



# External Resource Participation in EIM

Mark Rothleder

VP, Market Quality and Renewable Integration

EIM Governing Body Meeting

General Session

August 30, 2016



# EIM improves reliability across the West by accurately modeling physical flows every 15- and 5-minutes

## Resource Specific Modeling

Accurate modeling of Source resource and Sinks

- EIM demand
- EIM Internal resources
- Pseudo-ties
- Import dynamic schedules

---

## Non-Resource Specific Modeling

Less accurate modeling of Source resource and/or Sink load

- Static 15-minute intertie
- Export dynamic schedules

# What is intertie bidding in the CAISO real-time market?

- Economic clearing of intertie transactions through the ISO's market
- Hour ahead scheduling process determines MW quantity of hourly block transactions
  - Market results publish at T-52.5 (final base schedules due T-40)
  - Hourly schedules prices based on 15-minute market prices
- 15-minute import/export schedules and prices economically determined based on submitted bids
- Differences between 15-minute dispatch and ISO hourly day-ahead schedule or EIM base schedule are settled at the 15 minute prices
- ISO, EIM entity real-time energy imbalance and dynamic schedules dispatches settled at 5-minute prices

# Stakeholders must come to common understanding on distinction between ...

- Intertie bidding IN CAISO
- External EIM resource participation

EIM should be compatible with the bilateral market,  
it does not conflict or replace bilateral market

# Issues with extending current state ISO 15-minute economic intertie bidding to EIM

- Policy and compensation consideration needed regarding transmission required to facilitate EIM participation for external resources
- EIM intertie bids less accurately model impacts on flow than resource specific model that may have negative impact on system operations
- Intertie bids currently not subject to market power mitigation, but mitigation and default energy bids required for EIM
- Metering, GHG accounting, responsiveness monitoring and control in EIM based on physical resources

## EIM external resource participation key principles

- A framework solely for voluntary EIM participation by resources located outside of EIM Entities
- BA and TSPs will retain existing roles, including physical dispatch of units, serving load, and balancing their footprint
- Compatible with bilateral trades
- Must address transmission required to facilitate EIM participation for external resources
- Physical resource and location bidding enables accurate modeling of MW flows and EIM congestion management
- Physical resource characteristics required for feasible dispatch and accurate flexibility assessment

## EIM external resource participation key principles cont.

- Comparability to EIM participating resources
  - 15 min scheduling and 5 min dispatching comparable to EIM participating resource
  - Subject to EIM market power mitigation and resource sufficiency tests, similar to EIM Participating Resources
  - Interface, data exchange, settlements and metering requirements
- Respects existing operational and commercial agreements with non-EIM BAA(s) (for example BPA rate-of-change constraints)
- Avoid undue operational risks, administrative burden and implementation costs on source Proxy non-EIM BAA and sink EIM BAA(s) to which it interconnects