



California ISO
Shaping a Renewed Future

Contingency Reserve Cost Allocation

Addendum to Draft Final Proposal

June 5, 2014

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1 Introduction

On November 13, 2013, the Federal Energy Regulatory Commission (FERC) approved regional reliability standard BAL-002-WECC-2 (Contingency Reserve), which was submitted by the North American Electric Reliability Corporation (NERC) and the Western Electricity Coordinating Council (WECC). The regional reliability standard applies to balancing authorities and reserve sharing groups in the WECC region and specifies the quantity and types of contingency reserves required to ensure reliability under normal and abnormal conditions. FERC's order approving regional reliability standard BAL-002-WECC-2 (Order 789) became effective on January 28, 2014. The procurement requirements in regional reliability standard BAL-002-WECC-2 will become effective on October 1, 2014.

The ISO currently aligns contingency reserve obligations for a Scheduling Coordinator (SC) with the requirements calculation outlined in the existing WECC standard BAL-STD-002 - Operating Reserves. Given the changes in the requirement calculation outlined in the new standard, the ISO proposes to align the calculation of contingency reserve obligations with the new requirements calculation. This will modify the ISO's cost allocation of contingency reserves. However, the ISO proposes to maintain the existing design principles of the current cost allocation which allocates contingency reserves costs based upon an SC's measured demand with adjustments for self-provision and inter-SC trades. The ISO is not proposing any changes to the payment rescission or the substitution rules for ancillary services. The ISO plans to implement the revised cost allocation in the Fall software release on October 1, 2014.

2 Changes to Draft Final Proposal

- Included proposal for ISO to not accept e-tags with capacity tags for recallable energy (C-RE).
- Modifications are included as red-lines

3 Plan for Stakeholder Engagement

Item	Date
Post Draft Final Proposal	May 28, 2014
Stakeholder Meeting	June 3, 2014
Post Addendum to Draft Final Proposal	June 5, 2014
Stakeholder Comments Due	June 11, 2014
Board of Governors Decision	July 17-18, 2014

4 Proposed Change to Cost Allocation

The current cost allocation of spinning and non-spinning reserves considers the Resource and Demand Balancing standard reserve requirements calculation in determining an SC's obligation. The following compares the minimum contingency reserve calculation as between the existing and new standards.

The contingency reserve requirement is based on the greater of:

Per current standard (BAL-STD-002):

- (a) The loss of generating capacity due to forced outages of generation or transmission equipment that would result from the most severe single contingency; or
- (b) The sum of five percent of the load responsibility served by hydro generation and seven percent of the load responsibility served by thermal generation.

Per proposed standard (BAL-002-WECC-2):

- (a) The amount of Contingency Reserve equal to the loss of the most severe single contingency;
- (b) The amount of Contingency Reserve equal to the sum of three percent of hourly integrated Load (generation minus station service minus net actual interchange) plus three percent of hourly integrated generation (generation minus station service).

Under the current standard, an SC's hourly obligation is based upon criteria (b). An SC's reserve obligation is 7% of (metered load + firm exports – firm imports) + 100% of non-firm imports minus 2% of (hydro generation + unit contingent imports from hydro generation – unit contingent exports from hydro generation).

The new standard simplifies the calculation of the SC's obligation using criteria (b). The current design principle is to allocate the costs to measured demand (metered demand and exports) and not generation. The ISO proposes to calculate an SC's initial obligation based upon 6% of metered load + 3% of exports - 3% of imports. The initial obligation can be less than zero, which can result in a payment to the SC. The new standard does not require distinctions for the fuel source of generation serving the load or distinctions for the energy type indicated in e-tags corresponding to imports into the CAISO (e.g. "firm," "non-firm," "unit contingent").

If the actual contingency reserves procured pursuant to criteria (a), the ISO currently allocates the higher obligation on a pro-rata basis using the calculations based upon criteria (b). The ISO is not proposing a change to this market design element under the new standard.

The ISO has posted an illustrative spreadsheet calculating an SC's reserve obligation with this draft final proposal.

Under the new standard, the treatment of dynamic transfers for which BA carries the reserve obligation can differ. Pseudo-tie resources are always considered within reserve obligation of the receiving BA. For dynamic schedules, the default is that the source BA is responsible for contingency reserves. However, the reserve obligation can be transferred contractually. Currently in the ISO tariff for dynamic schedules, the ISO agrees to be responsible for the contingency reserves. As a result, all existing dynamic schedule imports require the ISO to carry the reserves. Therefore, all dynamic transfers will be excluded when calculating an SC's initial obligation which means dynamic imports do not receive a 3% credit. If in the future, an importing dynamic schedule does not transfer the reserve obligation to the ISO, the ISO will

have to add a flag to the Master File so that this dynamic schedule can be included in an SC's initial obligation.

SCs can submit inter-SC trades for ancillary services obligations, but an SC cannot trade more than its initial obligation. This functionality is unchanged.

The reserve obligation for an SC can be reduced through self-provision. The ISO is not proposing to change the rules that allow the self-provision of ancillary services; however, the ISO proposes that an SC cannot obtain a payment through the cost allocation for excess self-provision. If an SC self-provides more than its reserve obligation, after considering inter-SC trades, the excess self-provision will be allocated to positive initial obligations through the ancillary services neutrality accounts. For example, assume an SC had an initial obligation of 30 MW and self-provision of 40 MW, the reserve obligation would be zero. If the SC had an initial obligation of 30 MW, an inter-SC trade of 15 MW, and self-provision of 40 MW, the reserve obligation would be 5 MW.

If payment to SCs providing ancillary services does not equal the cost allocation to SCs reserve obligation neutrality will result. The ISO is not proposing any change to the allocation of the combined upward ancillary services neutrality adjustment or the individual spinning/non-spinning neutrality adjustments, which are allocated based upon the SC's pro-rata share of positive initial reserve obligations.

The ISO does not propose to change the rules for substituting higher quality reserves for lower quality reserves when it is economic to do so. However, the ISO believes that the tariff requires additional clarity on how self-provision interacts with ancillary services substitution. The ISO calculates a rate for each ancillary service that reflects both bid-in costs but also any additional ancillary services capacity that SCs self-provide beyond the ISO's requirements. The rate for each ancillary service reflects an average of all substituted ancillary services in order to reflect the procurement of higher quality ancillary services that is performed optimally in day-ahead and real-time market. By reflecting the value of high quality substituted ancillary services in the ancillary services rate, the ISO can help eliminate neutrality differences due to ancillary service substitution. This outcome achieves an equitable cost allocation to SCs that self-provide more capacity than their ancillary service obligation of a higher quality reserve, since their obligation for each ancillary service cannot be less than zero. The excess self-provision of a higher quality reserve is reflected in the ancillary services product rate of the lower quality reserve to the benefit of all SCs. The ISO proposes to clarify the tariff to state that self-provided ancillary services capacity can satisfy a lower quality ancillary service requirement as part of the market optimization.

EIM transfers will be tagged as dynamic schedules between the ISO and the EIM Entity. Unlike other existing dynamic schedules, the ISO has not assumed the reserve obligation. Therefore, the EIM Entity SC will be charged and paid for contingency reserve obligations that result from the EIM transfer. If there is an EIM transfer into the ISO, the EIM Entity SC will receive a payment equal to the 3% of the hourly MW transfer into the ISO multiplied by the ancillary service product rate. If there is an EIM transfer out of the ISO, the EIM Entity SC will be charged for 3% of the hourly MW transfer out of the ISO. Since the EIM Entity SC is not allocated Regulation costs, the EIM transfers will be excluded from the upward ancillary services neutrality charge.

The ISO will not accept capacity tags for recallable energy (C-RE) with the implementation of the new BAL standard on October 1, 2014. This tag type is capacity associated with energy recallable for reserves. The energy which is recallable within ten minutes of activation of reserves is been included in the Source Balancing Authorities reserve resources. The ISO

would consider a change in this policy through a future stakeholder initiative if prioritized by market participants through the annual market initiative catalog process.

5 Next Steps

The ISO requests comments from stakeholders on the proposed market design described in this addendum to the draft final proposal and the draft final proposal. Stakeholders should submit written comments by June 11 to CRCA@caiso.com.