      | 11:59    |
| 56     | RT          | Intertie Emergency Assistance | N/A      | N/A                    | 4-Apr-10   | 100-120 | No         | INC     | 3     | 15:54      | 17:59    |
| 57     | RT          | Market Disruption             | N/A      | N/A                    | 29-Apr-10  | 370-410 | Yes        | DEC     | 2     | 19:00      | 20:59    |
| 58     | RT          | Market Disruption             | N/A      | N/A                    | 29-Apr-10  | 20-675  | Yes        | INC     | 2     | 19:00      | 20:59    |
| 59     | RT          | Market Disruption             | SCE      | LA Basin               | 19-Apr-10  | 30      | No         | DEC     | 1     | 8:22       | 8:36     |
| 60     | RT          | Market Disruption             | SDG&E    | San Diego              | 19-Apr-10  | 273     | No         | INC     | 1     | 8:27       | 8:39     |
| 61     | RT          | Ramp Rate                     | SCE      | LA Basin               | 9-Apr-10   | 180     | Yes        | INC     | 1     | 18:18      | 18:59    |
| 62     | RT          | Ramp Rate                     | SCE      | LA Basin               | 14-Apr-10  | 71      | Yes        | INC     | 4     | 18:25      | 21:09    |
| 63     | RT          | Ramp Rate                     | SCE      | LA Basin               | 27-Apr-10  | 97-170  | No         | INC     | 5     | 17:15      | 21:59    |
| 64     | RT          | Ramp Rate                     | SDG&E    | San Diego              | 21-Apr-10  | 33      | No         | DEC     | 11    | 12:45      | 22:34    |

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| Number | Market Type | Reason                       | Location | Local Reliability Area | Trade Date | MW      | Commitment | INC_DEC | Hours | Begin Time | End Time |
|--------|-------------|------------------------------|----------|------------------------|------------|---------|------------|---------|-------|------------|----------|
| 65     | RT          | Ramp Rate                    | SDG&E    | San Diego              | 21-Apr-10  | 80      | No         | INC     | 12    | 12:45      | 23:59    |
| 66     | RT          | SDG&E Generation Requirement | SDG&E    | San Diego              | 1-Apr-10   | 100-170 | No         | DEC     | 3     | 5:40       | 7:59     |
| 67     | RT          | SDG&E Generation Requirement | SDG&E    | San Diego              | 1-Apr-10   | 80-561  | Yes        | INC     | 8     | 0:05       | 7:59     |
| 68     | RT          | SDG&E Generation Requirement | SDG&E    | San Diego              | 16-Apr-10  | 122-172 | No         | DEC     | 5     | 19:25      | 23:59    |
| 69     | RT          | SDG&E Generation Requirement | SDG&E    | San Diego              | 23-Apr-10  | 143-265 | No         | DEC     | 5     | 19:25      | 23:59    |
| 70     | RT          | SDG&E Generation Requirement | SDG&E    | San Diego              | 23-Apr-10  | 42-358  | Yes        | INC     | 3     | 15:08      | 17:21    |
| 71     | RT          | SDG&E Generation Requirement | SDG&E    | San Diego              | 24-Apr-10  | 63-143  | No         | DEC     | 3     | 0:00       | 2:59     |
| 72     | RT          | SDG&E Import Limit           | SDG&E    | San Diego              | 21-Apr-10  | 89      | No         | INC     | 1     | 21:00      | 21:59    |
| 73     | RT          | SDG&E Import Limit           | SDG&E    | San Diego              | 22-Apr-10  | 22- 54  | No         | DEC     | 14    | 6:20       | 19:14    |
| 74     | RT          | SDG&E Import Limit           | SDG&E    | San Diego              | 22-Apr-10  | 89      | No         | INC     | 15    | 5:45       | 19:14    |
| 75     | RT          | Software Limitation          | N/A      | N/A                    | 21-Apr-10  | 78      | No         | DEC     | 2     | 0:50       | 1:09     |
| 76     | RT          | Software Limitation          | PG&E     | Bay Area               | 28-Apr-10  | 0       | Yes        | INC     | 3     | 8:50       | 10:24    |
| 77     | RT          | Software Limitation          | PG&E     | Fresno                 | 14-Apr-10  | 308     | No         | DEC     | 1     | 2:32       | 2:46     |
| 78     | RT          | Software Limitation          | PG&E     | Fresno                 | 23-Apr-10  | 308     | No         | DEC     | 1     | 4:17       | 4:31     |
| 79     | RT          | Software Limitation          | PG&E     | Fresno                 | 27-Apr-10  | 0       | Yes        | INC     | 2     | 12:47      | 13:31    |
| 80     | RT          | Software Limitation          | PG&E     | Fresno                 | 30-Apr-10  | 188     | No         | DEC     | 1     | 9:00       | 9:59     |
| 81     | RT          | Software Limitation          | PG&E     | N/A                    | 15-Apr-10  | 0       | Yes        | INC     | 4     | 1:00       | 4:59     |
| 82     | RT          | Software Limitation          | PG&E     | N/A                    | 16-Apr-10  | 0       | Yes        | INC     | 5     | 0:30       | 4:29     |
| 83     | RT          | Software Limitation          | PG&E     | N/A                    | 21-Apr-10  | 0       | Yes        | INC     | 5     | 0:45       | 4:44     |
| 84     | RT          | Software Limitation          | PG&E     | N/A                    | 27-Apr-10  | 0       | Yes        | INC     | 2     | 10:50      | 11:49    |
| 85     | RT          | Software Limitation          | PG&E     | N/A                    | 28-Apr-10  | 47      | Yes        | INC     | 1     | 7:32       | 7:36     |
| 86     | RT          | Software Limitation          | PG&E     | N/A                    | 30-Apr-10  | 0       | Yes        | INC     | 4     | 13:00      | 16:59    |
| 87     | RT          | Software Limitation          | PG&E     | Sierra                 | 24-Apr-10  | 0       | Yes        | INC     | 1     | 21:45      | 21:49    |
| 88     | RT          | Software Limitation          | SCE      | Big Creek-             | 21-Apr-10  | 0       | No         | INC     | 23    | 1:10       | 23:59    |

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| Number | Market Type | Reason              | Location | Local Reliability Area | Trade Date | MW      | Commitment | INC_DEC | Hours | Begin Time | End Time |
|--------|-------------|---------------------|----------|------------------------|------------|---------|------------|---------|-------|------------|----------|
|        |             |                     |          | Ventura                |            |         |            |         |       |            |          |
| 89     | RT          | Software Limitation | SCE      | Big Creek-Ventura      | 22-Apr-10  | 0       | No         | INC     | 2     | 0:00       | 1:09     |
| 90     | RT          | Software Limitation | SCE      | LA Basin               | 1-Apr-10   | 0       | No         | INC     | 1     | 12:00      | 12:04    |
| 91     | RT          | Software Limitation | SCE      | LA Basin               | 2-Apr-10   | 160     | Yes        | INC     | 5     | 17:35      | 21:59    |
| 92     | RT          | Software Limitation | SCE      | LA Basin               | 20-Apr-10  | 25      | Yes        | INC     | 1     | 23:50      | 23:59    |
| 93     | RT          | Software Limitation | SCE      | LA Basin               | 21-Apr-10  | 25-300  | No         | DEC     | 8     | 16:05      | 23:59    |
| 94     | RT          | Software Limitation | SCE      | LA Basin               | 21-Apr-10  | 0       | Yes        | INC     | 5     | 0:30       | 4:29     |
| 95     | RT          | Software Limitation | SCE      | LA Basin               | 29-Apr-10  | 0       | Yes        | INC     | 2     | 20:40      | 21:59    |
| 96     | RT          | Software Limitation | SCE      | N/A                    | 7-Apr-10   | 60      | Yes        | DEC     | 1     | 9:10       | 9:59     |
| 97     | RT          | Software Limitation | SDG&E    | N/A                    | 2-Apr-10   | 170     | Yes        | INC     | 6     | 16:35      | 21:59    |
| 98     | RT          | Software Limitation | SDG&E    | San Diego              | 2-Apr-10   | 41      | Yes        | INC     | 3     | 15:50      | 17:59    |
| 99     | RT          | Software Limitation | SDG&E    | San Diego              | 10-Apr-10  | 20- 45  | No         | DEC     | 24    | 0:00       | 23:59    |
| 100    | RT          | Software Limitation | SDG&E    | San Diego              | 10-Apr-10  | 0       | No         | INC     | 24    | 0:00       | 23:59    |
| 101    | RT          | Software Limitation | SDG&E    | San Diego              | 23-Apr-10  | 0       | No         | INC     | 9     | 0:00       | 8:14     |
| 102    | RT          | System Energy       | N/A      | N/A                    | 15-Apr-10  | 200     | No         | INC     | 1     | 19:00      | 19:59    |
| 103    | RT          | T-103               | SCE      | LA Basin               | 9-Apr-10   | 70      | Yes        | INC     | 3     | 16:00      | 18:17    |
| 104    | RT          | T-103               | SDG&E    | San Diego              | 10-Apr-10  | 20      | Yes        | INC     | 22    | 2:00       | 23:59    |
| 105    | RT          | T-122               | PG&E     | Bay Area               | 30-Apr-10  | 380     | Yes        | INC     | 9     | 0:30       | 8:59     |
| 106    | RT          | T-122               | SCE      | Big Creek-Ventura      | 29-Apr-10  | 232     | No         | DEC     | 1     | 18:09      | 18:50    |
| 107    | RT          | T-132               | SDG&E    | San Diego              | 3-Apr-10   | 48      | No         | INC     | 9     | 3:45       | 11:59    |
| 108    | RT          | T-132               | SDG&E    | San Diego              | 16-Apr-10  | 172     | No         | DEC     | 1     | 19:20      | 19:24    |
| 109    | RT          | T-132               | SDG&E    | San Diego              | 17-Apr-10  | 100-170 | No         | DEC     | 8     | 0:00       | 7:59     |
| 110    | RT          | T-132               | SDG&E    | San Diego              | 19-Apr-10  | 48      | No         | INC     | 8     | 13:40      | 20:59    |
| 111    | RT          | T-138               | PG&E     | Humboldt               | 1-Apr-10   | 5- 15   | No         | DEC     | 6     | 1:25       | 6:59     |
| 112    | RT          | T-138               | PG&E     | Humboldt               | 1-Apr-10   | 5- 15   | No         | INC     | 13    | 0:00       | 12:49    |
| 113    | RT          | T-138               | PG&E     | Humboldt               | 2-Apr-10   | 10      | Yes        | DEC     | 2     | 20:45      | 21:49    |

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| Number | Market Type | Reason                    | Location | Local Reliability Area | Trade Date | MW     | Commitment | INC_DEC | Hours | Begin Time | End Time |
|--------|-------------|---------------------------|----------|------------------------|------------|--------|------------|---------|-------|------------|----------|
| 114    | RT          | T-138                     | PG&E     | Humboldt               | 2-Apr-10   | 0      | Yes        | INC     | 1     | 22:25      | 22:54    |
| 115    | RT          | T-138                     | PG&E     | Humboldt               | 3-Apr-10   | 10     | Yes        | INC     | 6     | 8:00       | 13:19    |
| 116    | RT          | T-138                     | PG&E     | Humboldt               | 4-Apr-10   | 30     | No         | INC     | 7     | 15:40      | 21:59    |
| 117    | RT          | T-138                     | PG&E     | Humboldt               | 5-Apr-10   | 5      | Yes        | DEC     | 5     | 19:55      | 23:01    |
| 118    | RT          | T-138                     | PG&E     | Humboldt               | 5-Apr-10   | 10     | Yes        | INC     | 5     | 19:55      | 23:54    |
| 119    | RT          | T-138                     | PG&E     | Humboldt               | 6-Apr-10   | 10     | Yes        | DEC     | 2     | 20:30      | 21:19    |
| 120    | RT          | T-138                     | PG&E     | Humboldt               | 8-Apr-10   | 15     | Yes        | INC     | 5     | 19:30      | 23:59    |
| 121    | RT          | T-138                     | PG&E     | Humboldt               | 9-Apr-10   | 20- 25 | No         | DEC     | 4     | 6:50       | 9:49     |
| 122    | RT          | T-138                     | PG&E     | Humboldt               | 9-Apr-10   | 15     | Yes        | INC     | 11    | 0:00       | 10:14    |
| 123    | RT          | T-138                     | PG&E     | Humboldt               | 14-Apr-10  | 5- 37  | No         | INC     | 4     | 1:25       | 4:19     |
| 124    | RT          | T-138                     | PG&E     | Humboldt               | 15-Apr-10  | 5- 10  | No         | INC     | 3     | 7:35       | 9:59     |
| 125    | RT          | T-138                     | PG&E     | Humboldt               | 21-Apr-10  | 30     | Yes        | INC     | 2     | 22:05      | 23:59    |
| 126    | RT          | T-138                     | PG&E     | Humboldt               | 22-Apr-10  | 5- 30  | Yes        | INC     | 4     | 0:00       | 3:59     |
| 127    | RT          | T-138                     | PG&E     | Humboldt               | 26-Apr-10  | 5- 10  | No         | DEC     | 2     | 22:55      | 23:59    |
| 128    | RT          | T-138                     | PG&E     | Humboldt               | 26-Apr-10  | 20     | Yes        | INC     | 12    | 12:00      | 23:59    |
| 129    | RT          | T-138                     | PG&E     | Humboldt               | 27-Apr-10  | 5      | No         | DEC     | 18    | 0:20       | 17:09    |
| 130    | RT          | T-138                     | PG&E     | Humboldt               | 27-Apr-10  | 15     | Yes        | INC     | 24    | 0:00       | 23:59    |
| 131    | RT          | T-138                     | PG&E     | Humboldt               | 28-Apr-10  | 10     | Yes        | INC     | 24    | 0:00       | 23:14    |
| 132    | RT          | T-138                     | PG&E     | Humboldt               | 29-Apr-10  | 15     | No         | INC     | 1     | 23:00      | 23:59    |
| 133    | RT          | T-138                     | PG&E     | Humboldt               | 30-Apr-10  | 10     | No         | INC     | 24    | 0:00       | 23:49    |
| 134    | RT          | Transmission Outage Other | SDG&E    | San Diego              | 21-Apr-10  | 32     | No         | DEC     | 2     | 22:40      | 23:59    |
| 135    | RT          | Transmission Outage Other | SDG&E    | San Diego              | 22-Apr-10  | 32-122 | No         | DEC     | 2     | 0:00       | 1:44     |
| 136    | RT          | Transmission Outage Other | SDG&E    | San Diego              | 22-Apr-10  | 80     | No         | INC     | 3     | 0:05       | 2:59     |
| 137    | RT          | Transmission Outage PG&E  | PG&E     | Humboldt               | 8-Apr-10   | 5- 50  | No         | DEC     | 14    | 10:44      | 23:59    |
| 138    | RT          | Transmission Outage PG&E  | PG&E     | Humboldt               | 9-Apr-10   | 10- 30 | No         | DEC     | 10    | 0:00       | 9:49     |
| 139    | RT          | Transmission Outage PG&E  | PG&E     | Humboldt               | 9-Apr-10   | 0      | No         | INC     | 7     | 0:00       | 6:49     |
| 140    | RT          | Transmission Outage PG&E  | PG&E     | Humboldt               | 18-Apr-10  | 20     | No         | INC     | 13    | 6:50       | 18:29    |
| 141    | RT          | Transmission Outage PG&E  | PG&E     | Sierra                 | 18-Apr-10  | 28- 43 | No         | DEC     | 8     | 1:25       | 8:59     |

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| Num<br>ber | Market<br>Type | Reason                    | Location | Local<br>Reliability<br>Area | Trade<br>Date | MW          | Commit<br>ment | INC_DEC | Hours | Begin<br>Time | End<br>Time |
|------------|----------------|---------------------------|----------|------------------------------|---------------|-------------|----------------|---------|-------|---------------|-------------|
| 142        | RT             | Transmission Outage PG&E  | PG&E     | Sierra                       | 25-Apr-10     | 6- 48       | No             | DEC     | 15    | 0:35          | 14:16       |
| 143        | RT             | Transmission Outage PG&E  | PG&E     | Sierra                       | 26-Apr-10     | 12- 34      | No             | DEC     | 7     | 17:05         | 23:59       |
| 144        | RT             | Transmission Outage PG&E  | PG&E     | Sierra                       | 27-Apr-10     | 5- 15       | No             | DEC     | 10    | 12:55         | 21:59       |
| 145        | RT             | Transmission Outage PG&E  | PG&E     | Sierra                       | 27-Apr-10     | 28          | No             | INC     | 8     | 0:00          | 7:29        |
| 146        | RT             | Transmission Outage PG&E  | PG&E     | Sierra                       | 28-Apr-10     | 10- 40      | No             | DEC     | 9     | 13:20         | 21:59       |
| 147        | RT             | Transmission Outage PG&E  | PG&E     | Sierra                       | 29-Apr-10     | 5- 85       | No             | DEC     | 22    | 2:45          | 23:09       |
| 148        | RT             | Transmission Outage PG&E  | PG&E     | Sierra                       | 29-Apr-10     | 30          | No             | INC     | 2     | 22:45         | 23:59       |
| 149        | RT             | Transmission Outage PG&E  | PG&E     | Sierra                       | 30-Apr-10     | 12- 97      | No             | DEC     | 23    | 0:00          | 22:14       |
| 150        | RT             | Transmission Outage PG&E  | PG&E     | Sierra                       | 30-Apr-10     | 50          | Yes            | INC     | 2     | 20:55         | 21:59       |
| 151        | RT             | Transmission Outage SCE   | SCE      | LA Basin                     | 17-Apr-10     | 20          | Yes            | INC     | 6     | 18:00         | 23:59       |
| 152        | RT             | Transmission Outage SCE   | SCE      | LA Basin                     | 19-Apr-10     | 10          | Yes            | INC     | 13    | 11:00         | 23:59       |
| 153        | RT             | Transmission Outage SCE   | SCE      | LA Basin                     | 20-Apr-10     | 70          | Yes            | INC     | 24    | 0:00          | 23:59       |
| 154        | RT             | Transmission Outage SCE   | SCE      | N/A                          | 7-Apr-10      | 24- 44      | No             | DEC     | 2     | 10:35         | 11:59       |
| 155        | RT             | Transmission Outage SDG&E | SCE      | LA Basin                     | 9-Apr-10      | 70          | Yes            | INC     | 5     | 19:00         | 23:59       |
| 156        | RT             | Transmission Outage SDG&E | SCE      | LA Basin                     | 20-Apr-10     | 25          | Yes            | INC     | 3     | 21:20         | 23:59       |
| 157        | RT             | Transmission Outage SDG&E | SCE      | LA Basin                     | 21-Apr-10     | 25          | Yes            | INC     | 24    | 0:00          | 23:59       |
| 158        | RT             | Transmission Outage SDG&E | SDG&E    | San Diego                    | 4-Apr-10      | 257-<br>547 | Yes            | INC     | 4     | 20:00         | 23:59       |
| 159        | RT             | Transmission Outage SDG&E | SDG&E    | San Diego                    | 5-Apr-10      | 257-<br>547 | Yes            | INC     | 24    | 0:00          | 23:59       |
| 160        | RT             | Transmission Outage SDG&E | SDG&E    | San Diego                    | 24-Apr-10     | 63          | No             | DEC     | 1     | 2:25          | 2:59        |
| 161        | RT             | Transmission Outage SDG&E | SDG&E    | San Diego                    | 24-Apr-10     | 213-<br>272 | Yes            | INC     | 2     | 1:05          | 2:59        |
| 162        | RT             | Voltage Support           | PG&E     | Fresno                       | 25-Apr-10     | 308         | No             | DEC     | 2     | 8:36          | 9:24        |
| 163        | RT             | Voltage Support           | SCE      | LA Basin                     | 3-Apr-10      | 20          | Yes            | INC     | 3     | 21:30         | 23:59       |
| 164        | RT             | Voltage Support           | SCE      | LA Basin                     | 4-Apr-10      | 0           | No             | INC     | 9     | 0:00          | 8:59        |

## 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 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    |