



June 7, 2022

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: California Independent System Operator Corporation

**Compliance Filing and Effective Date of Certain Resource
Sufficiency Evaluation Enhancements Tariff Amendment
Revisions**

Docket No. ER22-1278-___

Dear Secretary Bose:

On March 11, 2022, the California Independent System Operator Corporation (CAISO) proposed a tariff amendment to implement resource sufficiency evaluation (RSE) enhancements prior to summer 2022 that improve performance and address several concerns expressed by stakeholders (March 11 Filing). By order issued May 27, 2022, the Commission accepted these tariff amendments and directed the CAISO to submit a filing to inform the Commission of the actual effective date within five (5) business days of implementation of the tariff changes.¹

Due to extenuating circumstances, although the CAISO was able to implement most of the tariff changes on June 1, 2022, there is one element that will not be implemented until a later date, which is currently estimated to be June 15, 2022.² The CAISO is submitting this compliance filing to specify the effective date of the tariff changes that went into effect on June 1, 2022 and to distinguish

¹ *Cal. Indep. Sys. Operator Corp.*, 179 FERC ¶ 61,151 (2022) (May 27 Order). The Commission directed the CAISO to notify the Commission of the actual effective date of the tariff revisions within five business days of their implementation, in an eTariff submittal using Type of Filing Code (TOFC) 150 – Report. May 27 Order at Ordering Paragraph (B).

² This element will improve the accuracy of accounting for storage resources in the resource sufficiency evaluation based upon the state of charge at the time the capacity and flexibility tests are performed.

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them from the balance of the tariff changes that will go into effect on a later date.³ All of these changes are shown in this compliance filing as clean language (Attachment A) and marked language (Attachment B).

The CAISO has served copies of this filing on all the parties to the service list for this proceeding. In addition, the CAISO is posting this filing on the CAISO website.

If there are any questions concerning this filing, please contact the undersigned.

Respectfully submitted,

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³ The March 11 Filing proposed a number of redlined tariff changes within the same tariff record (version 19), which is for CAISO tariff section 29.34. All tariff changes proposed in the March 11 Filing took effect on June 1, 2022, except for new section 29.34(l)(2)(A)(iv). Therefore, the new section 29.34(l)(2)(A)(iv) in those redlines needs to be removed from the tariff record that will take effect June 1, 2022. Also, the three cross-references to the new section, which are contained within the same tariff record in section 29.34(l)(2)(A), section 29.34(m)(1)(A), and section 29.34(m)(1)(B), need to be removed from the tariff record for consistency. Due to the need to make these changes in the tariff record, the CAISO cannot technically submit this compliance filing using TOFC 150 as contemplated in the May 27 Order. The CAISO is instead submitting in the instant compliance filing a new tariff record (version 20) using TOFC 80, with a fixed effective date of June 1, 2022. On June 7, 2022, the CAISO also submitted an informational filing in this proceeding pursuant to the directive in the May 27 Order to notify the Commission, in a filing under TOFC 150, of the actual effective date of the tariff revisions within five business days of their implementation. After new section 29.34(l)(2)(A)(iv) is implemented, the CAISO will submit a second informational filing using TOFC 150, which will specify the actual effective date for the new tariff section 29.34(l)(2)(A)(iv) and the three cross-references to the new section described above, within five business days of that actual effective date.

Attachment A – Clean Tariff

Compliance Filing – Resource Sufficiency Evaluation Enhancements

California Independent Systems Operator Corporation

June 7, 2022

This clean language took effect on June 1, 2022. The portions that will not take effect until a later date have been removed. See Attachment B for the specific changes.

29.34 EIM Operations

* * * * *

- (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 Sufficiency Evaluation – Balancing Test.**
- (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).

(I) **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(I) 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 Section 29.34(l)(2)(A)(iii), 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 including the hour under evaluation;
- (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 Section 29.34(l)(1)(A)(i), provided the resource has remaining in-state transitions to that MSG Configuration in the day including the hour under evaluation; or
- (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).

(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 from a resource 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, provided that the overcounting has been identified, supported with analysis and documented by the CAISO.
 - (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)(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) 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 constraint 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 Capacity.** 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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Attachment B – Marked Tariff

Compliance Filing – Resource Sufficiency Evaluation Enhancements

California Independent Systems Operator Corporation

June 7, 2022

All redlines below, originally submitted in the March 11 filing, took effect on June 1, 2022, except for the portions **highlighted in blue**, which will take effect on a later date.

29.34 EIM Operations

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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 Sufficiency Evaluation — ~~Plan-Balancing~~ Test**.
- (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).

(I) **EIM Resource ~~Sufficiency Plan~~ Evaluation – Capacity Test.**

(1) **Requirement.** The ~~Supply~~EIM Base Schedules for resources, as applicable and as detailed in Business Practice Manuals, included in—

(A) the EIM Resource Plan must ~~balance-meet~~ the Demand Forecast for each EIM Entity Balancing Authority Area ~~and the Uncertainty Requirement determined in accordance with Section 44.2.4, and~~

(B) ~~for the CAISO Balancing Authority Area~~ the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM Schedules, ~~as applicable and as detailed in Business Practice Manuals,~~ must ~~meet~~balance the Demand Forecast for the CAISO Balancing Authority Area~~and the Uncertainty Requirement determined in accordance with Section 44.2.4.~~

(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 including the hour under evaluation;
- (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 Section 29.34(l)(1)(A)(i), provided the resource has remaining in-state transitions to that MSG Configuration in the day including the hour under evaluation; or
- (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 from a resource 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, provided that the overcounting has been identified, supported with analysis and documented by the CAISO.

(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.

(32) **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~~from non-participating resources~~ and the sum of the incremental or decremental~~highest quantity~~ 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~~is less than~~ the total Demand Forecast that the EIM Entity Scheduling Coordinator has decided to use for the associated EIM Entity Balancing Authority Area ~~and the Uncertainty Requirement determined in accordance with Section 44.2.4,~~ and

(B) _____ ~~for the CAISO Balancing Authority Area~~ 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, ~~as applicable and as detailed in Business Practice Manuals,~~ is not sufficient to meet~~are less than~~ the total Demand Forecast for the CAISO Balancing Authority Area~~and the Uncertainty Requirement determined in accordance with Section 44.2.4.~~

~~(3) **Excess Supply.** An EIM Resource Plan or the CAISO equivalent shall be deemed to have excessive Supply if the sum of EIM Base Schedules from non-participating resources and the sum of the lowest quantity Bids in the Energy Bid range from EIM Participating Resources is greater than the total Demand Forecast that the EIM Entity Scheduling Coordinator has decided to use for the associated EIM Entity Balancing Authority Area plus the Uncertainty Requirement determined in accordance with Section 44.2.4, and for the CAISO Balancing Authority Area the RUC Schedules, the HASP Advisory Schedules and HASP Intertie Block Schedules or the FMM Schedules, as applicable and as detailed in Business Practice Manuals, are greater than the total Demand Forecast and the Uncertainty Requirement determined in accordance with Section 44.2.4.~~

~~(4) **Additional Hourly Capacity Requirements.**~~

~~(A) **In General.** If the CAISO determines under the procedures set forth in the Business Practice Manual for the Energy Imbalance Market that a Balancing Authority Area in the EIM Area has historically high import or export schedule changes between forty minutes and twenty minutes before the start of the Trading Hour, the CAISO will add to the Balancing Authority Area in the EIM Area's capacity requirements an additional requirement.~~

~~(B) **Additional Capacity Requirement.** On a monthly basis, according to procedures set forth in the Business Practice Manual for the Energy Imbalance Market, the CAISO will calculate for each Balancing Authority Area in the EIM Area histograms of the percentage of the difference between imports and exports scheduled at forty minutes before the start of the Trading Hour and the final imports and exports at twenty minutes before the start of the Trading Hour based on the submitted E-Tags at those times and calculate additional upward and downward requirements for the capacity test component of the resource sufficiency evaluation.~~

~~(5) **Removal of the Uncertainty Requirement.**~~

~~For a period of 12 months after the Uncertainty Requirement has been included in accordance with this Section 29.34(l), the CAISO may upon Market Notice of at least three (3) Business Days no longer include the Uncertainty Requirement if—~~

- ~~(A) the frequency or magnitude of capacity test failures supports a conclusion that the results were unintended and caused by including the Uncertainty Requirement;~~
- ~~(B) the CAISO submits an informational report to FERC within 30 days explaining and supporting its conclusion; and~~
- ~~(C) the Uncertainty Requirement remains excluded from the capacity test unless and until FERC authorizes otherwise.~~

(m) **EIM Resource Flexible Ramping Sufficiency Evaluation – Flexibility**

Test Determination.

(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 ~~Day-Ahead Schedules 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), ~~and (6)~~.

(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 constraint 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.

~~(6) **Incremental Requirements.**~~

- ~~(i) **In General.** If the CAISO determines under the procedures set forth in the Business Practice Manual for the Energy Imbalance Market that an EIM Entity Balancing Authority Area or the CAISO Balancing Authority Area has historically high import or export schedule changes between T-40 and T-20, the CAISO will add to the EIM Entity's or the CAISO's flexible capacity requirement an additional incremental requirement.~~
- ~~(ii) **Additional Incremental Requirement.** On a monthly basis, according to procedures set forth in the Business Practice Manual for the Energy Imbalance Market, the CAISO will calculate for each EIM Entity Balancing Authority Area and the CAISO Balancing Authority Area histograms of the percentage of the difference between imports and exports scheduled at T-40 and the final imports at T-20 based on the E-Tags submitted at T-40 and T-20 and calculate additional incremental and decremental requirements for the capacity test component of the resource sufficiency evaluation.~~

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

- (1) **Insufficient Capacity Resource Plan Balance.** 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 ~~S~~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 CapacityInsufficiency.** 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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CERTIFICATE OF SERVICE

I certify that I have served the foregoing document upon the parties listed on the official service list in the captioned proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California this 7th day of June, 2022.

/s/ Jacqueline Meredith

Jacqueline Meredith
An employee of the California ISO