

February 10, 2023

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 to Reconcile Overlapping
Commission-Approved Tariff Records**

Docket No. ER23-____-000

Dear Secretary Bose:

The California Independent System Operator Corporation (“CAISO”) submits this compliance filing to reconcile overlapping tariff records in the Commission’s eTariff system, in order to reflect revisions to the same sections of the CAISO tariff the Commission has accepted in different proceedings. The CAISO does not propose any changes to Commission-approved tariff language in this filing.

The CAISO requests that the Commission accept the reconciled tariff records contained in this filing effective as of the latest effective date previously approved by the Commission for each tariff record. The Commission has accepted similar compliance filings to reconcile overlapping Commission-approved tariff records in the past¹ and the CAISO requests the Commission do the same here.

I. Background

The CAISO has identified five instances where CAISO tariff records on file in the Commission’s eTariff system do not accurately reflect the cumulative result of the Commission’s orders across the various proceedings, although individually they accurately reflect revisions to tariff sections approved by the Commission in the separate and successive proceedings in which they were filed. These situations arose due to the chronological sequence in which the tariff records were filed in the different

¹ See, e.g., *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER16-350-000 (Apr. 8, 2016); *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER16-2701-000 (Nov. 18, 2016); *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER20-1281-001 (July 31, 2020); *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER21-1304-001 (Aug. 18, 2021).

proceedings and then acted on by the Commission. From the time the CAISO files a tariff amendment to the time the Commission issues an order accepting it as of a specified effective date, several months or more may pass, especially if the Commission conditions its acceptance on the filing of revisions to certain portions of the original proposed amendment in a compliance filing. Sometimes the CAISO files tariff amendments in which some of the proposed tariff revisions include changes that affect tariff records that are the subject of pending tariff amendments that the Commission has not yet addressed.² In such circumstances, the CAISO will reconcile the tariff records at a later date after the Commission has issued the relevant orders.

II. Proposed Reconciliation

The CAISO proposes to reconcile the tariff records in Sections 29, 30, 31, 34 and 40 of the CAISO tariff. Overlapping tariff records resulted from the following proceedings:

Section 29.34: EIM Operations

- Docket No. ER22-2661, in which the CAISO refined the flexible ramp product. The CAISO made the initial filing on August 15, 2022, and the Commission accepted the tariff amendments on October 18, 2022.
- Docket No. ER23-609, in which the CAISO clarified ambiguous language and corrected typographical errors throughout multiple sections of the CAISO tariff. The CAISO made the initial filing on December 12, 2022 and the Commission accepted the tariff amendment on February 7, 2023.

Section 30.5.6: Non-Generator Resource Bids

- Docket No. ER21-2779, in which the CAISO implemented the fourth phase of the CAISO's energy storage and distributed energy resource stakeholder initiative. Those tariff changes clarified the CAISO would consider bids from certain energy storage resources in the market power mitigation process, but the CAISO would not mitigate those bids. The CAISO made the initial filing on August 27, 2021, and the Commission accepted the tariff amendments on October 26, 2021.
- Docket No. ER21-2853, in which the CAISO clarified market rules for hybrid and co-located resources. Those tariff changes clarified the CAISO would consider bids from hybrid resources in the market power mitigation process, but the CAISO would not mitigate those bids. The CAISO made the initial filing on September 8, 2021, and the Commission accepted the tariff amendments on November 30, 2021.

² The overlapping records do not always affect the same subsections. The eTariff system requires the CAISO to submit complete tariff records for any proposed tariff amendments. Thus, in cases where amendments are made to a tariff section with subsections, all subsections must be included, even if amendments are not proposed to the language. When there are overlapping filings with similar effective dates, this can cause outdated eTariff records even if the filings address different tariff sections.

Section 31.2: Day-Ahead MPM Process

- Docket Nos. ER21-2779, ER21-2853, and ER23-609 as described above.

Section 34.1.5: Mitigating Bids in the RTM

- Docket Nos. ER21-2779, ER21-2853, ER22-2661, and ER23-609, as described above.

Section 40.9.6 Non-Availability Charges and Availability Incentive Payments

- Docket No. ER19-1837, in which the CAISO clarified the payout date for surplus Resource Adequacy Availability Incentive Mechanism (RAAIM) funds. The CAISO filed an initial tariff clarification filing on May 14, 2019, which was accepted by the Commission on August 9, 2019, subject to additional revisions to Section 40.9.6.2(d). The CAISO made a September 6, 2019 compliance filing, and the Commission accepted it on October 10, 2019.
- Docket No. ER19-1641, in which the CAISO proposed numerous revisions to the Reliability Must Run (RMR) program. The CAISO made the initial filing on April 22, 2019, and the Commission ultimately approved tariff amendments on December 30, 2019.³

This compliance filing rectifies the situations described above by providing conformed tariff records that reflect the cumulative result of all the Commission-approved tariff records for the aforementioned tariff sections. This filing ensures the eTariff system reflects all approved tariff amendments and the records on the system are consistent with the conformed tariff posted on the CAISO website. The filing also satisfies the specific requirements of the Commission orders in the proceedings that accepted the provisions included in the conformed tariff record. The CAISO does not propose any changes to the Commission-approved tariff language in this filing.

Attachment A to this filing contains the clean tariff sections showing the full text of the reconciled tariff records once all the conforming changes made by this filing are incorporated. Attachment B to this filing contains the marked redline tariff sections showing the revisions made to the effective tariff records currently on file in order to fully reflect all Commission-approved language therein. Attachment C includes a chart of each tariff record, associated docket number, and effective date.

The CAISO requests that the Commission accept the reconciled tariff records contained in this filing effective as of the latest effective date previously approved by the Commission for each tariff record, as indicated in Attachment C.

³ The CAISO also filed a Response to Deficiency Letter with additional tariff language on July 26, 2019 in this docket.

III. Communications

The CAISO requests that all correspondence, pleadings, and other communications regarding this filing be served upon:

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IV. Service

The CAISO has served copies of this filing on the California Public Utilities Commission, the California Energy Commission, and all parties with Scheduling Coordinator Agreements under the CAISO tariff. In addition, the CAISO has posted a copy of the filing on the CAISO website.

V. Conclusion

For the reasons explained above, the CAISO requests that the Commission accept the reconciled tariff records contained in this compliance filing.

Respectfully submitted,

/s/ Sarah E. Kozal

Roger E. Collanton
General Counsel
Anthony Ivancovich
Deputy General Counsel
Andrew Ulmer
Assistant General Counsel
Sarah E. Kozal
Counsel

Counsel for the California Independent
System Operator Corporation

Attachment A – Clean Tariff
Tariff Reconciliation – Overlapping Filings
California Independent System Operator Corporation
February 10, 2023

29.34 EIM Operations

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(e) **EIM Resource Plan.**

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- (4) **Contents of EIM Base Schedules.** EIM Base Schedules and EIM Sub-Entities of EIM Entities must include hourly-level Demand Forecasts for EIM Demand, hourly-level schedules for resources, including any hourly-level schedules below PMin that the EIM Entity seeks an accounting for, and, for EIM Entities only, hourly-level scheduled Interchanges.

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(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 less restrictive of the value for the last 15-minute interval with sufficient Supply or the hourly Real-Time EIM Base Schedule corresponding to the 15-minute interval with insufficient Supply.

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30.5.6 Non-Generator Resource Bids

Scheduling Coordinators must ensure that Non-Generator Resource Bids or Bids from resources using Non-Generator Resource Generic Modeling functionality contain the Bid components specified in this Section 30.5 based on how the resource is then participating in the CAISO Markets, namely, whether it is providing Supply, Demand, and/or Ancillary Services Bids. Scheduling Coordinators representing Non-Generator Resources using Regulation Energy Management must submit Bids compliant with the requirements of Section 8.4.1.2.

30.5.6.1 State of Charge Bid Components

In addition to the Bid components listed in this Section 30.5, Scheduling Coordinators representing Non-Generator Resources may submit Bids including the State of Charge for the Day-Ahead Market to indicate the forecasted starting physical position of the Non-Generator Resource. In the Real-Time Markets, Scheduling Coordinators representing Non-Generator Resources may submit Bids including end-of-hour state-of-charge parameters as MWh ranges or specific MWh values. Where Scheduling Coordinators seek a state-of-charge range, they may submit a minimum and maximum MWh target. Where Scheduling Coordinators seek a specific state-of-charge value, they may submit equal minimum and maximum MWh targets. The CAISO will use reasonable efforts to commit, schedule, and dispatch Non-Generator Resources to meet their end-of-hour state-of-charge targets or ranges. Scheduling Coordinators may not submit MWh targets that (i) exceed their Master File energy or capacity limits; (ii) exceed their State of Charge limits; (iii) include a minimum MWh target greater than the maximum MWh target; (iv) conflict with RA Capacity obligations; or (v) preclude meeting an Ancillary Service Award, Schedule, or Obligation. Where Scheduling Coordinators elect to submit end-of-hour state-of-charge targets, the CAISO RTM optimization processes will give them precedence over other Bid components,

including without limitation, the Energy Bid Curve and Ancillary Services Bid. Where Scheduling Coordinators elect to submit end-of-hour state-of-charge parameters, the Non-Generator Resources will be ineligible for Bid Cost Recovery pursuant to Section 11.6.6. Scheduling Coordinators representing Non-Generator Resources using Regulation Energy Management may not include end-of-hour state-of-charge parameters.

30.5.6.2 Hybrid Resource Bids

In addition to the Bid components listed in this Section 30.5, Scheduling Coordinators representing Hybrid Resources will submit Hybrid Dynamic Limits representing Hybrid Resources' upper economic limit and lower economic limit in each Real-Time Market five-minute Trading Interval for a rolling six-hour look-ahead period. These limits will reflect the range of the Hybrid Resource's Economic Bids or Self-Schedules. Hybrid Dynamic Limits should reflect resource availability based on operating capabilities such as State of Charge and forecasted output from the variable component of a Hybrid Resource. Scheduling Coordinators may also use Hybrid Dynamic Limits to manage onsite charging of an energy storage component of a Hybrid Resource.

The CAISO will use reasonable efforts to issue Real-Time Market Schedules that respect Hybrid Dynamic Limits. Scheduling Coordinators may not submit Hybrid Dynamic Limits in the Day-Ahead Market.

* * * * *

31.2 Day-Ahead MPM Process

After the Market Close of the DAM, and after the CAISO has validated the Bids pursuant to Section 30.7, the CAISO will perform the MPM process, which is a single market run that occurs prior to the IFM Market Clearing run. The Day-Ahead MPM process determines which Bids need to be mitigated to the applicable Default Energy Bids in the IFM pursuant to Section 31.2.3. For Maximum Net Dependable Capacity of Legacy RMR Units, Bids will be mitigated to the RMR Proxy Bids pursuant to Section 31.2.3. The Day-Ahead MPM process optimizes resources to meet Demand reflected in Demand Bids, including Export Bids and Virtual Demand Bids, and to procure one hundred (100) percent of Ancillary Services requirements based on Supply Bids submitted to the DAM. Virtual Bids and Bids from Demand

Response Resources, Participating Load, and Hybrid Resources are considered in the MPM process, but are not subject to Bid mitigation. Energy storage resources whose PMax is less than five (5) MW are considered in the MPM process, but not subject to Bid mitigation. Bids from Participating Load resources that are not subject to Bid mitigation will also be considered in the MPM process. The mitigated or unmitigated Bids and RMR Proxy Bids identified in the MPM process for all resources that cleared in the MPM are then passed to the IFM. The CAISO performs the MPM process for the DAM for the twenty-four (24) hours of the targeted Trading Day.

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34.1.5 Mitigating Bids in the RTM

34.1.5.1 Generally

After the Market Close of the RTM, after the CAISO has validated the Bids pursuant to Section 30.7 and Section 34.1.4, and prior to conducting any other RTM processes, the CAISO conducts a MPM process. The results are used in the RTM optimization processes. Bids on behalf of Demand Response Resources, Participating Load, and Hybrid Resources are considered in the MPM process but are not subject to Bid mitigation. Energy storage resources whose PMax is less than five (5) MW are considered in the MPM process, but not subject to Bid mitigation.

34.1.5.2 Fifteen-Minute MPM

The CAISO conducts the MPM process as the first pass of each fifteen-minute interval in the RTUC horizon starting with the unmitigated Bid set as validated pursuant to Section 30.7 and Section 34.1.4. The MPM process produces results for each fifteen-minute interval of the RTUC horizon and thus may produce mitigated Bids for any given resource for any fifteen-minute interval in the RTUC run horizon that applies to any CAISO Market Process that is based on a specific RTUC run. The determination as to whether a Bid is mitigated is made based on the non-competitive Congestion component of each LMP for each fifteen-minute interval of the RTUC run horizon, using the methodology set forth in Section 31.2.3 except that a resource may have a non-competitive Congestion component in a fifteen-minute interval based on a Transmission Constraint deemed non-competitive either in the base case for meeting

Demand or in the cases of modeling the dispatch of Energy for the capacity corresponding to upward and downward Uncertainty Awards, respectively. If a Bid is mitigated in the MPM pass for a fifteen-minute interval in the RTUC run horizon, the mitigated Bid will be utilized in the corresponding binding HASP and FMM process for the fifteen-minute interval. If a Bid is not mitigated in a fifteen-minute MPM pass, the CAISO will still mitigate that Bid in subsequent fifteen-minute intervals of the RTUC horizon if the MPM pass for the subsequent intervals determine that mitigation is needed.

34.1.5.3 Real-Time Dispatch MPM

The RTD MPM process produces results for each five-minute interval of a Trading Hour. The determination as to whether a Bid is mitigated is made based on the non-competitive Congestion component of each LMP for each five-minute interval, using the methodology set forth in Section 31.2.3 except that a resource may have a non-competitive Congestion component in a five-minute interval based on a Transmission Constraint deemed non-competitive either in the base case for meeting Demand or in the cases of modeling the dispatch of Energy for the capacity corresponding to upward and downward Uncertainty Awards, respectively. The RTD MPM process is performed for a configurable number of RTD advisory intervals after the binding RTD interval, and the mitigated Bids are used in the corresponding RTD intervals of the following RTD.

34.1.5.4 Reliability Must Run Resources

For a Condition 1 Legacy RMR Unit, the use of RMR Proxy Bids is determined based on the non-competitive Congestion component of each LMP for each fifteen (15) minute interval of the applicable Trading Hour, using the methodology set forth in Section 31.2.3 above. If a Condition 2 Legacy RMR Unit is issued a Manual RMR Dispatch by the CAISO, then RMR Proxy Bids for all of the unit's Maximum Net Dependable Capacity will be considered in the MPM process. For both Condition 1 and Condition 2 Legacy RMR Units, when mitigation is triggered, a RMR Proxy Bid is calculated using the same methodology described above for non-RMR Units. For a Condition 1 Legacy RMR Unit that has submitted Bids and has not been issued a Manual RMR Dispatch, to the extent that the non-competitive Congestion component of an LMP calculated in the MPM process is greater than zero, and that MPM process dispatches a Condition 1 Legacy RMR Unit at a level such that some portion of its market Bid

exceeds the Competitive LMP at the Legacy RMR Unit's Location, the resource will be flagged as an RMR Dispatch if it is dispatched pursuant to a Legacy RMR Contract at a level higher than the dispatch level determined by the Competitive LMP. Both Condition 1 and Condition 2 Legacy RMR Units may be issued manual RMR Dispatches at any time to address local reliability needs or to resolve non-competitive constraints.

34.1.5.5 Competitive LMP Parameter

When a Bid is mitigated, the CAISO will add a cost, not to exceed \$0.01/MWh, to the Competitive LMP used in the MPM process prior to the DAM or RTM process. The CAISO will set the Competitive LMP Parameter as low as possible while creating a reasonable price separation between the area where mitigation applies and other areas where mitigation does not apply. The CAISO will publish the value of the Competitive LMP Parameter in the Business Practice Manual.

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40.9.6 Non-Availability Charges and Availability Incentive Payments

- (a) **Non-Availability Charges.** A resource providing local and/or system Resource Adequacy Capacity, Flexible RA Capacity, or CPM Capacity that is subject to the availability assessment in accordance with Section 40.9.3 and whose monthly availability calculation under Section 40.9.4 is below the lower bound of the monthly Availability Standard of 94.5 percent will be subject to a Non-Availability Charge for the month.
- (b) **Availability Incentive Payments.** A resource providing local and/or system Resource Adequacy Capacity, Flexible RA Capacity, or CPM Capacity that is subject to the availability assessment under Section 40.9.3 and whose availability calculation under Section 40.9.4 is above the upper bound of the monthly Availability Standard of 98.5 percent will be eligible for an Availability Incentive Payment for the month.

- (c) **No Payment or Charge.** A resource providing local and/or system Resource Adequacy Capacity, Flexible RA Capacity, or CPM Capacity that is subject to the availability assessment under Section 40.9.3 and whose monthly availability calculation under Section 40.9.4 is equal to or between the lower bound of 94.5 percent and the upper bound of 98.5 percent of the Availability Standard will not be assessed a Non-Availability Charge nor paid an Availability Incentive Payment.
- (d) **Advisory Period.** During an advisory period of April 1, 2018 through May 31, 2018, the CAISO will show the Non-Availability Charges and Availability Incentive Payments on Settlement Statements but will not include those Non-Availability Charges and Availability Incentive Payments on Invoices for financial settlement.
- (e) **Separate Calculation of Payments and Charges for Flexible RA Capacity.** The CAISO will calculate separate Non-Availability Charges and Availability Incentive Payments for Resource Adequacy Resources providing Flexible RA Capacity. For RMR Resources, the Non-Availability Charge will be based on the RMR Contract capacity costs. RMR Capacity is otherwise treated the same way as Resource Adequacy Capacity.

40.9.6.1 Determination of Non-Availability Charge

- (a) **Calculation**
 - (1) **RA Capacity.** The Non-Availability Charge for a Resource Adequacy Resource providing local, system, or Flexible RA Capacity shall be determined by the resource's average monthly RA and Flexible RA MWs multiplied by the difference between the lower bound of the monthly Availability Standard of 94.5 percent and the resource's monthly availability percentage, and multiplying the product by the RAAIM price.
 - (2) **CPM Capacity.** The Non-Availability Charge for a Resource Adequacy Resource providing CPM Capacity shall be determined by the resource's

average monthly CPM MWs multiplied by the difference between the lower bound of the monthly Availability Standard of 94.5 percent and the resource's monthly availability percentage, and multiplying the product by the maximum of the resource's CPM price and the RAAIM price.

(b) **RAAIM Price.** The RAAIM price shall be 60 percent of the CPM Soft-Cap Price in Section 43A.4.1.1.

(c) **Separate Collection of Non-Availability Charges for Flexible RA Capacity.** Separately-calculated Non-Availability Charges collected for Resource Adequacy Resources providing Flexible RA Capacity will be held separate from other Non-Availability Charges assessed for Resource Adequacy Resources.

40.9.6.2 Determination of Availability Incentive Payment

(a) **Self-Funding.** The Availability Incentive Payment will be funded entirely through the monthly Non-Availability Charges assessed. Availability Incentive Payments for Resource Adequacy Resources providing Flexible RA Capacity will be funded exclusively by Non-Availability Charges assessed against Resource Adequacy Resources providing Flexible RA Capacity.

(b) **Eligible Capacity.** The capacity of a Resource Adequacy Resource providing local, system or Flexible RA Capacity that is eligible to receive an Availability Incentive Payment shall be the resource's average monthly MWs of capacity that exceed the upper bound of the Availability Standard.

(c) **Calculation.**

(1) The monthly Availability Incentive Payment rate will equal the total Non-Availability Charges assessed for the month plus any unpaid funds under Section 40.9.6.2(d), divided by the total Resource Adequacy Capacity eligible to receive the Availability Incentive Payment that month.

- (2) The Availability Incentive Payment rate shall not exceed three times the Non-Availability Charge rate.
- (3) The Availability Incentive Payment the CAISO shall pay to each eligible resource shall equal the product of its eligible capacity and the Availability Incentive Payment rate.
- (d) **Unpaid Funds.** Any Non-Availability Charge funds that are not distributed to Resource Adequacy Resources eligible to receive Availability Incentive Payments in a month will be added to the funds available for Availability Incentive Payments in the next month and will continue to roll over to successive months until the end of the year. The CAISO distributes any unallocated funds remaining after the CAISO settles December monthly RAAIM Non-Availability Charges and Non-Availability Incentive Payments. The separate pool of undistributed Non-Availability Charge funds collected for local and/or system Resource Adequacy Capacity will be distributed to Load Service Entities based on their load ratio share for the year. The separate pool of undistributed Non-Availability Charge funds collected for Flexible RA Capacity will be distributed to Load Serving Entities based on their overall ratio of obligation to demonstrate Flexible RA Capacity for the year.

Attachment B – Marked Tariff
Tariff Reconciliation – Overlapping Filings
California Independent System Operator Corporation
February 10, 2023

29.34 EIM Operations

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(e) EIM Resource Plan.

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- (4) **Contents of EIM Base Schedules.** EIM Base Schedules and EIM Sub-Entities of EIM Entities must include hourly-level Demand Forecasts for EIM Demand, hourly-level schedules for resources, including any hourly-level schedules below PMin that the EIM Entity seeks an accounting for, and, for EIM Entities only, ~~and~~ hourly-level scheduled Interchanges.

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(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 less restrictive of the value for the last 15-minute interval with sufficient Supply or the hourly Real-Time EIM Base Schedule corresponding to the 15-minute interval with insufficient Supply.

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30.5.6 Non-Generator Resource Bids

Scheduling Coordinators must ensure that Non-Generator Resource Bids or Bids from resources using Non-Generator Resource Generic Modeling functionality contain the Bid components specified in this Section 30.5 based on how the resource is then participating in the CAISO Markets, namely, whether it is providing Supply, Demand, and/or Ancillary Services Bids. ~~In addition to the Bid components listed in this Section 30.5, Scheduling Coordinators representing Non-Generator Resources may submit Bids including the State of Charge for the Day-Ahead Market to indicate the forecasted starting physical position of the Non-Generator Resource.~~ Scheduling Coordinators representing Non-Generator Resources using Regulation Energy Management must submit Bids compliant with the requirements of Section 8.4.1.2.

30.5.6.1 State of Charge Bid Components

~~In addition to the Bid components listed in this Section 30.5, Scheduling Coordinators representing Non-Generator Resources may submit Bids including the State of Charge for the Day-Ahead Market to indicate the forecasted starting physical position of the Non-Generator Resource. In the Real-Time Markets, Scheduling Coordinators representing Non-Generator Resources may submit Bids including end-of-hour state-of-charge parameters as MWh ranges or specific MWh values. Where Scheduling Coordinators seek a state-of-charge range, they may submit a minimum and maximum MWh target. Where Scheduling Coordinators seek a specific state-of-charge value, they may submit equal minimum and maximum MWh targets. The CAISO will use reasonable efforts to commit, schedule, and dispatch Non-Generator Resources to meet their end-of-hour state-of-charge targets or ranges. Scheduling Coordinators may not submit MWh targets that (i) exceed their Master File energy or capacity limits; (ii) exceed their State of Charge limits; (iii) include a minimum MWh target greater than the maximum MWh~~

target; (iv) conflict with RA Capacity obligations; or (v) preclude meeting an Ancillary Service Award, Schedule, or Obligation. Where Scheduling Coordinators elect to submit end-of-hour state-of-charge targets, the CAISO RTM optimization processes will give them precedence over other Bid components, including without limitation, the Energy Bid Curve and Ancillary Services Bid. Where Scheduling Coordinators elect to submit end-of-hour state-of-charge parameters, the Non-Generator Resources will be ineligible for Bid Cost Recovery pursuant to Section 11.6.6. Scheduling Coordinators representing Non-Generator Resources using Regulation Energy Management may not include end-of-hour state-of-charge parameters.

30.5.6.2 Hybrid Resource Bids

In addition to the Bid components listed in this Section 30.5, Scheduling Coordinators representing Hybrid Resources will submit Hybrid Dynamic Limits representing Hybrid Resources' upper economic limit and lower economic limit in each Real-Time Market five-minute Trading Interval for a rolling six-hour look-ahead period. These limits will reflect the range of the Hybrid Resource's Economic Bids or Self-Schedules. Hybrid Dynamic Limits should reflect resource availability based on operating capabilities such as State of Charge and forecasted output from the variable component of a Hybrid Resource. Scheduling Coordinators may also use Hybrid Dynamic Limits to manage onsite charging of an energy storage component of a Hybrid Resource.

The CAISO will use reasonable efforts to issue Real-Time Market Schedules that respect Hybrid Dynamic Limits. Scheduling Coordinators may not submit Hybrid Dynamic Limits in the Day-Ahead Market.

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31.2 Day-Ahead MPM Process

After the Market Close of the DAM, and after the CAISO has validated the Bids pursuant to Section 30.7, the CAISO will perform the MPM process, which is a single market run that occurs prior to the IFM Market Clearing run. The Day-Ahead MPM process determines which Bids need to be mitigated to the applicable Default Energy Bids in the IFM pursuant to Section 31.2.3. For Maximum Net Dependable

Capacity of Legacy RMR Units, Bids will be mitigated to the RMR Proxy Bids pursuant to Section 31.2.3. The Day-Ahead MPM process optimizes resources to meet Demand reflected in Demand Bids, including Export Bids and Virtual Demand Bids, and to procure one hundred (100) percent of Ancillary Services requirements based on Supply Bids submitted to the DAM. Virtual Bids and Bids from Demand Response Resources, Participating Load, and Hybrid Resources ~~Non-Generator Resources~~ are considered in the MPM process, but are not subject to Bid mitigation. Energy storage resources whose PMax is less than five (5) MW are considered in the MPM process, but not subject to Bid mitigation. Bids from Participating Load resources that are not subject to Bid mitigation will also be considered in the MPM process. ~~Bids from resources comprised of multiple technologies that include Non-Generator Resources will remain to be subject to all applicable market power mitigation under the CAISO Tariff, including Local Market Power Mitigation.~~ The mitigated or unmitigated Bids and RMR Proxy Bids identified in the MPM process for all resources that cleared in the MPM are then passed to the IFM. The CAISO performs the MPM process for the DAM for the twenty-four (24) hours of the targeted Trading Day.

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34.1.5 Mitigating Bids in the RTM

34.1.5.1 Generally

After the Market Close of the RTM, after the CAISO has validated the Bids pursuant to Section 30.7 and Section 34.1.4, and prior to conducting any other RTM processes, the CAISO conducts a MPM process. The results are used in the RTM optimization processes. Bids on behalf of Demand Response Resources, Participating Load, and Hybrid Resources ~~Non-Generator Resources~~ are considered in the MPM process but are not subject to Bid mitigation. Energy storage resources whose PMax is less than five (5) MW are considered in the MPM process, but not subject to Bid mitigation. ~~Bids from resources comprised of multiple technologies that include Non-Generator Resources will remain subject to all applicable market power mitigation under the CAISO Tariff, including Local Market Power Mitigation.~~

34.1.5.2 Fifteen-Minute MPM

The CAISO conducts the MPM process as the first pass of each fifteen-minute interval in the RTUC horizon starting with the unmitigated Bid set as validated pursuant to Section 30.7 and Section 34.1.4. The MPM process produces results for each fifteen-minute interval of the RTUC horizon and thus may produce mitigated Bids for any given resource for any fifteen-minute interval in the RTUC run horizon that applies to any CAISO Market Process that is based on a specific RTUC run. The determination as to whether a Bid is mitigated is made based on the non-competitive Congestion component of each LMP for each fifteen-minute interval of the RTUC run horizon, using the methodology set forth in Section 31.2.3_ except that a resource may have a non-competitive Congestion component in a fifteen-minute interval based on a Transmission Constraint deemed non-competitive either in the base case for meeting Demand or in the cases of modeling the dispatch of Energy for the capacity corresponding to upward and downward Uncertainty Awards, respectively. If a Bid is mitigated in the MPM pass for a fifteen-minute interval in the RTUC run horizon, the mitigated Bid will be utilized in the corresponding binding HASP and FMM process for the fifteen-minute interval. If a Bid is not mitigated in a fifteen-minute MPM pass, the CAISO will still mitigate that Bid in subsequent fifteen-minute intervals of the RTUC horizon if the MPM pass for the subsequent intervals determine that mitigation is needed.

34.1.5.3 Real-Time Dispatch MPM

The RTD MPM process produces results for each five-minute interval of a Trading Hour. The determination as to whether a Bid is mitigated is made based on the non-competitive Congestion component of each LMP for each five-minute interval, using the methodology set forth in Section 31.2.3_ except that a resource may have a non-competitive Congestion component in a five-minute interval based on a Transmission Constraint deemed non-competitive either in the base case for meeting Demand or in the cases of modeling the dispatch of Energy for the capacity corresponding to upward and downward Uncertainty Awards, respectively. The RTD MPM process is performed for a configurable number of RTD advisory intervals after the binding RTD interval, and the mitigated Bids are used in the corresponding RTD intervals of the following RTD.

34.1.5.4 Reliability Must Run Resources

For a Condition 1 Legacy RMR Unit, the use of RMR Proxy Bids is determined based on the non-competitive Congestion component of each LMP for each fifteen (15) minute interval of the applicable Trading Hour, using the methodology set forth in Section 31.2.3 above. If a Condition 2 Legacy RMR Unit is issued a Manual RMR Dispatch by the CAISO, then RMR Proxy Bids for all of the unit's Maximum Net Dependable Capacity will be considered in the MPM process. For both Condition 1 and Condition 2 Legacy RMR Units, when mitigation is triggered, a RMR Proxy Bid is calculated using the same methodology described above for non-RMR Units. For a Condition 1 Legacy RMR Unit that has submitted Bids and has not been issued a Manual RMR Dispatch, to the extent that the non-competitive Congestion component of an LMP calculated in the MPM process is greater than zero, and that MPM process dispatches a Condition 1 Legacy RMR Unit at a level such that some portion of its market Bid exceeds the Competitive LMP at the Legacy RMR Unit's Location, the resource will be flagged as an RMR Dispatch if it is dispatched pursuant to a Legacy RMR Contract at a level higher than the dispatch level determined by the Competitive LMP. Both Condition 1 and Condition 2 Legacy RMR Units may be issued manual RMR Dispatches at any time to address local reliability needs or to resolve non-competitive constraints.

34.1.5.5 Competitive LMP Parameter

When a Bid is mitigated, the CAISO will add a cost, not to exceed \$0.01/MWh, to the Competitive LMP used in the MPM process prior to the DAM or RTM process. The CAISO will set the Competitive LMP Parameter as low as possible while creating a reasonable price separation between the area where mitigation applies and other areas where mitigation does not apply. The CAISO will publish the value of the Competitive LMP Parameter in the Business Practice Manual.

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40.9.6 Non-Availability Charges and Availability Incentive Payments

- (a) **Non-Availability Charges.** A resource providing local and/or system Resource Adequacy Capacity, Flexible RA Capacity, or CPM Capacity that is subject to the availability assessment in accordance with Section 40.9.3 and whose monthly availability calculation under Section 40.9.4 is below the lower bound of the monthly Availability Standard of 94.5 percent will be subject to a Non-Availability Charge for the month.
- (b) **Availability Incentive Payments.** A resource providing local and/or system Resource Adequacy Capacity, Flexible RA Capacity, or CPM Capacity that is subject to the availability assessment under Section 40.9.3 and whose availability calculation under Section 40.9.4 is above the upper bound of the monthly Availability Standard of 98.5 percent will be eligible for an Availability Incentive Payment for the month.
- (c) **No Payment or Charge.** A resource providing local and/or system Resource Adequacy Capacity, Flexible RA Capacity, or CPM Capacity that is subject to the availability assessment under Section 40.9.3 and whose monthly availability calculation under Section 40.9.4 is equal to or between the lower bound of 94.5 percent and the upper bound of 98.5 percent of the Availability Standard will not be assessed a Non-Availability Charge nor paid an Availability Incentive Payment.
- (d) **Advisory Period.** During an advisory period of April 1, 2018 through May 31, 2018, the CAISO will show the Non-Availability Charges and Availability Incentive Payments on Settlement Statements but will not include those Non-Availability Charges and Availability Incentive Payments on Invoices for financial settlement.
- (e) **Separate Calculation of Payments and Charges for Flexible RA Capacity.** The CAISO will calculate separate Non-Availability Charges and Availability Incentive Payments for Resource Adequacy Resources providing Flexible RA Capacity. For RMR Resources, the Non-Availability Charge will be based on the RMR Contract capacity costs. RMR Capacity is otherwise treated the same way as Resource Adequacy Capacity.

40.9.6.1 Determination of Non-Availability Charge

(a) Calculation

(1) **RA Capacity.** The Non-Availability Charge for a Resource Adequacy Resource providing local, system, or Flexible RA Capacity shall be determined by the resource's average monthly RA and Flexible RA MWs multiplied by the difference between the lower bound of the monthly Availability Standard of 94.5 percent and the resource's monthly availability percentage, and multiplying the product by the RAAIM price.

(2) **CPM Capacity.** The Non-Availability Charge for a Resource Adequacy Resource providing CPM Capacity shall be determined by the resource's average monthly CPM MWs multiplied by the difference between the lower bound of the monthly Availability Standard of 94.5 percent and the resource's monthly availability percentage, and multiplying the product by the maximum of the resource's CPM price and the RAAIM price.

(b) **RAAIM Price.** The RAAIM price shall be 60 percent of the CPM Soft-Cap Price in Section 43A.4.1.1.

(c) **Separate Collection of Non-Availability Charges for Flexible RA Capacity.** Separately-calculated Non-Availability Charges collected for Resource Adequacy Resources providing Flexible RA Capacity will be held separate from other Non-Availability Charges assessed for Resource Adequacy Resources.

40.9.6.2 Determination of Availability Incentive Payment

(a) **Self-Funding.** The Availability Incentive Payment will be funded entirely through the monthly Non-Availability Charges assessed. Availability Incentive Payments for Resource Adequacy Resources providing Flexible RA Capacity will be funded exclusively by Non-Availability Charges assessed against Resource Adequacy Resources providing Flexible RA Capacity.

- (b) **Eligible Capacity.** The capacity of a Resource Adequacy Resource providing local, system or Flexible RA Capacity that is eligible to receive an Availability Incentive Payment shall be the resource's average monthly MWs of capacity that exceed the upper bound of the Availability Standard.
- (c) **Calculation.**
- (1) The monthly Availability Incentive Payment rate will equal the total Non-Availability Charges assessed for the month plus any unpaid funds under Section 40.9.6.2(d), divided by the total Resource Adequacy Capacity eligible to receive the Availability Incentive Payment that month.
 - (2) The Availability Incentive Payment rate shall not exceed three times the Non-Availability Charge rate.
 - (3) The Availability Incentive Payment the CAISO shall pay to each eligible resource shall equal the product of its eligible capacity and the Availability Incentive Payment rate.
- (d) **Unpaid Funds.** Any Non-Availability Charge funds that are not distributed to Resource Adequacy Resources eligible to receive Availability Incentive Payments in a month will be added to the funds available for Availability Incentive Payments in the next month and will continue to roll over to ~~the successive months~~ until the end of the year. The CAISO distributes any unallocated funds remaining after the CAISO settles December monthly RAAIM Non-Availability Charges and Non-Availability Incentive Payments. The separate pool of undistributed Non-Availability Charge funds collected for local and/or system Resource Adequacy Capacity will be distributed to Load Service Entities based on their load ratio share for the year. The separate pool of undistributed Non-Availability Charge funds collected for Flexible RA Capacity will be distributed paid out or December 31, at which time the separate pool of undistributed Non-Availability Charge funds collected for local and/or system Resource Adequacy Capacity will be distributed to Load Serving

~~Entities based on their load ratio share for the year. The separate pool of undistributed Non-Availability Charge funds collected for Flexible RA Capacity will be distributed to~~
Load Serving Entities based on their overall ratio of obligation to demonstrate Flexible RA Capacity for the year.

Attachment C – Tariff Record Chart
Tariff Reconciliation – Overlapping Filings
California Independent System Operator Corporation
February 10, 2023

Tariff Section	Docket No.	Version No.	Effective Date
29.34	ER22-2661-000	21.0.0	2/1/2023
29.34	ER23-609-000	22.0.0	2/11/2023
29.34	<i>TBD – this filing</i>	23.0.0	2/11/2023
30.5.6	ER21-2779-000	5.0.0	11/1/2021
30.5.6	ER21-2853-000	6.0.0	12/15/2021
30.5.6	<i>TBD – this filing</i>	7.0.0	12/15/2021
31.2	ER21-2779-000	9.0.0	11/1/2021
31.2	ER21-2853-000	10.0.0	12/15/2021
31.2	ER23-609-000	11.0.0	2/11/2023
31.2	<i>TBD – this filing</i>	12.0.0	2/11/2023
34.1.5	ER21-2779-000	6.0.0	11/1/2021
34.1.5	ER21-2853-000	7.0.0	12/15/2021
34.1.5	ER22-2661-000	8.0.0	2/1/2023
34.1.5	ER23-609-000	9.0.0	2/11/2023
34.1.5	<i>TBD – this filing</i>	10.0.0	2/11/2023
40.9.6	ER19-1641-000	9.0.0	OBE
40.9.6	ER19-1837-000	10.0.0	8/12/2019
40.9.6	ER19-1837-001	11.0.0	8/12/2019
40.9.6	ER19-1641-001	10.0.0	9/28/2019
40.9.6	<i>TBD – this filing</i>	12.0.0	9/28/2019