



Memorandum

To: ISO Board of Governors and Western Energy Imbalance Market Governing Body
From: Anna McKenna, Vice President of Market Policy and Performance
Date: May 10, 2023
Re: **Briefing on 2023-2025 Policy Initiatives Roadmap**

This memorandum does not require ISO Board of Governors or WEIM Governing Body action.

EXECUTIVE SUMMARY

Management provides this memorandum as a companion to the 2023-2025 policy initiative roadmap briefing presentation to convey additional context for the policy initiatives catalog and policy initiatives roadmap process, stakeholder feedback, and Management responses to that feedback. While this item does not require ISO Board of Governors or WEIM Governing Body action, Management appreciates the opportunity to submit this additional information for their consideration.

The ISO maintains a living policy initiatives catalog, which accepts submissions of potential initiatives by stakeholders and Management on an ongoing basis. Initiatives in the catalog are categorized as discretionary and non-discretionary. The non-discretionary category includes those initiatives that are deemed necessary for reliability and those that are needed to comply with regulatory requirements, along with initiatives forthcoming or currently underway. Discretionary items are those that have not yet been prioritized for inclusion in the policy initiatives roadmap. The roadmap reflects the prioritization of planned initiatives over a three-year time period.

That prioritization effort is informed by stakeholders, ISO Critical and Strategic Objectives developed with Board of Governors and Governing Body input, Management's assessment of policy changes to ensure reliable and efficient operation of the grid and markets, and regulatory requirements. Ultimately, the number of initiatives that can be undertaken is reflective of their scope, regulatory and reliability requirements, implementation timelines, interdependencies of initiatives, and availability of ISO, stakeholder, and vendor resources.

DISCUSSION AND ANALYSIS

Over the course of late 2021 and 2022, Management worked with our Board of Governors, the WEIM Governing Body, and a broad range of customers and stakeholders within California and throughout the West to develop its strategic plan. Much of the feedback obtained from that collaborative effort is reflected in the critical strategic and tactical objectives that comprise the strategic plan. The objectives, in turn, serve as a framework for the policy initiatives roadmap. Accordingly, Management has reflected each major policy initiative prioritized on the roadmap under the objective it most directly supports. Below is described, by objective, the rationale for including initiatives on the policy initiatives roadmap based on stakeholder feedback and Management's evaluation.

Critical Strategic and Tactical Objective #1 – Reliably and efficiently integrate new resources by proactively upgrading operational capabilities

In terms of policy initiatives, Management recognizes that reliably and efficiently integrating new resources – as well as dispatching existing resources – hinges on accurate modeling of resource capabilities as well as providing accurate price signals for existing and new market products. Using this lens, a suite of initiatives with wide-ranging scope is prioritized.

Specifically, a repeated concern Management has heard from stakeholders is around the paramount importance of accurate price signals. It has been stressed that this is particularly crucial during tight supply conditions to provide the incentives necessary to ensure capacity is available when it is most needed. To that end, the price formation enhancements initiative includes several elements including the following:

- Scarcity pricing – examining payment for capacity made available in strained system conditions;
- Fast-start pricing – considering modeling methodologies that value fast-start resources by considering their responsive attributes and enables them to set the market clearing price; and
- Flex-ramp product horizon extension – evaluating an extension of the look-ahead period for the flexi-ramp product to enable the product to address uncertainty in net load forecasts over longer time horizons.

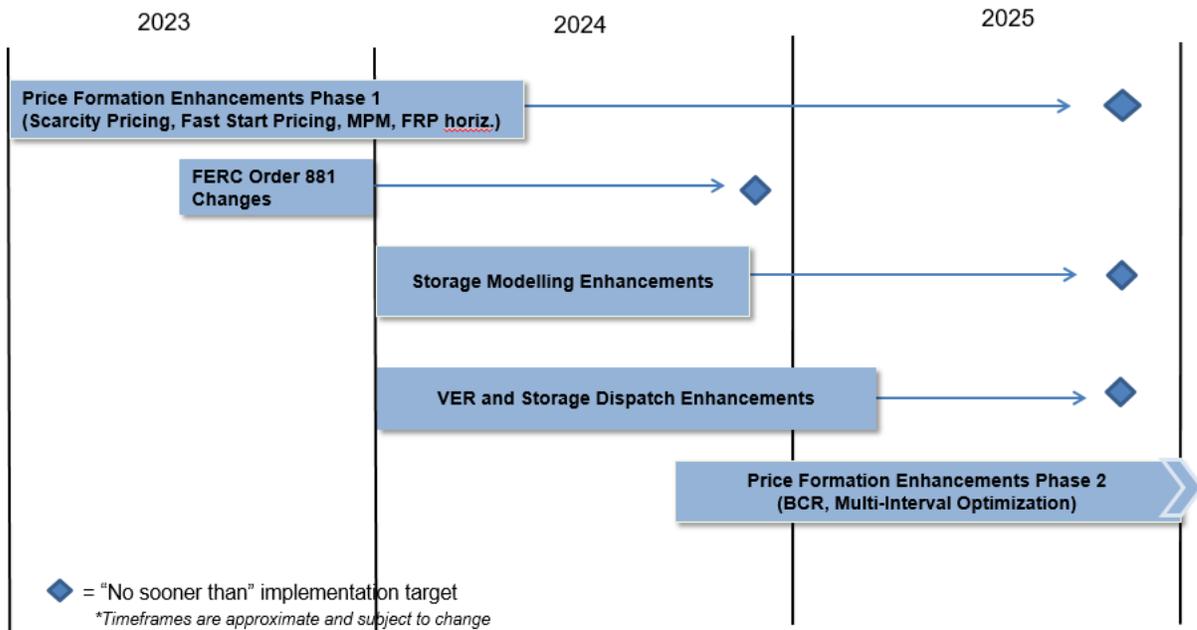
Several stakeholders requested additional initiatives to address gas resource issues across the western interconnection. The ISO plans to conduct a stakeholder working group on gas resource market issues to better understand the concerns and determine the best course of action to resolve the identified issues.

In addition to the efforts above, which are applicable to all generation technologies, there is significant work planned targeting the reliable and efficient operation of storage resources. The storage community currently represents about 5,200 MW of capacity in California, and this capacity is projected to double in two years. Management and the storage community have identified several keep initiatives related to storage, including:

- Energy storage enhancements – Policy changes will be developed to improve modeling for state of charge, help ensure storage resources have sufficient state of charge to provide ancillary services, expand the co-located model to help storage resources avoid “grid charging” for tax purposes, and expand the pseudo-tie model to include storage resources;
- Day-ahead market enhancements – Within DAME, policy is being developed with respect to help ensure storage resources have sufficient state of charge to provide imbalance reserves, expand the residual unit commitment process to include storage resources;
- Price formation enhancements – As noted above, this wide-ranging initiative which will be tackled in phases. The policy development process will include the evaluation of scarcity pricing in real-time markets to help ensure storage resource availability to meet day-ahead schedules, examination of bid cost recovery rules specific to storage, and a reassessment of the applicability of real-time multi-interval optimization for storage;
- Storage modeling enhancements – Through this initiative, a model will be developed to allow storage bidding in energy-price pairs (instead of traditional power-price pairs) to integrate state of charge in dispatch decisions. Further, default energy bids for storage resources will be created using this new model, as well as a default energy bid framework for hybrid resources. Consideration will be given to updating the energy bid cap for storage; and
- Variable energy resource and storage dispatch enhancements – Through this effort, Management and stakeholders will explore impacts of co-located storage resources on instructions issued to variable resources, and evaluate enhancements to the operation of variable resources as they make up an increasing portion of the generation fleet.

Figure 1: Critical Strategic and Tactical Objective #1

Reliably and Efficiently Integrate New Resources by Proactively Upgrading Operational Capabilities



Critical Strategic and Tactical Objective #2 – Strengthen resource adequacy and meet California’s SB100 goals through long-term transmission planning and effective coordination with state agencies

To achieve this objective, Management recognizes that there are refinements needed to ISO processes and programs, and that, in addition, close consideration and coordination with other agencies is required.

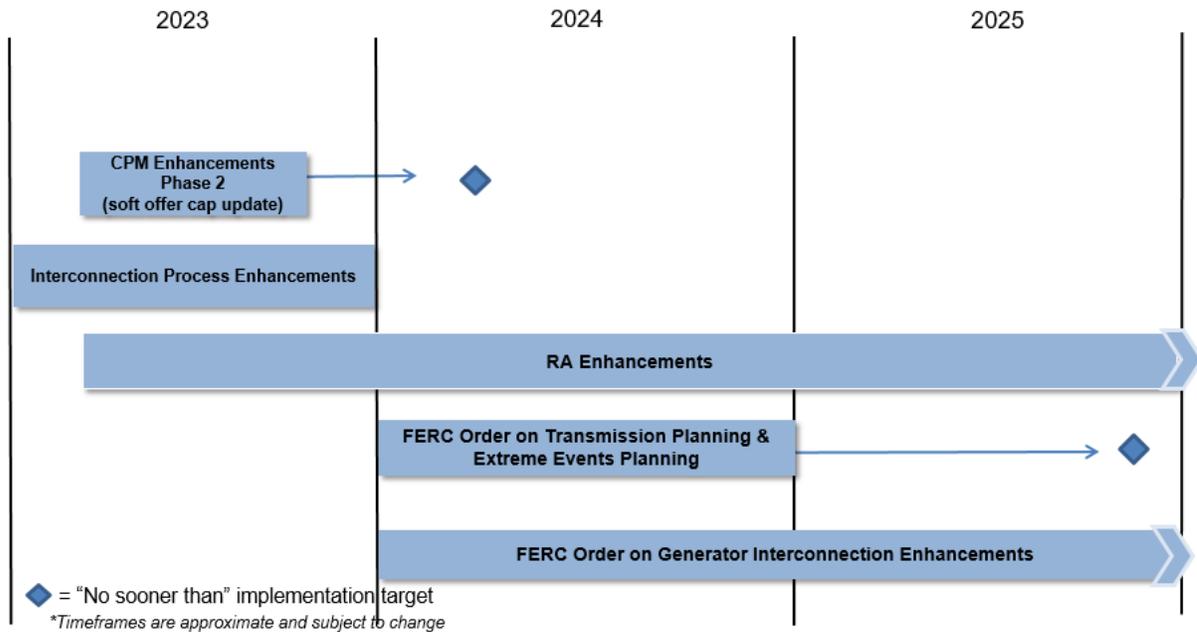
- Resource adequacy enhancements – Built into this anticipated timeline for this initiative is the development of a holistic assessment of both the ISO’s needs in terms of resource adequacy as well as California state policies under development;
- Capacity procurement mechanism (CPM) enhancements – Refinements to the ISO’s mechanism to procure additional capacity in the case of a shortfall keep this mechanism functioning as needed. As part of that effort, the tariff-required periodic update to the soft offer cap for capacity procured through CPM will be undertaken;
- Interconnection process enhancements – In parallel to this recurring initiative, now in track 2 of its 2023 iteration, management will undertake an initiative identified by several stakeholders, as critically important to ensure effective

alignment with resource and transmission planning and that the capacity is deemed deliverable to meet Resource Adequacy program requirements. Specifically, the generation deliverability methodology review initiative¹ will be prioritized as part of the scope of interconnection process enhancements which is scheduled to start in the near term; and

- Transmission planning initiatives are anticipated in 2024 to respond to forthcoming orders from the Federal Energy Regulatory Commission on transmission planning and extreme events, and generator interconnection enhancements

Figure 2: Critical Strategic and Tactical Objective #2

Strengthen Resource Adequacy and Meet California’s SB100 Goals Through Long-Term Transmission Planning and Effective Coordination with State Agencies



Critical Strategic and Tactical Objective #3 – Build on the foundation of the Western Energy Imbalance Market to further expand western market opportunities

¹ This initiative was formerly known as Generation Deliverability Challenges. The December 2022 Update paper can be found at the [initiative page](#).

Entities across the western interconnection have expressed a strong desire for more regional markets. Initiatives focused on expanding the day-ahead market and making enhancements to the WEIM are included under this objective.

To that end, Management has continued to prioritize the Extended Day-Ahead Market (EDAM) initiative which extends the economic and reliability benefits of the day-ahead market to WEIM entities. With approval by the ISO Board of Governors and the WEIM Governing Body in February 2023, the EDAM effort has moved from the policy development phase into tariff development and early implementation efforts. Likewise, the transmission service and market scheduling priority initiative, also approved in February 2023, is now focused on tariff changes and business requirements specifications.

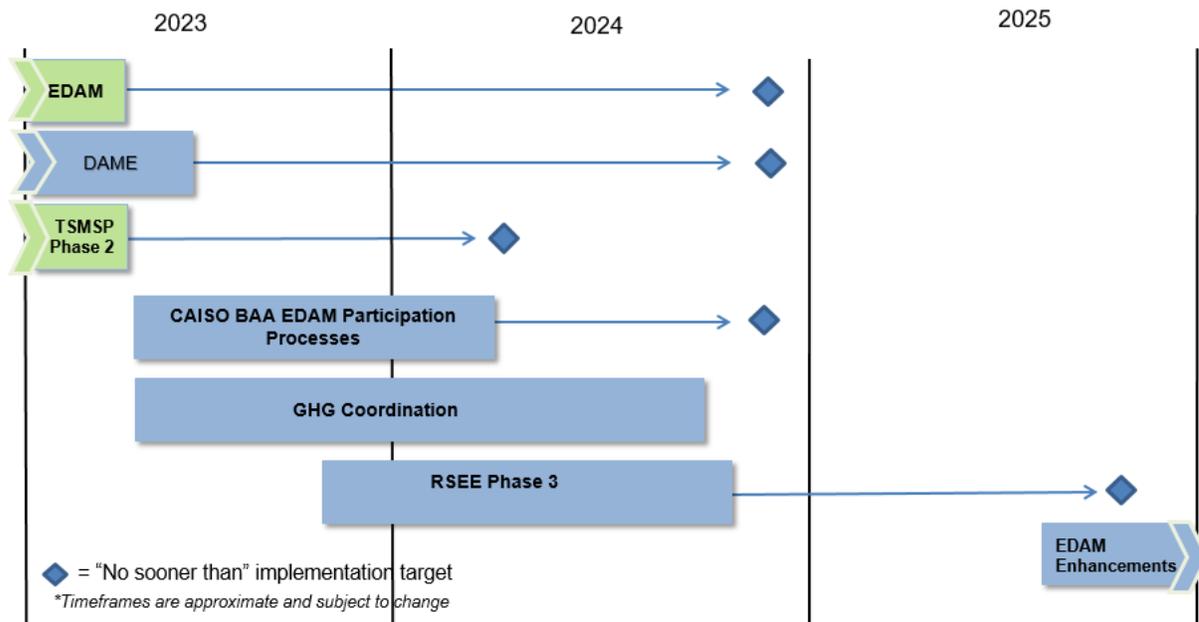
Continuing this momentous regional market development effort, day-ahead market enhancements (DAME) policy development is nearing completion. DAME will support the EDAM effort, in particular by introducing and defining an imbalance reserve product to manage uncertainty materializing between day ahead and real time.

Additional ongoing and upcoming initiatives in support of this objective include the following:

- A future initiative is anticipated to develop enhancements to the WEIM resource sufficiency evaluation;
- A newly undertaken initiative seeks to establish processes for the ISO balancing authority area participation in the EDAM; and
- Management continues to build on its commitment to evaluate and evolve GHG accounting policy as part of the ongoing GHG Coordination effort. The ISO will launch a series of workshops to discuss the current design structure, the evolving Western GHG regulatory structures and market considerations, along with discussion of appropriate metrics and data to inform possible future refinements through a transparent process starting summer 2023.

Figure 3: Critical Strategic and Tactical Objective #3

Build on the Foundation of the Western Energy Imbalance Market to Further Expand Western Market Opportunities



Additional ongoing or upcoming initiatives

The display of ongoing and planned initiatives in the individual Objective charts within the roadmap captures the most intensive efforts in terms of ISO staff, stakeholder, and implementation resources. Necessarily, not all ongoing or upcoming policy initiatives are captured in the diagrams, but rather we focus here on the larger policy and/or implementation efforts. There are, however, several efforts underway or anticipated in the near future that are critical to mention. A few notes on these initiatives are included below:

- Distributed energy resource and distribution system operator action plan – The scope of this future effort is being determined based on stakeholder input, and ongoing regulatory changes across the western interconnection with respect to distributed energy resource participation in energy and ancillary service markets;
- Changes to subscriber PTO participation rules – Now at the tariff change development phase, this initiative was undertaken in response to a request from a transmission owner to participate in the ISO Balancing Authority Area in accordance with the Transmission Control Agreement;

- Enable western to sell transmission rights – While not strictly a policy initiative, this change provides required functionality for the sale of transmission rights in ISO scheduling interfaces;
- Market parameter change enhancements – In February, the ISO Board of Governors approved changes to market parameters, and to the process for changing market parameters, in response to observed market efficiency issues;
- Rules of conduct changes to address metering penalty issues – Following filing for a blanket waiver for penalties that do not necessarily reflect the size or severity of errors in submitted meter data, Management will undertake this initiative to examine changes to the meter data penalty structure and related issues;
- Minimum state of charge extension – Now approved by the ISO Board with advice from the WEIM Governing Body, this initiative was undertaken to ensure that storage resources that have been awarded ancillary services in the day-ahead market have sufficient state of charge to provide energy if called upon in the real-time market;
- Hybrid resource enhancements – In this initiative, the ISO will consider improvements to the hybrid resources model to further enable them to operate effectively within the ISO market. These improvements may include development of a default energy bid for storage resources and the application of a default energy bid to market power in the downward direction. Discussion of these changes may be combined with other storage-related topics; and
- Generator connectivity challenges/enhancements – Widely noted by stakeholders as a key initiative, this effort targets improvements to the technical requirements relied upon by the ISO in determining generation deliverability for the purpose of resource adequacy. As noted above in the discussion of initiatives in support of objective #2, this initiative will be conducted in parallel with the upcoming track 2 of integration process enhancements 2023.

POSITIONS OF THE PARTIES

ISO presented the draft policy initiatives catalog and the draft 2023-2025 policy initiatives roadmap at several meetings, providing multiple opportunities for comment as summarized in the table below:

Date	Milestone
February 8	Presentation to WEIM Regional Issues Forum
February 10	Presentation to WEIM Body of State Regulators
February 16	Published draft roadmap and draft catalog

February 21	Stakeholder meeting for draft roadmap and draft catalog
February 28	Comments due for draft roadmap and catalog
March 22	CAISO Board and WEIM Governing Body executive session briefing approval
March 29	Published final roadmap and final catalog
April 15	Supplemental written comments deadline for final roadmap and final catalog
May 17	CAISO Board & WEIM Governing Body public session briefing
June	Catalog submission open for 2024-2026

Stakeholder feedback on the individual items within the policy initiatives catalog were extensive. Management has addressed many of the varied concerns with commenters, and will continue to do so. There were several initiatives that were important to multiple commenters, including the following:

- Generation deliverability methodology review – This is now included in the scope of the upcoming interconnection process enhancements 2023 track 2 initiative;
- GHG coordination – Management has committed to a series of workshops to facilitate a deeper understanding of the current design, to align on appropriate metrics for policy evaluation, and to consider future refinements through a methodical and transparent process;
- Storage resources’ participation in the residual unit commitment process – This change to the ability of storage resources to participate in the residual unit commitment process is part of the scope of the day-ahead market enhancements policy initiative; and
- Energy storage bid cap not aligned with FERC Order 831 – Management anticipates that this concern will be addressed as part of the storage modeling enhancements initiative scheduled to start at the beginning of 2024.

In addition to those recurring comment themes noted above, Management recognizes that several stakeholders expressed concern about congestion revenue rights funding. While an initiative is not currently prioritized on this topic, Management understands the concerns of stakeholders and is actively developing analyses to fully assess the issue, to inform and refine the problem statement, and to provide further avenues for discussion with stakeholders.

As noted above, stakeholders submitted feedback on individual initiatives, and where there were strong common themes, Management has endeavored to address those here. However, the purpose of this companion document to the 2023-2025 policy initiatives roadmap is to document the framework and process of the roadmap based on the strategic and tactical objectives and the resulting prioritization of initiatives in light of stakeholder input rather than on individual, specific initiatives.

As such, Management provides below a summary of comments on the policy initiatives catalog and policy initiatives roadmap. Management appreciates these comments, and has already committed to conduct a stakeholder engagement effort specifically targeted to solicit and discuss potential changes to the catalog and roadmap processes. The comments below provide a valuable starting point for the future effort.

- Requesting catalog comments on what initiatives can be excluded or grouped together;
- Expanding Management responses to submitted items, and tracking nondiscretionary items that Management has committed to address;
- Providing opportunities for stakeholder input on prioritization prior to developing draft roadmap; and
- Providing a roadmap document companion to presentation. In fact it was this suggestion that spurred the development of this informational memorandum.

Finally, Management has received valuable feedback from the WEIM Regional Issues Forum, the Western States Body of State Regulators, and many individual WEIM entities on the importance of inclusion of west-wide stakeholders in the prioritization effort underlying the roadmap process. As the WEIM expands and efforts to implement the EDAM continue, Management strongly agrees. The Regional Issues Forum in their comments provided a framework for a “ground up” approach to providing input to the roadmap prioritization process. The suggested approach is to have the individual WEIM sectors work within a roundtable setting, as recommended by the WEIM Governance Review Committee, to identify initiatives recommended for prioritization. The Regional Issues Forum as a whole can then use those sector-level recommendations to inform its final prioritization comments. Management looks forward to supporting this effort, and to receiving the feedback reflecting the collaborative process at the Regional Issues Forum in the next iteration of the policy initiatives roadmap. The Body of State Regulators has also expressed support for the Regional Issues Forum’s policy initiatives prioritization roundtable, noting that the Regional Issues Forum brings a valuable regional and multi-sectoral perspective to the policy catalog development process.

CONCLUSION

Management appreciates the opportunity to provide this narrative to accompany the policy initiative roadmap to add additional insight into its development and to feedback provided by stakeholders.