California ISO
Shaping a Renewed Future

# Briefing on Market Design and Infrastructure Policy Initiatives

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# Recent FERC Order and stakeholder comments led management to extend the schedule for flexible ramping product.

- ISO delaying implementation of flexible ramping product to focus resources on implementing real-time market structure enhancements.
  - FERC Order 764 provides opportunity to address inefficiencies caused current real-time market structure.

- Market design and infrastructure policy initiative catalog reviewed and prioritized with stakeholders.
  - Stakeholders indicated support for new focus and revised schedule.

# FERC Order 764 requires the ISO to offer 15 minute scheduling opportunity for intertie resources.

- Leverage existing functionality to allow 15 minute schedule updates and minimize seams issues:
  - Three settlements market by making 15 minute real-time unit commitment financially binding
  - Significant benefits for renewable resources by providing 15 minute scheduling opportunity closer to real-time
  - Addresses real-time market offset costs
  - Revisit convergence bidding at intertie pricing points
- Proposed schedule:
  - Board decision May 2013
  - Order 764 compliance filing September 2013
  - Implementation spring 2014

# Proposed implementation schedule of renewable integration market design changes:

- Fall 2013
  - Lower bid floor and bid cost recovery separation, bid cost recovery mitigation measures
- Spring 2014
  - FERC Order 764:  15-minute market
  - Dynamic transfers to allow sub-hourly intertie schedules
  - Decremental bids for renewable resource self-schedules
- Fall 2014
  - Flexible ramping product
  - Integrating residual unit commitment and integrated forward market

# The annual stakeholder initiatives catalog process categorizes and ranks identified market design and infrastructure policy enhancements.

| Initiative Status | Initiative Type |
|---|---|
| Completed (25) | • Stakeholder process completed (but may still be pending other processes) |
| In progress (12) | • FERC-mandated (5)<br>• Non-discretionary (7) |
| Not yet in progress (45) | • FERC-mandated (7)<br>• Non-discretionary (2)<br>• Discretionary<br>  • Infrastructure policy (3)<br>  • Market design (33) |

# Stakeholder input and ISO analysis is used to rank discretionary market design initiatives.

- Grid reliability and market efficiency benefits weighed against cost estimates

- Highest ranked discretionary market design initiatives:

1. Address transient price spikes, real-time imbalance energy offset / real-time congestion offset
2. Additional constraints, processes or products to address exceptional dispatch (30 minute reserve capacity)
3. Multi-year forward reliability capacity pricing mechanism
4. Clearer definitions for how use limited resources such as demand response and storage qualify for resource adequacy
5. Alternative pricing mechanism

# Work has already begun on some of the highly ranked initiatives.

- Address transient price spikes, real-time imbalance energy offset / real-time congestion offset
  - Transmission constraint relaxation parameter change
  - FERC Order 764 market changes
  - Flexible ramping product
- Multi-year forward reliability capacity pricing mechanism
  - CPUC/ISO capacity market forum planned for February 26
- Other high ranked initiatives addressed in annual planning process

# Planned and ongoing market design and infrastructure policy initiatives will provide significant improvements.

- Facilitate renewable integration through
  - Enhanced opportunities for renewable resources to schedule and participate in market dispatch
  - Efficiently managing a diverse resource mix of flexible capacity secured based on forecast needs
  - Compensating resources (regardless of technology) for providing flexibility
- Improve quality of market modeling and results to reduce exceptional dispatches
- Continue to improve the generation interconnection process