



California ISO

Flexible ramping product refinements interaction with WEIM RSE


Stakeholder Meeting

May 10, 2022

Housekeeping reminders

- This call is being recorded for informational and convenience purposes only. Any related transcriptions should not be reprinted without ISO's permission.
- Meeting is structured to stimulate dialogue and engage different perspectives.
- Please keep comments professional and respectful.
- Please try and be brief and refrain from repeating what has already been said so that we can manage the time efficiently.

Instructions for raising your hand to ask a question

- If you are connected to audio through your computer or used the “call me” option, select the raise hand icon  located on the top right above the chat window. **Note:** #2 only works if you dialed into the meeting.
 - Please remember to state your name and affiliation before making your comment.
- If you need technical assistance during the meeting, please send a chat to the event producer.
- You may also send your question via chat to either Elizandra Casillas or to all panelists.

The FRP refinements policy was approved by the CAISO board and EIM GB in October 2020; the CAISO plans to implement during the fall of 2022. The policy:

- Procures FRP on a nodal basis ensuring deliverability
- Develops new methodology to calculate net-load uncertainty (quantile regression)
- Procures FRP on a demand curve based upon expected cost of foregoing procurement, i.e. likelihood foregoing procurement causing power balance infeasibility
- Revises FRP implementation in the WEIM
 - Passed BAA's receive one FRP requirements as a whole, reflective of diversity benefit of passed footprint and can participate incremental WEIM transfers
 - Failed BAA's are isolated, receive full BAA specific FRP requirement, absent the existing credit and are not able to access incremental WEIM transfers.

The CAISO in reviewing the BRS and tariff for FRP refinements determined that certain details regarding its planned nodal FRP design impact the existing WEIM RSE implementation

- FRP design will result in significant change to operation and consequences for failure of the existing WEIM RSE
 - The new methodology for allocating FRP requirements in the WEIM is predicated on isolating, and limiting transfers to an WEIM any BAA that fail's the RSE

The CAISO is soliciting stakeholder feedback prior to proposing tariff changes that change how transfers are limited following a failure of the WEIM RSE

- Implementation of the FRP design will require tariff revisions that have not previously been posted

CAISO Tariff Section 29.34.n.1.B

*the CAISO will hold the EIM Transfer limit into or from the EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area, as specified in Section 29.34(n)(2), **at the value for the last 15-minute interval.***

FRU/FRD Procurement – Presented during revised straw proposal call on 3/20/2020

- PU : set of BAAs that pass the FRU sufficiency test
- PD : set of BAAs that pass the FRD sufficiency test
- $FRUS/FRDS$: FRU/FRD demand elasticity
- j : BAA index
- i : Resources index
- T : Base

$$\left. \begin{aligned}
 \sum_{j \in PU} \sum_{i \in BAA_j} FRU_i + FRUS_{PU} &= FRUR_{PU} \\
 \sum_{i \in BAA_j} FRU_i + FRUS_j &= FRUR_j \\
 T_j &\geq \hat{T}_j
 \end{aligned} \right\}, \forall j \notin PU$$

$$\left. \begin{aligned}
 \sum_{j \in PD} \sum_{i \in BAA_j} FRD_i + FRDS_{PD} &= FRDR_{PD} \\
 \sum_{i \in BAA_j} FRD_i + FRDS_j &= FRDR_j \\
 T_j &\leq \hat{T}_j
 \end{aligned} \right\}, \forall j \notin PD$$

To ensure the failed BAA is not able to meet their obligation by leaning on WEIM, the failed BAA will have their WEIM import transfers limited to net base transfers for that BAA; these are zero for the CAISO BAA

- When a BAA fails, the WEIM optimal solution will increase dynamic transfers prior to failure in an attempt to minimize solution costs during failed interval; i.e. solution will ramp up WEIM transfers before the failed interval, potentially uneconomically, to constrain the net transfer in the failed interval at a higher level
- Isolation of failed BAA from receiving dynamic WEIM transfers aligns the cost allocation with the design of the FRP procurement
 - Does not allow passed BAAs to have resources re-optimized to meet increased FRP requirement in isolated BAA

Flexible Ramp Forecasted Movement Settlement

- **Forecasted Movement Settlement:**
 - Product of resource's forecasted movement and the difference between nodal FRUMP –FRDMP
- **The BAA passes RSE evaluation:**
 - The total Pass Group Forecasted Movement Costs shall be allocated in proration of the BAA Metered Demand to the total Pass Group Metered Demand.
- **The BAA fails RSE evaluation:**
 - The total BAA Forecasted Movement Costs shall be allocated in proration of the BAA Metered Demand to the total BAA Metered Demand.

Flexible Ramp Uncertainty Settlement

- **Forecasted Uncertainty Settlement:**
 - Product of resource's Flexible Ramp Uncertainty award (FRU/FRD) and nodal FRUMP or FRDMP, respectively
- **The BAA passes RSE evaluation:**
 - The total Pass Group Forecasted Uncertainty Costs shall be distributed to the Pass Group uncertainty Category (Supply, Intertie, or Load) and then allocated in proration of the resource Deviation to the total category deviation.
- **The BAA fails RSE evaluation:**
 - The total BAA Forecasted Uncertainty Costs shall be distributed to the BAA Uncertainty Category (Supply, Intertie, or Load) and then allocated in proration of the resource Deviation to the total BAA category deviation.

Currently following a failure of the WEIM RSE, transfers are limited to the greater of the base transfer, or the transfer in the last passed 15-minute interval

- This design ensures that following a failure of the RSE, a failed BAA does not experience a reliability issue through an additional reduction in transfers
 - Current HASP/RSE design allows advisory transfers to support hourly exports; constraining at transfer levels above zero mitigates the reliability and pricing impacts of this design
- RSEE Phase 2 scope includes enabling transfers with financial consequences in lieu of relaxing any BAA isolation
 - This is counter to the current FRP design proposed for fall 2022 implementation

Next Steps

- Please submit comments on the proposed tariff change as well as the potential impact to the WEIM RSE, using the commenting tool linked on the initiative webpage
 - Comments are due by end of day May 20, 2022
- Visit initiative webpage for more information: [California ISO - Flexible ramping product refinements \(caiso.com\)](https://www.caiso.com/initiative/california-iso-flexible-ramping-product-refinements)
- If you have any questions, please contact isostakeholderaffairs@caiso.com



- The ISO is pleased to be hosting the Stakeholder Symposium in-person at the Safe Credit Union Convention Center in downtown Sacramento on Nov. 9 – 10, 2022
- Registration will be open in May
 - Public notice will be issued once the site is available
- Additional information is available on the Stakeholder Symposium page on ISO's website at:
<http://www.caiso.com/informed/Pages/MeetingsEvents/StakeholderSymposium/Default.aspx>
- Please direct questions to symposiumreg@caiso.com