



## Extended Day-Ahead Market Working Group 1: *Supply Commitment and Resource Sufficiency Evaluation*

### *Resource Sufficiency Evaluation details*

Facilitator: Mark Richardson

Scribe: Bob Kott

February 28<sup>th</sup>, 2022

Meeting Cadence: Mondays and Wednesdays, 1 – 3 p.m.

# Agenda:

Time:	Topic:	Presenter:
1:00 – 1:05	Welcome/introductions	Kristina Osborne
1:05 – 1:20	Continued Overview of Convergence Bidding	James Friedrich
1:20 – 2:50	RUC Design in EDAM	George Angelidis
2:50 – 2:55	Recap of Discussion	Bob Kott
2:55 – 3:00	Upcoming topics	Mark Richardson

## Reminders:

- These collaborative working groups are intended to foster open dialogue and sharing of ideas and perspectives
- Please raise your hand if you have a question or comment at any time during the meeting and the facilitator will call on you
  - Please start by stating your name and affiliation
- Meetings are recorded and video files posted on corresponding working group webpages
- Stakeholders are welcome to present perspectives at these meetings
  - Please submit a request to present using the link located on the EDAM Resources slide at the end of this presentation

# REVIEW OF CONVERGENCE BIDDING

# CAISO allows financial and physical participation in its day-ahead market

- Physical participation
  - Supply: generators, imports
  - Demand: load, exports
- Financial participation
  - Virtual supply
  - Virtual demand

# Convergence bids represent financial participation in the market

- Virtual Demand
  - Bids to buy at the day-ahead price and liquidate at the 15-minute price
  - Equivalent to price-sensitive demand in IFM
- Virtual Supply
  - Bid to sell at the day-ahead price and liquidate at the 15-minute price
  - Equivalent to a dispatchable supply resource in IFM

# How convergence bids affect the physical market

- Convergence bids are not backed by physical assets and come with no obligation to deliver or consume physical energy
- For scheduling coordinators who submit both virtual and physical bids, there is no link between the bids
- Convergence bids can set the market clearing price
- The net virtual position affects the RUC procurement target
- Convergence bids affect congestion

# Summary of convergence bid features (1 of 2)

- Convergence bidding is allowed at eligible internal nodes, trading hubs, and load aggregation points
  - Convergence bidding is currently not allowed at inertia scheduling points
  - Convergence bids at internal nodes are subject to position limits
- Convergence bids are limited to energy bids (no ancillary services, imbalance reserves, RUC)
- No start up and minimum load bids



## Summary of convergence bid features (2 of 2)

- Cannot self-schedule
- Virtual supply bid curve must start at 0 MW and be monotonically increasing with up to 10 segments
- Virtual demand bid curve must start at 0MW and be monotonically decreasing with up to 10 segments
- Subject to the same bid deadline (10:00am), bid caps (\$1000, \$-150), and minimum bid volume (1 MW) as physical energy bids

# Why does convergence bidding exist and what are the benefits? (1 of 2)

- From a participant perspective
  - Opportunity to earn revenues (and risk losses) using their insights into system and market conditions that may result in LMP differences
  - Hedge differences in congestion between different locations within the ISO system
  - Can mitigate the risk of an outage that happens after the close of the day-ahead market
  - Hedge load's exposure to fifteen-minute market pricing
  - Allows variable energy resource suppliers to take a financial position in the day-ahead market unbound from the ISO forecast

# Why does convergence bidding exist and what are the benefits? (2 of 2)

- From a market perspective
  - Encourages bidding behavior that would tend to minimize differences between day-ahead and fifteen-minute market LMPs
  - Reduces incentives to under- or over-schedule physical demand in the day-ahead market
  - Increases market liquidity
  - Decreases potential for the exercise of market power
  - Should tend to lower costs and improve grid operations due to more efficient day-ahead schedules and commitments

## Additional information

- CAISO performs a dynamic credit check at bid submission to ensure bidding entities liabilities do not exceed its credit limits
- To submit convergence bids, must be certified by CAISO as a Convergence Bidding Entity
- CAISO has the authority to suspend or limit convergence bids

# Check In

- Continue education and overview of Convergence Bidding (CB)
- RUC Design in EDAM
  - How RUC and CB play a role in EDAM
  - Residual Unit Commitment transfer examples
- Next Steps

# Questions?

# EDAM Resources

- List of [\*Common EDAM design principles and concepts\*](#)
- Initiative and working webpages:
  - EDAM initiative webpage:  
<https://stakeholdercenter.caiso.com/StakeholderInitiatives/Extended-day-ahead-market>
  - Working Group 1 webpage:  
<https://stakeholdercenter.caiso.com/StakeholderInitiatives/Extended-Day-Ahead-Market-Working-Group-1-Supply-Commitment-Resource-Sufficiency-Evaluation>
    - The working group webpages include meeting materials, initial scope items, and weekly summary reports
- Please submit EDAM WG inquiries and/or requests to present at <https://www.surveymonkey.com/r/EDAMWG-Inquiries>
  - Presentations due 5 business days prior to the meeting where they are scheduled to present, if time allows
- [Register](#) for working groups to help the ISO gauge interest and facilitate communication throughout process.
- Nov 30, 2021 Day-Ahead Market Overview Training: <https://youtu.be/lbXRsfVbCg>