


FERC Order 764 Implementation

**CAISO'S "15-MIN  
MARKET" INITIATIVE**



# What is FERC Order 764?

- On June 22, 2012, FERC approved the order to remove barriers to the integration of variable energy resources (VERs)
- For the CAISO, this meant the major changes are required for intertie transactions
- FERC required an "option" for 15-min scheduling to be available, and does allow the transmission provider to propose a superior approach.



# CAISO Proposes a Superior Approach

- CAISO has decided to implement a real-time market (RTM) change that adds a full 15-min energy scheduling and settlement.
- CAISO's stated goals:
  - Compliance with the order
  - Hourly intertie transactions remain
  - Address the RT imbalance offset issue
  - Resolve Convergence Bidding issues at the interties
  - Accommodate VERs resources



# What changes in the CAISO Market?

- ◉ DAM, HASP, 5-min
- ◉ HASP produces binding hourly schedules & prices for non-dynamic interties and advisory schedules for internal gen and dynamic interties
- ◉ DAM, Hourly Process, 15-min, 5-min
- ◉ Hourly process to accept block schedules determines binding hourly block schedules on the interties but no prices

Today

Tomorrow



# What changes in the CAISO Market?

- ◉ 15 min process called RTUC is used to procure incremental financially binding unit commitment
- ◉ Load settles based on deviations from DA Market and actual CAISO metered demand
- ◉ 15-min market produces binding schedules & prices for interties
- ◉ 15-min market still procures financially binding incremental unit commitment
- ◉ Load will also settle with 15-min and 5-min LMPs.

Today

Tomorrow

# What changes in the CAISO Market?

- ④ 5-min market provides financially binding 5-min energy dispatches for internal generation and settled at 10-min level (aggregated weighted average of two 5-min LMP intervals)
- ④ CAISO requires hourly bid submission
- ④ 5-min market does not change, however, settlement intervals will be 5-min vs 10-min today
- ④ CAISO still retains hourly bid submission

Today

Tomorrow



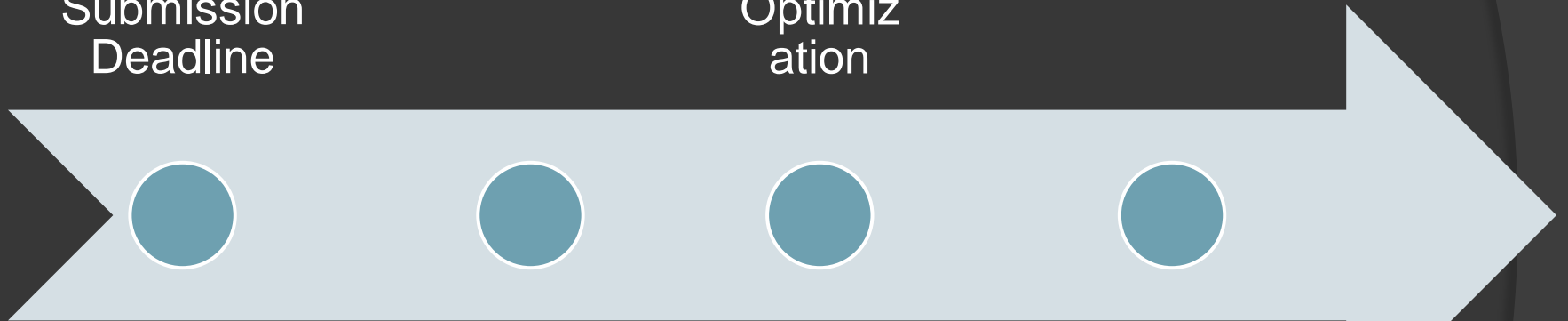
# New Market Timeline

T-75: Real  
Time  
Submission  
Deadline

T-37.5:  
Start of  
Market  
1  
Optimiz  
ation

T-45: Results  
from Hourly  
Process to  
accept block  
schedules  
published

T-20: Intertie  
Hourly  
Transmission  
Profile and Energy  
Schedule for  
Market 1 E-Tag  
Deadline



# Short timeframe for E-Tagging

- CASIO will seek to do the optimization quicker to give more time for e-tags
- Due to the short timeframe, CASIO will provide the option to “auto” update energy schedules on the e-tags for 15-min awards
- Neighboring BA’s have stated this will expedite their approval of the updated e-tags
- Participants can opt out, and would be reflected in the bid



# Intertie Bid Submission

- ◎ The CAISO will run two processes:
  1. Hourly Process to Accept Block Schedules
  2. 15-min market optimization to determine binding energy schedules and AS awards

Intertie resources will submit the following information:

- Energy self-schedule and/or energy bid, same as today
- AS bids, same as today
- Flag to require bid to be considered as an hourly block schedule
- Flag to allow one schedule change for the remainder of the hour for accepted block schedules
- Flag to determine participation in the 15-min market if the intertie transaction is not accepted in the hourly process



# Six Intertie Bidding Options

1. Self-Scheduled hourly block
2. Self-Schedule VER Forecast
3. Economic bid Hourly block
4. Economic bid hourly block with single intra-hour schedule change
5. Economic bid with participation in the 15-min market
6. Dynamic Transfer/Economic Bids

# E-Tagging

- The CAISO would approve e-tags with transmission profiles that exceed the maximum projected 15-min energy advisory schedule (also block award with intra-hour change)
- Allows the CAISO to dispatch these inertie resources above their e-tag in the 15-min market
- Thus accepted transmission profiles in aggregate may exceed the inertie transfer capacity but in no case will the CAISO accept energy profiles and AS awards that in aggregate exceed the transfer capacity of the inertie



# Other changes

- PIRP Resource & Protective Measures
- Settlements of Load
- Settlements in the 15-min market
- Instructed and Uninstructed Imbalance Energy
- VERS Forecasting Options
- GMC Charge Codes