

Comments on EIM Resource Sufficiency Evaluation Enhancements Issue Paper

Department of Market Monitoring

September 8, 2021

Summary

The Department of Market Monitoring (DMM) appreciates the opportunity to comment on the *EIM Resource Sufficiency Evaluation Enhancements Straw Proposal*.¹ DMM supports the direction of the Straw Proposal. The proposed changes appear reasonable though additional clarifications are needed as described below. Determining the design of the tests before working on potential changes to the consequences of failing the tests seems reasonable.

DMM looks forward to providing ongoing reporting and data on the EIM tests before and after changes adopted through this stakeholder process. DMM has developed numerous metrics and has also begun to develop additional metrics and analysis aimed at helping to assess the potential impact and implications of the changes being proposed. In addition, DMM would appreciate additional suggestions on data, metrics and analysis that EIM entities would find helpful.²

Comments

The ISO and stakeholders should reassess the need for applying the balancing test to any EIM balancing area

DMM recommends that the ISO and stakeholders reassess whether or not the balancing test and over- and under-scheduling penalties are appropriate elements of the resource sufficiency test framework. Based on policy developed in the EIM Foundation stakeholder initiative, the purpose of the resource sufficiency tests appears to be to serve two purposes: (1) to prevent one EIM balancing area from leaning on others for capacity, and (2) to notify EIM Entities if base schedules are overloading flow based constraints.³

Well-designed flexible ramping sufficiency tests and bid range capacity tests may be sufficient for identifying if one area is leaning on other areas for capacity. It is not clear to DMM that there is additional value added in assessing whether or not an EIM area's MW value of base generation schedules is close to its load forecast.

¹ *EIM Resource Sufficiency Evaluation Enhancements Straw Proposal*, California ISO, August 16, 2021: <http://www.caiso.com/InitiativeDocuments/StrawProposal-EIMResourceSufficiencyEvaluationEnhancements.pdf>

² Please submit comments within this stakeholder process. If unable to do so, please submit comments to DMM directly via email to ndeb@caiso.com.

³ See section 3.3.6 of *Energy Imbalance Market Draft Final Proposal*, California ISO, September 23, 2013, pp. 37-39: <http://www.caiso.com/Documents/EnergyImbalanceMarket-DraftFinalProposal092313.pdf>

Furthermore, over- and under-scheduling penalties may be more appropriate additional consequences of failing the flexible ramping sufficiency or bid range capacity tests, rather than a consequence of base schedules not being close to load forecasts.

Therefore, DMM recommends that the ISO and stakeholders clarify what the intended purpose of the balancing test is and consider eliminating this test for all EIM areas before designing other potential changes to the balancing test.

Calculating the capacity test based on total capacity levels rather than capacity incremental to base schedules could increase clarity and accuracy

Some stakeholders have previously pointed out that calculating the capacity in the bid range capacity test as the capacity that is incremental to base schedules is less clear than simply assessing the total level of capacity that each EIM entity makes available. DMM agrees and recommends that the ISO alter the bid range capacity test to simply compare each EIM area's total non-participating and participating capacity to the area's load forecast. This would make the capacity test more clear, and could also help to eliminate some issues and complications that arise when trying to count available capacity as the capacity that is incremental to base schedules.

The base schedules for resources within the ISO are pulled from advisory intervals in the last binding 15-minute interval (T-52.5). The test then pulls incremental bid range capacity (up to maximum) from a different point in time. This amount can be positive only. Two complications resulting from this are described below.

- (1) For variable energy resources (VERs), the forecast used for the incremental bid-range capacity is based on the T-55 forecast. Since the incremental bid-range capacity can only be positive, the forecast for each VER resource will be set by the maximum of either point in time, resulting in higher VER capacity relative to using either point in time individually.
- (2) The base schedules for ISO resources are set by the advisory intervals in the last binding 15-minute interval (T-52.5) while the incremental bid-range capacity for non-VER resources is based on maximum capacity at T-40. Since the incremental approach only considers positive amounts relative to the base schedule, if the maximum capacity at T-40 is below the base schedule (for example from a recently entered outage) that will not be considered in the test. Instead, an approach based on more recently available inputs for the total available capacity of resources would improve the accuracy of the test.

Including power balance relaxations in flexible ramping sufficiency test is appropriate.

DMM agree that including the power balance relaxations is appropriate. For example, if a BAA is 10 MW short in an interval, the BAA would need to meet the net load ramp plus this 10 MW to avoid a power balance shortage in the next interval.

Accounting for capacity available in STUC is appropriate but needs some clarification.

Including capacity that is reachable within the short-term unit commitment (STUC) time horizon is appropriate. This is capacity available to the real-time markets and whose commitment decisions are affected by the optimization over the entire Western EIM.

There are some clarifications on the counting of available capacity within STUC that would be helpful in defining the ISO's policy and for DMM to code metrics to assess the proposed policy. Will the start-up times used in the test be static or be *cold*, *warm*, or *hot* start times depending on a resource's current state? Will the offline capacity committable by STUC be counted fully or will the start-up time and ramp capability limit what is counted in the test? How will capacity that is coming back from outage be counted?

Clarify how demand response will be used in capacity test

The ISO should clarify that dispatched non-participating demand response will reduce the load forecast used in the resource sufficiency tests. The ISO should also clarify that available but non-dispatched non-participating demand response will not reduce the load forecast used in the test. This would be consistent with DMM's understanding of how reliability demand response resources (RDRR) are intended to be accounted for in the tests. Participating demand response (PDR) capacity this is bid in to the real time market will continue to be counted as available capacity in the tests.

Clarify and justify any proposed changes to how non-participating demand response will impact load imbalance settlement.

In the straw proposal section concerning demand response in the resource sufficiency tests, the ISO states, "[t]o do this, the load adjustment will also be accounted for in the calculation of the load base schedule that is used to determine imbalance for settlement purposes."⁴ DMM is concerned that adjusting the load base schedule used to determine imbalance energy could result in systematically imbalanced base schedules and uplift allocated to EIM entities.

DMM's understanding is that the quantity of load considered to be base schedule load for the purpose of calculating imbalance settlements should simply be set equal to the quantity of base schedule generation submitted by an EIM entity or sub-entity. Adjusting the load used to determine imbalance settlements based on non-participating load counted towards meeting resource sufficiency tests could disrupt load and generation base schedules being balanced. This could result in unintended detrimental consequences. Therefore, DMM requests that the ISO clarify in detail how it proposes to change the load base schedules used to determine imbalance for settlement purposes, and to clearly justify any changes.

⁴ August 16 straw proposal, p. 15.

Clarify that intertie uncertainty calculation will be updated given new tagging requirements

The ISO proposes only counting imports that have been tagged at T-40 in the resource sufficiency tests. Currently the ISO uses historical non-delivery to add uncertainty of import delivery to the tests. This includes imports not tagged by T-40. The ISO should clarify if the intertie uncertainty calculation will be updated to only calculate the uncertainty of tagged schedules at T-40 not delivering.

DMM agrees that BAAs that have declared capacity shortages should fail the capacity test

As stated in our prior comments, if a BAA declares emergency conditions because it is short on capacity, this should signal to the EIM tests that the BAA has insufficient capacity. Therefore DMM agrees that BAAs that have declared capacity shortages should automatically fail the capacity test.

Additional considerations for adding uncertainty to the capacity and sufficiency tests

The uncertainty component used in the capacity and flexible ramping sufficiency tests is currently pulled from the fifteen-minute market flexible ramping product uncertainty calculations. However the tests occur in a different timeframe than the fifteen-minute market.

The 15-minute market uncertainty is calculated from error between binding 5-minute market net load (each T-7.5) and advisory 15-minute minute market net load (each T-37.5). In contrast, the VER and load forecast values used in the test are pulled 55 minutes prior to each hour. The ISO should calculate the uncertainty adders for the tests on a consistent timeframe.

Further, the current uncertainty adder for the tests is based on the 97.5 percentile of net load error. The ISO and stakeholders should explicitly consider whether this percentile, or another, is most appropriate for the tests.