



Load Conformance Impact on the Resource Sufficiency Evaluation

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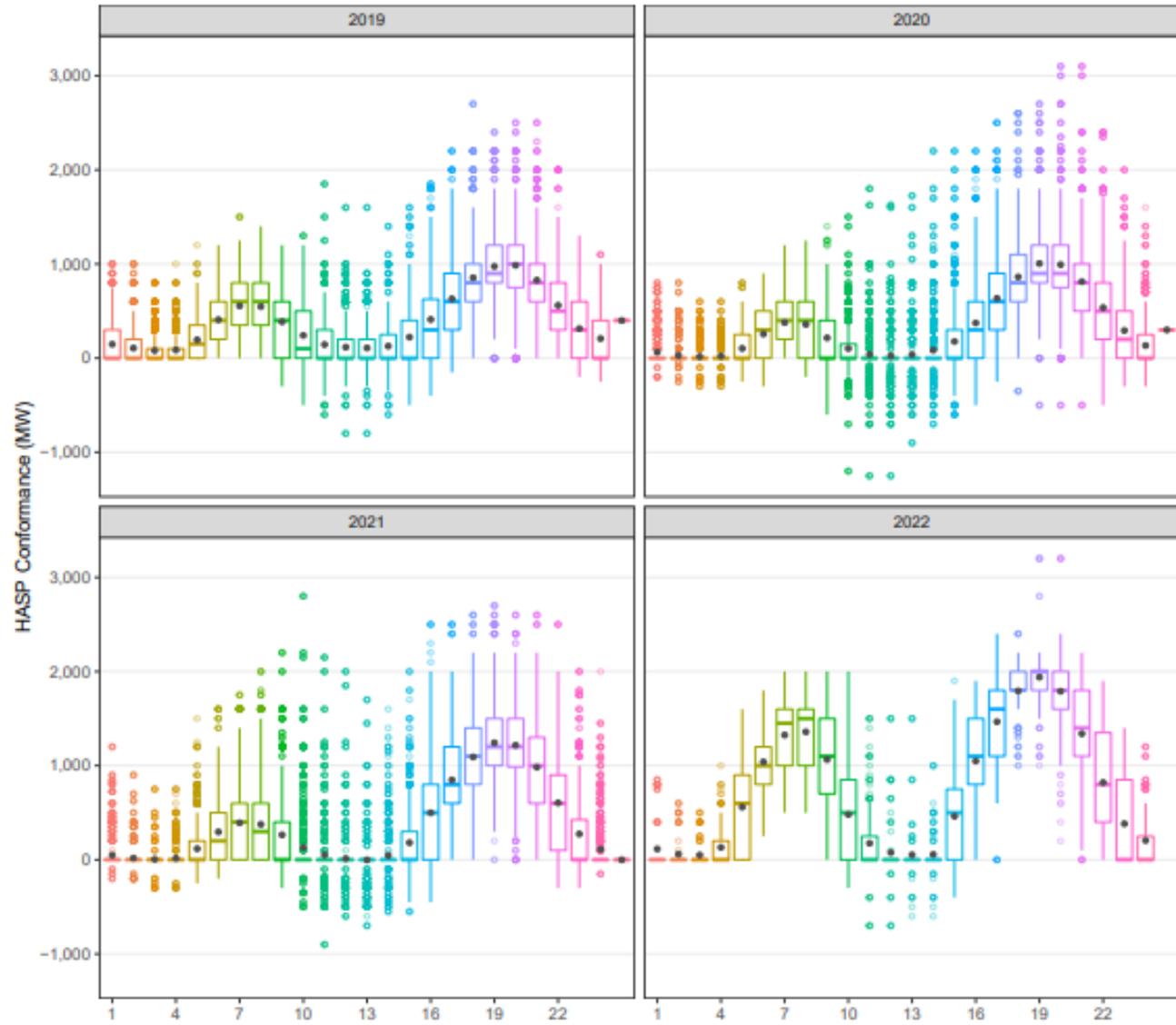
Market Analysis and Forecasting

April 1, 2022

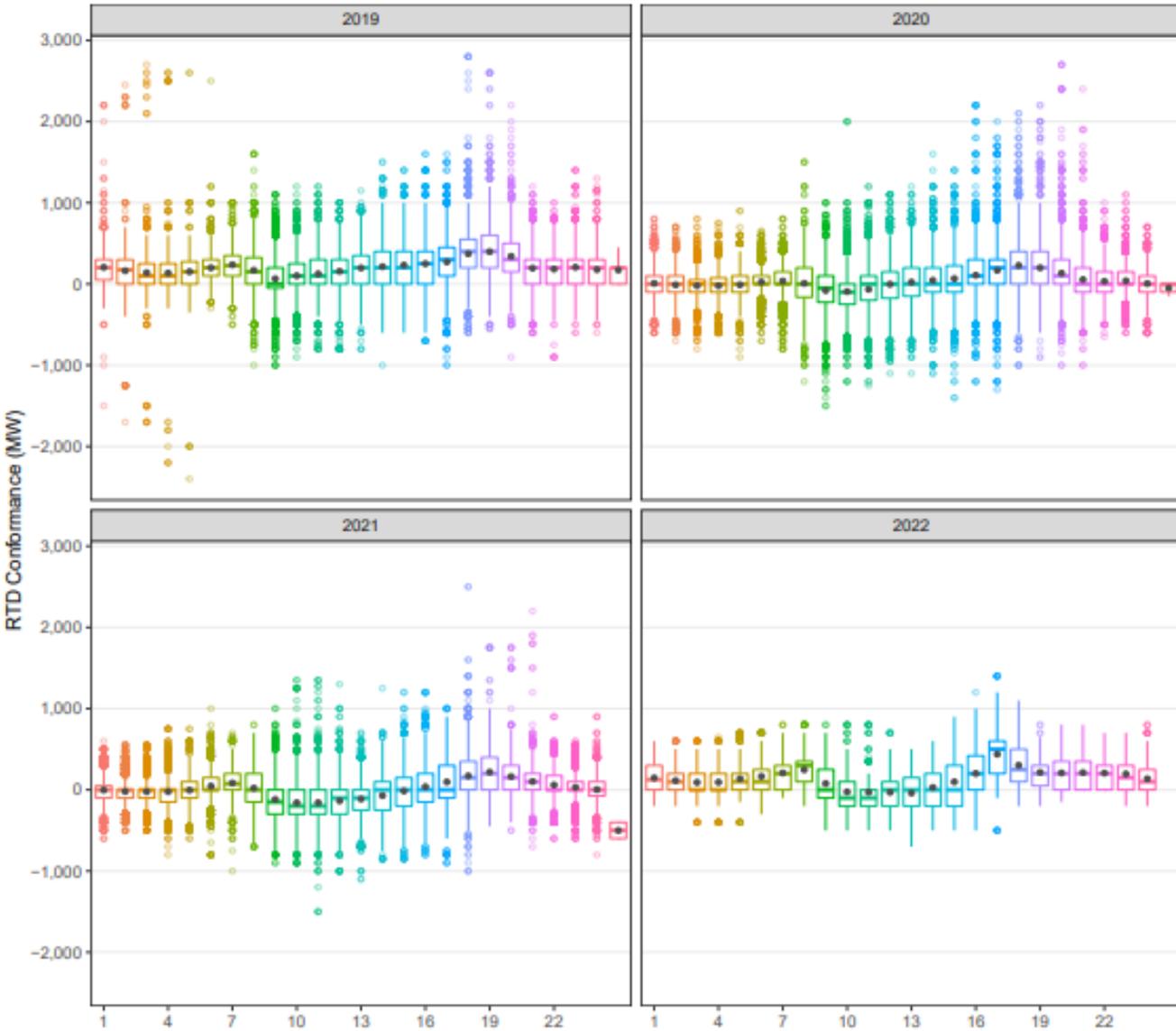
Estimated timeline to complete Analysis effort



HAS/FMM load conformance used mostly to position resources and gain ramp capability

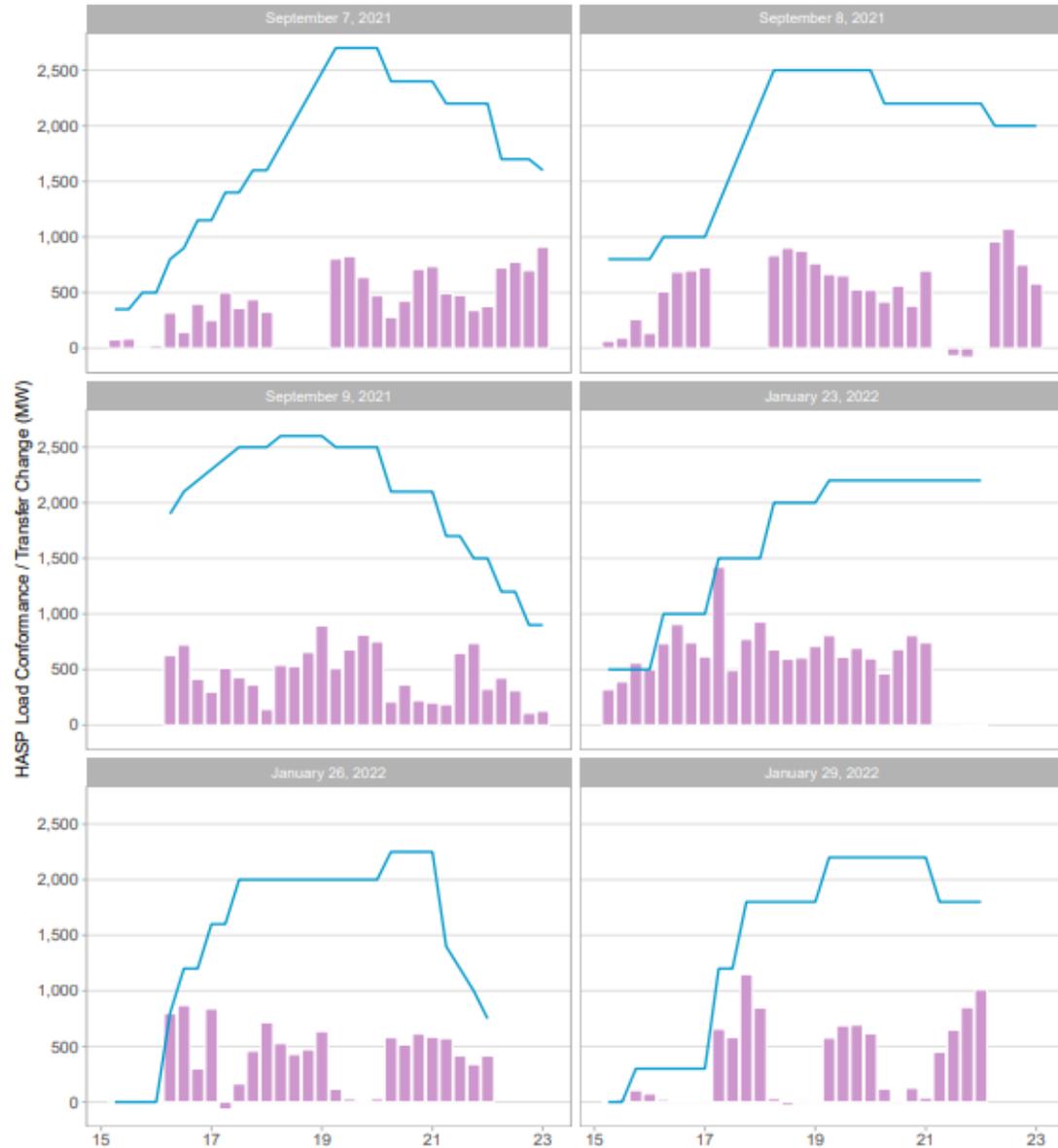


RTD load conformance is used to address imbalances in the real-time market



There is no evidence that load conformance causes a one-to-one increase in advisory WEIM import transfers

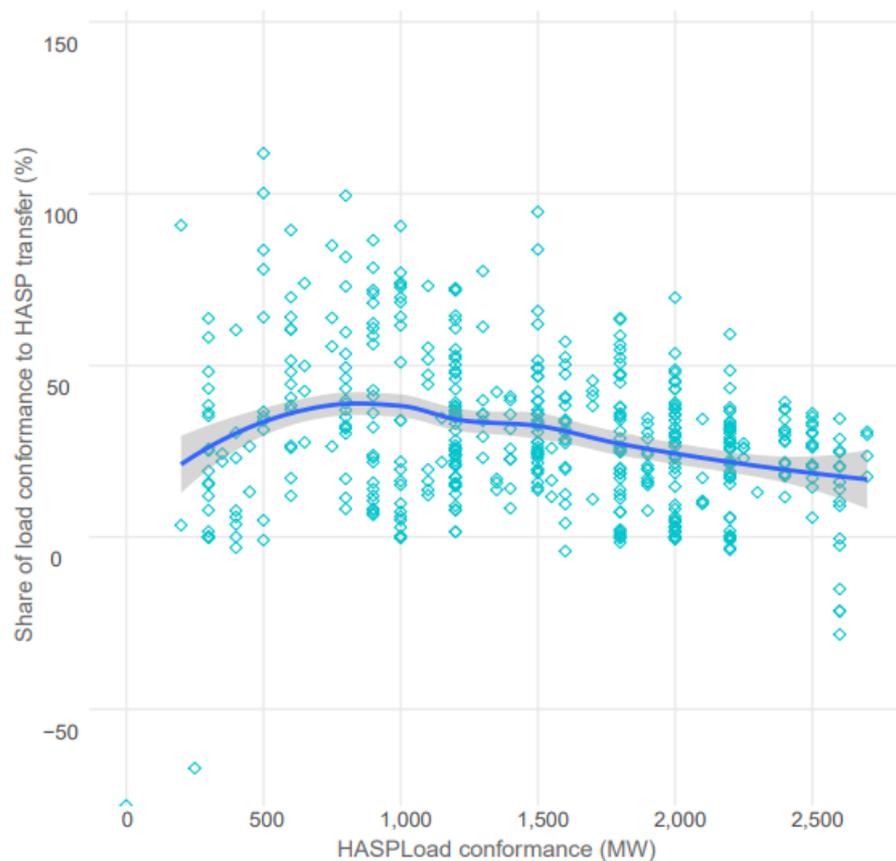
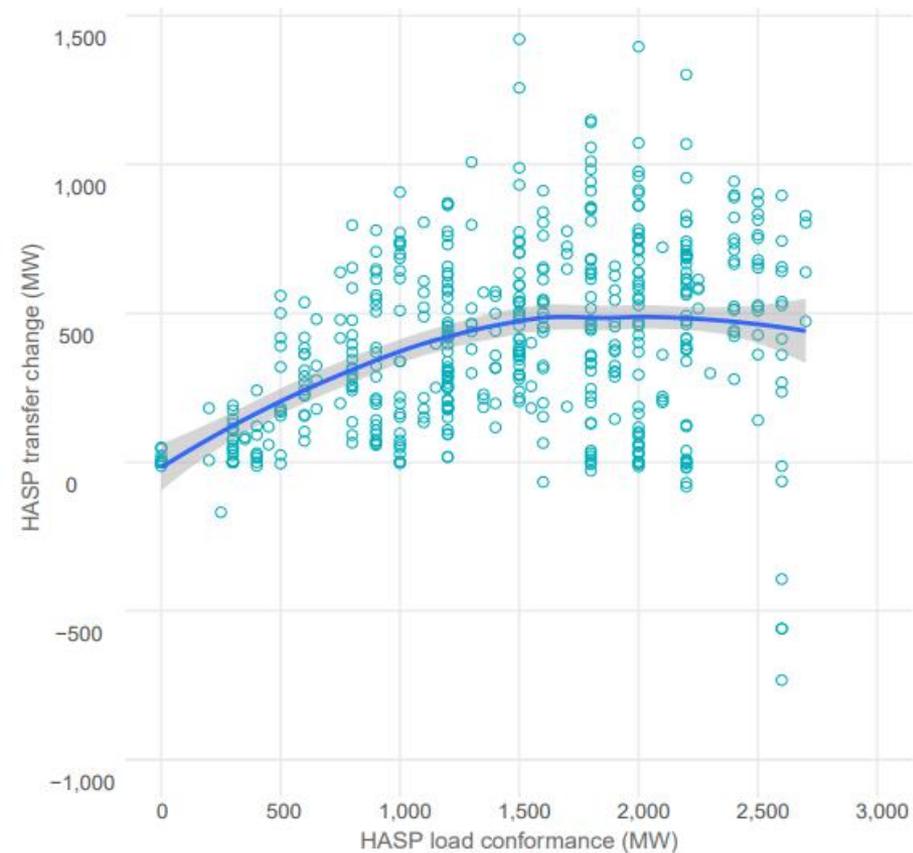
Data shows that HASP/FMM load conformance results in a fraction of it reflected as increases of advisory WEIM import transfers into CAISO



Load conformance in HASP/FMM can result in different changes in the supply side

- Increases hourly imports, or reduce hourly exports
- Incremental dispatches of CAISO's internal resources
- Increases of advisory WEIM import transfers to CAISO
- Relaxation of CAISO's power balance constraint
- Any combination of all items above

For a given load conformance value, there is no precise way to identify a priori what level of advisory import transfers will be induced in the market



The use of load conformance in HASP and FMM does not enhance the CAISO's BAA ability to pass the bid range capacity test

By design, the advisory WEIM transfers are not an input to the capacity test

Inputs to the Bid Range Capacity Test

- Fifteen-Minute Demand Forecast
 - FMM CAISO's forecast
- Imports and Exports –
For CAISO's test at T-40, only Fifteen-minute Imports and Exports bids are considered.
 - Hourly net schedule interchange schedules
 - EIM transfers are not included
- Resource Bids
- Bids for all internal supply resources
 - FMM schedules for upward Ancillary Services
- Resources' derates and rerates
- EIM transfers -either Imports or Exports- are **NOT** an input to the Bid Range Test for either CAISO or EIM area calculation
- Historical Intertie deviation Histogram data given in percentile

The objective of the Bid Range Capacity Test is simply to assess whether there is sufficient bid-range capacity in the BAA to meet its capacity requirements

If

$$\text{Bid range capacity} > \text{Capacity requirement}$$

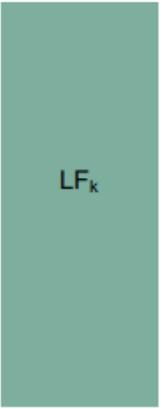
(Generation Bid range + NSI bid range)
(Load + Uncertainty + Intertie deviation)

Then

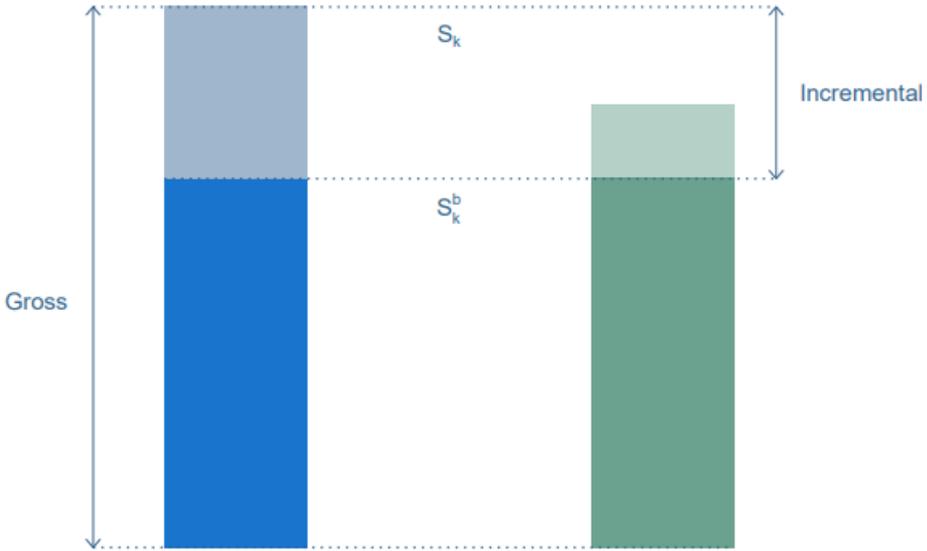
BAA passes the test



Bid Range S_k



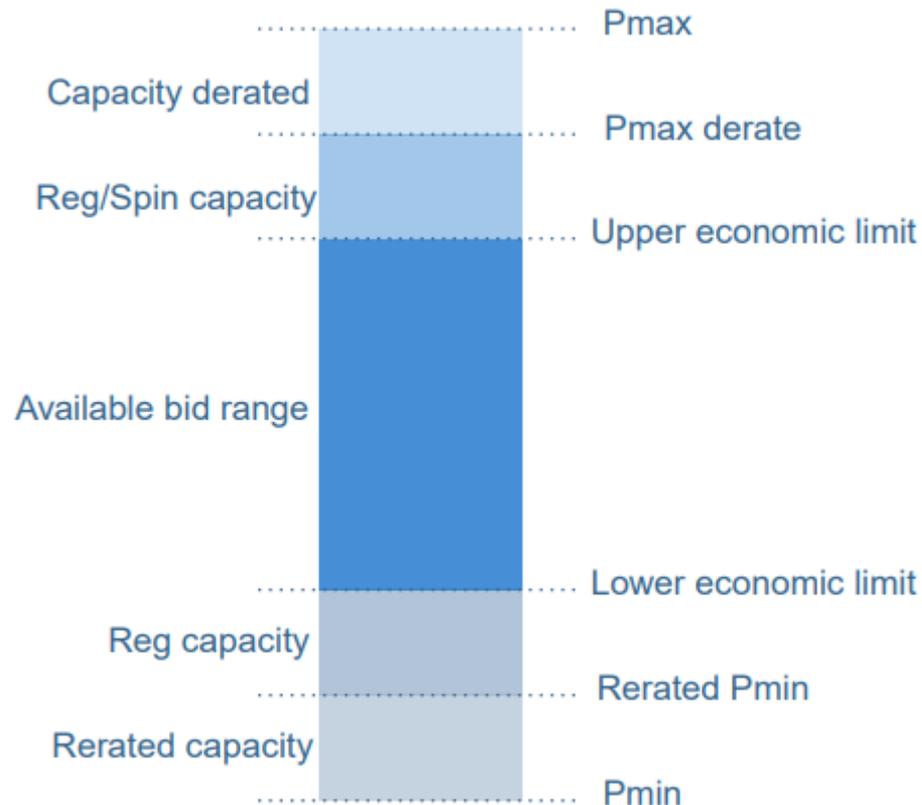
Requirement



Bid Range

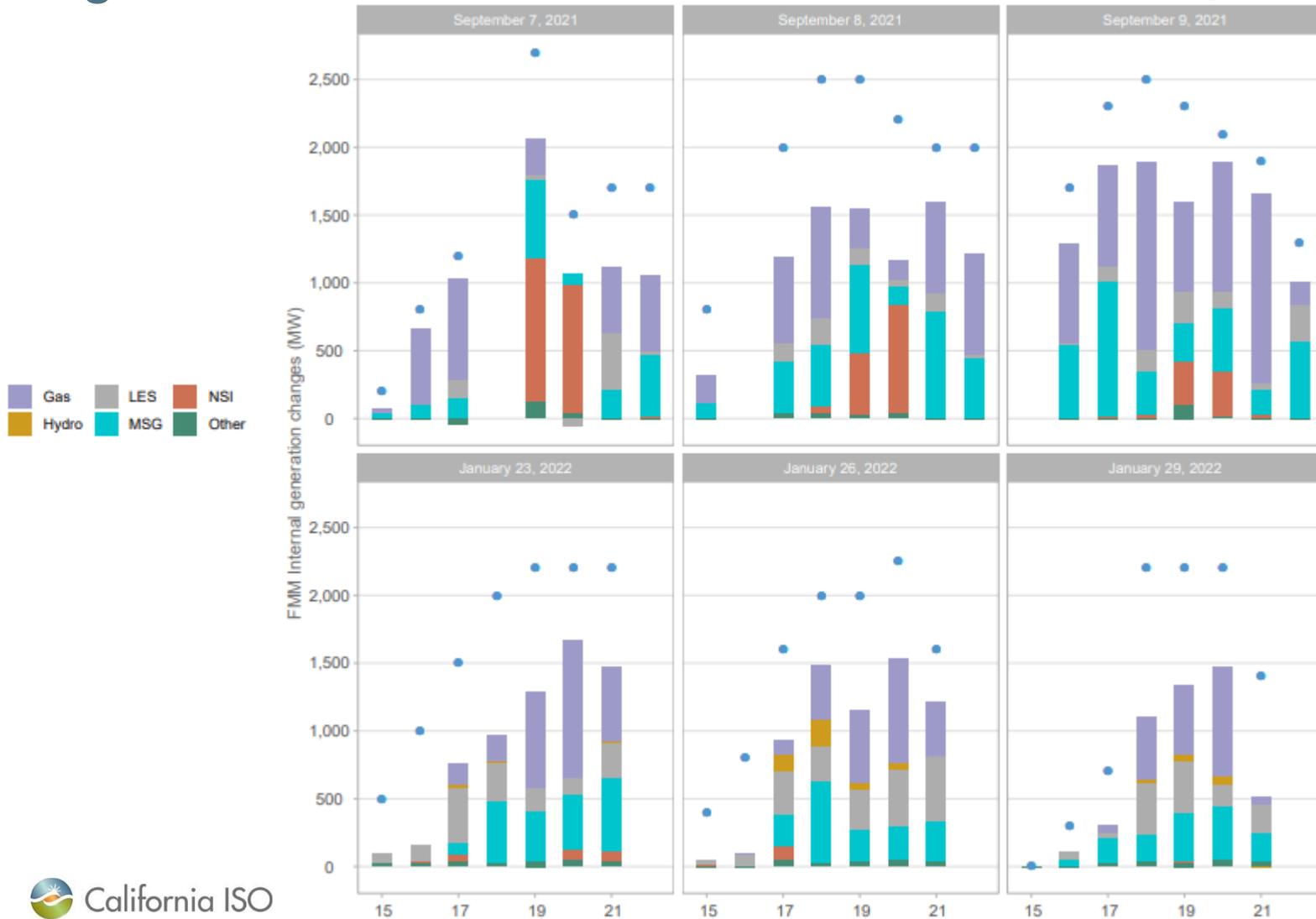
Requirement

The bid range is calculated at the resource level and reflects the capacity that is available to meet the requirement

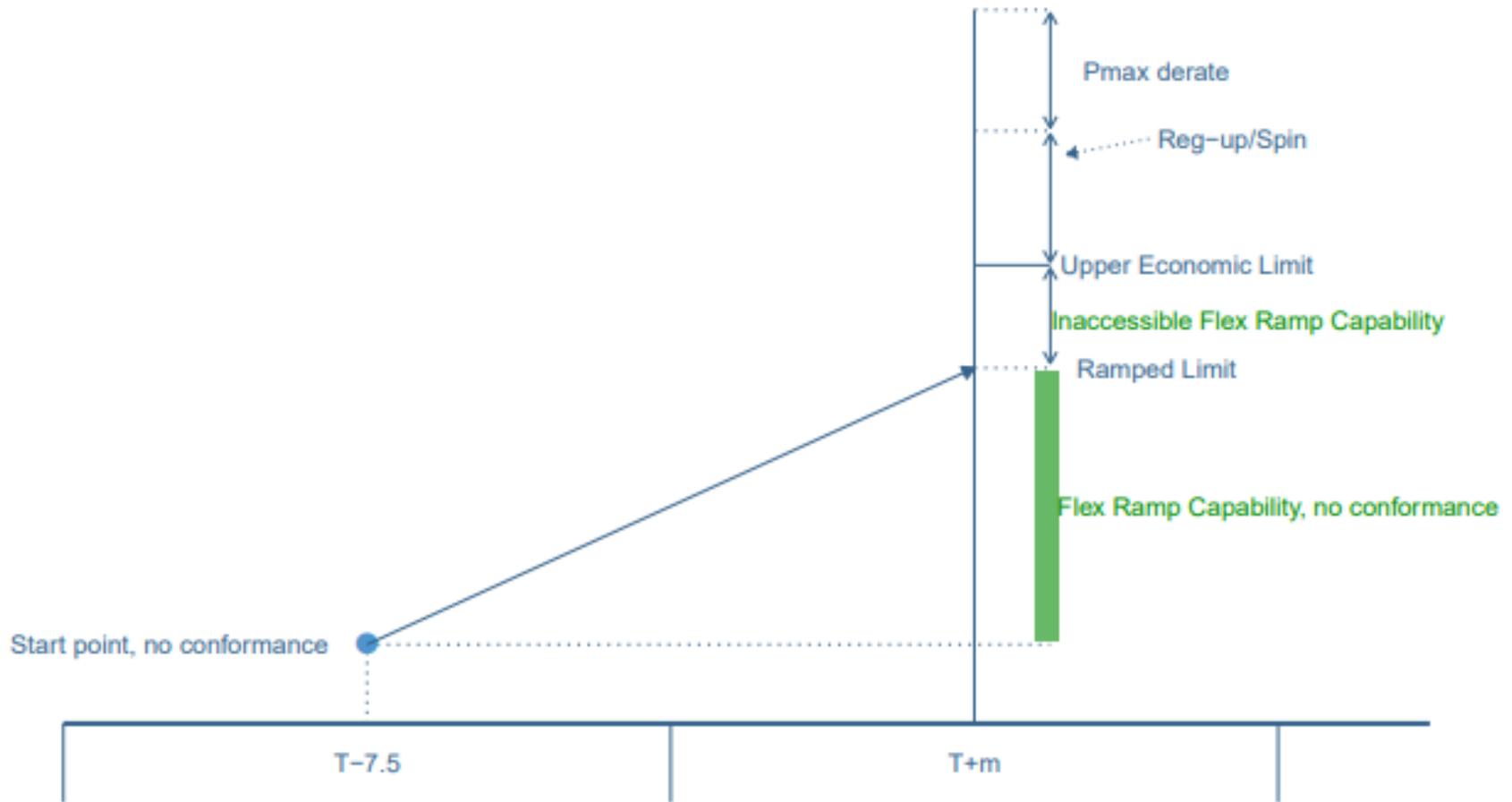


Based on the analysis done thus far, the use of load conformance in HASP and FMM does not enhance the CAISO's ability to pass the flexible ramping test

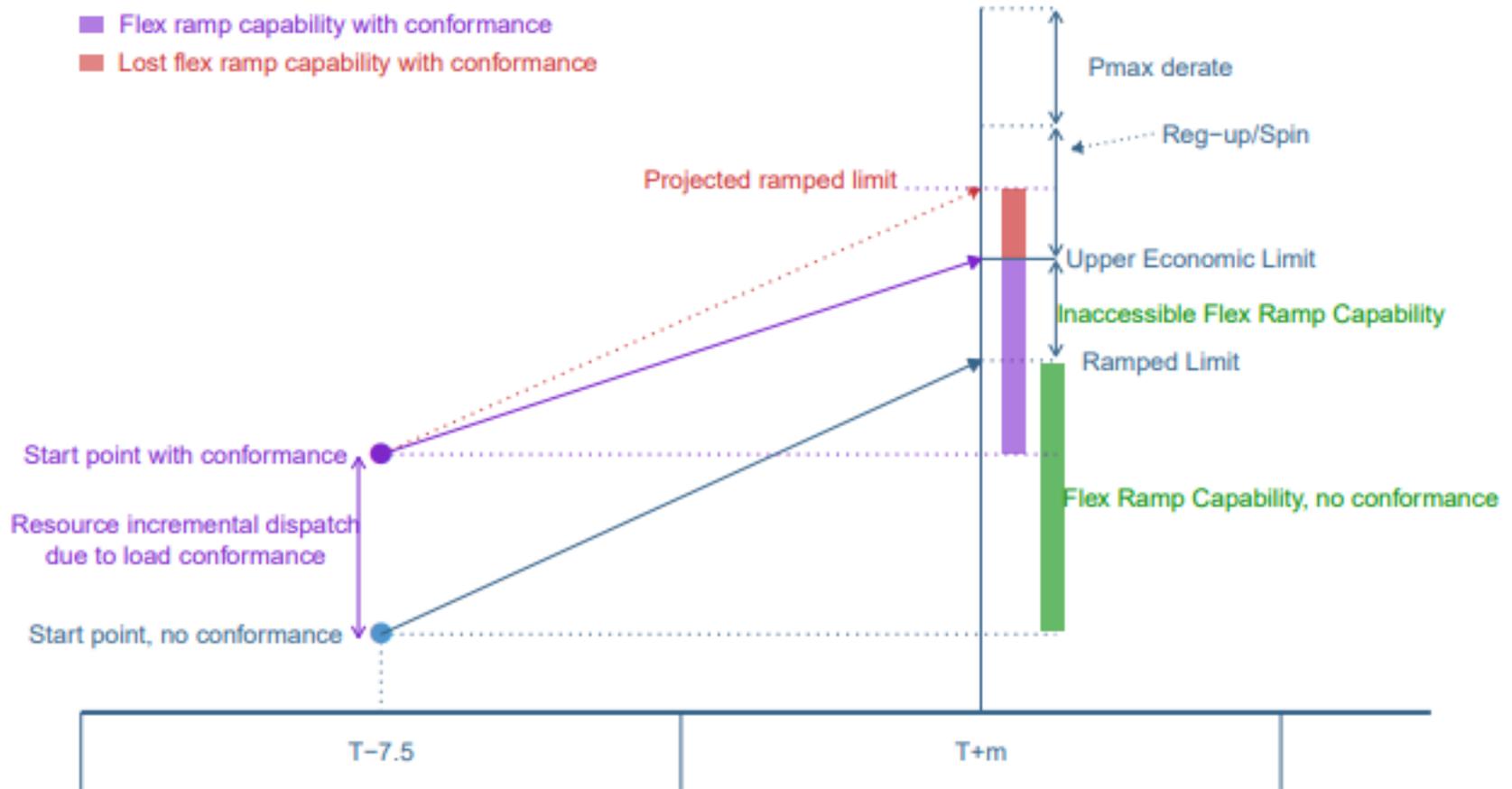
The use of Load conformance in HASP and FMM results in significant increases of internal resources dispatches



The ramp capability calculated in the test is directly determined by the last FMM solution



Incremental FMM dispatches result in higher starting points for the ramp calculation, which can result in less, not more, ramp capability due to load conformance



Load conformance used HAPS and FMM shows no benefit for CAISO to pass the test

- HAPS conformance can result in additional supply of hourly interties available for real-time and the test
- FMM conformance results in FMM already utilizing ramp capability that will no longer be available for the test
- FMM load conformance can be detrimental to CAISO's ability to pass the ramp test
- FMM load conformance is indeed already reflected to some extent in the flex test by the reduction of ramp capability or increasing ramp requirements