

Attachment A – Clean Tariff

2021 Summer Readiness

California Independent System Operator Corporation

March 26, 2021

Section 4

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4.13.3 Identification of RDRRs and PDRs

Each Demand Response Provider shall provide data, as described in the Business Practice Manual, identifying each of its Reliability Demand Response Resources or Proxy Demand Resources and such information regarding the capacity and the operating characteristics of the Reliability Demand Response Resource or Proxy Demand Resource as may be reasonably requested from time to time by the CAISO. All information provided to the CAISO regarding the operational and technical constraints in the Master File shall be accurate and actually based on physical characteristics of the resources. Demand Response Providers for Proxy Demand Resources and Reliability Demand Response Resources may elect to specify in the Master File how the Proxy Demand Resource and Reliability Demand Response Resources will bid and be dispatched in the Real-Time Market: in (i) Hourly Blocks, (ii) fifteen (15) minute intervals, or (iii) five (5) minute intervals. Proxy Demand Resources using the load-shift methodology described in Section 4.13.4.7 may elect to bid and be dispatched in the Real-Time Market in fifteen (15) minute intervals or five (5) minute intervals. If Demand Response Providers do not submit an election in the Master File, the CAISO will set five (5) minute intervals as the default.

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Section 11

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11.6.4 Settlements of Proxy Demand Resources and Reliability Demand Response Resources in the Real-Time Market

The CAISO will calculate RTM Schedules and Awards for Proxy Demand Resources and Reliability Demand Response Resources at the relevant RTM Locational Marginal Price at the relevant Scheduling Point consistent with Section 11.5. The portion of an Hourly Block Schedule for Energy that becomes financially binding will constitute an FMM Schedule. A cleared Economic Hourly Block Bid is not eligible for Bid Cost Recovery. Ramping Energy Deviations, Residual Imbalance Energy, and Standard Ramping Energy do not apply to Proxy Demand Resources and Reliability Demand Response Resources with Hourly Block or FMM Schedules.

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11.21 Make Whole Payments

11.21.1 Price Corrections for CAISO Demand and Exports

If the CAISO corrects an LMP in the upward direction pursuant to Section 35 that impacts Demand in the Day-Ahead Market and the FMM such that either a portion of or the entire cleared CAISO Demand or export Economic Bid curve becomes uneconomic, then the CAISO will calculate and apply the Price Correction Derived LMP for settlement of day-ahead CAISO Demand and exports in Sections 11.2.1.2, 11.2.1.3, and 11.2.1.4, and FMM exports in Section 11.5.1.1. The CAISO shall not calculate and apply a Price Correction Derived LMP for settlement of exports that are part of a Schedule that results from Bids submitted in violation of Section 30.5.5. The CAISO will calculate a Price Correction Derived LMP for each affected CAISO Demand and exports as follows: the total cleared MWhs of CAISO Demand or exports in the Day-Ahead Schedule or FMM Schedule, as applicable, multiplied by the corrected LMP, minus the make-whole payment amount, all of which is divided by the total cleared MWhs of CAISO Demand or export in the Day-Ahead Schedule or FMM Schedule, as applicable. The make-whole payment amount will be calculated on an hourly basis determined by the area between the Scheduling Coordinator's CAISO Demand or Export Bid curve and the corrected LMP, which is calculated as the MWhs for each of the cleared bid segments in the Day-Ahead Schedule or FMM Schedule for the affected resource, multiplied by the maximum of zero or the corrected LMP minus the bid segment price. For the purpose of this calculation, the CAISO will not factor in a make-whole payment amount for Self-

Scheduled CAISO Demand or exports. Any non-zero amounts in revenue collected as a result of the application of the Price Correction Derived LMP will be captured through the calculation of the IFM Congestion Charge reflected in Section 11.2.4.1 and the allocation of non-zero amounts of the sum of FMM Instructed Imbalance Energy and RTD Imbalance Energy, Uninstructed Imbalance Energy, and Unaccounted for Energy in accordance with Section 11.5.4.

11.21.2 Price Correction for Settlement of Virtual Awards

If the CAISO corrects an LMP pursuant to Section 35 that affects a Virtual Award such that either a portion or the entirety of the Virtual Bid Curve associated with the Virtual Award becomes uneconomic, then the CAISO will calculate and apply the price correction for settlement of Virtual Awards as follows: the total cleared MWhs of Virtual Awards multiplied by the corrected LMP, plus the make-whole amount. The make-whole amount for Virtual Demand Awards will be calculated on an hourly basis determined by the area between the Virtual Bid Curve and the corrected LMP, which is calculated as the MWhs in each of the cleared Virtual Bid segments of the Virtual Demand Bid multiplied by the maximum of zero or the corrected LMP minus the Virtual Bid segment price. For Virtual Supply Awards, the make-whole amount will be calculated on an hourly basis determined by the area between the Virtual Bid Curve and the corrected LMP, which is calculated as the MWhs in each of the cleared Virtual Bid segments of the Virtual Supply Bid multiplied by the maximum of zero or the Virtual Bid segment price minus the corrected LMP.

11.21.3 Make Whole Payments for HASP Block Intertie Schedules

11.21.3.1 Eligibility for Make Whole Payments

The CAISO may issue a notice of anticipated or actual Operating Reserve deficiencies either the day before an applicable Trading Day or during an applicable Trading Day. During any Trading Hours in which such a notice is in effect, Scheduling Coordinators with HASP Block Intertie Schedules that bid into the Real-Time Market in accordance with Section 30.5.7.3 or Section 30.5.7.4 and receive an FMM Schedule above their import Day-Ahead Scheduled Energy, if any, or an FMM Schedule below their export Day-Ahead Scheduled Energy will be eligible for an hourly make whole payment for FMM Optimal Energy as described in this Section. If, however, during the intervals in which the CAISO's notice is in effect a Scheduling Coordinator's Intertie resource has either an Under/Over Delivery Quantity in any FMM interval and is subject to the provisions of Section 11.31 or has an Intertie Day-Ahead Schedule that

is wholly or partially reversed through an FMM Schedule and is subject to the provisions of Section 11.32, then the Scheduling Coordinator's Intertie resource will not be eligible for the make whole payment described in this Section. HASP Block Intertie Schedules that are part of Wheeling Through transactions are not eligible for the make whole payment described in this Section.

The CAISO may suspend the effectiveness of this Section if the CAISO determines that make whole payments have not resulted in incremental supply. The CAISO may discontinue any suspension or limitation at any time it determines such suspension or limitation is no longer appropriate.

11.21.3.2 Calculation of Make Whole Payments

The CAISO will calculate an hourly make whole payment for each HASP Block Intertie Schedule based upon the FMM Optimal Energy above a Scheduling Coordinator's import Day-Ahead Scheduled Energy or as FMM Optimal Energy below a Scheduling Coordinator's export Day-Ahead Scheduled Energy. The make-whole payment will equal the positive difference between the Scheduling Coordinator's HASP Block Intertie Schedule Bid price and the relevant hourly average FMM Locational Marginal Prices for the applicable Trading Hour multiplied by the FMM Optimal Energy delivered by the HASP Block Intertie Schedule during that Trading Hour.

11.21.3.3 Allocation of Make Whole Payments Costs

The CAISO will calculate the cost of make whole payments for HASP Block Intertie Schedules in each Settlement Interval of the Trading Hour.

- (a) The CAISO will allocate the cost of make whole payments attributed to the CAISO Balancing Authority Area as follows:
 - (1) Scheduling Coordinators in proportion to their Measured Demand in the same Trading Hour in which the CAISO calculates the make whole payment;
 - (2) Scheduling Coordinators for Metered Subsystem Operators that have elected (i) not to follow their Load, and (ii) gross Settlement, in proportion to their Measured Demand plus any FMM reductions not associated with valid and balanced Existing Transmission Contracts, Transmission Ownership Rights or Converted Rights Self-Schedules in the Day-Ahead Market in the same Trading Hour in which the CAISO calculates the make whole payment;
 - (3) Scheduling Coordinators for Metered Subsystem Operators that have elected (i) not to follow

their Load and (ii) net Settlement, in proportion to their Metered Subsystem Aggregation Net Measured Demand plus any FMM reductions not associated with valid and balanced Existing Transmission Contracts, Transmission Ownership Rights, or Converted Rights Self-Schedules in the Day-Ahead Market in the same Trading Hour in which the CAISO calculates the make whole payment.

- (4) Scheduling Coordinators of Metered Subsystem Operators that have elected to follow their Load, in proportion to their Metered Subsystem Net Negative Uninstructed Deviation plus any FMM reductions not associated with valid and balanced Existing Transmission Contracts, Transmission Ownership Rights, or Converted Rights Self-Schedules in the Day-Ahead Market in the same Trading Hour in which the CAISO calculates the make whole payment.

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Section 29

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29.27 CAISO Markets And Processes.

- (a) **In General.** Except as provided in subsection (b) of this section, the provisions of Section 27 that are applicable to the Real-Time Market shall apply to EIM Market Participants.
- (b) **Transition Period for New EIM Entities.**
- (1) **Transmission Constraint Relaxation.** For a period of six months following the Implementation Date of a new EIM Entity, the provisions of Section 27.4.3.2 and the second sentence of Section 27.4.3.4 shall not apply to constraints that are within Balancing Authority Areas of the new EIM Entity or affect EIM Transfers between the Balancing Authority Areas of the new EIM Entity and any other EIM Entity that is subject to this subsection (b). For those intervals that experience

infeasibilities described in those provisions, the CAISO shall instead determine prices consistent with the provisions of Sections 27, 34, and Appendix C, that would apply in the absence of Section 27.4.3.2 and the second sentence of Section 27.4.3.4.

- (2) **Flexible Ramping Product.** For a period of six months following the EIM Entity Implementation Date of a new EIM Entity, when the transmission and/or power balance constraints as specified in Sections 27.4.3.2 and 27.4.3.4, respectively, are relaxed, the CAISO shall set the Flexible Ramping Product parameter for pricing purposes, for the new EIM Entity Balancing Authority Area, at an amount between and including \$0 and \$0.01.
 - (3) **Extension of Transition Period Pricing.** Any extensions of the initial six-month transition period, as approved by the Federal Energy Regulatory Commission, are specified below. Sixty days prior to the expiration of the transition period, the CAISO will post on the CAISO website an assessment of whether an extension of the transition period, for up to an additional six months, is needed for the applicable EIM Entity. The CAISO will post an update to such assessment prior to the expiration of the transition period should there be any changes to its posted conclusions.
 - (A) [reserved]
 - (4) **Reports.** During the term of the transition period, the CAISO will submit monthly reports with the Commission on the infeasibilities observed in the applicable EIM Entity Balancing Authority Area, the nature of the issues causing the infeasibility and remedies adopted to address the issues identified.
- (c) **Automated EIM Mirror.** If the CAISO updates an Interchange E-Tag for a schedule change outside of the Market Clearing of the Real-Time Market for System Resources and Scheduling Points and the associated energy is generated at, wheeled through, or consumed at an EIM Entity Balancing Authority Area, the CAISO will automatically EIM Mirror the schedule change using the relevant EIM Mirror System Resource in

accordance with the procedures specified in the Business Practice Manual for the Energy Imbalance Market.

- (d) **Base GDFs for Aggregated EIM Non-Participating Resources.** The CAISO will allow base Generation Distribution Factor submission for aggregate EIM non-participating resources through the submission of EIM Base Schedules and will distribute the base schedule and any imbalances of aggregate EIM non-participating resources using the submitted base GDFs, if available, or otherwise the registered default base GDFs for the resource in the Master File, normalized for Outages.

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29.34 EIM Operations

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- (l) **EIM Resource Plan Evaluation.**
 - (1) **Requirement.** The EIM Base Schedules for resources included in the EIM Resource Plan must balance the Demand Forecast for each EIM Entity Balancing Authority Area and 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, must balance the Demand Forecast and the Uncertainty Requirement determined in accordance with Section 44.2.4.
 - (2) **Insufficient Supply.** An EIM Resource Plan or the CAISO equivalent shall be deemed to have insufficient Supply if the sum of EIM Base Schedules from non-participating resources and the sum of the highest quantity offers in the Energy Bid range from EIM Participating Resources, including Interchange with other

Balancing Authority Areas, 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 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 less than the total Demand Forecast 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) **Flexible Ramping Sufficiency Determination.**

(1) **Review.**

(A) **EIM Entity Balancing Authority Areas.** The CAISO will review the EIM Resource Plan 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 to meet the EIM Entity Balancing Authority Area upward and downward Ramping requirements, 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 in the CAISO Balancing Authority Area and verify that it has sufficient Bids for Ramping capability to meet the CAISO Balancing Authority Area upward and downward Ramping requirements, as adjusted pursuant to Sections 29.34(m)(2), (3), (5), and (6).

(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 Resource Plan Insufficiency.**

(1) **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 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) **Flexible Ramping Insufficiency.** 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-
- (i) 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
 - (ii) 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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Section 30

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30.6.2.1 Bidding and Scheduling of RDRRs in the Real-Time Market

Pursuant to Section 4.13.3, Scheduling Coordinators for Reliability Demand Response Resources may submit Economic Bids for Energy in the Real-Time Markets. Scheduling Coordinators for Reliability Demand Response Resources may submit Economic Hourly Block Bids to be considered in the HASP, and to be accepted as binding Schedules with the same MWh award for each of the four FMM intervals. A cleared Economic Hourly Block Bid is not eligible for Bid Cost Recovery. Scheduling Coordinators for Reliability Demand Response Resources may not submit Economic Hourly Block Bids with an Intra-Hour

Option.

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30.6.2.1.2.1 Marginal Real-Time Dispatch Option

A Reliability Demand Response Resource that is subject to the Marginal Real-Time Dispatch Option:

- (a) May submit either a single-segment Bid or a multi-segment bid in the Real-Time Market that must be at least ninety-five percent (95%) of the applicable Soft Energy Bid Cap.
- (b) Shall be dispatched as a marginal resource if it is dispatched by the CAISO. For the purpose of making this determination and setting the Locational Marginal Price, the CAISO treats a Reliability Demand Response Resource as if it were flexible with an infinite Ramp Rate between zero (0) and its PMax.

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Section 34

****This section includes pending changes, highlighted in green, recently proposed in docket number ER21-1192****

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34.4 Fifteen Minute Market

The CAISO conducts the Fifteen Minute Market using the second interval of each RTUC run horizon as follows: (1) at approximately 7.5 minutes prior to the first Trading Hour, for T-45 minutes to T+60 minutes where the binding interval is T-30 to T-15; (2) at approximately 7.5 minutes into the current hour for T-30

minutes to T+60 minutes where the binding interval is T-15 to T; (3) at approximately 22.5 minutes into the current hour for T-15 minutes to T+60 minutes for the binding interval T to T+15; and (4) at approximately 37.5 minutes into the current hour for T to T+60 minutes for the binding interval T+15 to T+30, where T is the beginning of the next Trading Hour. In these intervals the CAISO conducts the FMM to (1) determine financially binding FMM Schedules and corresponding Locational Marginal Prices for all Pricing Nodes, including all Scheduling Points; (2) determine financially and operationally binding Ancillary Services Awards and corresponding ASMPs, procure required additional Ancillary Services and calculate ASMP used for settling procured Ancillary Service capacity for the next fifteen-minute Real-Time Ancillary Service interval for all Pricing Nodes, including Scheduling Points; (3) determine LAP Locational Marginal Prices that are the basis for settling Demand; and (4) determine FMM Uncertainty Awards. In any FMM interval that falls within a time period in which a Multi-Stage Generating Resource is transitioning from one MSG Configuration to another MSG Configuration, the CAISO: (1) will not award any incremental Ancillary Services; (2) will disqualify any Day-Ahead Ancillary Services Awards; (3) will disqualify Day-Ahead qualified Submissions to Self-Provide Ancillary Services Award, and (4) will disqualify Submissions to Self-Provide Ancillary Services in RTM. Each particular FMM market optimization produces binding settlement prices for Energy, Flexible Ramping Product, and Ancillary Services for the first FMM interval in the FMM horizon but the optimization considers the advisory results from subsequent market intervals within the FMM horizon. The CAISO settles Hourly Block Schedules from Proxy Demand Resources, Reliability Demand Response Resources, Hourly Intertie Schedules, and Hourly Ancillary Services Awards accepted in the HASP as FMM Schedules and FMM Ancillary Services Awards in accordance with Section 11.5 and 11.10.1.2, respectively. In the event that a FMM run fails, the CAISO reverts to Day-Ahead Market Ancillary Services Awards and RUC Schedules results corresponding to the same interval, or the corresponding interval from the previous RTUC. The FMM will clear Supply against the CAISO Forecast of CAISO Demand and exports. The FMM issues Energy Schedules and Ancillary Services Awards by twenty-two and a half minutes prior to the binding fifteen-minute interval.

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34.10 Dispatch of Energy from Ancillary Services

The CAISO may issue Dispatch Instructions to Participating Generators, Participating Loads, Proxy Demand Resources, (via communication with the Scheduling Coordinators of Demand Response Providers) System Units and System Resources contracted to provide Ancillary Services (either procured through the CAISO Markets, Self-Provided by Scheduling Coordinators, or through Exceptional Dispatch or dispatched in accordance with a Legacy RMR Contract) for the Supply of Energy. During normal operating conditions, the CAISO may Dispatch those Participating Generators, Participating Loads, Proxy Demand Resources, System Units and System Resources that have contracted to provide Spinning Reserve and Non-Spinning Reserve, except for those reserves designated as Contingency Only, in conjunction with the normal Dispatch of Energy. Contingency Only reserves are Operating Reserve capacity that have been designated, either by the Scheduling Coordinator or the CAISO, as available to supply Energy in the Real-Time only in the event of the occurrence of an unplanned Outage, a Contingency or an imminent or actual System Emergency. During normal operating conditions, the CAISO may also elect to designate any reserve not previously identified as Contingency Only by Scheduling Coordinator as Contingency Only reserves. In the event of an unplanned Outage, a Contingency or a threatened or actual System Emergency, the CAISO may dispatch Contingency Only reserves. If Contingency Only reserves are dispatched through the RTCD, which as described in Section 34.5.2 only Dispatches in the event of a Contingency, such Dispatch and pricing will be based on the original Energy Bids. If Contingency Only or other scheduled reserves are dispatched in response to a System Emergency that has occurred because the CAISO has run out of Economic Bids when no Contingency event has occurred, the RTED will Dispatch such reserves using the **Soft** Energy Bid Cap as the Energy Bids for such reserves and will set prices accordingly. **For CAISO Market intervals for which the conditions and parameters specified in Section 27.4.3.3 apply, the RTED will Dispatch such reserves using the Hard Energy Bid Cap as the Energy Bids for such reserves and will set prices accordingly.** If a Participating Generator, Participating Load, System Unit or System Resource that is supplying Operating Reserve is Dispatched to provide Energy, the CAISO shall replace the Operating Reserve as necessary to maintain NERC and WECC reliability standards, including any requirements of the NRC. If the CAISO

uses Operating Reserve to meet Real-Time Energy requirements, and if the CAISO needs Operating Reserves to satisfy NERC and WECC reliability standards, including any requirements of the NRC, the CAISO shall restore the Operating Reserves to the extent necessary to meet NERC and WECC reliability standards, including any requirements of the NRC through either the procurement of additional Operating Reserve in the RTM or the Dispatch of other Energy Bids in SCED to allow the resources that were providing Energy from the Operating Reserve to return to their Dispatch Operating Target. The Energy Bid Curve is not used by the AGC system when Dispatching Energy from Regulation. For Regulation Up capacity, the upper portion of the resource capacity from its Regulation Limit is allocated to Regulation regardless of its Energy Bid Curve. For a resource providing Regulation Up or Operating Reserves the remaining Energy Bid Curve shall be allocated to any RTM AS Awards in the following order from higher to lower capacity where applicable: (a) Spinning Reserve; and (b) Non-Spinning Reserve. For resources providing Regulation Up, the applicable upper Regulation Limit shall be used as the basis of allocation if it is lower than the upper portion of the Energy Bid Curve. The remaining portion of the Energy Bid Curve, if there is any, shall constitute a Bid for RTM Energy. For Regulation Down capacity, the lower portion of the resource capacity from its applicable Regulation Limit is allocated to Regulation regardless of its Energy Bid Curve.

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Appendix DD

****This section includes pending changes, highlighted in grey, recently proposed in docket number ER21-1304****

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4.2.1.2 Requirement Set Number Two: for Requests for Independent Study of Behind-the-Meter Capacity Expansion of Generating Facilities

This Section 4.2.1.2 applies to an Interconnection Request relating to a behind-the-meter capacity expansion of a Generating Facility. Such an Interconnection Request submitted under the Independent Study Process will satisfy the requirements of Section 4.2.1 if it satisfies all of the following technical and business criteria:

(i) Technical criteria.

- 1) The behind-the-meter capacity expansion shall not take place until after the original Generating Facility has achieved Commercial Operation and all Reliability Network Upgrades for the original Generating Facility have been placed in service. An Interconnection Request for behind-the-meter capacity expansion may be submitted prior to the Commercial Operation Date of the original Generating Facility.
- 2) The Interconnection Customer must install an automatic generator tripping scheme sufficient to ensure that the total output of the Generating Facility, including the behind-the-meter capacity expansion, does not at any time exceed the capacity studied in the Generating Facility's original Interconnection Request. The CAISO will have the authority to trip the generating equipment subject to the

automatic generator tripping scheme or take any other actions necessary to limit the output of the Generating Facility so that the total output of the Generating Facility does not exceed the originally studied capacity.

(ii) Business criteria.

- 1) The Deliverability Status (Full Capacity, Partial Capacity or Energy-Only, and Off-Peak Deliverability Status or Off-Peak Energy Only) of the original Generating Facility will remain the same after the behind-the-meter capacity expansion. The capacity expansion will have Energy-Only, Off-Peak Energy Only Deliverability Statuses unless otherwise specified in this GIDAP, and the original Generating Facility and the behind-the-meter capacity expansion will be metered separately from one another and be assigned separate Resource IDs, except as set forth in (2) below.
- 2) If the original Generating Facility has Full Capacity Deliverability Status and/or Off-Peak Deliverability Status and the behind-the-meter capacity expansion will use the same technology as the original Generating Facility, the Interconnection Customer may elect to have the original Generating Facility and the behind-the-meter capacity expansion metered together, in which case both the original Generating Facility and the behind-the-meter capacity expansion may have Partial Capacity Deliverability Status and Off-Peak Deliverability Status, as applicable, pursuant to CAISO study results to determine Deliverability, and

a separate Resource ID will not be established for the behind-the-meter capacity expansion.

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4.6 Deliverability Assessments

Interconnection Customers under the Independent Study Process that request Partial Capacity, Full Capacity Deliverability Status, or Off-Peak Deliverability Status will be deemed to have selected Option (A) under Section 7.2 and will have Deliverability Assessments performed as part of the next scheduled Phase I and Phase II Interconnection Studies for the Queue Cluster study performed for the next Queue Cluster Window that opens after the CAISO received the request. If the Deliverability Assessment identifies any Network Upgrades that are triggered by the Interconnection Request, the Interconnection Customer will be responsible to pay its proportionate share of the costs of those Upgrades, pursuant to Sections 6, 7, and 8, and for posting Interconnection Financial Security pursuant to the rules for Interconnection Customers in Queue Clusters pursuant to Section 11.

If the Generating Facility (or increase in capacity of an existing Generating Facility) achieves its Commercial Operation Date before the Deliverability Assessment is completed or before any necessary Delivery Network Upgrades are in service, the CAISO will determine whether Interim Deliverability is available, and will award it to the Generating Facility. The CAISO will make this determination as soon as practical, but no later than the calendar month before the Generating Facility or capacity increase achieves its Commercial Operation Date. The Generating Facility will maintain any Interim Deliverability until (1) the Interconnection Customer to which that Deliverability was originally allocated achieves its Commercial Operation Date; or (2) the CAISO completes the next scheduled Deliverability Assessment and the Generating Facility's Delivery Network Upgrades are complete, enabling Partial Capacity or Full Capacity Deliverability Status.

If the CAISO determines Interim Deliverability is not available, the Generating Facility or capacity increase will be Energy Only until the CAISO completes the next scheduled Deliverability Assessment and the Generating Facility's Delivery Network Upgrades are complete.

This Section shall not apply to Interconnection Customers requesting behind-the-meter capacity expansion under Section 4.2.1.2. Separate rules regarding the Deliverability Status of such requests are set forth in that Section.

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Attachment B – Marked Tariff

2021 Summer Readiness

California Independent System Operator Corporation

March 26, 2021

Section 4

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4.13.3 Identification of RDRRs and PDRs

Each Demand Response Provider shall provide data, as described in the Business Practice Manual, identifying each of its Reliability Demand Response Resources or Proxy Demand Resources and such information regarding the capacity and the operating characteristics of the Reliability Demand Response Resource or Proxy Demand Resource as may be reasonably requested from time to time by the CAISO. All information provided to the CAISO regarding the operational and technical constraints in the Master File shall be accurate and actually based on physical characteristics of the resources. Demand Response Providers for Proxy Demand Resources and Reliability Demand Response Resources may elect to specify in the Master File how the Proxy Demand Resource and Reliability Demand Response Resources will bid and be dispatched in the Real-Time Market: in (i) Hourly Blocks, (ii) fifteen (15) minute intervals, or (iii) five (5) minute intervals. Proxy Demand Resources using the load-shift methodology described in Section 4.13.4.7 may elect to bid and be dispatched in the Real-Time Market in fifteen (15) minute intervals or five (5) minute intervals. If Demand Response Providers do not submit an election in the Master File, the CAISO will set five (5) minute intervals as the default.

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Section 11

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11.6.4 _Settlements of Proxy Demand Resources and Reliability Demand Response Resources in the Real-Time Market

The CAISO will calculate RTM Schedules and Awards for Proxy Demand Resources and Reliability Demand Response Resources at the relevant RTM Locational Marginal Price LMP at the relevant Scheduling Point consistent with Section 11.5. The portion of an Hourly Block Schedule for Energy that becomes financially binding will constitute an FMM Schedule. A cleared Economic Hourly Block Bid is not eligible for Bid Cost Recovery. Ramping Energy Deviations, Residual Imbalance Energy, and Standard Ramping Energy do not apply to Proxy Demand Resources and Reliability Demand Response Resources with Hourly Block or FMM Schedules.

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11.21 Make Whole Payments ~~for Price Corrections~~

11.21.1 Price Corrections for CAISO Demand and Exports

If the CAISO corrects an LMP in the upward direction pursuant to Section 35 that impacts Demand in the Day-Ahead Market and the FMM such that either a portion of or the entire cleared CAISO Demand or export Economic Bid curve becomes uneconomic, then the CAISO will calculate and apply the Price Correction Derived LMP for settlement of day-ahead CAISO Demand and exports in Sections 11.2.1.2, 11.2.1.3, and 11.2.1.4, and FMM exports in Section 11.5.1.1. The CAISO shall not calculate and apply a Price Correction Derived LMP for settlement of exports that are part of a Schedule that results from Bids submitted in violation of Section 30.5.5. The CAISO will calculate a Price Correction Derived LMP for each affected CAISO Demand and exports as follows: the total cleared MWhs of CAISO Demand or exports in the Day-Ahead Schedule or FMM Schedule, as applicable, multiplied by the corrected LMP, minus the make-whole payment amount, all of which is divided by the total cleared MWhs of CAISO Demand or export in the Day-Ahead Schedule or FMM Schedule, as applicable. The make-whole payment amount will be calculated on an hourly basis determined by the area between the Scheduling Coordinator's CAISO Demand or Export Bid curve and the corrected LMP, which is calculated as the MWhs for each of the cleared bid segments in the Day-Ahead Schedule or FMM Schedule for the affected resource, multiplied by the maximum of zero or the corrected LMP minus the bid segment price. For the purpose of this calculation, the CAISO will not factor in a make-whole payment amount for Self-

Scheduled CAISO Demand or exports. Any non-zero amounts in revenue collected as a result of the application of the Price Correction Derived LMP will be captured through the calculation of the IFM Congestion Charge reflected in Section 11.2.4.1 and the allocation of non-zero amounts of the sum of FMM Instructed Imbalance Energy and RTD Imbalance Energy, Uninstructed Imbalance Energy, and Unaccounted for Energy in accordance with Section 11.5.4.

11.21.2 Price Correction for Settlement of Virtual Awards

If the CAISO corrects an LMP pursuant to Section 35 that affects a Virtual Award such that either a portion or the entirety of the Virtual Bid Curve associated with the Virtual Award becomes uneconomic, then the CAISO will calculate and apply the price correction for settlement of Virtual Awards as follows: the total cleared MWhs of Virtual Awards multiplied by the corrected LMP, plus the make-whole amount. The make-whole amount for Virtual Demand Awards will be calculated on an hourly basis determined by the area between the Virtual Bid Curve and the corrected LMP, which is calculated as the MWhs in each of the cleared Virtual Bid segments of the Virtual Demand Bid multiplied by the maximum of zero or the corrected LMP minus the Virtual Bid segment price. For Virtual Supply Awards, the make-whole amount will be calculated on an hourly basis determined by the area between the Virtual Bid Curve and the corrected LMP, which is calculated as the MWhs in each of the cleared Virtual Bid segments of the Virtual Supply Bid multiplied by the maximum of zero or the Virtual Bid segment price minus the corrected LMP.

11.21.3 Make Whole Payments for HASP Block Intertie Schedules

11.21.3.1 Eligibility for Make Whole Payments

The CAISO may issue a notice of anticipated or actual Operating Reserve deficiencies either the day before an applicable Trading Day or during an applicable Trading Day. During any Trading Hours in which such a notice is in effect, Scheduling Coordinators with HASP Block Intertie Schedules that bid into the Real-Time Market in accordance with Section 30.5.7.3 or Section 30.5.7.4 and receive an FMM Schedule above their import Day-Ahead Scheduled Energy, if any, or an FMM Schedule below their export Day-Ahead Scheduled Energy will be eligible for an hourly make whole payment for FMM Optimal Energy as described in this Section. If, however, during the intervals in which the CAISO's notice is in effect a Scheduling Coordinator's Intertie resource has either an Under/Over Delivery Quantity in any FMM interval and is subject to the provisions of Section 11.31 or has an Intertie Day-Ahead Schedule that

is wholly or partially reversed through an FMM Schedule and is subject to the provisions of Section 11.32, then the Scheduling Coordinator's Intertie resource will not be eligible for the make whole payment described in this Section. HASP Block Intertie Schedules that are part of Wheeling Through transactions are not eligible for the make whole payment described in this Section.

The CAISO may suspend the effectiveness of this Section if the CAISO determines that make whole payments have not resulted in incremental supply. The CAISO may discontinue any suspension or limitation at any time it determines such suspension or limitation is no longer appropriate.

11.21.3.2 Calculation of Make Whole Payments

The CAISO will calculate an hourly make whole payment for each HASP Block Intertie Schedule based upon the FMM Optimal Energy above a Scheduling Coordinator's import Day-Ahead Scheduled Energy or as FMM Optimal Energy below a Scheduling Coordinator's export Day-Ahead Scheduled Energy. The make-whole payment will equal the positive difference between the Scheduling Coordinator's HASP Block Intertie Schedule Bid price and the relevant hourly average FMM Locational Marginal Prices for the applicable Trading Hour multiplied by the FMM Optimal Energy delivered by the HASP Block Intertie Schedule during that Trading Hour.

11.21.3.3 Allocation of Make Whole Payments Costs

The CAISO will calculate the cost of make whole payments for HASP Block Intertie Schedules in each Settlement Interval of the Trading Hour.

(a) The CAISO will allocate the cost of make whole payments attributed to the CAISO Balancing Authority Area as follows:

- (1) Scheduling Coordinators in proportion to their Measured Demand in the same Trading Hour in which the CAISO calculates the make whole payment;
- (2) Scheduling Coordinators for Metered Subsystem Operators that have elected (i) not to follow their Load, and (ii) gross Settlement, in proportion to their Measured Demand plus any FMM reductions not associated with valid and balanced Existing Transmission Contracts, Transmission Ownership Rights or Converted Rights Self-Schedules in the Day-Ahead Market in the same Trading Hour in which the CAISO calculates the make whole payment;
- (3) Scheduling Coordinators for Metered Subsystem Operators that have elected (i) not to follow

their Load and (ii) net Settlement, in proportion to their Metered Subsystem Aggregation Net Measured Demand plus any FMM reductions not associated with valid and balanced Existing Transmission Contracts, Transmission Ownership Rights, or Converted Rights Self-Schedules in the Day-Ahead Market in the same Trading Hour in which the CAISO calculates the make whole payment.

(4) Scheduling Coordinators of Metered Subsystem Operators that have elected to follow their Load, in proportion to their Metered Subsystem Net Negative Uninstructed Deviation plus any FMM reductions not associated with valid and balanced Existing Transmission Contracts, Transmission Ownership Rights, or Converted Rights Self-Schedules in the Day-Ahead Market in the same Trading Hour in which the CAISO calculates the make whole payment.

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Section 29

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29.27 CAISO Markets And Processes.

- (a) **In General.** Except as provided in subsection (b) of this section, the provisions of Section 27 that are applicable to the Real-Time Market shall apply to EIM Market Participants.
- (b) **Transition Period for New EIM Entities.**
 - (1) **Transmission Constraint Relaxation.** For a period of six months following the Implementation Date of a new EIM Entity, the provisions of Section 27.4.3.2 and the second sentence of Section 27.4.3.4 shall not apply to constraints that are within Balancing Authority Areas of the new EIM Entity or affect EIM Transfers between the Balancing Authority Areas of the new EIM Entity and any other EIM Entity that is subject to this subsection (b). For those intervals that experience

infeasibilities described in those provisions, the CAISO shall instead determine prices consistent with the provisions of Sections 27, 34, and Appendix C, that would apply in the absence of Section 27.4.3.2 and the second sentence of Section 27.4.3.4.

(2) **Flexible Ramping Product.** For a period of six months following the EIM Entity Implementation Date of a new EIM Entity, when the transmission and/or power balance constraints as specified in Sections 27.4.3.2 and 27.4.3.4, respectively, are relaxed, the CAISO shall set the Flexible Ramping Product parameter for pricing purposes, for the new EIM Entity Balancing Authority Area, at an amount between and including \$0 and \$0.01.

(3) **Extension of Transition Period Pricing.** Any extensions of the initial six-month transition period, as approved by the Federal Energy Regulatory Commission, are specified below. Sixty days prior to the expiration of the transition period, the CAISO will post on the CAISO website an assessment of whether an extension of the transition period, for up to an additional six months, is needed for the applicable EIM Entity. The CAISO will post an update to such assessment prior to the expiration of the transition period should there be any changes to its posted conclusions.

(A) [reserved]

(4) **Reports.** During the term of the transition period, the CAISO will submit monthly reports with the Commission on the infeasibilities observed in the applicable EIM Entity Balancing Authority Area, the nature of the issues causing the infeasibility and remedies adopted to address the issues identified.

(c) **Automated EIM Mirror.** If the CAISO updates an Interchange E-Tag for a schedule change outside of the Market Clearing of the Real-Time Market for System Resources and Scheduling Points and the associated energy is generated at, wheeled through, or consumed at an EIM Entity Balancing Authority Area, the CAISO ~~will~~ automatically EIM Mirror the schedule change using the relevant EIM Mirror System Resource ~~if~~

~~requested by the EIM Entity~~ in accordance with the procedures specified in the Business Practice Manual for the Energy Imbalance Market.

- (d) **Base GDFs for Aggregated EIM Non-Participating Resources.** The CAISO will allow base Generation Distribution Factor submission for aggregate EIM non-participating resources through the submission of EIM Base Schedules and will distribute the base schedule and any imbalances of aggregate EIM non-participating resources using the submitted base GDFs, if available, or otherwise the registered default base GDFs for the resource in the Master File, normalized for Outages.

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29.34 EIM Operations

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(l) **EIM Resource Plan Evaluation.**

- (1) **Requirement.** The EIM Base Schedules for resources included in the EIM Resource Plan must balance the Demand Forecast for each EIM Entity Balancing Authority Area and 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, must balance the Demand Forecast and the Uncertainty Requirement determined in accordance with Section 44.2.4.
- (2) **Insufficient Supply.** An EIM Resource Plan or the CAISO equivalent shall be deemed to have insufficient Supply if the sum of EIM Base Schedules from non-participating resources and the sum of the highest quantity offers in the Energy Bid range from EIM Participating Resources, including Interchange with other

Balancing Authority Areas, 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 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 less than the total Demand Forecast 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) **Flexible Ramping Sufficiency Determination.**

(1) **Review.**

(A) **EIM Entity Balancing Authority Areas.** The CAISO will review the EIM Resource Plan 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 to meet the EIM Entity Balancing Authority Area upward and downward Ramping requirements, 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 in the CAISO Balancing Authority Area and verify that it has sufficient Bids for Ramping capability to meet the CAISO Balancing Authority Area upward and downward Ramping requirements, as adjusted pursuant to Sections 29.34(m)(2), (3), (5), and (6).

(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 Resource Plan Insufficiency.**

(1) **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 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) **Flexible Ramping Insufficiency.** 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-

- (i) 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
- (ii) 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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Section 30

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30.6.2.1 Bidding and Scheduling of RDRRs in the Real-Time Market

Pursuant to Section 4.13.3, Scheduling Coordinators for Reliability Demand Response Resources may submit Economic Bids for Energy in the Real-Time Markets. Scheduling Coordinators for Reliability Demand Response Resources may submit Economic Hourly Block Bids to be considered in the HASP, and to be accepted as binding Schedules with the same MWh award for each of the four FMM intervals. A cleared Economic Hourly Block Bid is not eligible for Bid Cost Recovery. Scheduling Coordinators for Reliability Demand Response Resources may not submit Economic Hourly Block Bids with an Intra-Hour

Option.

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30.6.2.1.2.1 Marginal Real-Time Dispatch Option

A Reliability Demand Response Resource that is subject to the Marginal Real-Time Dispatch Option:

- (a) May submit either a single-segment Bid or a multi-segment bid in the Real-Time Market that must be at least ninety-five percent (95%) of the applicable Soft Energy Bid Cap.
- (b) Shall be dispatched as a marginal resource if it is dispatched by the CAISO. For the purpose of making this determination and setting the Locational Marginal Price, the CAISO treats a Reliability Demand Response Resource as if it were flexible with an infinite Ramp Rate between zero (0) and its PMax.

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Section 34

****This section includes pending changes, highlighted in green, recently proposed in docket number ER21-1192****

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34.4 Fifteen Minute Market

The CAISO conducts the Fifteen Minute Market using the second interval of each RTUC run horizon as follows: (1) at approximately 7.5 minutes prior to the first Trading Hour, for T-45 minutes to T+60 minutes where the binding interval is T-30 to T-15; (2) at approximately 7.5 minutes into the current hour for T-30

minutes to T+60 minutes where the binding interval is T-15 to T; (3) at approximately 22.5 minutes into the current hour for T-15 minutes to T+60 minutes for the binding interval T to T+15; and (4) at approximately 37.5 minutes into the current hour for T to T+60 minutes for the binding interval T+15 to T+30, where T is the beginning of the next Trading Hour. In these intervals the CAISO conducts the FMM to (1) determine financially binding FMM Schedules and corresponding Locational Marginal PriceLMPs for all Pricing Nodes, including all Scheduling Points; (2) determine financially and operationally binding Ancillary Services Awards and corresponding ASMPs, procure required additional Ancillary Services and calculate ASMP used for settling procured Ancillary Service capacity for the next fifteen-minute Real-Time Ancillary Service interval for all Pricing Nodes, including Scheduling Points; (3) determine LAP Locational Marginal Price LMPs that are the basis for settling Demand; and (4) determine FMM Uncertainty Awards. In any FMM interval that falls within a time period in which a Multi-Stage Generating Resource is transitioning from one MSG Configuration to another MSG Configuration, the CAISO: (1) will not award any incremental Ancillary Services; (2) will disqualify any Day-Ahead Ancillary Services Awards; (3) will disqualify Day-Ahead qualified Submissions to Self-Provide Ancillary Services Award, and (4) will disqualify Submissions to Self-Provide Ancillary Services in RTM. Each particular FMM market optimization produces binding settlement prices for Energy, Flexible Ramping Product, and Ancillary Services for the first FMM interval in the FMM horizon but the optimization considers the advisory results from subsequent market intervals within the FMM horizon. The CAISO settles Hourly Block Schedules from Proxy Demand Resources, Reliability Demand Response Resources, Hourly Intertie Schedules, and Hourly Ancillary Services Awards accepted in the HASP as FMM Schedules and FMM Ancillary Services Awards in accordance with Section 11.5 and 11.10.1.2, respectively. In the event that a FMM run fails, the CAISO reverts to Day-Ahead Market Ancillary Services Awards and RUC Schedules results corresponding to the same interval, or the corresponding interval from the previous RTUC. The FMM will clear Supply against the CAISO Forecast of CAISO Demand and exports. The FMM issues Energy Schedules and Ancillary Services Awards by twenty-two and a half minutes prior to the binding fifteen-minute interval.

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34.10 Dispatch of Energy from Ancillary Services

The CAISO may issue Dispatch Instructions to Participating Generators, Participating Loads, Proxy Demand Resources, (via communication with the Scheduling Coordinators of Demand Response Providers) System Units and System Resources contracted to provide Ancillary Services (either procured through the CAISO Markets, Self-Provided by Scheduling Coordinators, or through Exceptional Dispatch or dispatched in accordance with a Legacy RMR Contract) for the Supply of Energy. During normal operating conditions, the CAISO may Dispatch those Participating Generators, Participating Loads, Proxy Demand Resources, System Units and System Resources that have contracted to provide Spinning Reserve and Non-Spinning Reserve, except for those reserves designated as Contingency Only, in conjunction with the normal Dispatch of Energy. Contingency Only reserves are Operating Reserve capacity that have been designated, either by the Scheduling Coordinator or the CAISO, as available to supply Energy in the Real-Time only in the event of the occurrence of an unplanned Outage, a Contingency or an imminent or actual System Emergency. During normal operating conditions, the CAISO may also elect to designate any reserve not previously identified as Contingency Only by Scheduling Coordinator as Contingency Only reserves. In the event of an unplanned Outage, a Contingency or a threatened or actual System Emergency, the CAISO may dispatch Contingency Only reserves. If Contingency Only reserves are dispatched through the RTCD, which as described in Section 34.5.2 only Dispatches in the event of a Contingency, such Dispatch and pricing will be based on the original Energy Bids. If Contingency Only or other scheduled reserves are dispatched in response to a System Emergency that has occurred because the CAISO has run out of Economic Bids when no Contingency event has occurred, the RTED will Dispatch such ~~Contingency-Only~~ reserves using the **Soft Energy Bid Cap** as the Energy Bids for such reserves and will set prices accordingly. **For CAISO Market intervals for which the conditions and parameters specified in Section 27.4.3.3 apply, the RTED will Dispatch such reserves ~~Contingency-Only~~ using the Hard Energy Bid Cap as the Energy Bids for such reserves and will set prices accordingly.** If a Participating Generator, Participating Load, System Unit or System Resource that is supplying Operating Reserve is Dispatched to provide Energy, the CAISO shall replace the Operating Reserve as necessary to maintain NERC and WECC reliability standards, including

any requirements of the NRC. If the CAISO uses Operating Reserve to meet Real-Time Energy requirements, and if the CAISO needs Operating Reserves to satisfy NERC and WECC reliability standards, including any requirements of the NRC, the CAISO shall restore the Operating Reserves to the extent necessary to meet NERC and WECC reliability standards, including any requirements of the NRC through either the procurement of additional Operating Reserve in the RTM or the Dispatch of other Energy Bids in SCED to allow the resources that were providing Energy from the Operating Reserve to return to their Dispatch Operating Target. The Energy Bid Curve is not used by the AGC system when Dispatching Energy from Regulation. For Regulation Up capacity, the upper portion of the resource capacity from its Regulation Limit is allocated to Regulation regardless of its Energy Bid Curve. For a resource providing Regulation Up or Operating Reserves the remaining Energy Bid Curve shall be allocated to any RTM AS Awards in the following order from higher to lower capacity where applicable: (a) Spinning Reserve; and (b) Non-Spinning Reserve. For resources providing Regulation Up, the applicable upper Regulation Limit shall be used as the basis of allocation if it is lower than the upper portion of the Energy Bid Curve. The remaining portion of the Energy Bid Curve, if there is any, shall constitute a Bid for RTM Energy. For Regulation Down capacity, the lower portion of the resource capacity from its applicable Regulation Limit is allocated to Regulation regardless of its Energy Bid Curve.

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Appendix DD

****This section includes pending changes, highlighted in grey, recently proposed in docket number ER21-1304****

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4.2.1.2 Requirement Set Number Two: for Requests for Independent Study of Behind-the-Meter Capacity Expansion of Generating Facilities

This Section 4.2.1.2 applies to an Interconnection Request relating to a behind-the-meter capacity expansion of a Generating Facility. Such an Interconnection Request submitted under the Independent Study Process will satisfy the requirements of Section 4.2.1 if it satisfies all of the following technical and business criteria:

(i) Technical criteria.

~~4) The total nameplate capacity of the existing Generating Facility plus the incremental increase in capacity does not exceed in the aggregate one hundred twenty-five (125) percent of its previously studied capacity and the incremental increase in capacity does not exceed, in the aggregate, including any prior behind-the-meter capacity expansions implemented pursuant to this Section 4.2.1.2, one hundred (100) MW.~~

12) The behind-the-meter capacity expansion shall not take place until after the original Generating Facility has achieved Commercial Operation and all Reliability Network Upgrades for the original Generating Facility have been placed in service. An Interconnection Request for behind-the-meter capacity expansion may be submitted prior to the Commercial Operation Date of the original Generating Facility.

23) The Interconnection Customer must install an automatic generator tripping scheme sufficient to ensure that the total output of the Generating Facility, including the behind-the-meter capacity expansion, does not at any time exceed the capacity studied in the Generating Facility's original Interconnection Request. The CAISO will have the authority to trip the generating equipment subject to the automatic generator tripping scheme or take any other actions necessary to limit the output of the Generating Facility so that the total output of the Generating Facility does not exceed the originally studied capacity.

(ii) Business criteria.

- 1) The Deliverability Status (Full Capacity, Partial Capacity or Energy-Only, and Off-Peak Deliverability Status or Off-Peak Energy Only) of the original Generating Facility will remain the same after the behind-the-meter capacity expansion. The capacity expansion will have Energy-Only, Off-Peak Energy Only Deliverability Statuses unless otherwise specified in this GIDAP, and the original Generating Facility and the behind-the-meter capacity expansion will be metered separately from one another and be assigned separate Resource IDs, except as set forth in (2) below.
- 2) If the original Generating Facility has Full Capacity Deliverability Status and/or Off-Peak Deliverability Status and the behind-the-meter capacity expansion will use the same technology as the original Generating Facility, the Interconnection Customer may

elect to have the original Generating Facility and the behind-the-meter capacity expansion metered together, in which case both the original Generating Facility and the behind-the-meter capacity expansion may have Partial Capacity Deliverability Status and Off-Peak Deliverability Status, as applicable, pursuant to CAISO study results to determine Deliverability, and a separate Resource ID will not be established for the behind-the-meter capacity expansion.

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4.6 Deliverability Assessments

Interconnection Customers under the Independent Study Process that request Partial Capacity, Full Capacity Deliverability Status, or Off-Peak Deliverability Status will be deemed to have selected Option (A) under Section 7.2 and will have Deliverability Assessments performed as part of the next scheduled Phase I and Phase II Interconnection Studies for the Queue Cluster study performed for the next Queue Cluster Window that opens after the CAISO received the request. If the Deliverability Assessment identifies any Network Upgrades that are triggered by the Interconnection Request, the Interconnection Customer will be responsible to pay its proportionate share of the costs of those Upgrades, pursuant to Sections 6, 7, and 8, and for posting Interconnection Financial Security pursuant to the rules for Interconnection Customers in Queue Clusters pursuant to Section 11.

If the Generating Facility (or increase in capacity of an existing Generating Facility) achieves its Commercial Operation Date before the Deliverability Assessment is completed ~~and/or~~ before any necessary Delivery Network Upgrades are in service, ~~the proposed Generating Facility (or increase in capacity) will be treated as an Energy Only, Interim, or Partial Capacity Deliverability~~

~~Status Generating Facility until such Delivery Network Upgrades are in service~~the CAISO will determine whether Interim Deliverability is available, and will award it to the Generating Facility. The CAISO will make this determination as soon as practical, but no later than the calendar month before the Generating Facility or capacity increase achieves its Commercial Operation Date. The Generating Facility will maintain any Interim Deliverability until (1) the Interconnection Customer to which that Deliverability was originally allocated achieves its Commercial Operation Date; or (2) the CAISO completes the next scheduled Deliverability Assessment and the Generating Facility's Delivery Network Upgrades are complete, enabling Partial Capacity or Full Capacity Deliverability Status. If the CAISO determines Interim Deliverability is not available, the Generating Facility or capacity increase will be Energy Only until the CAISO completes the next scheduled Deliverability Assessment and the Generating Facility's Delivery Network Upgrades are complete.

This Section shall not apply to Interconnection Customers requesting behind-the-meter capacity expansion under Section 4.2.1.2. Separate rules regarding the Deliverability Status of such requests are set forth in that Section.

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