

January 15, 2014

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. ER06-615-\_\_\_\_ and ER07-1257-\_\_\_\_  
Market Disruption Report**

Dear Secretary Bose:

The California Independent System Operator Corporation (ISO) hereby submits its November/December report covering Market Disruptions reportable events under Section 7.7.15 of its FERC Electric Tariff (ISO Tariff) that occurred from November 16, 2013 to December 15, 2013.<sup>1</sup>

Please contact the undersigned with any questions.

Respectfully submitted,

**By: /s/ Anna McKenna**

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<sup>1</sup> The ISO submits the Market Disruption report pursuant to *California Independent System Operator Corp.*, 126 FERC ¶ 61,211 (2009), and Section 7.7.15.4 of the ISO Tariff.



California ISO  
Shaping a Renewed Future

**Market Disruption Report  
November 16, 2013  
to  
December 15, 2013**

January 15, 2014

ISO Market Quality and Renewable Integration

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## I. Background

A Market Disruption is an action or event that causes a failure of a CAISO Market, related to system operation issues or System Emergencies.<sup>1</sup> Pursuant to Section 7.7.15 of the ISO Tariff, the California Independent System Operator Corporation (ISO or CAISO) can take one or more of a number of specified actions in the event of a Market Disruption, to prevent a Market Disruption, or to minimize the extent of a Market Disruption. The ISO reports Market Disruption occurrence in any of the following circumstances:

- When any of the ISO market processes fail to publish, including the Integrated Forward Market (“IFM”), Residual Unit Commitment (“RUC”), Hour-Ahead Scheduling Process (“HASP”), Real-Time Unit Commitment (“RTUC”), or Real-Time Dispatch (“RTD”) processes;
- When the ISO manually overrides the closing of the Day-Ahead Market;
- or
- Any time that the ISO removes Bids from a CAISO Market to prevent a Market Disruption or to minimize the extent of a Market Disruption.

The Market Disruption report contains the following information:

- The frequency and types of actions taken by the ISO pursuant to Section 7.7.15;
- The nature of the Market Disruptions that caused the ISO to take action, or the Market Disruptions that were successfully prevented or minimized by the ISO as a result of taking action, and the ISO’s rationale for taking such actions pursuant to Section 7.7.15;
- Information about the Bids (including Self-Schedules) removed pursuant to Section 7.7.15 (*i.e.*, megawatt quantity, point of interconnection, specification of the Day-Ahead versus Real-Time Bid, and Energy or Ancillary Services Bid); and
- The ISO’s rationale for its removal of Bids (including Self-Schedules) pursuant to Section 7.7.15.<sup>2</sup>

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<sup>1</sup> These system operation issues or System Emergencies are referred to in Sections 7.6 and 7.7, respectively, of the ISO Tariff. ISO Tariff, Appendix A, definition of Market Disruption. Capitalized terms not otherwise defined herein have the meanings set forth in the ISO Tariff.

<sup>2</sup> *Id.* at P 29 & n.29.

**II. Report on Market Disruptions Occurring from November 16, 2013 through December 15, 2013**

The ISO’s report on Market Disruptions that occurred during the time period from November 16, 2013 through December 15, 2013, is provided in Table 1 and Attachment A below. Attachment A includes an entry for each reportable Market Disruption event and each entry also indicates:

- (1) The date of the Market Disruption;
- (2) The hour and Dispatch Interval when the Market Disruption ended;
- (3) The type of CAISO Market in which the Market Disruption occurred;
- and
- (4) A description of the nature of the Market Disruption, the nature of any actions taken by the ISO, the rationale for such actions, and the Market Disruption prevented or minimized as a result of taking such actions.

For each of the CAISO Markets, Table 1 lists the number of Market Disruptions and the number of times that the ISO removed Bids (including Self-Schedules) during the time period covered by this report. As shown in Table 1, there were a total of 61 Market Disruptions for the reporting period, all of which occurred in the real-time. Table 1 also indicates that the ISO did not remove any Bids (including Self-Schedules) in any of its markets during the reporting period.

**Table 1: Summary of Market Disruption Report**

Type of CAISO Market	Market Disruption or Reportable Events	Removal of Bids (including Self-Schedules)
<b>Day-Ahead</b>		
IFM	0	0
RUC	0	0
<b>Real-Time</b>		
Real-Time Unit Commitment Interval 1	1	0
Real-Time Unit Commitment Interval 2	2	0
Real-Time Unit Commitment Interval 3	6	0
Real-Time Unit Commitment Interval 4	2	0
Real-Time Dispatch	50	0

Table 1 and Attachment A indicate that there were 2 HASP disruptions and 9 RTUC disruptions during this reporting period.

The frequency of RTD failures in this report was 50. On November 20 and 21, there were about 13 failures due to a combination of DB 67 promotion, patch deployment and failures due to no bids. On November 30, there were about 18 RTD failures due to master file refresh error. On December 4, there were 6 RTD failures, 2 RTUC failures due to patch implementation. On December 9, there were 2 RTD failures due to patch implementation. The RTD failures decreased from 70 during the last reporting period to 50. There were about 18 failures during this reporting period due to planned maintenance of software in RTD, HASP and RTUC combined.

## **ATTACHMENT A**

**California Independent System Operator Corporation  
Market Disruption Report  
January 15, 2014**

**Table 1: Market Disruptions, Nature of Actions Taken by the California ISO, Rationale and/or Market Disruption Prevented or Minimized as a Result of such Actions**

Count	Date	Hour	Interval	Market	Nature of Actions, Nature of Market Disruption, Rationale and/or Market Disruption Prevented or Minimized as a Result of such Actions
1	11/16/2013	11	2	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval.
2	11/18/2013	14	6	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Planned maintenance of software
3	11/18/2013	24	1	RTD	RTD results were blocked and previous solution used.
4	11/20/2013	24	3	RTUC	RTUC did not run due to application problem. This interval was filled either automatically or interactively. MQS published Pnode clearing and resource awards for this interval.
5	11/20/2013	24	10	RTD	RTD results were blocked and previous solution used.
6	11/20/2013	24	11	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Planned maintenance of software
7	11/20/2013	24	12	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Planned maintenance of software
8	11/21/2013	1	1	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Planned maintenance of software
9	11/21/2013	1	1	RTUC	RTUC did not run due to application problem. This interval was filled either automatically or interactively. MQS published Pnode clearing and resource awards for this interval. Planned maintenance of software
10	11/21/2013	1	2	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Planned maintenance of software
11	11/21/2013	16	3	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Planned maintenance of software
12	11/21/2013	16	4	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from

Count	Date	Hour	Interval	Market	Nature of Actions, Nature of Market Disruption, Rationale and/or Market Disruption Prevented or Minimized as a Result of such Actions
					previous good interval. Planned maintenance of software
13	11/21/2013	24	2	HASP	HASP did not run due to application problem. This interval was filled either automatically or interactively. MQS published Pnode clearing and resource awards for this interval.
14	11/21/2013	24	3	RTUC	RTUC did not run due to application problem. This interval was filled either automatically or interactively. MQS published Pnode clearing and resource awards for this interval.
15	11/21/2013	24	4	RTUC	RTUC did not run due to application problem. This interval was filled either automatically or interactively. MQS published Pnode clearing and resource awards for this interval.
16	11/21/2013	24	11	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval.
17	11/23/2013	9	12	RTD	RTD results were blocked and previous solution used.
18	11/26/2013	23	7	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval.
19	11/26/2013	23	8	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval.
20	11/30/2013	20	10	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
21	11/30/2013	20	11	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
22	11/30/2013	20	12	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
23	11/30/2013	21	1	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
24	11/30/2013	21	2	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
25	11/30/2013	21	3	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
26	11/30/2013	21	4	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
27	11/30/2013	21	5	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
28	11/30/2013	21	6	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from

Count	Date	Hour	Interval	Market	Nature of Actions, Nature of Market Disruption, Rationale and/or Market Disruption Prevented or Minimized as a Result of such Actions
					previous good interval. Software failure. Unplanned outages
29	11/30/2013	21	7	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
30	11/30/2013	21	8	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
31	11/30/2013	21	9	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
32	11/30/2013	21	10	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
33	11/30/2013	21	11	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
34	11/30/2013	21	12	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
35	11/30/2013	22	1	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
36	11/30/2013	22	2	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
37	11/30/2013	22	3	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
38	12/1/2013	6	3	RTUC	RTUC did not run due to application problem. This interval was filled either automatically or interactively. MQS published Pnode clearing and resource awards for this interval.
39	12/2/2013	3	9	RTD	RTD results were blocked and previous solution used. Previous solution - Operator Block
40	12/2/2013	3	10	RTD	RTD results were blocked and previous solution used. Previous solution - Operator Block
41	12/2/2013	5	12	RTD	RTD results were blocked and previous solution used. Previous solution - Operator Block
42	12/2/2013	6	1	RTD	RTD results were blocked and previous solution used. Previous solution - Operator Block
43	12/4/2013	14	3	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Planned maintenance of software
44	12/4/2013	14	3	RTUC	RTUC did not run due to application problem. This interval was filled either automatically or interactively. MQS published Pnode clearing and resource awards for this interval. Planned maintenance of software
45	12/4/2013	14	4	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from

Count	Date	Hour	Interval	Market	Nature of Actions, Nature of Market Disruption, Rationale and/or Market Disruption Prevented or Minimized as a Result of such Actions
					previous good interval. Planned maintenance of software
46	12/4/2013	14	5	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Planned maintenance of software
47	12/4/2013	16	3	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Planned maintenance of software
48	12/4/2013	16	3	RTUC	RTUC did not run due to application problem. This interval was filled either automatically or interactively. MQS published Pnode clearing and resource awards for this interval. Planned maintenance of software
49	12/4/2013	16	4	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Planned maintenance of software
50	12/4/2013	16	5	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Planned maintenance of software
51	12/7/2013	1	1	RTD	RTD results were blocked and previous solution used.
52	12/7/2013	17	7	RTD	RTD failed due application problem. Loss clearing payload and LMP filled from previous good interval.
53	12/7/2013	17	8	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval.
54	12/7/2013	17	9	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval.
55	12/7/2013	17	10	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval.
56	12/9/2013	17	3	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Planned maintenance of software
57	12/9/2013	17	4	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Planned maintenance of software
58	12/11/2013	21	2	HASP	HASP did not run due to application problem. This interval was filled either automatically or interactively. MQS published Pnode clearing and resource awards for this interval.
59	12/11/2013	21	3	RTUC	RTUC did not run due to application problem. This interval was filled either automatically or interactively. MQS published Pnode clearing and resource awards for this interval.
60	12/11/2013	21	4	RTUC	RTUC did not run due to application problem. This interval was filled either automatically or interactively. MQS published Pnode clearing and resource awards for this interval.

Count	Date	Hour	Interval	Market	Nature of Actions, Nature of Market Disruption, Rationale and/or Market Disruption Prevented or Minimized as a Result of such Actions
61	12/11/2013	21	11	RTD	RTD did not run due to application problem. Loss clearing payload and LMP filled from previous good interval. Software failure. Unplanned outages
Notes:					
Integrated Forward Market (IFM): The Day-Ahead Market run in which the ISO conducts the market for purchases and sales of Energy for all hours of the next Trading Day based on submitted supply and demand bids, and performs the procurement of Ancillary Services.					
Residual Unit Commitment (RUC): The Day-Ahead Market run in which the ISO conducts unit commitment of additional resources based on submitted availability bids and the forecast of demand for every hour of the next Trading Day.					
Real-Time Unit commitment (RTUC) Interval 1: The first of a series of four market runs conducted every Trading Hour in advance of the Operating Hour. In this run the ISO conducts the Market Power Mitigation and Reliability Requirement Determination for submitted Bids, which applies to all of the Real-Time Market processes for the given Trading Hour. In this interval the ISO also conducts the procurement of incremental Ancillary Services from internal resources and dynamic external resources.					
Real-Time Unit commitment (RTUC) Interval 2: The second of a series of four market runs conducted every Trading Hour in advance of the Operating Hour during which the ISO conducts the HASP. In the HASP, the ISO conducts the procurement and sale of Energy and Ancillary services from non-dynamic System Resources based on submitted Bids and the CAISO Forecast of CAISO Demand. In this interval the ISO also conducts the advisory procurement of incremental Ancillary Services from internal resources and dynamic external resources from T to T+60 minutes and procurement for the given Trading Hour.					
Real-Time Unit commitment (RTUC) Interval 3: The third of a series of four market runs conducted every Trading Hour. During this interval the ISO conducts the commitment of internal Short-Start and Fast Start Units for the Time Horizon of T-30 minutes to T+240 minutes. In this interval the ISO also conducts the procurement of incremental Ancillary Services from internal resources and dynamic external resources for the given Trading Hour.					
Real-Time Unit commitment (RTUC) Interval 4: The fourth of a series of four market runs conducted every Trading Hour. This interval is for the Real-time Unit Commitment for the T-105 minutes to T+60 minutes time horizon. In this interval the ISO also conducts 15-minute Ancillary Service Awards for non-Hourly System Resources, internal resources and dynamic external resources for the given Trading Hour.					
Real-Time Dispatch (RTD): The five minute interval of any given Operating Hour during which the ISO conducts the market for Energy based on submitted bids and the CAISO Forecast of CAISO Demand.					

## CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon the parties listed on the official service list in the captioned proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California this 15<sup>th</sup> day of January 2014.

*Asl Anna Pascuzzo*

Anna Pascuzzo