



California ISO

Resource Sufficiency Evaluation Enhancements - Draft Final Proposal

Market Infrastructure Policy

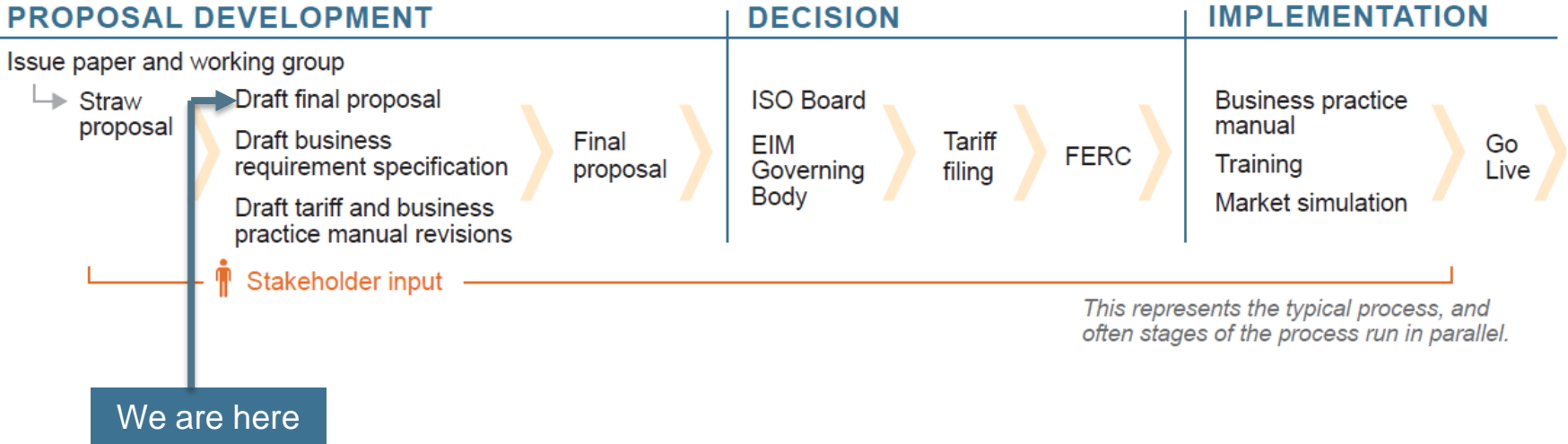
Stakeholder Meeting

October 12, 2021

Agenda

Topic	Presenter
Welcome and stakeholder process	Kristina Osborne
Stakeholder Comments and Changes to the Proposal	Danny Johnson
Overview of Proposal	Danny Johnson
EIM Classification and Next Steps	Kristina Osborne

Stakeholder Process



Purpose and scope of initiative

Phase 1

Accuracy Improvements

- Intertemporal constraints
- Consideration of storage resources
- Reliability of interchange schedules
- Inclusion of demand response
- Flexible ramping sufficiency improvements
- Application of balancing test
- Emergency operator actions
- Data transparency and availability

Phase 2

Consequence Enhancements

- Consideration of financial consequences for test failure
- Consideration of additional physical consequences to address system leanings

Accuracy Improvements

- Consideration of operator load adjustments
- Consideration of selective RSE test limit relaxations
- Consideration of demand response misuse
- Intertie uncertainty

STAKEHOLDER COMMENTS AND CHANGES TO THE PROPOSAL

Stakeholders offered support while requesting additional information on the following elements of the proposal (1 of 2)

Balancing Test

- The design of the balancing test is to prevent base scheduling practices the CAISO cannot exercise

Flexible Ramping Sufficiency Test

- CAISO provided a graphic example of proposed implementation

Exclusion of import awards that have not submitted an e-Tag transmission profile by T-40

- The draft final proposal (DFP) provides analysis of the proposed change

Emergency actions

- Would limit access to incremental transfers following the notification by a BAA to the CAISO of these emergency actions being taken

Stakeholders offered support while requesting additional information on the following elements of the proposal (2 of 2)

Data Transparency

- DMM has assumed reporting responsibility and published its first report 9/24. The CAISO asks for comment on its content, data granularity or any other metrics and information stakeholders may be interested in

Demand Response participation methods

- Additional detail provided on participation methods
- Flexibility on demand response incorporation into forecast
- In lieu of changing rules to prevent misuse at this time, the CAISO is proposing to allow demand response participation following the submittal of an attestation regarding program representation
- CAISO demand response participation will be limited to the proxy demand resource (PDR) and Reliability Demand Response Resource (RDRR) models

Stakeholders highlighted the proposed lack of discussion regarding the treatment of storage, hybrid and co-located resources in the RSEE proposal

The CAISO proposes the following for phase 1 of the initiative, with additional policy development in phase 2 if warranted

- Capacity Test: Credit initial state-of-charge (SOC) plus bids to charge
- Flexible Ramping Sufficiency Test: Credit SOC at the reference interval plus charge/discharge bids through the hour
- The CAISO believes it would be inappropriate to credit the potential to charge through the short-term unit commitment (STUC) horizon as it would not consider the financial incentives present for storage resources to discharge within that horizon

Stakeholders offered varying levels of support for the CAISO's proposal to credit capacity made available to the real time market through the STUC horizon (1 of 2)

Support: DMM, Joint EIM Entities, PG&E, Six Cities SCE, SRP, Vistra

- Requested data regarding how this would have preformed during the August 2020 events
- The CAISO received some requests for more granularity; consideration of ramping as well as start-up type

Do not support: BPA, PGP, PPC

- Disagree with counting capacity that is not online and available during the hour the RSE is evaluating

Stakeholders offered varying levels of support for the CAISO's proposal to credit capacity made available to the real time market through the STUC horizon (2 of 2)

Proposal: Consider capacity made available through the STUC horizon

- The capacity test is intended to ensure that EIM participants offer sufficient capacity to the EIM to meet their demand and uncertainty
- DFP provides additional detail about how this would be implemented

Stakeholders offered varying levels of support for the CAISO's proposal to address load conformance phase 2 of the proposal (1 of 2)

Support: MSC, NVE, PG&E and Vistra

Do not Support: BPA, Joint EIM Entities, PPC

- Comments suggest that entities believe that this benefits the CAISO in ways not available to other EIM participants
- Commenters expressed varying levels of confidence regarding the ability for flexible ramping product refinements or day-ahead market enhancements to reduce load bias need

Stakeholders offered varying levels of support for the CAISO's proposal to address load conformance phase 2 of the proposal (2 of 2)

Proposal: Do not address load conformance in phase 1 of the proposal. If desired by stakeholders, address load conformance in phase 2, in a manner that captures equally all actions take by EIM entities to secure supply in excess of their forecasted demand

- Load conformance is CAISO's most efficient mechanism to take actions that secure additional import supply or ensure the access to additional internal capacity. The results of load conformance are analogous to EIM entities bilaterally scheduling more interchange, or base scheduling online additional resources

Some stakeholders supported the CAISO's plan to begin phase 2 following the implementation of the phase 1 enhancements, while others request phase 2 begin immediately

Support for starting immediately following phase 1: BPA, Joint EIM Entities, PPC and SRP

Support for starting following the implementation of the phase 1 accuracy enhancements: CALCCA, NVE, PG&E and PGP

- The CAISO is open to starting phase 2 immediately after the conclusion of phase 1, however requests that stakeholders comment on the drivers of this preference. The CAISO will consider these drivers in its prioritization of 2022/2023 policy development

PROPOSAL

The CAISO has transitioned all reporting responsibility for the EIM RSE to the Department of Market Monitoring

Actions:

- CAISO has halted its regular reporting on RSE performance
- DMM published its first report on 9/24. The CAISO requests comments on the presentation method, data granularity and any additional metrics that are desired
- The CAISO is working to provide DMM a platform for reporting metrics and providing access to underlying data on its website
- The CAISO will support the EIM Governing Body market expert with whatever information it needs to fulfill its role as prescribed by the EIM Governing Body

The CAISO proposes to provide EIM entities additional data transparency to enhance their ability to engage with the RSE

Proposal: The CAISO will provide detailed information on advisory and binding RSE results through CAISO Market Results Interface (CMRI) and Balancing Authority Area Operations Portal (BAAOP) for both the capacity and ramp sufficiency tests

- Detailed results will increase EIM entities understanding of how their resource fleet is positioned and is being evaluated by the RSE

CAISO proposes to provide each BAA their detailed RSE advisory and binding results for their capacity and flexible ramp sufficiency tests

- Enables EIM BAA's to spot check their own RSE performance and validate how their inputs are being consumed by the tests
- BAA specific data to be provided for each hour:
 - Trade Date
 - Resource's Master File ID
 - MW quantity of capacity available
 - MW ramping capacity
 - Ramping type
 - Test time
 - Load forecast
 - Export quantity
 - Uncertainty requirement
 - Diversity benefit

The CAISO proposes to count capacity made available for use to the real-time market

Proposal: Count capacity that is online in the hour under evaluation as well as capacity that was made available to the EIM through the STUC horizon that ends on the hour under evaluation

- Proposal achieves the objective of excluding capacity the real-time market was unable to access
- Prevents incentives to make uneconomic decision to ensure EIM participation
- Counting for storage will only consider SOC and bids

The CAISO disagrees that load conformance should be considered in the RSE requirements

Proposal: Do not include load conformance as a adder to the test requirements. If desired by stakeholders, designed adders that capture all capacity procurement in excess of demand forecast taken by EIM entities in phase 2

- The CAISO uses load forecast conformance to drive additional imports or commit additional internal resources. This has the same functional outcome as an EIM entity using their ability to bilaterally transact or base schedule additional resources online
 - To the extent interchange is sourced from an EIM entity, the transaction was made willingly by both parties
 - If EIM entities believe there is an advantage to be gained by this practice, it is open to all participants

The CAISO proposes to allow each EIM entity to define how their demand response programs can participate in the EIM

Proposal: Allow a demand response program's expected load modification to be accounted for by demand forecast adjustments

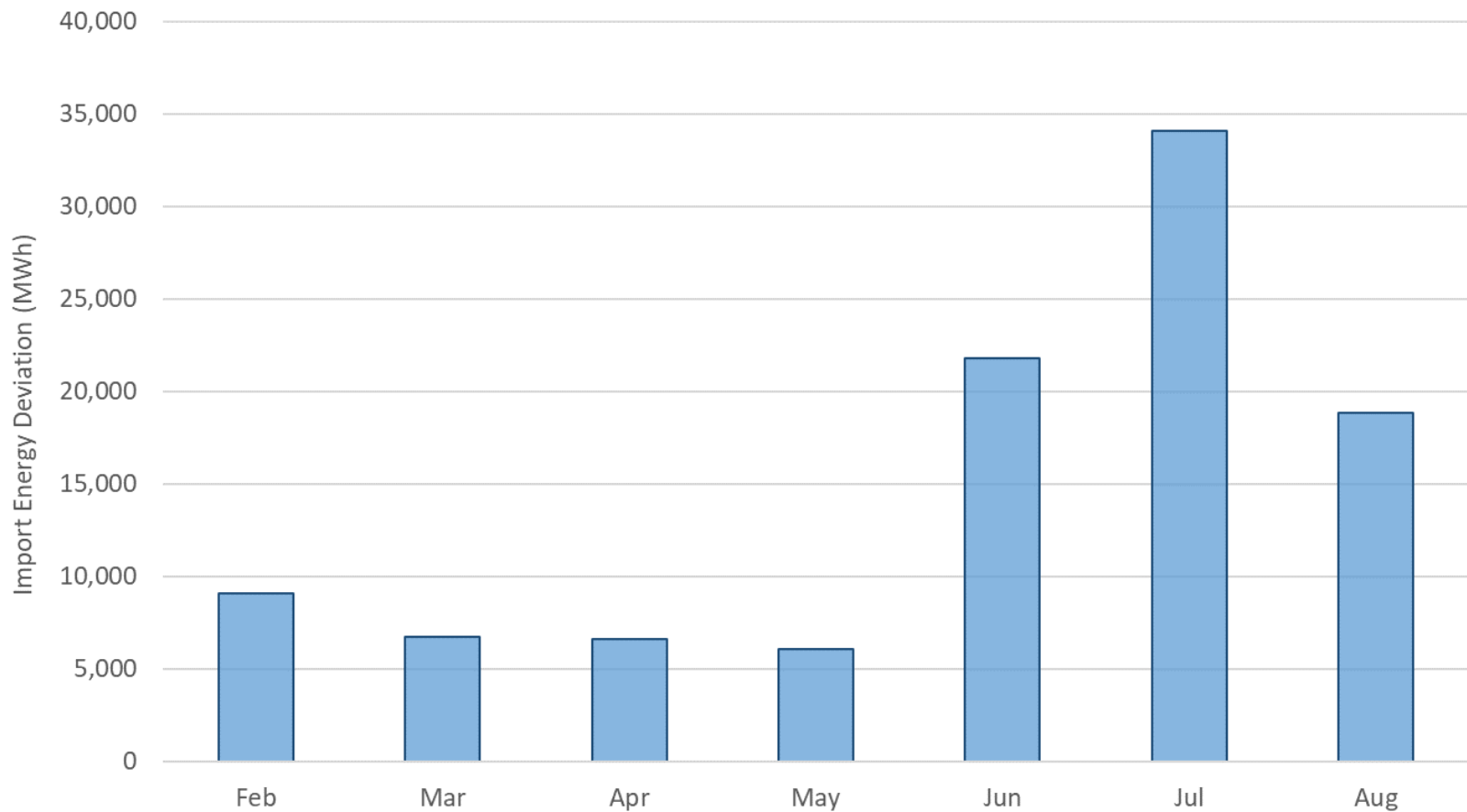
- The ability to participate in this manner is determined by each BAA; the CAISO intends to limit explicit DR participation for RSE counting to PDR and RDRR
- Adjustments will be made at CLAP using load distribution factors provided by the EIM entity
- Attestation of accurate representation of demand response program
- Auto application of over/under scheduling test

The CAISO proposes to limit interchange schedules it will count in the RSE to those it believes will be reliably delivered

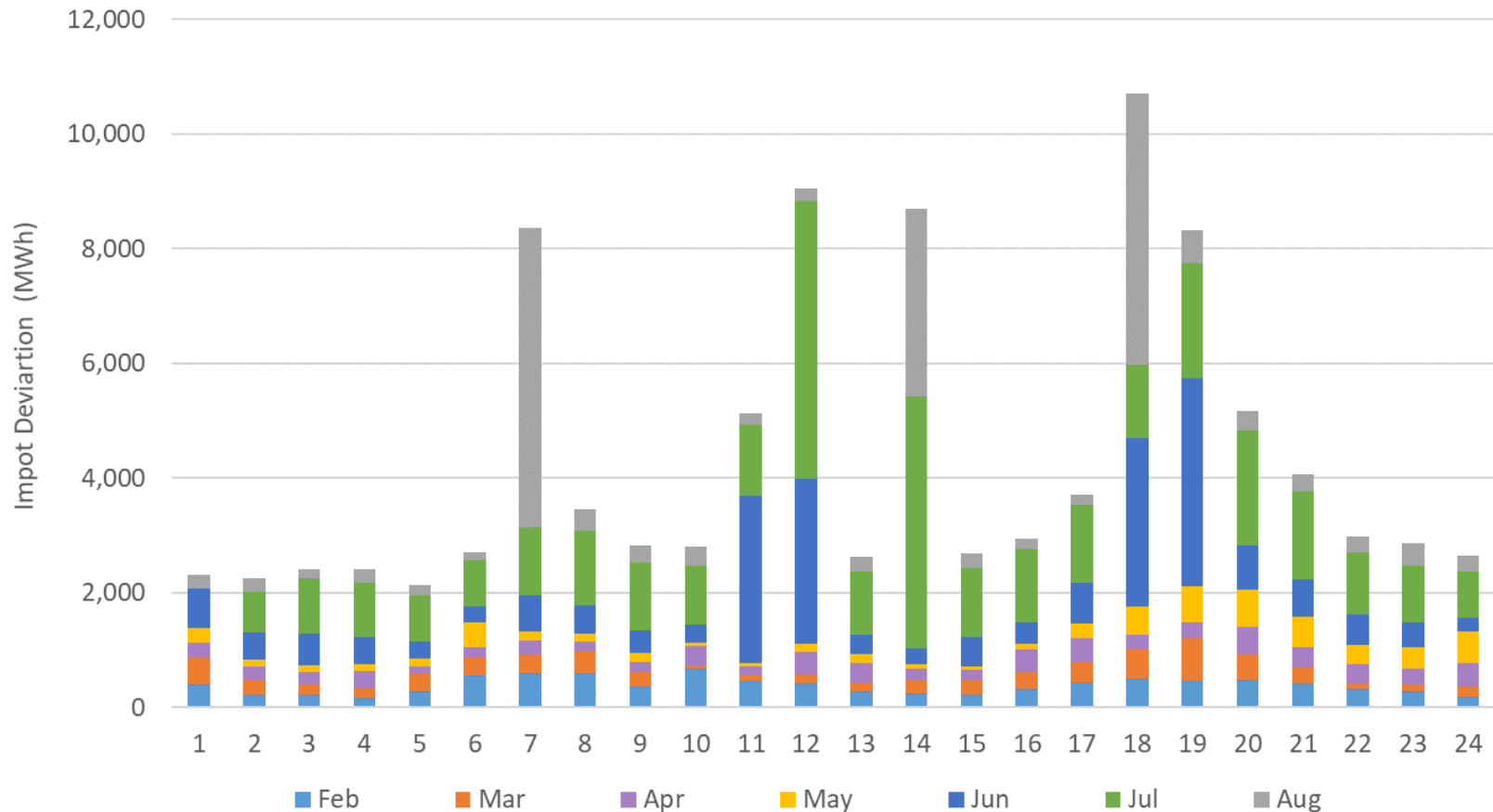
Proposal: Reduce import schedules considered by the RSE that do not have an e-Tag transmission profile 40-minutes prior to the hour

- The positive affirmation of schedule award, and submission e-Tag transmission profile show an intent to deliver on the import schedule
- Analysis shows this will lead to a sizeable discount in import awards credited to the CAISO, specifically during peak conditions

Monthly energy volume (in MWh) for import deviations for the CAISO



Hourly energy volume (in MWh) for import deviations in the CAISO

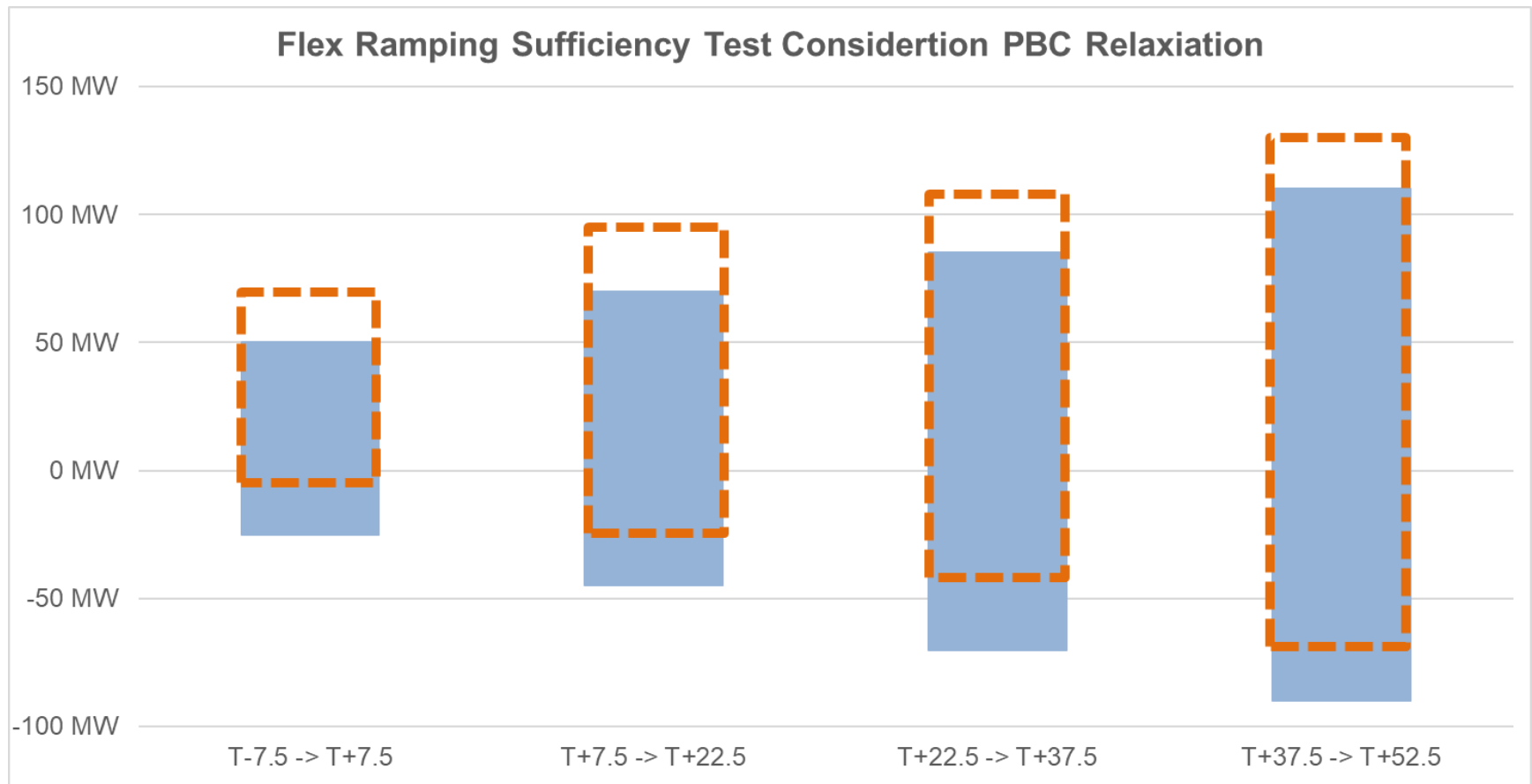


The CAISO's proposed changes should serve to reduce the occurrence of anomalous passing of the flexible ramp sufficiency test

Proposal: Include the power balance constraint relaxation, excluding load conformance, as an additional requirement to ramp in the flexible ramp sufficiency test

- Ensures ramping sufficiency test is testing the actual ramping capability needed for the next hour
- The upward ramping requirement is increased by the power balance constraint relaxation amount, while the downward requirement is decreased
- Eliminates anomalous results such as a failure of the capacity test and a passing of the ramping sufficiency test

Example of the Flexible Ramping Sufficiency Power Balance constraint relaxation implementation

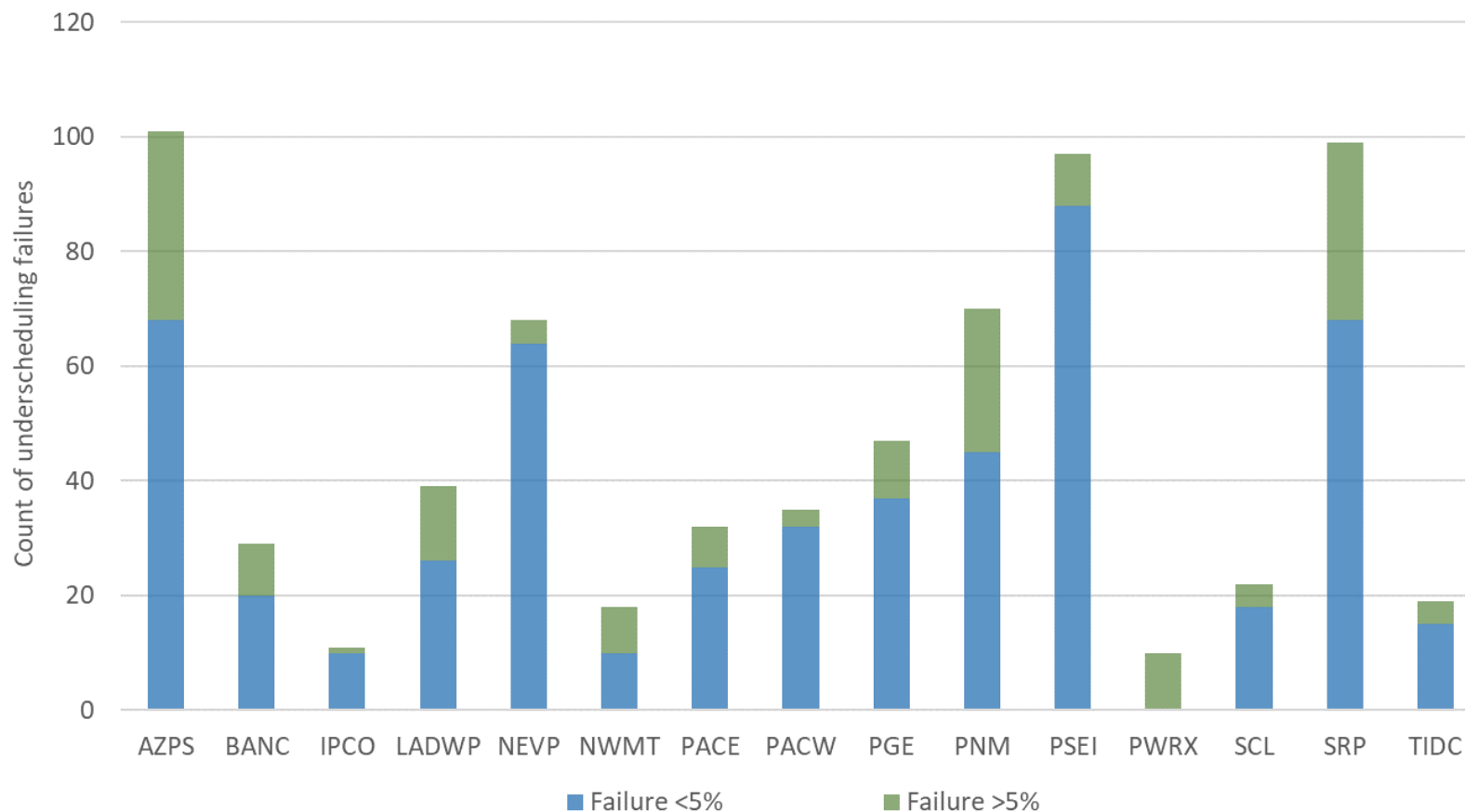


The CAISO proposes to revise elements of the balancing test to ensure that it is applied more equitably

Proposal: Continue to not apply the balancing test to any entity that does not utilize the base scheduling process. Remove said entities from penalty revenue allocation resulting from test failure

- The CAISO is differently situated on how it participates in the EIM
 - Does not possess same incentive to strategically base schedule
 - Settlement for CAISO is on day-ahead awards; convergence bidding already drives schedule alignment
- For equitability, entities who are not exposed to the tests should not derive revenue from other entities who fail the test
- Protects EIM entities from abuses in base scheduling practices

Under-scheduling over 5 percent was assessed on about 23 percent of the under-scheduling failures



The CAISO's proposed treatment for select emergency actions is appropriate as these actions should not be a mechanism to access additional transfers in the EIM

Proposal: Limit incremental EIM transfers while a BAA is utilizing firm load as reserves

- EIM entity would notify the CAISO via Base Schedule Aggregation Portal (BSAP) or similar means when these actions are taken. Software will limit incremental transfers
- EIM entities will be required to sign an attestation regarding their willingness to notify the CAISO
- This removes any potential Reliability Coordinator interaction with an EIM entities ability to participate in the EIM

The CAISO recently posted companion analysis on the intertie uncertainty calculation

- Analysis shows that intertie uncertainty has a significant impact on the volume of RSE test failures
- Analysis shows that the current confidence and 90 day look back horizon may not accurately capture future uncertainty
- The CAISO proposes to explore revisions to the intertie uncertainty adder calculation in phase 2 of the RSEE

Decisional Classification

- CAISO staff believes that the EIM GB has joint authority with the Board of Governors over the tariff rule changes proposed in Phase 1
- The changes will be applicable to EIM balancing authority areas, EIM entities, or other market participants within the EIM entity balancing authority areas, in their capacity as participants in the EIM

Schedule

Date	Milestone
Oct 6, 2021	Draft Final Proposal Posted
Oct 12, 2021	Draft Final Proposal Stakeholder Call
Oct 22, 2021	Draft Final Proposal Comments due
Nov 9, 2021	Final Proposal Posted
Nov 16, 2021	Final Proposal Stakeholder Call
Nov 22, 2021	Final Proposal Stakeholder Comments Due
Nov - Dec	Draft BRS and Draft Tariff Language Development
Mid-December	Governance Decision