

California Independent System Operator Corporation

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

Report of Independent Accountants

December 6, 2013



Report of Independent Accountants

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

We have examined Management's Assertion Regarding Compliance with Selected Operating Procedures (management's assertion) for the periods of August 19 through 25, 2013 and September 24 through 28, 2013 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.

In our opinion, management's assertion referred to above is fairly stated, in all material respects, based on the criteria set forth in Attachment I.

PRICE WATERHOUSE COOPERS LLP

PricewaterhouseCoopers LLP
December 6, 2013

Management's Assertion Regarding Compliance with Selected Operating Procedures

December 6, 2013

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

The management of the California Independent System Operator Corporation ("CAISO" or "the ISO") is responsible for the implementation of procedures necessary to comply with the real-time scheduling 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 real-time scheduling 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 real-time scheduling operational objectives.

Scope of Management's Assertion and Limitations

The overall objective of this Management Assertion is to report on compliance of the actual operating practices of ISO staff with the primary guidance for certain of its real-time scheduling activities, the ISO's Operating Procedures. All of the Procedural Elements that are the subject of this Management Assertion are publicly available at <http://www.caiso.com/rules/Pages/OperatingProcedures/Default.aspx>. They are contained in the Operating Procedures labeled Pre-Schedule and Check-Out Validation, Operating Procedure #1510, NERC Tagging Requirements, Operating Procedure #2510, Real-Time and After the Fact Check Out, Operating Procedure #2520, Manual Dispatch on Inerties, Operating Procedure #2530, Interchange Schedule Curtailments, Operating Procedure #2540 and Unscheduled Flow, Operating Procedure #3510, which are available through that public website.

This Management Assertion provides a comparative assessment of actual practice occurring during the period of August 19 through 25, 2013 and September 24 through 28, 2013 ("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 real-time scheduling functions.

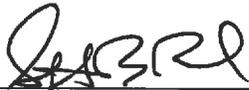
The elements of the ISO's Operating Procedures included by management in this assertion were selected by management on the basis that they were integral to their real-time scheduling function and could be objectively compared against actual operating practice.

The specific scope of this Management Assertion is presented in Attachment I which contains the real-time scheduling Procedural Elements, criteria by which these Procedural Elements were assessed, and the ISO's self-assessment of compliance. As identified in Attachment I, there were no occurrences of Procedural Element 9 during the Assessment Period, and as such, this Management Assertion does not cover that element. Attachment II is a narrative description of the real-time scheduling activities, which is included for informational purposes only and is not a component of this Management Assertion, and is therefore not subject to the examination described in the Report of Independent Accountants.

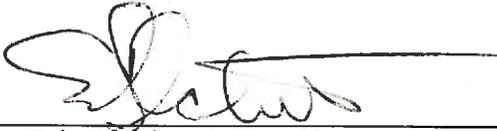
Summary Assertion

This Management Assertion encompasses the specific real-time scheduling 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. The ISO was in compliance with the criteria set forth in Attachment I during the Assessment Period.

The scope of this Management Assertion is limited to the real-time scheduling compliance requirements described herein and does not extend to any other procedures or functions of the ISO.



Mr. Steve Berberich, President and Chief Executive Officer



Mr. Eric Schmitt, Vice President Operations

Ref. No.	Operating Procedure Element	Criteria to Test Operating Procedure Element	Management's Compliance Assessment
1.	<p>Pre-Schedule and Check-Out Validation</p> <p>Procedure No. 1510, Version No. 5.2, Effective Date 9/18/12</p> <p>3.1 Pre-Schedule and Check-Out Validation</p> <p>Step 1 Work with Market Participant SCs/PSEs to “tag up” the final Day-Ahead Market (DAM) Interchange transactions every day, after final DAM has published.</p> <p>Step 2 Use the electronic confirmation process provided by the Reliability Assurer (WECC) WIT as the primary means to confirm NSI for preschedule day checkout.</p>	<p>Pre-Schedule and Check-Out Validation</p> <p>A daily electronic confirmation is completed for all Net Scheduled Interchange (NSI) preschedule Day-Ahead checkouts, for all adjacent Balancing Authorities (BA) in the Western Electric Coordinating Council (WECC) as evidenced by check marks indicating agreement with each BA in the WECC Interchange Tool (WIT).</p> <p>For each selected hour the scheduled megawatt hour values in WIT agree with the NSI values in Control Area Scheduler (CAS).</p>	No Exceptions
2.	<p>NERC Tagging Requirements</p> <p>Procedure No. 2510, Version No. 7.2, Effective Date 8/1513</p> <p>3.1.7 Interchange and Market Schedule Correlation</p> <p>CAISO Pre-Schedulers and RT Schedulers may curtail E-tags due to reliability reasons or for violation of NERC, WECC, or CAISO E-Tag requirements.</p> <p>CAISO RT Scheduler shall log all instances of tag curtailments due to reliability reasons.</p>	<p>E-tag Curtailments</p> <p>For each e-tag curtailment due to reliability reasons, the reasons are recorded in CAS. The scheduler records their actions in the System Logging ISO of California (SLIC) log as evidence of the actions taken in execution of the curtailment.</p>	No Exceptions

Ref. No.	Operating Procedure Element	Criteria to Test Operating Procedure Element	Management's Compliance Assessment
<p>3.</p>	<p>Real-Time and After the Fact Check Out</p> <p>Procedure No. 2520, Version No. 7.3, Effective Date 7/09/2013</p> <p>3.2.1 Before the Hourly Ramp</p> <p>Cross check CAS RT Arranged Interchange against the WIT to validate NSI.</p> <p>Use the electronic confirmation process provided by the Reliability Assurer WECC WIT as the primary means to confirm NSI for next hour checkout (from current operating hour).</p> <p>Provide an audit trail of electronic confirmation through the use of the WECC WIT hourly check out boxes.</p>	<p>Before the Hourly Ramp</p> <p>The CAS Real-time (RT) arranged interchange values for each adjacent BA are agreed to WIT values to validate NSI before each hour. An electronic confirmation exists for each confirmed NSI value.</p>	<p>No Exceptions</p>
<p>4.</p>	<p>Real-Time and After the Fact Check Out</p> <p>Procedure No. 2520, Version No. 7.3, Effective Date 7/09/2013</p> <p>3.2.2 After the Close of Each Hour</p> <p>Verify that metered NAI with each adjacent BA is published to the WIT hourly via CAS.</p>	<p>After the Close of Each Hour</p> <p>The Real-Time Scheduler determines that the metered Net Actual Interchange (NAI) values for all adjacent BAs are documented in the WECC WIT after the close of each hour.</p> <p>For each hour, the NAI values reflected in WECC WIT agree with the values in CAS for each adjacent BA.</p>	<p>No Exceptions</p>

Ref. No.	Operating Procedure Element	Criteria to Test Operating Procedure Element	Management's Compliance Assessment
5.	<p>Real-Time and After the Fact Check Out</p> <p>Procedure No. 2520, Version No. 7.3, Effective Date 7/09/2013</p> <p>3.3 Final daily schedules and NAI Totals comparison</p> <p>Take the following actions daily, after midnight, for prior Operating Day</p> <p>Perform a comparative check of daily totals of Net Scheduled Interchange and daily totals of telemetered Net Actual Interchange,</p> <p>And</p> <p>Checkout with each of the 12 adjacent BAs using the electronic confirmation process provided by the Reliability Assurer (WECC) WIT as the primary means to confirm NSI and NAI.</p> <p>Confirm actual daily Arranged Interchange with adjacent BAs using the WIT to verify final daily NSI and NAI using the electronic confirmation process provided by the Reliability Assurer (WECC) WIT as the primary means to confirm NSI and NAI.</p> <p>Provide an audit trail of electronic confirmation through the use of the WECC WIT hourly and daily check out boxes.</p>	<p>Final daily schedules and NAI Totals comparison</p> <p>A comparative check of daily totals of NSI and telemetered NAI is conducted daily. The WECC WIT tool is used to checkout with each adjacent BA, confirming NSI and NAI values. The scheduler determines that NSI and NAI values, as reflected in WECC WIT, agree through the comparative check with CAS values.</p>	No Exceptions

Ref. No.	Operating Procedure Element	Criteria to Test Operating Procedure Element	Management's Compliance Assessment
6.	<p>Manual Dispatch on Interties</p> <p>Procedure No. 2530, Version No. 6.2, Effective Date 7/23/2013</p> <p>3.1 Manual Pre-Dispatch of Interchange Transactions</p> <p>The following describes the Manual Dispatch of Transactions utilizing Bids submitted in HASP that were not awarded in the HASP process and sent to ADS, in coordination with the responsible SC. This could be due to Market Disruption, Software Limitation, Transmission Outage, System Emergency (or prevention thereof), Overgeneration or Conditions beyond the control of the CAISO.</p> <p>Step 6</p> <p>Agree upon and log the following information:</p> <ul style="list-style-type: none"> • Resource ID • Accepted GOTO MWs • Hour-ending 	<p>Manual Pre-Dispatch of Interchange Transactions</p> <p>In the event the Generation Dispatcher determines a need for a manual dispatch on the ties, a dispatch order is given to the relevant scheduler. Dispatch instructions are recorded in SLIC with all of the following information;</p> <ul style="list-style-type: none"> • Resource ID • MW Value • Hour-ending 	No Exceptions

Ref. No.	Operating Procedure Element	Criteria to Test Operating Procedure Element	Management's Compliance Assessment
7.	<p>Manual Dispatch on Interties</p> <p>Procedure No. 2530, Version No. 6.2, Effective Date 7/23/2013</p> <p>3.2 Manual Dispatch Interchange Accounting</p> <p>Update the CAS Market Reservation created by the e-Tag Submitted by the SC/PSE</p> <p>Log in SLIC: The reason for the non-market Manual Dispatch transaction; i.e. HASP/RTM failure or CAISO supply deficiency</p>	<p>Manual Dispatch Interchange Accounting</p> <p>The CAS Market reservations are updated to reflect the values in the e-Tag submitted by the SC/PSE for the following:</p> <ul style="list-style-type: none"> • Market Resource ID • SCID <p>For each non-market Manual Dispatch transaction, log the following in SLIC :</p> <ul style="list-style-type: none"> • HE • Instruction Type • Accepted GOTO MWs • Short Description • Resource ID • Reason for the non-market Manual Dispatch; i.e. HASP/RTM failure or CAISO supply deficiency 	No Exceptions

Ref. No.	Operating Procedure Element	Criteria to Test Operating Procedure Element	Management's Compliance Assessment
8.	<p>Interchange Schedule Curtailments</p> <p>Procedure No. 2540, Version No. 5.1, Effective Date 7/23/13</p> <p>3.1.1 Before the Operating Hour</p> <p>Step 1 Apply the necessary Interconnection curtailments to market schedules.</p> <p>Step 2 Coordinate with the affected BAs, And</p> <p>Curtail the tie specific Interchange Schedules, using the CAS Rapid Curtailment Tool.</p> <p>Step 3 Inform the affected SCs of tags (Interchange Schedules) curtailed, as time permits. The change to the tag may serve as notification to the affected SCs.</p>	<p>Before the Operating Hour</p> <p>The scheduler determines that interconnection curtailments are necessary through review of status in CAS. The scheduler executes curtailments with affected BAs using the CAS Rapid Curtailment Tool, for each interconnection curtailment. The approval of the curtailment request from the affected BA is recorded in WECC WIT. Determine that the revised NSI value is the same in both CAS and WECC WIT following the dispatch of the curtailment order.</p>	No Exceptions

Ref. No.	Operating Procedure Element	Criteria to Test Operating Procedure Element	Management's Compliance Assessment
9.	<p>Interchange Schedule Curtailments</p> <p>Procedure No. 2540, Version No. 5.1, Effective Date 7/23/13</p> <p>3.1.2 Current Operating Hour</p> <p>Step 1 Determine which Interchange schedules are required to be curtailed on the affected path to meet the reduced transfer path Capacity as determined by the CAISO and the adjacent Balancing Authority.</p> <p>Step 2 Apply the curtailments to market transmission. Use Interchange Schedules on a pro rata basis. Evaluate Existing Transmission Contracts and TORs based on the instructions provided by the PTO, or Non-Participating Transmission Owners.</p> <p>Step 3 Curtail the tags affected by the Interchange Schedule changes, using the CAS Rapid Curtailment Tool.</p> <p>Step 4 Confirm the individual Interchange Schedule changes with adjacent Balancing Authority operators, And Agree upon new Net Scheduled Interchange values.</p>	<p>Current Operating Hour</p> <p>Interchange Schedules that need to be curtailed to meet reduced transfer path capacity are determined by the scheduler. The agreed upon NSI values are documented in CAS. The scheduler curtails tags affected by the Interchange Schedule changes using the CAS rapid curtailment tool. Scheduler verifies that total market reservations are under the limit. The scheduler agrees the revised Interchange Schedule NSI values to the values reflected in the WECC WIT.</p>	<p>No Occurrences during the Assessment Period</p>

Ref. No.	Operating Procedure Element	Criteria to Test Operating Procedure Element	Management's Compliance Assessment
<p>10.</p>	<p>Unscheduled Flow</p> <p>Procedure No. 3510, Version No. 10.2, Effective Date 8/15/13</p> <p>3.1 Path 66</p> <p>Unscheduled flow procedure for Path 66</p> <p>Step 1</p> <p>Prior to...</p> <p>Implementing WECC USF mitigation,</p> <p>Then...</p> <p>Ask the WECC RC to request PacifiCorp East (PACE) to operate phase shifters independently at Sigurd and/or Pinto for maximum relief of counter-clockwise flow on Path 66.</p> <p>Note: This request can be made at any time and does not necessarily constitute implementation of Step 1 of the USFMP.</p> <p>Step 2</p> <p>Ensure that a Log exists in SLIC (before and after each WECC Step) and that it contains the following information:</p> <ul style="list-style-type: none"> • Path Transfer Limit (OTC minus RATS actual) • Path Actual Flow • Path Total Schedule 	<p>Path 66</p> <p>For all unscheduled flow mitigation not resolved through phase shifter action, either real-time curtailment or mitigation through use of the WebSAS tool is implemented. Such actions are recorded in SLIC to include at least the following;</p> <ul style="list-style-type: none"> • Path Transfer Limit (OTC minus RATS actual) • Path Actual Flow • Path Total Schedule 	<p>No Exceptions</p>

Other Information Provided by Management

Narrative Description of the Real-time Scheduling Processes

Overview

This narrative description the real-time scheduling processes is presented as supplemental information to aid in understanding the operational areas covered by the Management Assertion. This information is summarized from the same Operating Procedures that are the subject of the Management Assertion, and as specified below. As such, this Attachment is presented as unaudited supplemental information and is not a part of the Management Assertion that is reported on in the Report of Independent Accountants.

Real-time Scheduling processes are set forth in Pre-Schedule and Check-Out Validation, Operating Procedure #1510, NERC Tagging Requirements, Operating Procedure #2510, Real-Time and After the Fact Check Out, Operating Procedure #2520, Manual Dispatch on Interties, Operating Procedure #2530, Interchange Schedule Curtailments, Operating Procedure #2540 and Unscheduled Flow, Operating Procedure #3510.

Pre-Schedule and Check-Out Validation

The ISO manages the reliability of the interconnected system by verifying Interchange Schedules with each adjacent Balancing Authority Area on a Day-Ahead pre-Scheduling timeline basis and by confirming arranged Interchange with the Western Electricity Coordinating Council (WECC) Interchange Tool (WIT) which serves as the electronic confirmation process. The Pre-scheduler is responsible for the following:

- Performing the Balancing Area Schedule pre-checks with other Balancing Authorities (BA).
- Validating Net Scheduled Interchange (NSI) with adjacent BAs via the WIT.
- Using the electronic confirmation process provided by the WIT as the primary means to confirm NSI for preschedule day checkout.
- Producing evidence that the electronic confirmation process provided by WECC was used as the primary means to confirm NSI for the preschedule day checkout by use of respective check box.

NERC Tagging Requirements

Interchange Schedules are Energy Schedules where Energy is transferred between Balancing Authority Areas and they require coordination between multiple entities. The primary method for providing this coordination is the E-Tag. Various entities can communicate important information pertaining to the Interchange transaction to each other via the internet using computer applications, which are based on the E-Tag specifications and schema maintained by the North American Energy Standards Board. A Purchasing Selling Entity (PSE) can communicate Interchange transaction information to reliability entities using E-Tags, including Balancing Authorities such as the ISO. Similarly, a reliability entity can communicate reliability limits on Interchange transactions to PSEs and other reliability entities using E-Tags. E-Tags should be prepared by PSEs in accordance with North American Electricity Reliability Corporation (NERC), WECC, and CAISO requirements to facilitate effective operations between Balancing Authority Areas within the Western Interconnection. CAISO Pre-schedulers and real-time schedulers may curtail E-tags due to reliability reasons or for violation of NERC, WECC, or CAISO E-tag requirements. CAISO real-time scheduler logs all instances of curtailments due to reliability reasons.

Real-Time and After the Fact Check Out

CAISO checks the NSI and telemetered Net Actual Interchange (NAI) for each Intertie point, each hour, with the respective adjacent BAs, such that NSI does not exceed tie point System Operating Limit prior to implementation of Arranged Interchange for the next hour. The ISO validates Arranged Interchange against the WIT Checkouts with the WIT and each adjacent BA are conducted in the Real-Time (RT) and After The Fact (ATF) timeframes per NERC Interchange Standards and WECC Criteria. Any Scheduled or actual Interchange related discrepancies are resolved with the respective BAs prior to the Operating Hour. If significant deviations in NAI are detected during RT, the deviations are investigated and corrective actions are taken.

Manual Dispatch on Interties

CAISO has the responsibility to maintain System Reliability and take immediate action to maintain or re-establish required or necessary Operating Reserves. A Manual Dispatch on an Interconnection is used for procuring additional Energy or reducing excess Energy that was not awarded by the ISO market. A Manual Dispatch can be used either in the event of a CAISO Supply deficiency event, a CAISO Overgeneration event, or in response to a HASP/RTM failure or other critical application failure that causes Imbalance Energy to affect reliability. CAISO can buy from or sell to entities other than CAISO Market Participants during periods when the CAISO determines that it may not be able to maintain the Reserve Margin in future hours or resources in the CAISO Bid List (SIBR/FIT) are insufficient.

Interchange Schedule Curtailments

Due to Outages, path limitations and interruption of Energy Schedules from adjoining Balancing Authorities, it is frequently necessary to eliminate or adjust imports and exports to CAISO after the close of the active CAISO markets. Interchange Schedule curtailments are implemented in accordance with the CAISO Tariff on a pro rata basis. Interchange Schedule curtailments for Existing Transmission Contracts (ETC) and Transmission Ownership Rights are performed based on the instructions given to CAISO by the responsible Participating Transmission Owners (PTO) and Non-Participating Transmission Owners, respectively. However, in order to maintain interconnected System Reliability, the CAISO Real-Time Scheduler may be required to take actions that conflict with the instructions provided by the PTO and Non-Participating Transmission Owners.

Unscheduled Flow

The ISO implements and complies with the WECC Unscheduled Flow Mitigation Procedure to reduce the actual flow on qualified transfer paths that are overloaded due to Unscheduled Flow (USF). As Path Operator for Qualified Path 66 CAISO performs the following:

- Monitor Scheduled and unscheduled flow on the paths. Keep actual flows less than the Operational Transmission Capacity (OTC) using available tools including the WECC USF Mitigation Procedure when its implementation criteria are met.
- Notify Scheduling Coordinators of impending WECC USF Mitigation Procedure implementation.
- Coordinate Accommodation of WECC USF on the qualified path.
- Implement WECC USFMP for Path 66.
- Provide supporting documentation to WECC as required and as further requested.