**Final Draft Redline Based on EIMGB/Board Memorandum Dated February 2, 2022**

(adjustments made primarily to align implementation with the approved policy)

**\*\*\*\*Incremental Changes From the Version Posted on 2/3/22 Shaded in Blue\*\*\*\***

## 29.34 EIM Operations

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(e) **EIM Resource Plan.**

(1) **In General.** By 10:00 a.m. of the day preceding the Operating Day, the EIM Entity Scheduling Coordinators on behalf of non-participating resources and EIM Participating Resource Scheduling Coordinators on behalf of EIM Participating Resources, must submit all applicable components of the EIM Resource Plan as set forth in Section 29.34(e)(3).

(2) **Scope.** The EIM Resource Plan components must cover a seven day horizon (with hourly detail for each resource) beginning with the Operating Day.

(3) **Contents.** The EIM Resource Plan shall comprise –

(A) EIM Base Schedules of EIM Entities and EIM Participating Resources;

(B) Energy Bids (applicable to EIM Participating Resources only);

(C) EIM Upward Available Balancing Capacity;

(D) EIM Downward Available Balancing Capacity;

(E) EIM Reserves to Meet NERC/WECC Contingency Reserves Requirements; and

(F) if the EIM Entity Scheduling Coordinator is not relying on the CAISO’s Demand Forecast, a Demand Forecast.

(4) **Contents of EIM Base Schedules.** EIM Base Schedules of EIM Entities must include hourly-level Demand Forecasts for EIM Demand, hourly-level schedules for resources, and hourly-level scheduled Interchanges.

(5) **Adjustment Prior to Submission of Real-Time EIM Base Schedules.** The EIM Entity Scheduling Coordinator may adjust the components of the EIM Resource Plan prior to the submission of Real-Time EIM Base Schedules up to 75 minutes before the Operating Hour.

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(j) **CAISO Validation and Feasibility Test.** The CAISO Markets systems will validate the initial EIM Resource Plan by 1:00 p.m. on the day before the Operating Day, and within 15 minutes of the submission of EIM Base Schedules or adjustments to EIM Base Schedules, the CAISO will validate the EIM Resource Plan and notify the EIM Entity Scheduling Coordinator-

(1) if the EIM Resource Plan is not balanced;

(2) if the EIM Resource Plan provides insufficient Flexible Ramping Product capacity to meet requirements determined pursuant to Section 29.34(m); and

(3) if the CAISO anticipates Congestion based on the submitted EIM Resource Plans.

(k) **EIM Resource Plan Balance.**

(1) **EIM Base Schedule Adjustment.** If, after the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules according to Section 29.34(f)(1)(C), Supply in the EIM Base Schedules does not balance the Demand Forecast, the CAISO will adjust the Demand in the EIM Base Schedule to equal Supply.

(2) **EIM Base Schedule Balancing Test.** The EIM Base Schedules of Supply included in the EIM Resource Plan must balance the Demand Forecast for each EIM Entity Balancing Authority Area.

(A) An EIM Entity Balancing Authority Area will be balanced if the sum of Supply from the EIM Base Schedules, including Interchange with other Balancing Authority Areas, is within one percent above or below the total Demand Forecast that the EIM Entity Scheduling Coordinator has decided to use for the associated EIM Entity Balancing Authority Area.

(B) An EIM Entity Balancing Authority Area will be out of balance if the sum of Supply from the EIM Base Schedules, including Interchange with other Balancing Authority Areas, is more or less than one percent above or below the total Demand Forecast the EIM Entity Scheduling Coordinator has decided to use for the associated EIM Entity Balancing Authority Area.

(C) If an EIM Entity Scheduling Coordinator elects to use the CAISO Demand Forecast and is not balanced as determined in Section 29.34(k)(2)(B) or the EIM Entity Scheduling Coordinator elects to use their own demand forecast, then the EIM Entity Balancing Authority Area will be assessed for over-scheduling or under-scheduling charges pursuant to Section 29.11(d)(3).

(D) A Balancing Authority Area in the EIM Area that is not subject to the balancing test in this Section 29.34(k) will not be eligible for revenue apportionment and allocation pursuant to Section 29.11(d)(3).

(l) **EIM Resource Sufficiency Evaluation – Capacity Test.**

(1) **Requirement.** The Supply, as applicable and as detailed in Business Practice Manuals, included in—

(A) the EIM Resource Plan must meet the Demand Forecast for each EIM Entity Balancing Authority Area, and

(B) the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM Schedules must meet the Demand Forecast for the CAISO Balancing Authority Area.

(2) **Supply and Demand Forecast.** Conditions and actions in the Real-Time Market will affect what Supply will be counted and what Demand Forecast will be referenced in the capacity test performed in accordance with this Section 29.34(l) and, in some cases as noted below, both this capacity test and the flexibility test performed in accordance with section 29.34(m).

(A) For purposes of this section 29.34(l) and also for purposes of Section 29.34(m) with respect to Sections 29.34(l)(2)(A)(iii) and 29.34(l)(2)(A)(iv), Supply counted in the capacity test will also include—

(i) a Short Start Unit with a Bid in the RTM through the upcoming hour that is offline in the last fifteen minute interval before the hour under evaluation provided the Short Start Unit has remaining Start-Ups in the day;

(ii) a Multi-Stage Generating Resource configuration that can reach another configuration within the timeframe for it to be counted as available in accordance with 29.34(l)(1)(A)(i), provided the resource has remaining in-state transitions to that MSG Configuration in the day;

(iii) a Multi-Stage Generating Resource transitioning between MSG Configurations or a Short Start Unit moving through a Forbidden Operating Region in the hour under evaluation, in both the capacity test and the flexibility test performed in accordance with Section 29.34(m); or

(iv) a Non-Generator Resource or storage device maximum and minimum output in the hour under evaluation based upon its State of Charge as monitored by the CAISO in the last fifteen minute interval before the hour under evaluation, and its Bids to charge or discharge Energy in the hour under evaluation, in both the capacity test and the flexibility test performed in accordance with Section 29.34(m).

(B) For purposes of this section 29.34(l) and also for purposes of Section 29.34(m) with respect to Section 29.34(l)(2)(B)(iii), Supply counted in the capacity test will not include—

(i) a Short Start Unit with a Bid in the RTM which received a Start-Up Instruction before the hour under evaluation and has failed to initiate Start-Up;

(ii) a Short Start Unit that is on Outage during the hour under evaluation or has returned from an Outage but is unable to Start-Up within the hour under evaluation; or

(iii) an Import Bid or Export Bid for delivery to or export from the CAISO Balancing Authority Area without a transmission profile in a submitted E-Tag that supports its Interchange Schedule by T-40, in both the capacity test and the flexibility test for the CAISO Balancing Authority Area performed in accordance with Section 29.34(m).

(C) Supply counted in accordance with section 29.34(l)(2)(A)(i) may be adjusted by the CAISO in accordance with the timelines and procedures provided in the Business Practice Manual for the Energy Imbalance Market to address significant overcounting of Supply available to the Real-Time Market that the Department of Market Monitoring has documented and publicly reported.

(D) Demand response under a demand response program administered in an EIM Entity Balancing Authority Area that does not otherwise qualify as an EIM Resource, *i.e.*, count as Supply, may be accounted for through a corresponding EIM Entity adjustment to their Demand Forecast, which will then be referenced in the capacity test performed in accordance with this Section 29.34(l), the flexibility test performed in accordance with Section 29.34(m), and the balancing test performed in accordance with Section 29.34(k), provided the EIM Entity submits an attestation to the CAISO in accordance with the procedures and timelines in the Business Practice Manual for the Energy Imbalance Market that certifies adjustments made to its Demand Forecast will correspond to expected increases or reductions in demand provided by the demand response.

(3) **Insufficient Supply.** An EIM Resource Plan or the CAISO equivalent, as applicable and as detailed in Business Practice Manuals, shall be deemed to have insufficient Supply to pass the capacity test if—

(A) the sum of EIM Base Schedules of Supply and the sum of the incremental or decremental offers in the Energy Bid range from EIM Participating Resources above or below their EIM Base Schedules, including Interchange with other Balancing Authority Areas, is not sufficient to meet the total Demand Forecast that the EIM Entity Scheduling Coordinator has decided to use for the associated EIM Entity Balancing Authority Area, and

(B) the sum of Supply and the sum of the incremental or decremental offers in the Energy Bid range above or below the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM Schedules is not sufficient to meet the total Demand Forecast for the CAISO Balancing Authority Area.

(m) **EIM Resource Sufficiency Evaluation – Flexibility Test.**

(1) **Review.**

(A) **EIM Entity Balancing Authority Areas.** The CAISO will review the EIM Resource Plan for an EIM Entity Balancing Authority Area pursuant to the process set forth in the Business Practice Manual for the Energy Imbalance Market and verify that it has sufficient Bids for Ramping capability, accounting for Sections 29.34(l)(2)(A)(iii), 29.34(l)(2)(A)(iv), 29.34(l)(2)(B)(iv) and 29.34(l)(2)(D), to meet the EIM Entity Balancing Authority Area upward and downward Ramping requirements within a one percent or one MW tolerance, as adjusted pursuant to Sections 29.34(m)(2), (3), and (5).

(B) **CAISO Balancing Authority Area.** The CAISO will review the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM Schedules in the CAISO Balancing Authority Area pursuant to the process set forth in the Business Practice Manual for the Energy Imbalance Market and verify that it has sufficient Bids for Ramping capability, accounting for Sections 29.34(l)(2)(A)(iii), 29.34(l)(2)(A)(iv) and 29.34(l)(2)(B)(iv), to meet the CAISO Balancing Authority Area upward and downward Ramping requirements within a one percent or one MW tolerance, as adjusted pursuant to Sections 29.34(m)(2), (3), and (5).

(C) **Power Balance Constraint and Load Conformance Considerations.** The CAISO, pursuant to the process set forth in the Business Practice Manual for the Energy Imbalance Market, will consider the quantity of any power balance constraint relaxation in the Real-Time Market solution, while excluding from consideration any constaint relaxation due to Load conformance in the Real-Time Market solution, in the determination of whether sufficient Bids for Ramping capability are available to meet the upward and downward Ramping requirements in accordance with this Section 29.34(m)(1).

(2) **Determination of EIM Diversity Benefit.** The CAISO will calculate separately the upward and downward EIM diversity benefit as the difference between the sum of the upward and downward Uncertainty Requirements for all Balancing Authority Areas in the EIM Area, and the Uncertainty Requirement for the EIM Area.

(3) **Effects of EIM Diversity Benefit.** For each Balancing Authority Area in the EIM Area, the CAISO will reduce the upward and downward Uncertainty Requirements by the Balancing Authority Area’s pro rata share of the upward and downward EIM diversity benefit in the EIM Area as may be limited by –

(A) the available net import EIM Transfer capability into that Balancing Authority Area in the case of an upward Uncertainty Requirement; and

(B) the available net export EIM Transfer capability from that Balancing Authority Area in the case of a downward Uncertainty Requirement.

(4) **Determination of Flexible Ramping Sufficiency Credit.** The CAISO will calculate for each Balancing Authority Area in the EIM Area, the upward flexible Ramping sufficiency credit as the outgoing EIM Transfer from that area and the downward flexible Ramping sufficiency credit as the incoming EIM transfer into that area.

(5) **Effect of Flexible Ramping Sufficiency Credit.** The CAISO will reduce the upward Uncertainty Requirement of a Balancing Authority Area in the EIM Area by its upward flexible Ramping sufficiency credit, and will reduce the downward Uncertainty Requirement of a Balancing Authority Area in the EIM Area by its downward flexible Ramping sufficiency credit.

(n) **Effect of EIM Resource Capacity or Flexibility Insufficiency.**

(1) **Insufficient Capacity.** If, after the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules as provided in Section 29.34(f)(1)(C), the EIM Resource Plan or the CAISO equivalent has insufficient Supply as determined according to Section 29.34(l)-

(A) the CAISO will not include the EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area in the Uncertainty Requirement of the EIM Area;

(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.

(2) **Insufficient Flexible Ramping Capability.** If, after the final opportunity for the EIM Entity to revise hourly Real-Time EIM Base Schedules or the CAISO equivalent as provided in Section 29.34(f)(1)(C), the CAISO determines-

(A) that an EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area has insufficient upward Ramping capacity according to Section 29.34(m), the CAISO will take the actions described in Section 29.34(n)(1)(A) and (B) in the upward and into the EIM Entity BAA or CAISO BAA direction; and

(B) that an EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area has insufficient downward Ramping capacity according to Section 29.34(m), the CAISO will take the actions described in Section 29.34(n)(1)(A) and (B) in the downward and from the EIM Entity BAA or CAISO BAA direction.

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