



California ISO

WESTERN ENERGY IMBALANCE MARKET (WEIM)

Decision on day-ahead market enhancements

Becky Robinson

Principal Economist and Director Market Strategy and Governance

James Friedrich

Lead Policy Developer, Market Policy Development

Joint ISO Board of Governors and WEIM Governing Body Meeting

Joint General Session

May 17, 2023

Management proposes day-ahead market enhancements that achieve the following objectives

- Improve accounting and response to net-load uncertainty between day-ahead and real-time markets
- Ensure sufficient dispatchable capability is available to meet real-time ramping needs not achieved by hourly energy schedules
- Reduce need for manual out-of-market actions used to reserve additional supply in the day-ahead market
- Improve supply commitment and increase confidence in day-ahead results

Key day-ahead market design features

- Introduce new imbalance reserve product that meets net-demand uncertainty up and down
- Co-optimize procurement of imbalance reserve resulting in more efficient procurement and transparent pricing
- Enable diversity benefits of geographically and technology resource mix
- Enhance confidence in EDAM transfers with a reliable day-ahead market solution

ISO Board of Governors found joint authority classification appropriate due to the regional impact of the proposal

- However, the ISO Board of Governors noted that any ISO BAA resource adequacy (RA) issues should fall under the ISO Board of Governors only
- Proposal includes one ISO RA provision that falls under ISO Board of Governors only authority:
 - Imbalance reserve must-offer requirement for ISO BAA RA resources

In February, Management extended the four year long stakeholder process to address stakeholder feedback

- Initiative launched in June 2019 to define scope and discuss options for a new day-ahead market formulation
 - Between June 2019 and January 2023, the ISO held 17 stakeholder meetings and released four straw proposals and a final proposal
- Stakeholder process extended in February to further evaluate and discuss tradeoffs between alternative imbalance reserve product designs approaches

Extended process resulted in specific design features to address concerns based on stakeholder input

- Extensive stakeholder participation and engagement from February to May:
 - Six stakeholder workshops
 - Revisions to draft final proposal incorporating stakeholder feedback and design recommendations
 - Two opportunities for written stakeholder comments
 - Additional Market Surveillance Committee discussions
- Final proposal substantially improved by this effort

Management commits to a comprehensive pre- and post-go-live validation and monitoring process to review setting of proposed design parameters

- Imbalance reserve demand curve cost cap level, setting, monitoring, and management
- Procedures and metrics for establishing and assessing tunable parameters and enforcing constraints in deployment scenarios
- Interaction of storage envelope state of charge constraints and alignment with existing constraints

Policy Development & Stakeholder Engagement

Stakeholder Engagement Process



- Policy Development Working Groups
- SH Engagement in development of issue paper and straw proposal
 - New concept with EDAM policy development

- DAME Implementation Working Group
- Develop testing scenarios
 - Review & assess results
 - Provide feedback & observations
 - Provide recommendations for tuning
 - Provide feedback on refinements to open implementation details

Governance & Oversight

Parameter Changes

- Tariff Revision Process
- Business Practice Manual Revision Process

Monitoring

- Market Performance & Planning Forum
- New Reports
- Market Surveillance Committee
- Dept. of Market Monitoring

Propose configurable deployment scenarios to ensure deliverability and mitigate uncertainty of congestion costs

- Majority of stakeholders concluded day-ahead deliverability assessment critical to support reliability and market efficiency
- Address concerns with costs, computational performance, and potential for excessive unrealized congestion
- Parameter adjustments will be based on market simulation and operational experience
- Pre- and post-implementation transparent stakeholder processes to report on monitoring and any changes needed

Propose to procure imbalance reserves pursuant to a demand curve

- Addresses stakeholder feedback that product must balance costs with value of meeting net load uncertainty
- Demand curve based on the value of operating reserves and capped at \$55/MWh
- Mitigates potential cost impact of imbalance reserves during tight supply conditions
- Decreases the need for local market power mitigation
- Pre- and post-implementation validation to ensure demand curve values do not stifle market efficiency, suppress price signals, or hinder procurement

Propose to extend imbalance reserve eligibility requirements from 15 to 30 minute ramping capability

- Addresses concern that 15 minute requirement could limit supply of imbalance reserves and the exercise of market power
- Deepens the pool of imbalance reserve supply and decreases costs
- Addresses stakeholder request to balance the costs of imbalance reserves product with operational needs

Propose measures to provide for reliable market participation of storage resources

- Storage resources will be permitted to fully participate in the residual unit commitment process
- Propose a new state of charge constraint to manage state of charge when providing imbalance reserves
 - Ensures storage state of charge is preserved and available when needed

Proposal includes specific settlement measures in response to stakeholder concerns of existing contracts

- Settlement process to reconcile settlement of imbalance reserve product with existing real-time flexible ramping product
- Settlement mechanism to collect congestion rents from imbalance reserve flows and redistribute to entities entitled to congestion revenue
- Offering an optional 3-year transition true-up mechanism to help resource adequacy parties address contractual issues

Proposed enhancements include an updated residual unit commitment process

- Residual unit commitment (RUC) process ensures sufficient physical supply committed to meet day-ahead demand forecast
- RUC process modified to define distinct reliability capacity relative to IFM schedules
- Enable RUC to procure downward capacity (new market feature)
- RUC market power mitigation measures enable non-zero pricing of RA resources to facilitate regional procurement
 - Enhances competitiveness and flexibility of capacity procurement in EDAM

Proposal for resource adequacy capacity and imbalance reserves

- All ISO RA capacity eligible to provide imbalance reserves (i.e., 15-minute dispatchable) will have a must-offer obligation for imbalance reserves
- The must-offer obligation will apply to all flexible ISO RA capacity as they are already required to economically bid in the day-ahead market
- Any economically bid portion by eligible system ISO RA capacity must also come with an imbalance reserve offer
- This maximizes participation, increases competitiveness, improves congestion management, and aids ISO BAA in EDAM resource sufficiency evaluation

Management recommends approval of day-ahead market enhancements proposal

- Improves the efficiency and effectiveness of the ISO's day-ahead market by better accounting for net load uncertainty
- Enhances EDAM market and reliability benefits
- Addresses stakeholder concerns and provides for a transparent and informed transition of imbalance reserves through key tunable parameters and features
- Management also recommends the ISO Board of Governors approve the imbalance reserve must-offer requirement for ISO balancing area RA resources