Briefing on draft final policy initiatives roadmap 2022 - 2024

Greg Cook, Executive Director Market and Infrastructure Policy

Board of Governors and EIM Governing Body Joint Meeting
General Session
February 9, 2022
Annual roadmap process is a comprehensive planning process for enhancing and evolving the ISO markets

- Roadmap developed through a stakeholder process to prioritize the policy initiatives the ISO will undertake over the next three years

- Annual roadmap process includes updating the policy initiatives catalog
  - Directory of current, planned, and potential policy initiatives
  - New potential policy initiatives originate from stakeholders and internally at the ISO
  - Updated twice a year but catalog submissions are accepted year-round
PRIMARY DRIVERS
Primary drivers of 2022 three-year policy roadmap

• **Increased resource and load variability** - enhance the day-ahead market and extend to EIM entities to leverage regional diversity and provide west-wide benefits

• **Increasing amounts of storage resources** - enhance ISO markets to efficiently dispatch storage resources in alignment with operational needs

• **Economic and reliability benefits of greater integration of Western markets** – extend the day-ahead market across a larger footprint and openly and optimally manage access to available transmission
MARKET DESIGN AND REGIONAL MARKETS
Extended day-ahead market initiative is exploring expanded day-ahead market participation to provide regional benefits

• EDAM will improve market efficiency and more effectively integrate renewable resources by
  – Optimizing day-ahead unit commitment
  – Producing hourly energy transfer schedules
  – Capture resource diversity benefits and improve transmission utilization across a larger footprint

• This year’s roadmap reflects the high-priority the ISO is giving to enabling participating in EDAM by 2024
Day-ahead market enhancements initiative addresses challenges of the transforming grid

• Efficiently schedule supply to address net load uncertainty and real-time ramping needs
  – Improve market efficiency and price signals by co-optimizing imbalance reserves with energy and ancillary services
  – Enhance the residual unit committment process to also schedule downward capacity

• Reduce out-of-market actions

• Plays an important role in setting up the foundation for EDAM
Price formation enhancements initiative will improve pricing provisions for efficient market pricing during tight supply conditions

- Explore scarcity pricing mechanisms to ensure prices incentivize accurate scheduling and bidding that aligns with operational needs
  - Provide strong incentives for resources including storage to align with operational needs

- System-level market power mitigation enhancements is related to the price formation initiative, but will be discussed in EDAM

- Explore fast-start pricing

- Explore advisory market interval pricing issues related to storage dispatch and pricing
Resources sufficiency evaluation enhancements - phase 2 initiative will examine further resource sufficiency evaluation enhancements

- Consequences for failing resource evaluation
- Inclusion of upward operator adjustments (i.e. load conformance)
- Accounting for exports supported by EIM transfers or speculative exports
- Demand response monitoring
- Further enhancements to account for storage resources
- Intertie uncertainty calculation
- Other potential enhancements
Transmission services and market scheduling priorities initiative is developing a process forward process to release available ISO transmission for use by non-ISO entities

- Considers a holistic, long-term, process for wheel-through transactions to obtain high-priority scheduling rights

- Recognizes the need for, and dependence on, wheeling through ISO’s system to serve external load

- Also considering near-term enhancements to scheduling priority processes
RESOURCE ADEQUACY, TRANSMISSION, DR & DER, AND STORAGE
Resource adequacy phase 2 initiative will develop changes to align with day-ahead market enhancements and improve must offer obligation rules

- Day-ahead market enhancements alignment
  - Bid price and must offer obligations changes
  - Flexible resource adequacy
- Enhance must offer obligations for storage and conditionally available resources
  - Bid insertion modifications
Central procurement entity implementation will develop CPUC resource adequacy central buyer related enhancements

- Develop enhancements to accommodate a separate central buyer of resources adequacy resources on behalf of load serving entities
Capacity procurement mechanism enhancements initiative will provide increased assurance of capacity to meet operational needs

- Examine pricing provisions related to the soft offer cap

- Examine procurement authority to align with changing operational needs
Energy storage enhancements initiative is developing enhancements to efficiently dispatch storage resources in alignment with operational needs

- Improvements to the existing storage model
- New model for state of charge
- Storage exceptional dispatch provisions to ensure reliable system operations
- Enhancements to the co-located resource model
- Storage dispatch and compensation related topics are also planned to be addressed in the price formation initiative
Interconnection process enhancements initiative will address a number of issues related to enhancing the generator interconnection and deliverability allocation procedures

- Enhancements to incrementally improve the efficacy of the existing processes
- Enhancements to address queue overload
- Broader process reform considerations focusing on aligning the procurement processes
Market Design and Regional Markets

2022

- DAME
  - Also a regional markets initiative

  Dynamic Line Ratings
  - Also a transmission initiative

- Extended Day Ahead Market

- Price Formation Enhancements
  - Also a regional markets initiative

  FRP Deliverability

- Resource Sufficiency Evaluation Phase 2

Regional Markets

- RSE Phase 1

  RSE Analysis and Workshops

- Transmission Services & Market Scheduling Priorities Phase 1

- Transmission Services & Market Scheduling Priorities Phase 2

2023

- VER Dispatch Enhancements

2024

- AS Deliverability/RT Re-Optimization

- Frequency Response Measures

*Timeframes are approximate and subject to change
RA, Transmission, DR & DER, and Storage

**Resource Adequacy**
- **RA Enhancements Phase 2**
- **Central Procurement Entity Implementation**
- **CPM Enhancements**
- **Interconnection Process Enhancements Phase 1**
- **Dynamic Line Ratings**
- **Interconnection Process Enhancements Phase 2**

**Transmission**
- **RDRR Bidding Enhancements**
- **Regional Transmission Planning Process**
- **DER/DSO Action Plan**

**DR & DER**
- **Hybrid Resources**
- **Hybrid Resource Evolution**

**Storage**
- **Energy Storage Enhancements**
- **Price Formation Enhancements**
- **Also a market design and regional markets initiative**

*Timeframes are approximate and subject to change*
2022 Draft Final Annual Plan

*Timeframes are approximate and subject to change
Upcoming EIM Governing Body and Board decisions

• March EIM Governing Body/ISO Board meeting
  – Update to short and long start definitions (joint authority)
  – Reliability demand response resource enhancements to align with FERC Order 831 (joint authority)
  – Resource adequacy central procurement entity provisions (ISO Board only)

• May EIM Governing Body/ISO Board meeting
  – Reliability demand response resource enhancements (joint authority)
  – Interconnection process enhancements phase 1 (ISO Board only)
Stakeholders generally support the focus of the 2022 draft policy initiatives roadmap and annual plan, but are concerned about prioritization and feasibility

- Concerned that there will not be enough ISO and stakeholder bandwidth to complete other important initiatives that are foundational to EDAM

The roadmap was developed based on inter-dependencies among initiatives. CAISO appreciates the challenge of achieving a regional day-ahead market by 2024
• Advocate beginning a Resource Sufficiency Evaluation “Phase 1b” immediately to address load conformance adjustments

*The CAISO plans to move immediately into a phase 1b initiative starting with workshops in February 2022.*

• Also, encourage the CAISO to devote bandwidth to less significant issues that are important, but have never been addressed

*The CAISO considers smaller initiatives through the roadmap and annual plan prioritization process*
2022 policy initiatives roadmap process schedule:

- Draft final roadmap and annual plan – January 12
  - Stakeholder call – January 19
  - Comments – January 26

- Joint EIM Governing Body and ISO Board of Governors Meeting – February 9
  - Post final roadmap – February 17