

California Independent System Operator Corporation

**Compliance Assessment Relating to
Specified Control Room Operational Processes**

**Report of Independent Accountants
December 7, 2011**



Report of Independent Accountants

To the Board of Governors of the
California Independent System Operator Corporation:

We have examined management's assertion on Compliance with Selected Operating Procedures for the periods of September 27 through 29, 2011 and October 17 through 19, 2011 in accordance with the criteria set forth in Attachment I of management's assertion. The California Independent System Operator Corporation's (the "ISO") management is responsible for the assertion. Our responsibility is to express an opinion on the assertion based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants and, accordingly, included examining, on a test basis, evidence supporting management's assertion and performing such other procedures as we considered necessary in the circumstances. We believe that our examination provides a reasonable basis for our opinion.

As described in management's assertion, ISO management has disclosed noncompliance with respect to one Exceptional Dispatch occurrence within the scope of our examination.

In our opinion, except for the noncompliance set forth in management's assertion and as described in the above paragraph, the ISO complied in all material respects with the aforementioned compliance requirements for the periods of September 27 through 29, 2011 and October 17 through 19, 2011.

PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP
December 7, 2011



Management Assertion Regarding Compliance with Selected Operating Procedures

December 7, 2011

To the Board of Governors of the
California Independent System Operator Corporation:

The management of the California Independent System Operator Corporation ("the ISO") is responsible for the implementation of procedures necessary to comply with and to carry out the Exceptional Dispatch requirements of its Tariff. The procedural elements described in Attachment I ("Procedural Elements") to this Management Assertion represent a subset of the Operating Procedures placed into operation by management to meet the requirements of the ISO's Tariff and to carry out its Exceptional Dispatch operational objectives. These Procedural Elements are not intended to represent the entire set of procedures placed into operation for management to meet its Tariff and Exceptional Dispatch operational objectives.

Scope of Management Assertion and Limitations

The overall objective of this Management Assertion is to report on the level of compliance of the actual operating practices of ISO staff with the primary guidance for certain of its Exceptional Dispatch activities, the ISO's Exceptional Dispatch Operating Procedures. All of the Procedural Elements that are the subject of this Management Assertion are publicly available at www.caiso.com. They are contained in the Operating Procedures labeled Day Ahead Exceptional Dispatch, procedure #1330, and Exceptional Dispatch, procedure #2330, and are available through that public website.

This Management Assertion provides a comparative assessment of actual practice occurring during the period of September 27 through 29, 2011 and October 17 through 19, 2011 ("Assessment Period") and the procedural guidelines for such activities during the Assessment Period. It is limited to the specific Procedural Elements included in this report which comprise day-ahead and real-time Exceptional Dispatch functions.

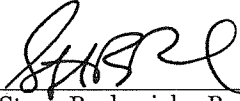
The elements of the ISO's Operating Procedures included by management in this assertion were selected by management on the basis that they were integral to their Exceptional Dispatch operating function and could be objectively compared against actual operating practice.

The specific scope of this Management Assertion is presented in Attachment I which contains the Exceptional Dispatch Procedural Elements, criteria by which these Procedural Elements were assessed, and the ISO's self-assessment of compliance, whereby exception conditions, if present, are reported. Such exception conditions are identified when actual practice was not consistent with the Procedural Element's criteria. Attachment II is a narrative description of the Exceptional Dispatch operational functions covered by this Management Assertion.

Summary Assertion

This Management Assertion encompasses the specific Exceptional Dispatch operational activities described in Attachment I. The level of compliance of actual operating practices of ISO staff during the Assessment Period compared with the Procedural Element's criteria is set forth in Attachment I. Of the 109 Exceptional Dispatch occurrences during the Assessment Period there was one Exceptional Dispatch occurrence that was not compliant with one of the criteria for procedural guidelines set forth in Attachment I.

The scope of this Management Assertion is limited to the Exceptional Dispatch compliance requirements described herein and does not extend to any other procedures or function of the ISO.



Mr. Steve Berberich, President and Chief Executive Officer

Ref. No.	Operating Procedure Element		Criteria to Test Operating Procedure Element	ISO Compliance Assessment
1.	<p>Day Ahead (DA) Exceptional Dispatch (ED) Procedure No. 1330, Version No. 11.3, Effective Date 7/31/11 3.2.1 Unit Commitment Priority Commit a full Reliability Requirement (RR) unit¹ or partial RR unit as appropriate considering capacity and/or Energy needs, economics, and/or effectiveness with preference to full RR if all other criteria are equal.</p> <p>Commit a non-use-limited unit that has elected Supplemental Revenue (SR).</p> <p>Commit a non-use-limited unit that has elected Capacity Procurement Mechanism (CPM).</p> <p>Commit a use-limited unit that has elected SR.</p> <p>Commit a use-limited unit that has elected CPM.</p>	<p>Exceptional Dispatch Procedure No. 2330, Version No. 11.3, Effective Date 7/31/11 3.2.1 Unit Commitment Priority Commit a full RR unit or partial RR unit as appropriate considering Capacity and/or Energy needs, economics, and/or effectiveness with preference to full RR if all other criteria are equal.</p> <p>Consider committing a non-use-limited unit that has elected SR.</p> <p>Consider committing a non-use-limited unit that has elected CPM.</p> <p>Consider committing a use-limited unit that has elected SR.</p> <p>Consider committing a use-limited unit that has elected CPM.</p>	<p>Priority of Units Selected for DA and Real Time (RT) ED For each day selected (e.g., Monday) when a unit was:</p> <p>(1) committed (Procedure No. 1330, Section 3.2.1) for the DA Trading Day (e.g., Wednesday, two days later),</p> <p>(2) committed (Procedure No. 2330, Section 3.2.1) in RT during the Trading Day (e.g., the period between the close of the DA market on Monday and the end of the Trade Day on Tuesday), or</p> <p>(3) manually dispatched (unit on-line) (Procedure No. 2330, section 3.1.1, Step 4 below) in RT during the Trading Day,</p> <p>resources (excluding Condition 2 Reliability Must Run (RMR) units) were committed/dispatched in accordance with the following order:</p> <ul style="list-style-type: none"> • RR Resources (including Resource Adequacy (RA) Resources and CPM units that have been committed within the last 30 days which are considered RA Resources during this time), full or partial, or RMR Condition 1 units; then • Non RR units (e.g., SR and CPM units that have not been committed within the last 30 days). 	No Exceptions Noted.

¹ RR Capacity is the sum of RA and CPM Capacity (committed within the last 30 days) and is required to be offered to the CAISO.

Ref. No.	Operating Procedure Element		Criteria to Test Operating Procedure Element	ISO Compliance Assessment
2.	<p>Day Ahead Exceptional Dispatch</p> <p>Procedure No. 1330, Version No. 11.3, Effective Date 7/31/11</p> <p>3.1.2 Day–Ahead Exceptional Dispatch</p> <p>Step 4 – Record Day-Ahead Exceptional Dispatches in CAISO Operating Procedure 2330A, Exceptional Dispatch and ELC Unit Commitment Validation (Validation Document)</p>	<p>Exceptional Dispatch Procedure No. 2330, Version No. 11.3, Effective Date 07/31/11</p> <p>3.1.2 Exceptional Dispatch Instruction Communications and Records</p> <p>Step 1:</p> <p>Record resources that were given ED commitments in the CAISO Operating Procedure 2330A Exceptional Dispatch and ELC Unit Commitment Validation.</p>	<p>Documentation of Units Selected for DA and RT ED</p> <p>For each day selected (e.g., Monday) when a unit was:</p> <p>(1) committed (Procedure No. 1330, Section 3.2.1) for the DA Trading Day (e.g., Wednesday, two days later), or</p> <p>(2) committed (Procedure No. 2330, Section 3.2.1) as a long start resource of five or more hours in RT during the Trading Day (e.g., the period between the close of the DA market on Monday and the end of the Trade Day on Tuesday),</p> <p>the Validation Document was signed by the Shift Supervisors, Generation Dispatchers and DA Operator.</p>	No Exceptions Noted.
3.	<p>Day Ahead Exceptional Dispatch</p> <p>Procedure No. 1330, Version No. 11.3, Effective Date 7/31/11</p> <p>3.1.3 Exceptional Dispatch Scheduling and Logging for ISO California (SLIC)</p> <p><u>Log Type</u> - Generation desk</p> <p><u>Title</u> – Exceptional Dispatch Energy (EDE) Instructions for Generators/corrections-96 hour</p> <p><u>Event DTS Date</u> - Date to reflect the effective date of the ED</p> <p><u>Event DTS Time</u> - Time to reflect the effective time of the ED</p> <p><u>Contact Name</u> – Contact name</p> <p><u>Contact DTS</u> – Date and Time of either 1) the verbal dispatch or 2) if not verbal, the time the ED is entered into the ED tool (may be the same time as the Event DTS)</p>	<p>Exceptional Dispatch Procedure No. 2330, Version No. 11.3, Effective Date 7/31/11</p> <p>3.1.3 Exceptional Dispatch Using SLIC Logging</p> <p>The following describes SLIC logging for ED:</p>	<p>SLIC Logging for DA and RT ED</p> <p>a. For each day selected (e.g., Monday) for the Trading Day (e.g., Tuesday), the unit commitments listed on the Validation Document (e.g., Pre-DAM Unit Commitment section for Procedure No. 1330 and Real Time Exceptional Dispatches section for Procedure No. 2330) conformed with the SLIC logs.</p> <p>b. For the SLIC logs directly above, the following attributes were contained in the SLIC logs:</p> <ul style="list-style-type: none"> • Log Type • Title • Event DTS Date • Event DTS Time • Contact Name • Contact DTS • Short Description 	No Exceptions Noted.

Ref. No.	Operating Procedure Element	Criteria to Test Operating Procedure Element	ISO Compliance Assessment
	<p><u>Short Description</u> – Provide as much information as possible to justify the ED and complement the reasons for it.</p> <p><u>Text</u> – This populates with the attributes. This is necessary to comply with Tariff section 41.9. ED for a RMR condition 2 needs to be communicated to the market. Use this text field to do so.</p> <p><u>Operating Date</u> – ED Energy operational date</p> <p><u>Instruction Type</u> – Select the ED Instruction type from <u>2330C Exceptional Dispatch Instruction Codes</u>.</p> <p><u>Reason</u> – Select ED reason for the Dispatch</p> <p><u>GOTO MW-</u> Type GOTO MWS (absolute value)</p> <p><u>ED Verbal Dispatch</u> – The correct ED timing is very important for the settlement of these instructions. If the Dispatch was done through the systems, the answer should be “No, Used RTD Dispatch”. If the Dispatch is verbal or over the phone, the answer should be “Yes” and the correct timing should be provided in the next attribute.</p> <p><u>Start Verbal Dispatch</u> – Type ED timing</p> <p><u>End Verbal Dispatch-</u> Type ED end of Dispatch</p> <p><u>HE</u> – Hour ending</p> <p><u>EDE Market Type</u> – DA for Day Ahead (Operating Procedure 1330) or RT for Real Time (Operating Procedure 2330).</p>	<ul style="list-style-type: none"> • Text • Operating Date • Instruction Type • Reason • GOTO MW • ED Verbal Dispatch • Start Verbal Dispatch - Only populated if ED Verbal Dispatch is Yes • End Verbal Dispatch - Only populated if ED Verbal Dispatch is Yes • HE • EDE Market Type 	
4.	<p>Exceptional Dispatch</p> <p>Procedure No. 2330, Version No. 11.3, Effective Date 07/31/11</p> <p>3.1.1 Real Time Exceptional Dispatch</p> <p>Step 2:</p> <p>If...</p> <p>A resource required to meet a reliability need is not committed in the Day Ahead Market (DAM),</p> <p>Then...</p> <p>ED and commit the resource that is required to meet the reliability requirements of the Balancing Area, and log as Exceptional Dispatch in</p>	<p>Entering Real-Time (RT) ED Instructions</p> <p>a. For each day selected, the RT ED unit commitment/dispatch in the RT Market software exist in SLIC logs (created as documented in section 3.1.3 of Operating Procedure 2330) when any of the following conditions are met:</p> <ul style="list-style-type: none"> • Non-long start unit commitment less than 5 hours occurs. • Initial manual increment or decrement dispatch instruction for an on-line unit occurs. • Previous dispatch instruction is extended by verbal dispatch. 	<p>Exception Noted</p> <p>For one of 32 initial real-time dispatch instructions, there was no SLIC log entry that directly corresponds to an initial</p>

Ref. No.	Operating Procedure Element	Criteria to Test Operating Procedure Element	ISO Compliance Assessment
	<p>SLIC.</p> <p>Step 4: Follow the priority in Section 3.2 – Exceptional Dispatch Priority</p>	<ul style="list-style-type: none"> • Previous reason for a manual dispatch instruction changes. • Manual dispatch instruction continues a unit into the next Trading Day. <p>SLIC Logging</p> <p>b. Criteria for the SLIC logs above are set forth in Ref. No. 3 above, based on Section 3.1.3 of Operating Procedure 2330.</p> <p>Unit Commitment Priority</p> <p>c. Criteria for a unit commitment above is set forth in Ref. No. 1 above, based on Section 3.2.1 of Operating Procedure 2330.</p>	<p>real-time unit dispatch in the real-time market software.</p>
5.	<p>Exceptional Dispatch</p> <p>Procedure No. 2330, Version No. 11.3, Effective Date 07/31/11</p> <p>3.1.2 Exceptional Dispatch Instruction Communications and Records</p> <p>Step 1:</p> <p>If...There were ED commitments issued after the DAM published for the current day,</p> <p>Then... Inform DAM Operator of long start resources that were given ED commitments and the instruction time periods the ED commitments were issued for so the DAM Operator can correctly set initial conditions for the next trade day per CAISO Operating Procedure 1210A Day-Ahead Market Checklist</p>	<p>Setting Initial Unit Commitment Conditions for the DAM After RT ED</p> <p>a. For each day selected (e.g., Monday) for the Trading Day (e.g., Tuesday), units listed on the Validation Document (created as documented in section 3.1.2 of Operating Procedure 2330) that were dispatched through HE 24 (e.g., Monday) were entered into the initial unit commitment DAM software for the next Trading Day (e.g., Tuesday).</p> <p>Unit Commitment and Dispatch Priority</p> <p>b. For each day selected for the Trading Day, the units listed on the Validation Document (created as documented in section 3.1.2 of Operating Procedure 2330) conformed to the priority list as stated in Ref. No. 1 above, based on Section 3.2.1 of Operating Procedure 2330.</p> <p>SLIC Logging</p> <p>c. For each day selected for the Trading Day, the units listed on the Validation Document (created as documented in section 3.1.2 of Operating Procedure 2330) conformed to the SLIC Logging criteria as stated in Ref. No. 3 above, based on Section 3.1.3 of Operating Procedure 2330.</p>	<p>No Exceptions Noted.</p>

Narrative Description of Exceptional Dispatch Processes

Overview

This narrative description of Exceptional Dispatch processes reflects those processes which occurred during the Assessment Period. As such, not all the processes contained in the ISO Operating Procedures described below are covered in this narrative description.

The ISO issues Exceptional Dispatch instructions to Scheduling Coordinators for a resource as a pre-day ahead market resource commitment (ISO Operating Procedure No. 1330), a real-time resource commitment (ISO Operating Procedure No. 2330), or a real-time market resource dispatch (ISO Operating Procedure No. 2330).

Exceptional Dispatches are either (1) resource commitments or (2) real-time resource dispatches which represent instructions to initiate or change resource operating levels from levels set by the ISO's market systems.

Resource commitment consists of either pre-day ahead or real-time commitment where a resource is operated at or above its physical minimum operating level. A pre-day ahead market resource commitment is an Exceptional Dispatch instruction that commits a resource in advance of the day-ahead market. Resources required for system reliability that are not committed through the day-ahead market are committed in real-time and are considered real-time resource commitments. These resources are classified as either (1) long-start resources with start-up times of five or more hours, or (2) non-long start resources with start-up times of less than five hours.

A real-time market resource dispatch is an Exceptional Dispatch instruction of an online resource or a fast-start resource. A real-time Exceptional Dispatch above a resource's day-ahead award is considered an incremental Exceptional Dispatch instruction and an Exceptional Dispatch below a resource's day-ahead award is considered a decremental Exceptional Dispatch instruction.

Long-start resource commitment

The control room shift supervisor determines after the day-ahead market run long-start resource commitment requirements for reliability (if any). Any long-start resources selected for commitment that are expected to be online through the end of the Trade Day are added to the daily Exceptional Dispatch and ELC Unit Commitment Validation document (Validation Document) by the shift supervisor. The Validation Document is provided to the generation dispatcher responsible for managing the Exceptional Dispatch commitment process who validates that such resources are Reliability Requirement (RR) resources.

Based on the units listed on the Validation Document, the generation dispatcher places a telephone call to each Scheduling Coordinator and verbally requests that such resources be committed at their minimum operating level in accordance with the Trade Day and time range identified on the Validation Document. After the verbal resource commitment is completed, the generation dispatcher enters the committed resources into the Scheduling and Logging for ISO California application (SLIC log) and real-time market software. As part of the information entered into the real-time market software, the SLIC log number is entered to link the two records together.

Prior to the day-ahead market being executed, the day-ahead operator manually inputs the initial conditions of the resources listed on the Validation Document into the day-ahead market application to

reflect the Exceptional Dispatch commitments. This is done since the day-ahead market application needs to know what units were committed the prior day in real-time so they can be considered in the day-ahead market run optimization.

At the end of the Trade Day, the Validation Document is signed by the control room supervisor, generation dispatchers and day-ahead operator indicating their concurrence with the information included on the Validation Document.

Non-long start resource commitment

The control room generation dispatcher determines post-day ahead market non-long start resource commitment requirements for reliability (if any). The generation dispatcher validates that such resources are RR resources. Generally, the generation dispatcher places a telephone call to each Scheduling Coordinator and verbally requests such resources be committed at their minimum operating level. After the verbal commitment is completed, the generation dispatcher enters the committed resources into a SLIC log and the real-time market software. As part of the information entered into the real-time market software, the SLIC log number is entered to link the two records together.

Real-time market resource dispatch

The control room generation dispatcher determines real-time market resource dispatch requirements for reliability and validates that such resources are RR resources.

The generation dispatcher enters incremental or decremental "go to" dispatch instructions into the real-time market software; such instructions also convey whether the resource is not to exceed either a minimum or maximum operating level, or whether a resource is operating at a fixed level. Such instructions are entered into the SLIC log for the first instruction issued for each resource during the Trade Day. As part of the information entered into the real-time market software, the SLIC log number is entered to link the two records together. Subsequent dispatch instructions for the same resources are generally not entered into the SLIC log.

In some cases when a resource needs to begin moving to a new set point quicker than the real-time market software is capable of moving the resource, the generation dispatcher issues either verbal minimum, maximum or fixed "go to" dispatch instructions to Scheduling Coordinators. These real-time instructions are also entered into the SLIC log. In addition, SLIC log entries are required for all verbal dispatch instructions. In addition, a new SLIC log is required when a dispatch instruction is to continue into the next Trade Day.